

PatBase - Search results 26 February 2019

Search query (2): fn=(62569273:290 or 61267644:190 or 55718611:180 or 31450408:160 or 53654962:150 or 48844694:150 or 44126250:150 or 34023928:150 or 54155248:140 or 50898642:140 or 32390202:140 or 9074324:140 or 68544080:130 or 66945781:130 or 66936062:130 or 65495063:130 or 64288821:130 or 64288813:130 or 64288808:130 or 62805754:130 or 62412101:130 or 58631254:130 or 58453571:130 or 55376592:130 or 55198454:130 or 49698992:130 or 42796598:130 or 32302626:130 or 32067209:130 or 28889035:130 or 69899951:120 or 51805910:120 or 50898580:120 or 50485917:120 or 44153200:120 or 43119571:120 or 43081420:120 or 43038815:120 or 32790811:120 or 1010034:120 or 72874318:110 or 72568489:110 or 71980431:110 or 70158379:110 or 70158373:110 or 69744627:110 or 69563658:110 or 69445366:110 or 68544090:110 or 68240719:110 or 68084091:110 or 66939425:110 or 66712697:110 or 66281670:110 or 66162070:110 or 66161738:110 or 65576794:110 or 65393012:110 or 64061266:110 or 62658595:110 or 62548528:110 or 62245190:110 or 61594139:110 or 61378832:110 or 60729953:110 or 60278405:110 or 59607426:110 or 59449079:110 or 59103428:110 or 58643807:110 or 58643666:110 or 58631298:110 or 56035518:110 or 55703395:110 or 55352807:110 or 54899287:110 or 53651032:110 or 52577970:110 or 47204381:110 or 45915311:110 or 44120368:110 or 44012395:110 or 43873932:110 or 43217017:110 or 43030900:110 or 42521783:110 or 42116265:110 or 42026859:110 or 41555294:110 or 34852846:110 or 34299707:110 or 34253169:110 or 34068540:110 or 32248703:110 or 31800949:110 or 31388411:110 or 30896654:110 or 30064699:110 or 29419970:110 or 29389476:110)

Results: 100**1) Family number: 65393012** (US2017100991A)

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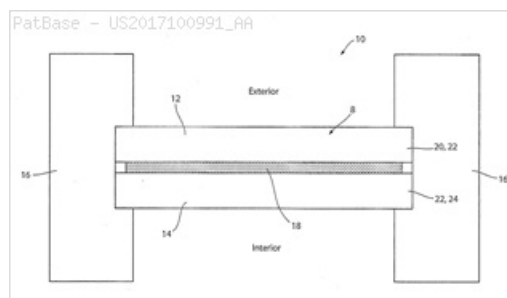
Title: SUNROOF INCORPORATING ELECTRO-OPTIC ELEMENT
Priority: US20150238414P 20151007 US20160288020 20161007 WO2016US55989 20161007
Family:

Publication number	Publication date	Application number	Application date
■ CN108136881 A	20180608	CN201680058770	20161007
■ EP3359404 A1	20180815	EP20160854423	20161007
■ EP3359404 A4	20181205	EP20160854423	20161007
■ JP2018531178 T2	20181025	JP20180517704T	20161007
■ KR20180064488 A	20180614	KR20187012770	20161007
■ US2017100991 AA	20170413	US20160288020	20161007
■ WO17062766 A1	20170413	WO2016US55989	20161007

Probable Assignee: GENTEX CORP
Assignee(s):(std): GENTEX CORP
Inventor(s):(std): CAMMENGA DAVID J ; POLL DAVID L ; TONAR WILLIAM L
Agent(s): MUELLER BORE AND PARTNER PATENTANWALTE PARTG MBB; DESHIMARU TAKESHI; MATSUSHITA MITSURU; KURASAWA ICHIRO; CALLAGHAN TERRY S
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B32B17/10 B60J1/20 B60J3/04 B60J7/00 B60J7/043 B62D25/24 G02F1/15 G02F1/153 (Advanced/Invention)
CPC: B60J1/2094 G02F1/1533 B60J7/043 G02F2001/1536 B60J3/04 G02F1/15 B32B17/10036 B32B17/10513 B32B17/10761 B32B17/1077 B32B17/10788 B32B2369/00 G02F1/15165
US class: 359/275
[Classification Explorer](#)
Cited documents: WO13106921 A1, WO11109688 A1, US6446402 BA, US4671619 A, US2015109651 AA, US2013182308 AA, US2008094684 AA, US2005073851 A, GB2445841 A,

Abstract:

A vehicle sunroof comprising an electro-optic device is disclosed. The electro-optic device forms a variable transmission window comprising a first layer, a second layer, and an electro-optic medium disposed between the first layer and the second layer. At least one of the first layer and the second layer correspond to a polymeric film. The sunroof further comprises a frame configured to connect the electro-optic device to the vehicle.

**2) Family number: 43217017** (US2009115922A)

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Title: RUGGEDIZED SWITCHABLE GLAZING, AND/OR METHOD OF MAKING THE SAME
Priority: US20070979635 20071106 US20070987005 20071126 EP20080713298 20080128
WO2008US01054 20080128 US20080071383 20080220 US20120473869 20120517
US20160149495 20160509

Publication number	Publication date	Application number	Application date
■ EP2093051 A1	20090826	EP20090153026	20090217
■ EP2093051 B1	20181219	EP20090153026	20090217
■ EP2217437 A1	20100818	EP20080713298	20080128
■ EP2217437 B1	20180829	EP20080713298	20080128

PL2217437 T3	20181231	PL20080713298T	20080128
TR201817765 T4	20181221	TR20180017765T	20080128
US2009115922 AA	20090507	US20080071383	20080220
US2009135319 AA	20090528	US20070987005	20071126
US2012293862 AA	20121122	US20120473869	20120517
US2016355435 AA	20161208	US20160149495	20160509
US8199264 BB	20120612	US20070987005	20071126
US8665384 BB	20140304	US20120473869	20120517
US9333728 BB	20160510	US20080071383	20080220
US9963383 BB	20180508	US20160149495	20160509
WO09061329 A1	20090514	WO2008US01054	20080128

Probable Assignee: GUARDIAN GLASS LLC

Assignee(s):(std): GUARDIAN GLASS LLC ; GUARDIAN IND ; GUARDIAN INDUSTRIES ; VEERASAMY VIJAYEN S

Assignee(s): GUARDIAN INDUSTRIES CORP ; GUARDIAN IND CORP

Inventor(s):(std): VEERASAMY VIJAYEN S

Inventor(s): VIJAYEN S VEERASAMY

Agent(s): HESS PETER K G; TOLGA CAYLAK; NIXON AND VANDERHYE PC; RHOA JOSEPH A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/06 B32B17/10 C03C17/36 C09K19/00 E06B3/67 E06B9/24 G02B1/10 G02B27/00 G02B5/20 G02F1/133 G02F1/1333 G02F1/1334 G02F1/1335 G02F1/137 (Advanced/Invention); C03C17/36 G02F1/1333 (Advanced/Non-invention); B32B17/06 C03C17/36 E06B3/66 G02B5/20 G02F1/13 (Core/Invention); C03C17/36 (Core/Non-invention)

CPC: B32B17/10633 C03C2217/944 C03C2217/948 G02F1/1334 Y10T428/1095 B32B17/10 B32B17/10045 B32B17/10055 B32B17/10174 B32B17/10229 B32B17/10504 B32B17/10761 B32B17/10788 C03C17/36 C03C17/3618 C03C17/3626 C03C17/3639 C03C17/3644 C03C17/3652 C03C17/3681 C03C2217/74 E06B3/6722 E06B2009/2464 G02F1/1333 G02F2201/086 B32B2367/00 E06B9/24 G02F1/137 E06B2009/2417 G02F2001/13756 C03C17/366 B32B17/10036

European class: B32B17/10 B32B17/10C4 B32B17/10C4B B32B17/10C4B4 B32B17/10E10 B32B17/10E10M2 B32B17/10E40D62 B32B17/10G28 B32B17/10G36 B32B17/10G6D C03C17/36 C03C17/36B320 C03C17/36B332 C03C17/36B339 C03C17/36B342 C03C17/36B346 C03C17/36B352L C03C17/36B356 E06B3/67F2 G02F1/1333 G02F1/1334 M03C217/740 M03C217/944 M03C217/948 P06B9/24F S02F201/08U

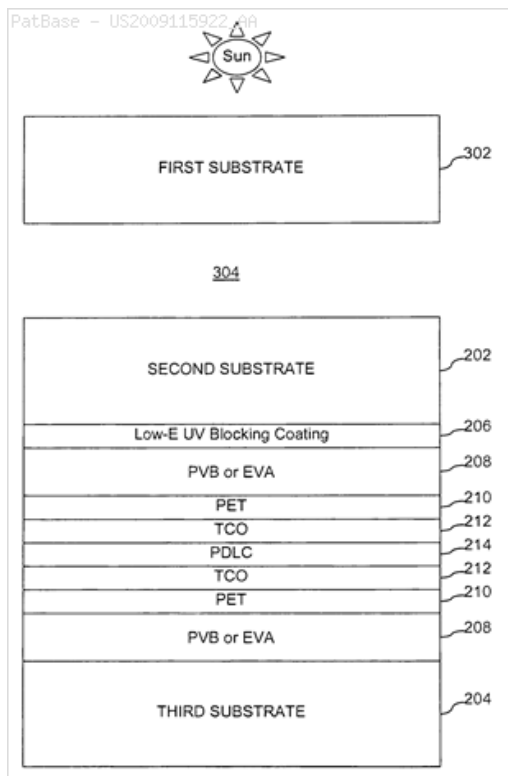
US class: 1/1 349/16 349/16P 349/86 359/360 359/614 359/894 359/894S 428/1.62 428/426 428/432

[Classification Explorer](#)

Cited documents: WO09061329 A1, US9333728 BB, US8956548 BB, US8199264 BB, US8025941 BB, US7744951 BB, US7479940 BB, US7236151 BB, US7220793 BB, US7198851 BB, US7198851, US7189458 BB, US7189458, US7179535 BB, US7074486 BB, US7056588 BB, US7056588, US7023600 BB, US7009665 BB, US6988339 BB, US6887575 BB, US6887575, US6819467 BB, US6746775 BA, US6674504 BA, US6632491 BA, US6621534 BB, US6596399 BB, US6596399, US6576349 BB, US6493128 BA, US6486928 BA, US6466298 BA, US6320563 BA, US6304363 BA, US6268839 BA, US6204835 BA, US6160655 A, US6154190 A, US6104448 A, US6061107 A, US6055088 A, US6055088 A, US6039390 A, US6030671 A, US6001487 A, US5986797 A, US5886763 A, US5877826 A, US5853828 A, US5847798 A, US5847796 A, US5837361 A, US5837361 A, US5748277 A, US5695682 A, US5691795 A, US5668614 A, US5621552 A, US5539552 A, US5539552 A, US5453863 A, US5437811 A, US5409744 A, US5384067 A, US5251048 A, US5178966 A, US4965093 A, US4883721 A, US4883721 A, US4806221 A, US4532181 A, US4532181 A, US28159805, US281598 A, US2009136765 AA, US2008160321 AA, US2007281170 AA, US2007243391 AA, US2007128449 AA, US2006262260 AA, US2006246300 AA, US2006121290 AA, US2006065350 AA, US2006046072 AA, US2006029815 AA, US2006029815 AA, US2006023146 AA, US2005270432 AA, US2005164015 AA, US2005164015 AA, US2005164012 AA, US2005136243 AA, US2004160538 AA, US2004154646 AA, US2004105614 AA, US2003224182 AA, US2003224182 AA, US2003165693 AA, US2003150711 AA, US2003150711 AA, US2003008182 AA, US2002171788 AA, US2002068167 AA, US2002068167 AA, US2002041346 AA, US2002012766 AA,

Forward Citations: WO18195458, WO18089562, WO18086400, WO18075005, WO17165609, WO17135182, WO17041819, WO16202617, WO16191406, WO16159672, WO16029075, WO16008375, WO15021313, WO14154230, WO14151276, WO14137774, WO14135467, WO14105674, WO14029536, WO13091743, WO12154663, WO12045973, US99711194, US9963383, US9956906, US9951552, US9919959, US9840846, US9713948, US9694740, US9586461, US9567258, US9557595, US9547206, US9517721, US9513416, US9499438, US9499435, US9499433, US9400411, US9365161, US9333728, US8995039, US8993104, US8941788, US8665384, US8625055, US8445111, US8390766, US2018186692, US2017291537, US2017153467, US2017072847, US2017059913, US2016313603, US2016082812, US2016052446, US2015367782, US2015219938, US2015024184, US2014237917, US2014176836, US2013320241, US2013299479, US2012317903, US2011194040, US2008317977, US10207951, US10207480, US10197882, US10175521, US10082716, US10029651, JP6374508, JP6316843, JP6198719, JP6157623, JP2017502903, JP2016511209, JP2016503510, JP2015529183, JP2014518837, FR2965641, EP3271760, EP3106304, EP2965903, EP2965903, EP2783847, EP2517877, EP2093051, EA028935, CN107073887, CN105334658, CN105334643, CN104880843, CN104880843, CN104793381, CN104793381, CN104582956, CN104507886, CN103434217, CN103238102, CN102935746, CN102935746, CN102880348, BE1024023,

Abstract:
Certain example embodiments of this invention relate to ruggedized switchable glazings, and/or methods of making the same. The PDLC stack of certain example embodiments includes an outer substrate, a low-E UV blocking coating deposited on an inner surface of the outer substrate, a first PVB or EVA laminate, a first PET layer, a first TCO layer, the PDLC layer, a second TCO layer, a second PET layer, a second PVB or EVA laminate, and an inner substrate. The substrates may be glass substrates. The low-E UV blocking coating may include at least two layers of or including silver and/or may include one or more IR layers. Thus, certain example embodiments may advantageously reduce one or more problems associated with residual haze, color change, flicker, structural changes in the polymer and/or the LC, degradations in state-switching response times, delamination, etc. The PDLC stack of certain example embodiments may be used in connection with any form of coated article, such as, for example, windows, windshields, IG units, etc.



3) Family number: 53651032 (EP2586610B1)

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Title: SHEET WITH HIGH FREQUENCY TRANSMISSION PLAQUE DOTEE D'UNE TRANSMISSION HAUTE F

Priority: EP20110186834 20111027

Family:

Publication number	Publication date	Application number	Application date
DE502011002995 D1	20140618	DE201150002995T	20111027
EP2586610 A1	20130501	EP20110186834	20111027
EP2586610 B1	20140507	EP20110186834	20111027
ES2466569 T3	20140610	ES20110186834T	20111027

Probable Assignee: SAINT GOBAIN

Assignee(s):(std): SAINT GOBAIN

Assignee(s): SAINT GOBAIN GLASS FRANCE

Inventor(s):(std): DEGEN CHRISTOPH ; DROSTE STEFAN ; ROUSSELET NOEMIE ; STELLING BERND

Agent(s): LENDVAI TOMAS DIPL CHEM DRRERNAT; LENDVAI TOMAS; DE ELZABURU ALBERTO

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8-9): B32B17/10 B60J1/00 C03C17/06 C03C17/23 H01Q1/12 H01Q1/32 H01Q15/00 (Advanced/Invention)

CPC: C03C17/06 C03C17/23 B32B17/10761 B32B17/10036 B32B17/10018 B32B17/10183 B32B17/1077 B32B17/10788 B32B2327/12 B32B2367/00

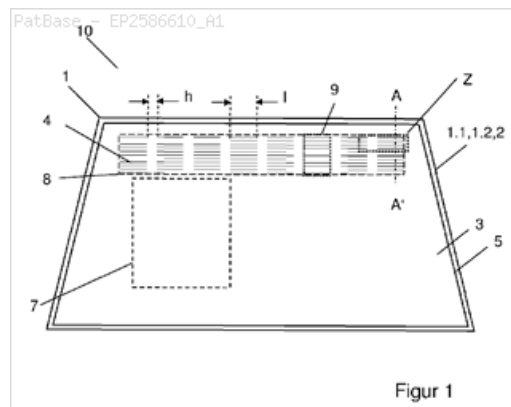
[Classification Explorer](#)

Cited documents: WO10043598 A1, EP2200097 A1, EP2139049 A1, EP1605729 A2, EP0847965 B1, EP0717459 A1, EP0531734 A1, EP0378917 A1, DE19508042 A1, DE10314094 A1,

Forward Citations: WO14166869, EP3326235,

Abstract:

The disc comprises a first disc (1.1), an interfacial layer (2), a second disc (1.2), and a transparent, electrically conductive coating (3), which is arranged between the interfacial layer and the first disc and/or between the interfacial layer and the second disc. The transparent, electrically conductive coating comprises five regions with seven decoated lines (4) that are horizontally or vertically arranged. A vertical spacing (9.5-30.5 mm) is present between the neighboring lines. The lines have a breadth of 0.19-0.41 mm, and a length of 20-150 mm. The disc comprises a first disc (1.1), an interfacial layer (2), a second disc (1.2), and a transparent, electrically conductive coating (3), which is arranged between the interfacial layer and the first disc and/or between the interfacial layer and the second disc. The transparent, electrically conductive coating comprises five regions with seven decoated lines (4) that are horizontally or vertically arranged. A vertical spacing (9.5-30.5 mm) is present between the neighboring lines. The lines have a breadth of 0.19-0.41 mm, and a length of 20-150 mm. The disc further comprises a single disc having an outer side and an inner side. The conductive coating is arranged on the outer and/or inner side of the single disc, and has a sheet resistance of 0.7-30 Ohms/square. A surface of the region comprises a surface portion (7-25 percent) of the plate. A horizontal spacing between the two adjacent regions is 9.5-100 mm. The decoated lines are arranged outside of an A-field of view. The disc or the single disc has a permittivity number of 6-8. An independent claim is included for a method for preparing a disc.



4) Family number: 1010034 (US3671370A)

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Title: INTEGRAL TRANSPARENT SAFETY GLASS ARMOR UNIT

Priority: US19700046336 19700615

Publication number	Publication date	Application number	Application date
US3671370 A	19720620	US19700046336	19700615

Probable Assignee: PPG IND INC

Assignee(s):(std): PPG IND INC ; PPG INDUSTRIES INC

Inventor(s):(std): LITTELL HARRY E JR

Inventor(s): HARRY E LITTELL JR

International class B32B17/10 C03C27/12 F41H5/26 (Advanced/Invention);
(IPC 8-9): B32B17/06 C03C27/12 F41H5/00 (Core/Invention)

International class B32B1/06 F41H5/26
(IPC 1-7):

CPC: Y10S428/911 F41H5/0407 B32B17/10045 B32B17/10293 B32B17/10302 B32B17/10752 B32B17/10761
 B32B17/1077 B32B2369/00 F41H5/26 Y10T428/31507 Y10T428/31601 Y10T428/3163

European class: B32B17/10C4B B32B17/10E16 B32B17/10E16B B32B17/10G26 B32B17/10G28 B32B17/10G30
 F41H5/04B F41H5/26 L32B369/00

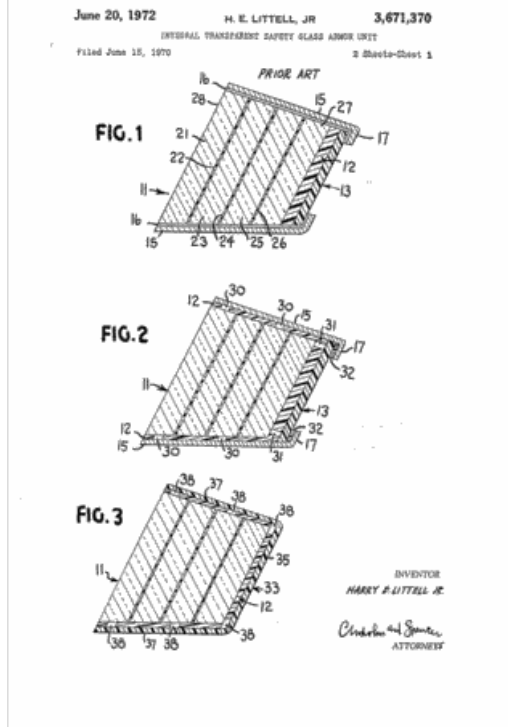
US class: 109/49.5 156/106 156/99 161/43 264/275 264/277 428/38 428/412 428/425.6 428/437 428/911
 52/204.591 89/36.14

[Classification Explorer](#)

Forward Citations: WO9322136, WO8600262, WO12039803, USRE32224, US9383173, US8898966, US8894912, US8632120, US8382191, US8366987, US8251688, US8066319, US7942092, US7455510, US7425369, US6334382, US6327954, US6298766, US5857730, US5637363, US5506051, US5268183, US5028658, US4839122, US4826417, US4818622, US4761916, US4755339, US4695420, US4604253, US4596622, US4563296, US4335036, US4128694, US4125669, US4121014, US4107366, US4081581, US4045269, US3979548, US3930452, US3917891, US3899621, US3848547, US3825920, US3825919, US3825918, US3825917, US2015024165, US2012094084, US2010024692, US2009320675, US2007262494, US2007248709, US2007246865, US2004111986, US2003071381, GB2169544, FR2721253, FR2576012, FR2576011, EP2678145, EP2322894, EP2322894, EP0693366, EP0191666, EP0190953, DE3639781, DE2621197, DE19721853, AU2007349847,

Abstract:

ABSTRACT OF THE DISCLOSURE A transparent safety glass assembly comprising a laminated glass-plastic assembly comprising a plurality of alternate plies of glass and thermoplastic transparent interlayers of plasticized polyvinyl butyral arranged to provide an impact striking section, a transparent polyurethane plasticized in situ to provide a transition section and a transparent polycarbonate providing an impact absorption section is disclosed. The impact transition section also spaces the glass-plastic assembly from a casing in which the assembly is mounted.



5) Family number: 28889035 (US5229204A)

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Title: BULLET-RESISTANT TRANSPARENT PANEL, AND METHOD AND PRESS FOR MAKING SAME

Priority: IL19900096364 19901116 US19920843337 19920228 IL19920102466 19920710
 WO1993US01757 19930226 US19930092368 19930716 US19940295715 19941114

Family:	Publication number	Publication date	Application number	Application date
	AR247293 A1	19941130	AR19930324365	19930223
	AT172149 E	19981015	AT19920304921T	19920529
	AU199337351 A1	19930913	AU19930037351	19930226
	AU672783 B2	19961017	AU19930037351	19930226
	BRPI9103301 A	19920623	BR1991PI03301	19910801
	CA2131011 AA	19940826	CA19932131011	19930226
	CN1077416 A	19931020	CN19931002892	19930227
	DE69227302 D1	19981119	DE19926027302	19920529
	DE69227302 T2	19990617	DE19926027302T	19920529
	ECSP930911 A	19940225	EC1993SP00911	19930226
	EP0557636 A1	19930901	EP19920304921	19920529
	EP0557636 B1	19981014	EP19920304921	19920529
	EP0627988 A1	19941214	EP19930906252	19930226
	EP0627988 A4	19950208	EP19930906252	19930226
	IE922553 A1	19930908	IE19920002553	19920731
	IL102466 A1	19971120	IL19920102466	19920710
	IL96364 A0	19910816	IL19900096364	19901116
	IL96364 A1	19960131	IL19900096364	19901116
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	US5372771 A	19941213	US19930092368	19930716
	US5747159 A	19980505	US19940295715	19941114
	VN190 A1	19941225	VN19930000478	19930226
	WO9316872 A1	19930902	WO1993US01757	19930226
	ZA9301388 A	19930922	ZA19930001388	19930226

Probable Assignee: ARMORVISION PLASTICS AND GLASS

Assignee(s):(std): ARMORVISION PLASTICS AND GLASS ; ARMORVIZHN PLASTIKS EHND GLASS ; ARMOVISION PLASTICS AND GLASS ; JOSEPH LABOCK ; SHOTGLASS A V V ; LABOCK JOSEPH ; M R M INTERNATIONAL INC ; M R M INT INC ; A D Y LABOCK COATING LTD

Assignee(s): ADY LABOCK COATING LTD ; SHOT GLASS ; SHOTGLASS VENTURES LP ; SHOTGLASS A V V ORANJESTAD ARUBA AN ; MRM INT INC ; SHOTGLASS AVV

Inventor(s):(std): DZHOZEJ LEHBOK ; JOSEPH LABOCK ; LABOCK JOSEPH

Inventor(s): LABOCK JOSEPH 59491 BAT YAM IL

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; RICHES MCKENZIE AND HERBERT LLP; SANFORD TCOLB AND CO; GE EHRlich 1995 LTD

Designated states: AT AU BB BE BF BG BJ BR CA CF CG CH CI CM CZ DE DK ES FI FR GA GB GN GR HU IE IT JP KP KR LI LK LU MC MG ML MN MR MW NL NO NZ PL PT RO RU SD SE SK SN TD TG UA US

International class (IPC 8-9): B29C43/20 B29C65/42 B29C65/48 B30B9/28 B32B17/00 B32B17/10 B32B27/08 B32B27/30 B32B27/36 B32B33/00 B32B7/12 C03B18/12 E04C2/54 E05G7/00 E06B5/10 F41H5/00 F41H5/04 F41H5/26 (Advanced/Invention); B29C65/48 B29K33/00 B29K69/00 B29L9/00 B32B27/30 B32B27/36 B32B7/12 E04C2/54 E05G7/00 (Advanced/Non-invention); B29C65/48 B32B17/00 B32B17/06 B32B27/08 B32B27/30 B32B27/36 B32B33/00 B32B7/12 E04C2/54 E05G7/00 E06B5/10 F41H5/00 (Core/Invention); B32B (Subclass/Invention)

International class (IPC 1-7): B29C39/12 B29C65/48 B29C65/54 B29K33/00 B29K69/00 B29L9/00 B30B B30B1/32 B30B11/00 B30B12/00 B30B15/06 B30B5/00 B32B17/00 B32B17/10 B32B27/00 B32B27/08 B32B27/28 B32B27/30 B32B27/36 B32B31/00 B32B31/06 B32B31/20 B32B31/30 B32B33/00 B32B35/00 B32B7/02 B32B7/12 D06M17/00 E04B2/02 E04C2/54 E05G7/00 E06B5/10 F41H F41H5/00 F41H5/04 F41H5/26

CPC: Y10S428/911 B29C65/542 B29C66/1122 B29C66/301 B29C66/342 B29C66/71 B29C66/712 B29C66/73366 B29C66/73521 B29C66/81457 B29C66/81463 B29C66/8242 B29C2793/0045 B29C2793/0081 B32B17/10064 B32B17/10761 B32B17/10816 B32B17/10889 B32B2333/00 F41H5/0407 B29C65/483 Y10T428/264 Y10T428/31507 Y10T428/31576 B29C66/73152 B29K2995/007 B29C66/8322 B29C66/45 B32B7/12 B32B27/30 B32B27/365 B32B2307/412 B32B2571/02 B32B17/10018 B32B2369/00 B32B27/308 B32B2307/584 B32B27/08 B32B17/1077

European class: B32B17/10C2 B32B17/10C6 B32B17/10G28 B32B17/10G30 B32B17/10L10 B32B17/10L14 B32B27/08 F41H5/04B L32B333/00 L32B369/00

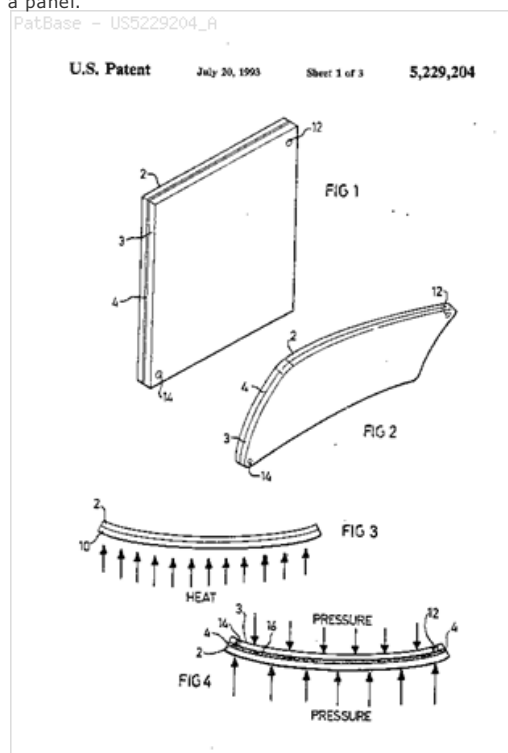
US class: 109/10 109/49.5 109/80 156/104 264/261 264/263 428/335 428/412 428/424.4 428/911

[Classification Explorer](#)

Cited documents: WO8000943 A1, USH7 H1, US5229204 A, US5008049 A, US4908083 A, US4838974 A, US4686932 A, US4647493 A, US4594290 A, US4312903 A, US4299639 A, US4243719 A, US3703425 A, US3090078 A, US3046169 A, US3029730 A, US2983635 A, US2137505 A, US2064514 A, US2020178 A, US1937396 A, US1809769 A, JP49104909 A2, GB858578 A, GB2065029 A1, GB2032844 A1, FR2662154 A1, FR2565162 A1, EP0534590 A1, EP0449684 A1, EP0446127 A1, EP0438328 A1, DE3016061 A1, DE2929491 A1, DE2516630 A1,

Forward Citations: WO18096836, WO14130234, WO10066819, WO10066819, WO08000528, WO07051180, WO06073478, WO05062932, WO05062932, WO04084664, WO04084664, WO0247908, WO0049843, US9879474, US9803959, US9555608, US9417038, US9157703, US9067389, US8871046, US8119231, US7919175, US7841026, US7770506, US7770505, US7641965, US7318956, US7243590, US7111431, US6540855, US5747159, US5506051, US2015377595, US2010011948, US2009324935, US2009226730, US2009123721, US2007131103, US2007000031, US2006147655, US2006046034, US2005238880, US2004253456, US2004247801, US2004148873, US2004013725, TWI386454, RU2652554, JP2011508679, JP2009541099, JP2006124255, GB2506358, GB2402907, GB2402907, EP2322894, EP2322894, EP2147765, EP2147765, EP2032360, EP1577084, DE102008028318, DE102004014023, CN104870929, CN103608640, CN103471465, CN102245383, CN101466542,

Abstract:
A transparent panel having unidirectional bullet-resisting characteristics, comprises an outer transparent panel of an acrylic resin; an inner transparent sheet of a polycarbonate resin; and a transparent adhesive bonding the two sheets together. Also described are a method of making such a panel, and presses useful in making such a panel.



6) Family number: 66936062 (US2017259530A)

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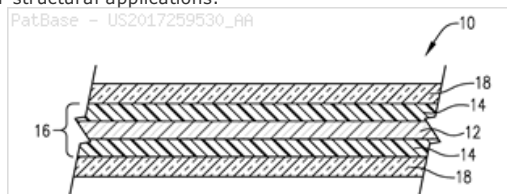
Title:	CELLULOSE ESTER MULTILAYER INTERLAYERS
Priority:	US20160306748P 20160311 US20160306752P 20160311 US20160306762P 20160311 US20160306757P 20160311 US20160306770P 20160311 US20160306774P 20160311 US20170453522 20170308 US20170453466 20170308 US20170453506 20170308 US20170453486 20170308 US20170453636 20170308 US20170453586 20170308 US20170453758 20170308 US20170453748 20170308 WO2017US21726 20170310

Family:

Publication number	Publication date	Application number	Application date
■ CN109070553 A	20181221	CN201780028595	20170310
■ CN109195792 A	20190111	CN201780028623	20170310
■ EP3426487 A2	20190116	EP20170764166	20170310
■ EP3426488 A2	20190116	EP20170764168	20170310
■ US2017259530 AA	20170914	US20170453758	20170308
■ US2017259534 AA	20170914	US20170453466	20170308
■ US2017259535 AA	20170914	US20170453522	20170308
■ US2017259536 AA	20170914	US20170453613	20170308
■ US2017259537 AA	20170914	US20170453486	20170308
■ US2017259538 AA	20170914	US20170453506	20170308
■ US2017259539 AA	20170914	US20170453636	20170308
■ US2017259540 AA	20170914	US20170453748	20170308
■ US10195826 BB	20190205	US20170453758	20170308
■ WO17156361 A2	20170914	WO2017US21726	20170310
■ WO17156361 A3	20180726	WO2017US21726	20170310
■ WO17156361 A8	20171026	WO2017US21726	20170310
■ WO17156364 A2	20170914	WO2017US21729	20170310
■ WO17156364 A3	20180726	WO2017US21729	20170310

Probable Assignee: SOLUTIA INC**Assignee(s):(std):** SOLUTIA INC**Inventor(s):(std):** WADE BRUCE EDWARD ; WADE BRUCE ; TRAN KHANH DUC ; TRAN KHANH ; KARAGIANNIS ARISTOTELLIS ; KARAGIANNIS ARISTOTELIS ; DONELSON MICHAEL EUGENE ; DONELSON MICHAEL ; CUI WEIHONG**Agent(s):** BECKMANN CLAUS; OWEN STEVEN A; BUGBEE MICHELLE**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW**International class (IPC 8-9):** B32B17/08 B32B17/10 B32B23/08 B32B23/14 B32B23/16 B32B23/18 B32B23/20 B32B27/08 B32B27/22 B32B27/30 B32B27/36 B32B27/40 B32B27/42 B32B37/10 B32B37/15 B32B7/02 B32B7/12 (Advanced/Invention)**CPC:** B32B17/08 B32B17/10036 B32B17/10761 B32B23/20 B32B17/1077 B32B23/14 B32B17/10743 B32B17/10788 B32B23/08 B32B27/306 B32B27/22 B32B2307/102 B32B3/02 B32B7/02 B32B7/12 B32B17/00 B32B23/16 B32B27/08 B32B27/308 B32B27/40 B32B27/42 B32B2250/03 B32B2250/05 B32B2250/40 B32B2255/10 B32B2255/26 B32B2270/00 B32B2307/30 B32B2307/412 B32B2307/542 B32B2307/558 B32B2419/00 B32B2571/00 B32B2317/18 B32B2331/04 B32B2329/06 B32B2375/00 B32B2605/08 B32B2605/18 B32B27/30 B32B2605/006 B32B2457/12 B32B2307/54 B32B27/36 B32B17/10779 B32B17/10605 B32B37/153 B32B23/06 B32B2250/04 B32B2307/418 B32B2307/546 B32B3/263 B32B7/04 B32B23/04 B32B27/06 B32B27/18 B32B27/20 B32B27/365 B32B2250/02 B32B2250/24 B32B2264/102 B32B2307/10 B32B2307/3065 B32B2307/40 B32B2307/4026 B32B2307/50 B32B2307/518 B32B2307/58 B32B2307/732 B32B2307/746 B32B2607/00 B32B37/1018[Classification Explorer](#)**Cited documents:** WO14176059 A1, US9382355 BB, US9032692 BB, US9012538 BB, US8986848 BB, US8933166 BB, US8865853 BB, US8865287 BB, US8835592 BB, US8729253 BB, US8603616 BA, US8399559 BB, US8399098 BB, US8399097 BB, US8349986 BB, US7976952 BB, US7919175 BB, US7883761 BB, US7641965 BA, US7531238 BB, US7189464 BB, US6953623 BB, US6921509 BB, US6861136 BB, US6825255 BB, US6815070 BA, US6762241 BA, US6720082 BA, US6607831 BB, US6365278 BA, US6096425 A, US6020070 A, US6001484 A, US5932329 A, US5725956 A, US5700586 A, US5635278 A, US5631328 A, US5565271 A, US5418120 A, US5393607 A, US5137954 A, US4952457 A, US4775558 A, US4351681 A, US4322476 A, US4308184 A, US4278736 A, US4059469 A, US3956559 A, US3762988 A, US3762981 A, US3620888 A, US3617201 A, US3582455 A, US3178334 A, US2558991 A, US2526728 A, US2336532 A, US2336531 A, US2282057 A, US2282026 A, US2281483 A, US2258991 A, US2209435 A, US2192196 A, US2137377 A, US2129052 A, US2115514 A, US2103883 A, US2099086 A, US2094183 A, US2072583 A, US2071411 A, US2067310 A, US2062541 A, US2042485 A, US2026987 A, US2016159042 AA, US2015151519 AA, US2015140301 AA, US2015132580 AA, US2015085217 AA, US2015064475 AA, US2015050503 AA, US2015024184 AA, US2014364026 AA, US2014357142 AA, US2014255560 AA, US2014220286 AA, US2014199524 AA, US2014127500 AA, US2014023866 AA, US2013309448 AA, US2013260143 AA, US2013216840 AA, US2013095714 AA, US2013095311 AA, US2012204940 AA, US2012202030 AA, US2010167061 AA, US2010129665 AA, US2010124649 AA, US2010062236 AA, US2010029927 AA, US2009286061 AA, US2009280329 AA, US2008206572 AA, US2007009714 AA, US2004175575 AA, US2004028907 AA, US2003288 A, US2002146568 AA, US2002014717 AA, US1984147 A, US1976758 A, US1976750 A, US1976749 A, US1976748 A, US1958013 A, US1954055 A, US1923111 A, US1923070 A, US1884809 A, US1884624 A, US1880808 A, US1880560 A, US1872663 A, US1861915 A, US1849504 A, US1831462 A, US1809276 A, US1802213 A, US1698049 A, US1683347 A, US1611139 A, JP7062120 A2, JP2013010671 A2, JP2013006725 A2,**Abstract:**

An interlayer structure having a cellulose ester layer for use in structural laminates is described herein. The cellulose ester layer provides rigidity and support to multilayer interlayers comprising an array of different layers. Due to the diverse properties of the cellulose ester layers, the present interlayers can be useful in producing structural laminates having high stiffness and which possess good optical clarity for a variety of applications, including outdoor structural applications.



Title: ASYMMETRIC GLASS LAMINATES EXHIBITING IMPROVED DAMAGE TOLERANCE

Priority: US20150244383P 20151021 US20150256777P 20151118 WO2016US57809 20161020
US20160769989 20161020

Family:

Publication number	Publication date	Application number	Application date
■ CN108349794 A	20180731	CN201680061999	20161020
■ EP3365297 A2	20180829	EP20160794104	20161020
■ JP2018538223 T2	20181227	JP20180520524T	20161020
■ KR20180071340 A	20180627	KR20187014277	20161020
■ US2019054717 AA	20190221	US20160769989	20161020
■ WO17070283 A2	20170427	WO2016US57809	20161020
■ WO17070283 A3	20170629	WO2016US57809	20161020

Probable Assignee: CORNING INC

Assignee(s):(std): CORNING CO LTD ; CORNING INC

Assignee(s): COUILLARD JAMES GREGORY ; DENSON WILLIAM KENNETH ; CLEARY THOMAS MICHAEL

Inventor(s):(std): CLEARY THOMAS MICHAEL ; COUILLARD JAMES GREGORY ; DENSON WILLIAM KENNETH

Inventor(s): COUILLARD JAMES GREGORY

Agent(s): EPPING HERMANN FISCHER; PATEL PAYAL A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

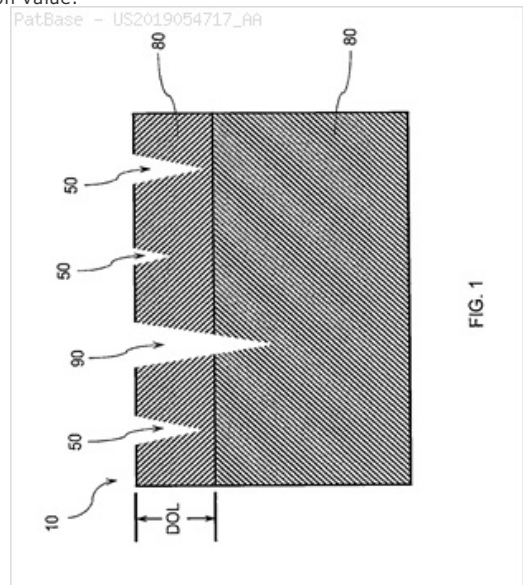
International class (IPC 8-9): B32B17/10 B60J1/00 C03C21/00 C03C27/12 (Advanced/Invention)

CPC: B32B17/10743 B32B17/06 B32B2307/552 B32B2309/105 B32B2315/08 B60J1/001 B32B17/10871 B32B2327/06 B32B2329/06 B32B2331/04 B32B2375/00 B32B2605/006 B32B17/10137 B32B17/10036 B32B17/10119 B32B17/10761 B32B17/1077 B32B17/10788 C03C21/002

[Classification Explorer](#)

Cited documents: WO14209861 A1, US8854623 BB, US2013295357 AA, US201213463322, US2012094084 AA,

Abstract:
Principles and embodiments of the present disclosure relate to unique asymmetric laminates and methods that produce the laminates that have improved damage tolerance, where the laminate includes a first strengthened glass substrate having a first central tension value bonded to a second strengthened glass substrate having a second central tension value by an interlayer, where the first central tension value is less than the second central tension value.



8) Family number: 66162070 (US2018370194A)

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Title: ASYMMETRIC LAMINATED GLASS

Priority: FR20150062665 20151217 WO2016FR53420 20161214

Family:

Publication number	Publication date	Application number	Application date
■ AR107082 AA	20180321	AR2016P103891	20161216
■ BR112018012088 A2	20181127	BR20181112088	20161214
■ CA3008317 AA	20180612	CA20163008317	20161214
■ CN107108335 A	20170829	CN201680003841	20161214
■ EP3390312 A1	20181024	EP20160825510	20161214
■ FR3045595 A1	20170623	FR20150062665	20151217
■ FR3045595 B1	20171222	FR20150062665	20151217
■ ID201811373 A	20181019	ID2018PID05157	20161214
■ IN201817022949 A	20181102	IN201817022949	20180620
■ KR20180094979 A	20180824	KR20187019947	20161214
■ MX2018007322 A1	20180906	MX20180007322	20161214
■ US2018370194 AA	20181227	US20160062440	20161214
■ WO17103471 A1	20170622	WO2016FR53420	20161214

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s):(std): SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE ; SAINT GOBAIN RECH ; SAINT GOBAIN SA
Assignee(s): CLAIREAUX CORINNE ; FREDY CAROLE ; SAINT GOBAIN RECHERCHE
Inventor(s):(std): CAROLE FREDY ; CORINNE CLAIREAUX ; FREDY CAROLE ; CLAIREAUX CORINNE
Agent(s): GOUDREAU GAGE DUBUC; LAVERY DE BILLY LLP; SAINT GOBAIN RECHERCHE; IR MIGNI MYRIASANDRA SH MIP MSEL
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B32B17/10 C03B23/023 C03C21/00 C03C3/085 C03C3/087 C03C3/091 (Advanced/Invention)
International class (IPC 1-7): B32B17/10 C03C3/091
CPC: C03C3/085 B32B2605/006 B32B17/10036 B32B17/10119 B32B17/10137 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788 C03C3/087 C03C3/091 C03C21/002

[Classification Explorer](#)

Cited documents: WO15059406 A1, WO15058885 A1, US2013295357 AA,

Abstract:
A laminated glazing includes at least a first glass sheet of soda-lime-silica type, a second glass sheet which is thinner than the first glass sheet and a polymeric interlayer located between the two glass sheets, in which the second glass sheet is a glass of aluminosilicate type including the following oxides within the ranges of contents by weight defined below: SiO₂ between 60.00 and 68.00 percent; Al₂O₃ between 2.80 and 7.80 percent; Na₂O between 10.00 and 15.80 percent; MgO between 4.90 and 10.10 percent; K₂O between 4.80 and 9.70 percent; B₂O₃ between 0 and 3.20 percent; and CaO between 0 and 1.00 percent.

9) Family number: 59449079 (US2015158986A)

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Title: POLYMERIC INTERLAYER SHEETS AND LIGHT WEIGHT LAMINATES PRODUCED THEREFROM
Priority: US20130912904P 20131206 US20140992026P 20140512 US20140560624 20141204
WO2014US68777 20141205

Family:	Publication number	Publication date	Application number	Application date
	 CN105960327 A	20160921	CN201480074886	20141205
	 EP3077203 A1	20161012	EP20140824203	20141205
	 JP2017502117 T2	20170119	JP20160536957T	20141205
	 US2015158986 AA	20150611	US20140560624	20141204
	 WO15085165 A1	20150611	WO2014US68777	20141205

Probable Assignee: E I DU PONT DE NEMOURS AND CO
Assignee(s):(std): DU PONT ; EIDU PONT DE NEMOURS AND CO
Assignee(s): E I DU PONT DE NEMOURS AND CO ; EI DU PONT DE NEMOURS AND CO
Inventor(s):(std): BENNISON STEPHEN ; BENNISON STEPHEN J ; HANSEN STEVEN M ; KOBAYASHI TOSHIKAZU ; MEERSCHIEDT SHANNON D ; NAKATA KAZUYUKI ; PESEK STEVEN C ; SAMUELS SAM LOUIS ; SHAFFER W ALEXANDER ; SHITANOKI YUKI ; SMITH CHARLES ANTHONY ; XU JINGJING
Agent(s): HEINEMANN MONICA; TANI AND ABE PC; KOURTAKIS MARIA
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B32B15/082 B32B15/085 B32B17/10 B32B18/00 B32B23/20 B32B27/06 B32B27/18 B32B27/30 B32B27/32 B32B27/34 B32B27/36 B32B27/38 B32B27/40 B32B7/02 C03C17/32 C03C27/12 C08F220/06 C08F220/18 C08J5/18 (Advanced/Invention)
CPC: C08J5/18 B32B27/308 B32B27/36 B32B27/365 B32B27/302 B32B27/34 B32B27/40 B32B23/20 B32B27/32 B32B27/322 B32B27/38 B32B27/06 B32B17/10743 B32B15/085 B32B15/082 B32B18/00 C08J2323/08 B32B2250/02 B32B2250/03 B32B2250/04 B32B2255/26 B32B2307/10 B32B2315/08 B32B2315/02 B32B2323/04 B32B2325/00 B32B2327/06 B32B2333/04 B32B2363/00 B32B2367/00 B32B2369/00 B32B2375/00 B32B2377/00 B32B17/10018 B32B17/10036 B32B2605/006 B32B17/061 B32B27/304 B32B27/325 Y10T428/31507 Y10T428/31511 Y10T428/31576 Y10T428/31616 Y10T428/31649 Y10T428/31663 Y10T428/31667 Y10T428/31699 Y10T428/3175 Y10T428/31797 Y10T428/3188 Y10T428/31913 Y10T428/3192 Y10T428/31928 Y10T428/31935
US class: 428/412 428/413 428/424.4 428/430 428/442 428/447 428/451 428/463 428/476.3 428/483 428/507 428/516 428/518 428/520 428/522 524/562 526/318.45

[Classification Explorer](#)

Cited documents: WO9958334 A2, WO9101880 A1, WO14059204 A1, WO07149082 A1, WO06057771 A2, WO03068501 A1, WO03057478 A1, USH2280 H1, US8399098 BB, US8399096 BB, US8334033 BB, US7759414 BB, US7641965 BA, US7622192 BB, US6518365 BA, US6468934 BB, US6461736 BA, US6432522 BA, US6342116 BA, US6340646 BA, US6265054 BA, US6150028 A, US5895721 A, US5853516 A, US5770312 A, US5763062 A, US5759698 A, US5698329 A, US5690994 A, US5536347 A, US5415942 A, US5415909 A, US5411845 A, US5399401 A, US5264286 A, US5173212 A, US5002820 A, US4865711 A, US4799346 A, US4732814 A, US4668574 A, US4663228 A, US4615989 A, US4398979 A, US4385951 A, US4341576 A, US4191798 A, US4035549 A, US3852136 A, US3762988 A, US3404134 A, US3344014 A, US3311517 A, US3234062 A, US2704382 A, US2683894 A, US2648097 A, US2632921 A, US201361856820 P, US2013225746 AA, US2013210186 AA, US2012152323 AA, US2012067420 AA, US2011105681 AA, US2010227135 AA, US2010112356 AA, US2010112354 AA, US2009151773 AA, US2009130355 AA, US2009126781 AA, US2009107553 AA, US2008199690 AA, US2008044666 AA, US2007289693 AA, US2007154694 AA, US2007122633 AA, US2007092706 AA, US2006182983 AA, US2004182493 AA, US2003124296 AA, US2002155302 AA, US2001008695 AA, JP2013537495 T2, JP2011507278 T2, JP2011507277 T2, JP2004231746 A2, JP2001178850 A2, JP11510780 T2, GB1041065 A, EP1235683 B1, CN1717325 A, CN101896342 A, CN101611079 A,
Forward Citations: WO19027865, WO18234466, WO18212331, WO17196707, WO17023644, WO17023644, US2014322509, EP3418052, EP3219685,

Abstract:

Provided herein are interlayer sheets formed of an acid copolymer composition, which comprises an acid copolymer resin or an ionomer that is the neutralized product of the acid copolymer resin. The acid copolymer resin comprises copolymerized units of an α -olefin having 2 to 10 carbon atoms; about 10 to about 25 wt percent of copolymerized units of a first α , β -ethylenically unsaturated carboxylic acid having 3 to 10 carbon atoms; and about 15 to about 30 wt percent of copolymerized units of a derivative of a second α , β -ethylenically unsaturated carboxylic acid having 3 to 10 carbon atoms. In addition, the acid copolymer resin has a melt flow rate of about 1 to about 400 g/10 min. Light weight safety laminates comprising these interlayer sheets are characterized by good strength and superior acoustic damping, due to the properties of the acid copolymer composition.

10) Family number: 68544080 (WO19008494A1)

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Title: GLAZING WITH LAMINATED INSERT OBSCURATION BAND

Priority: US20170528127P 20170702 CO20170009260 20170913

Family:

Publication number	Publication date	Application number	Application date
CO20170009260 A1	20180131	CO20170009260	20170913
WO19008494 A1	20190110	WO2018IB54884	20180702

Probable Assignee: AGP AMERICA SA

Assignee(s):(std): AGP AMERICA S A ; AGP AMERICA SA

Inventor(s):(std): CUSTODIO SHEEN EDWARD ENRIQUE ; MANNHEIM ASTETE MARIO ARTURO ; VOELTZEL CHARLES STEPHEN

Inventor(s): CHARLES STEPHEN VOELTZEL ; MARIO ARTURO MANNHEIM ASTETE ; EDWARD ENRIQUE CUSTODIO SHEEN

Agent(s): CARLOS REINALDO OLARTE GARCIA; URDANETA DANIEL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/10 C03C27/00 C03C27/12 (Advanced/Invention)

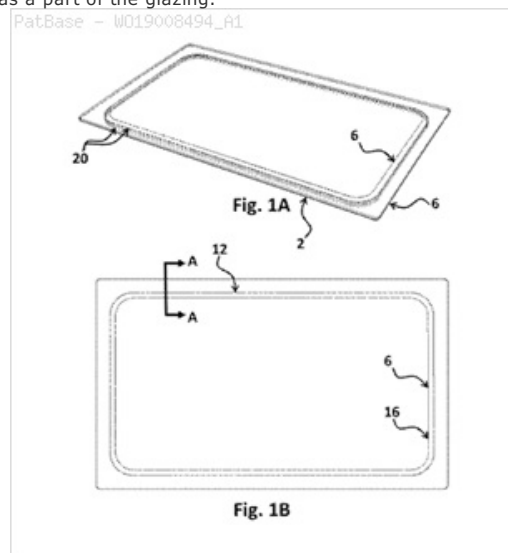
CPC: B32B17/10293 B32B17/10036 B32B17/10091 B32B17/10119 B32B17/10137 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788 B32B2369/00 B32B17/10 C03C27/00

[Classification Explorer](#)

Cited documents: WO18178825 A1, US2008032104 AA, US2001032540 AA, GB2264452 A1, EP2703157 A1,

Abstract:

Glazing mounting systems, that make use of an adhesive to bond the glazing to a vehicle opening, require an obscuration to hide the adhesive from view and to protect the adhesive from ultra-violet radiation. An enamel ink is typically used to print the obscuration on the glass. However, glass with certain types of coatings and glass which will be chemically tempered is not compatible with enamel frits. Organic inks can be used but are expensive, difficult to work with and not as durable as an enamel frit. The obscuration of the present invention is produced by replacing the printed obscuration with an insert, which serves the same function of an obscuration printed on the glass, which is laminated as a part of the glazing.

**11) Family number: 68544090 (WO19008493A1)**

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Title: EMBEDDED WIRE LED LAMINATE

Priority: US20170528133P 20170702 CO20170009266 20170913

Family:

Publication number	Publication date	Application number	Application date
CO20170009266 A1	20180131	CO20170009266	20170913
WO19008493 A1	20190110	WO2018IB54881	20180701

Probable Assignee: AGP AMERICA SA

Assignee(s):(std): AGP AMERICA S A ; AGP AMERICA SA

Inventor(s):(std): MANNHEIM ASTETE MARIO ARTURO ; VARGAS DUHARTE DIEGO ALONSO ; VIZCARRA MENDOZA

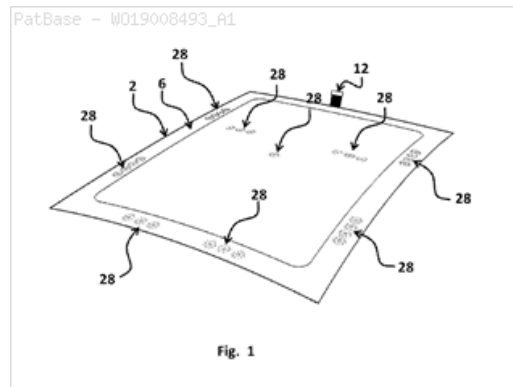
Inventor(s): GONZALO RAFAEL ; VOELTZEL CHARLES STEPHEN
Agent(s): MARIO ARTURO MANNHEIM ASTETE ; CHARLES STEPHEN VOELTZEL ; DIEGO ALONSO VARGAS DUHARTE ; GONZALO RAFAEL VIZCARRA MENDOZA
Designated states: CARLOS REINALDO OLARTE GARCIA; URDANETA DANIEL
AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B32B17/10 G09F13/04 G09F13/12 G09F13/16 G09F7/00 G09F7/12 (Advanced/Invention)
CPC: B32B17/10376 B32B17/10036 B32B17/10174 B32B17/10541 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788 B32B17/10 G09F7/00 G09F7/12 G09F13/04 G09F13/12 G09F13/16

[Classification Explorer](#)

Cited documents: WO12031647 A1, WO09016581 A2, US2014098557 AA, US2003230045 AA, GB2511552 A1,

Abstract:

The price and performance of LED lighting have reached the point where LEDs are displacing more traditional lighting. Even though LED lifetimes are as high as 50,000 hours, they are still being designed as replaceable bulbs rather than being integrated as a permanent part of the lighting assembly. The invention provides for a means of economically producing laminated glass with integrated LED lighting designed to last the life of the vehicle. This is done by embedding the LED die into the plastic layer used to bond the glass layers of a laminate together, forming an embedded wire circuit from thin high tensile strength Tungsten wire to power the LEDs and by utilizing machine tool technology originally developed to produce integrated circuit assemblies such as RFID ID cards, tickets and passports.



12) Family number: 68084091 (WO18005646A1)

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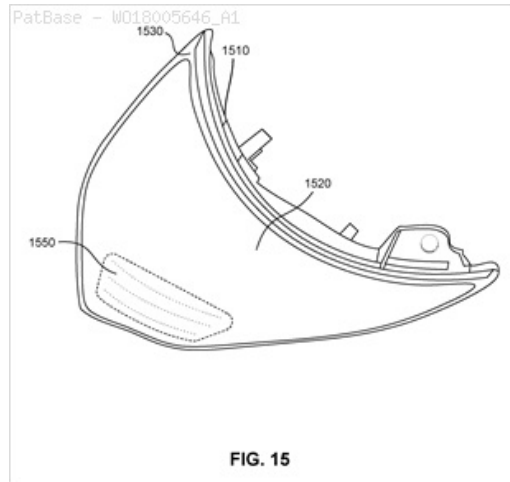
Title: LAMINATING THIN STRENGTHENED GLASS TO CURVED MOLDED PLASTIC SURFACE FOR DECORATIVE AND DISPLAY COVER APPLICATION
Priority: US20160355542P 20160628 US20170444470P 20170110
Family:

Publication number	Publication date	Application number	Application date
TW201808836 A	20180316	TW20170121551	20170628
WO18005646 A1	20180104	WO2017US39752	20170628

Probable Assignee: CORNING INC
Assignee(s):(std): CORNING INC
Inventor(s):(std): BRENNAN MICHAEL TIMOTHY ; SUN YAWEI
Agent(s): PATEL PAYAL A
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B29C45/14 B32B17/06 B32B17/10 B60R13/02 C03B23/023 C03B23/03 C03C17/00 C03C25/10 E06B3/66 (Advanced/Invention)
CPC: C03C17/002 B32B17/10889 C03B23/023 C03C2217/73 B29C45/1418 B29C45/14778 B60R13/02 B32B17/10036 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788
[Classification Explorer](#)
Cited documents: WO16007815 A1, US4899507 A, US2016009068 AA, US2009101208 AA, FR2750075 A1, EP0076924 A2,
Forward Citations: US10175802,

Abstract:

A process comprises cold-forming a flat glass substrate into a non-planar shape using a die. The cold-formed glass substrate is bonded to a non-planar rigid support structure at a plurality of non-planar points using the die. Bonding methods include injection molding the non-planar rigid support structure, and direct bonding. An article is also provided, comprising a cold-formed glass substrate having opposing major surfaces and a curved shape, the opposing major surfaces comprising a surface stress that differ from one another. The cold-formed glass substrate is attached to a rigid support structure having the curved shape. The cold-formed glass substrate includes an open region not in direct contact with the non-planar rigid support structure, and the open region has a curved shape maintained by the non-planar rigid support structure.



13) Family number: 62412101 (US2017334173A)

© PatBase

Title:	INTERLAYER FILM FOR LAMINATED GLASS AND LAMINATED GLASS					
Priority:	JP20140228354	20141110	JP20140246710	20141205	JP20150220812	20151110
	JP20150220813	20151110	JP20150220814	20151110	JP20150220815	20151110
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	JP20150220820	20151110	JP20150220821	20151110	JP20150220822	20151110
	JP20150220823	20151110	JP20150220817	20151110	WO2015JP81665	20151110
	WO2015JP81666	20151110	WO2015JP81664	20151110	WO2015JP81667	20151110
	WO2015JP81668	20151110	JP20160559079T	20151110	JP20160559076T	20151110
	JP20160559078T	20151110	JP20170038016	20170301		

Family:	Publication number	Publication date	Application number	Application date
	■ CN107108348 A	20170829	CN201580061097	20151110
	■ CN107108349 A	20170829	CN201580061149	20151110
	■ CN107108350 A	20170829	CN201580061177	20151110
	■ CN107108351 A	20170829	CN201580061183	20151110
	■ CN107108352 A	20170829	CN201580061191	20151110
	■ EP3219683 A1	20170920	EP20150858216	20151110
	■ EP3219683 A4	20180627	EP20150858216	20151110
	■ EP3219684 A1	20170920	EP20150858658	20151110
	■ EP3219684 A4	20180704	EP20150858658	20151110
	■ EP3219685 A1	20170920	EP20150858800	20151110
	■ EP3219685 A4	20181010	EP20150858800	20151110
	■ EP3219686 A1	20170920	EP20150858865	20151110
	■ EP3219686 A4	20180919	EP20150858865	20151110
	■ EP3219687 A1	20170920	EP20150859444	20151110
	■ EP3219687 A4	20181003	EP20150859444	20151110
	■ JP2016076336 A1	20170720	JP20160559076T	20151110
	■ JP2016076337 A1	20170427	JP20160559077T	20151110
	■ JP2016076338 A1	20170427	JP20160559078T	20151110
	■ JP2016076339 A1	20170720	JP20160559079T	20151110
	■ JP2016076340 A1	20170817	JP20160559080T	20151110
	■ JP2016107632 A2	20160620	JP20150220817	20151110
	■ JP2016108220 A2	20160620	JP20150220812	20151110
	■ JP2016108221 A2	20160620	JP20150220813	20151110
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	■ JP2016108223 A2	20160620	JP20150220815	20151110
	■ JP2016108224 A2	20160620	JP20150220816	20151110
	■ JP2016108225 A2	20160620	JP20150220818	20151110
	■ JP2016108226 A2	20160620	JP20150220819	20151110
	■ JP2016108227 A2	20160620	JP20150220820	20151110
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	■ JP2016108229 A2	20160620	JP20150220822	20151110
	■ JP2016108230 A2	20160620	JP20150220823	20151110
	■ JP2017124970 A2	20170720	JP20170026448	20170215
	■ JP2017124971 A2	20170720	JP20170026480	20170215
	■ JP2017160112 A2	20170914	JP20170038016	20170301
	■ JP6105176 B1	20170329	JP20160559078T	20151110
	■ JP6138377 B1	20170531	JP20160559076T	20151110
	■ JP6140907 B1	20170607	JP20160559077T	20151110
	■ JP6305560 B1	20180404	JP20160559079T	20151110
	■ KR20170082599 A	20170714	KR20177015657	20151110
	■ KR20170082614 A	20170714	KR20177015931	20151110
	■ KR20170082616 A	20170714	KR20177015933	20151110
	■ KR20170084185 A	20170719	KR20177015641	20151110
	■ KR20170084220 A	20170719	KR20177015930	20151110
	■ US2017334173 AA	20171123	US20150525506	20151110
	■ US2017361575 AA	20171221	US20150525541	20151110
	■ US2018290436 AA	20181011	US20150525508	20151110

US2018290437 AA	20181011	US20150525533	20151110
US2018290439 AA	20181011	US20150525515	20151110
WO16076336 A1	20160519	WO2015JP81664	20151110
WO16076337 A1	20160519	WO2015JP81665	20151110
WO16076338 A1	20160519	WO2015JP81666	20151110
WO16076339 A1	20160519	WO2015JP81667	20151110
WO16076340 A1	20160519	WO2015JP81668	20151110

Probable Assignee: KURARAY CO LTD

Assignee(s):(std): KURARAY CO

Assignee(s): KURARAY CO LTD

Inventor(s):(std): ASADA MITSUNORI ; ISOKAMI KOICHIRO ; ISOUE KOICHIRO ; KAMATA YOHEI ; KOBAYASHI TAKUYA ; KUSUDOU TAKESHI ; KUSUFUJI TAKESHI ; OSHITA SHINYA ; YUI TAIGA

Agent(s): MUELLER BORE AND PARTNER PATENTANWAELE PARTG MBB; LIGHTHOUSE INT PATENT FIRM

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/10 B32B25/00 B32B25/08 B32B25/14 B32B27/00 B32B27/06 B32B27/08 B32B27/18 B32B27/22 B32B27/30 B32B27/32 B32B3/30 B32B7/02 B60J1/00 B60J1/02 C03C27/12 C08F297/02 C08F297/04 C08F8/04 C08J5/18 C08K3/22 C08K3/24 C08K3/38 C08K5/07 C08K5/101 C08K5/11 C08K5/20 C08K5/3417 C08K5/3475 C08K5/3492 C08K9/02 C08L101/00 C08L21/00 C08L29/14 C08L53/00 C08L53/02 C09J11/06 C09J129/14 C09J201/00 C09J7/00 E06B3/66 E06B3/67 E06B5/20 (Advanced/Invention); B32B25/04 (Advanced/Non-invention)

CPC: E06B3/66 B32B17/10036 B32B17/10633 B32B27/18 B32B2307/304 B32B27/22 B32B2605/006 B32B27/08 B32B27/306 B32B7/02 B32B2307/102 E06B3/6707 B32B25/042 E06B3/6715 B32B2307/30 B32B2309/105 B32B17/10577 B32B17/10587 B32B17/10724 B32B17/1077 B32B17/10788 B32B25/08 B32B17/10165 B32B17/10605 B60J1/02 B60J1/001 B32B2307/542 B32B17/10559 B60J1/08 B32B2307/734 B32B2307/412 B32B17/1055 B32B17/10761 B60J1/18 B60J7/043 B32B17/10743

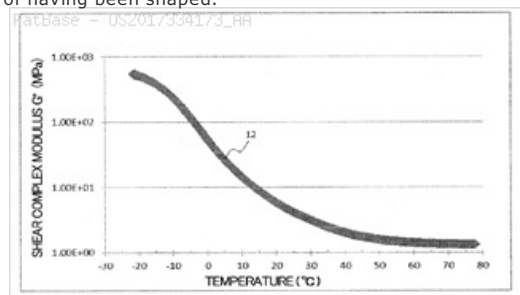
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Cited documents: WO15085165, WO15013242, WO14061669 A1, WO14061669, WO13105657 A1, WO13105657, WO12043817, WO12023616, WO12008582 A1, WO12008582, WO11024783 A1, WO11024783, WO10055731 A1, WO10055731, WO10038801 A1, WO10038801, WO05066094, WO05018969, WO03033583, WO03018502, US6669890 BA, US4822684 A, US2012204940 AA, US2012202070 AA, US2012171498 AA, US2012162752 AA, US2008210287 AA, US2006110593 AA, US2005249959 AA, US2004242721 AA, US2002150744 AA, US2002150744 AA, US2001039310 AA, JP5270870 A2, JP5270870, JP5051243 A2, JP5051243, JP2014015544 A2, JP2013224257 A2, JP2013107821 A2, JP2013032260 A2, JP2012214305 A2, JP2012081748 A2, JP2012081748, JP2012006406 A2, JP2010235432 A2, JP2010235432, JP2010201932 A2, JP2010201932, JP2009256129 A2, JP2009256129 A2, JP2008266138 A2, JP2008266138, JP2007331964 A2, JP2007136057 A2, JP2007091491 A2, JP2007091491 A2, JP2005206445 A2, JP2005206445, JP2003327455 A2, JP2003252657 A2, JP2002514533 T2, JP2002514533, JP2001506198 T2, JP2001294450 A2, JP2001294450, JP2000272937 A2, JP2000272937, JP1235683 A2, EP2679558 A1, EP2330090 A1, EP1235683, CN85106415 A, CN103773258 A, CN102482147 A,

Forward Citations: WO19027865, WO18225860, WO18212332, WO18212331, WO18081570, WO18079720, WO18057379, WO18057378, WO18043182, WO17199983, WO17135177, WO16163409, JP6291148, JP2017199983,

Abstract:

The present invention provides an interlayer film for laminated glass which has excellent sound insulating properties even when the thickness is reduced, and also hardly causes optical unevenness. An interlayer film for laminated glass includes at least one layer A containing a thermoplastic elastomer, wherein the shear storage modulus of the layer A at 70 degrees centigrade as measured by performing a dynamic viscoelasticity test at a frequency of 1,000 Hz in accordance with ASTM D4065-06 is 1 MPa or more, and a layer having a higher shear storage modulus than the layer A is provided on at least one surface of the layer A, and at least one surface of the interlayer film for laminated glass is in a state of having been shaped.



14) Family number: 61594139 (US2016031739A)

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Title: THERMALLY TEMPERED GLASS AND METHODS AND APPARATUSES FOR THERMAL TEMPERING OF GLASS

Priority:

US20130870300P	20130827	WO2014US48373	20140728	US20140031856P	20140731
US20140074838P	20141104	US20150147289P	20150414	US20150814232	20150730
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WO2016US45022	20160801				

Family:

Publication number	Publication date	Application number	Application date
AU2015296243 AA	20170309	AU20150296243	20150730
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WO17020040 A3	20170309	WO2016US45022	20160801
WO17020041 A1	20170202	WO2016US45025	20160801

Probable Assignee: CORNING INC

Assignee(s):(std): CORNING CO LTD ; CORNING INC

Assignee(s): LEZZI PETER JOSEPH ; MASCHMEYER RICHARD ORR ; WASSON KEVIN LEE ; THOMAS JOHN CHRISTOPHER

Inventor(s):(std): LEZZI PETER JOSEPH ; MASCHMEYER RICHARD ORR ; THOMAS JOHN CHRISTOPHER ; WASSON KEVIN LEE ; RICHARD ORR MASCHMEYER ; PETER JOSEPH LEZZI ; KEVIN LEE WASSON ; JOHN CHRISTOPHER THOMAS

Agent(s): PHILLIPS ORMONDE FITZPATRICK; GOWLING WLG CANADA LLP; SCOTT MARK ANDREW; GREGORY V; BEAN GREGORY V; MAGAZINER RUSSELL S; WEGMANN ZACHARY J ET AL; WEGMANN ZACHARY J; PATEL PAYAL A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B1/00 B32B17/00 B32B17/10 B60J1/00 C03B27/012 C03B27/016 C03B27/04 C03B27/044 C03B27/048 C03B27/052 C03B29/12 C03B29/16 C03B35/14 C03B35/24 C03C17/23 C03C21/00 C03C23/00 C03C27/06 C03C27/12 C03C3/11 E04C2/54 E06B3/54 E06B3/66 E06B3/663 E06B3/67 G06F3/01 G06F3/041 G09F9/00 (Advanced/Invention)

International class (IPC 1-7): C03B27/016 C03B27/04 C03B27/048 C03B27/052 C03B29/12 C03B29/16 C03B35/24 C03C23/00 C03C3/11 E06B3/54 E06B3/66 E06B3/67

CPC: C03B27/0413 C03B27/044 C03B27/04 C03C21/002 C03B27/052 C03B29/16 C03B35/24 C03C3/11 C03B27/012 C03B27/016 C03B27/0526 Y10T428/315 C03C23/007 E06B3/6715 G06F3/041 C03B35/147

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C03B27/0404
I/1 428/141 428/156 428/220 428/410 428/426 65/114 65/115 65/157 65/32.1 65/348 65/349

US class:

Classification Explorer

Cited documents:

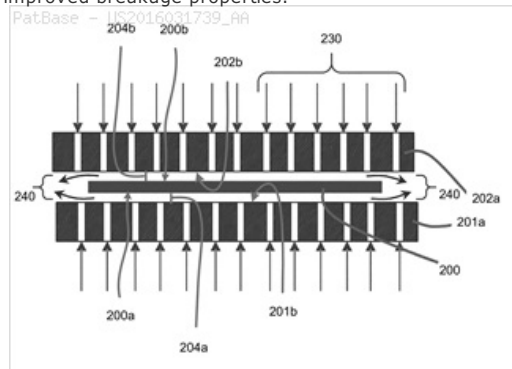
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CN101671112 A, CN101312919 B, CA2171323 C, CA1176468 A1, CA1148742 A1, AU535129 B2, AU524573 B2, AU4265772 A1,

Forward Citations:

WO18102629, WO17132698, WO17132213, WO17123573, WO17020041, WO17020040, WO17019840, WO17019837, US9975801, US9957190, US9802853, US9783448, US9776905, US9671181, US2015323479, US10077204, US10017033, US10005691, KR101948474, EP3421432,

Abstract:

A strengthened glass sheet product as well as process and an apparatus for making the product. The process comprises cooling the glass sheet by non-contact thermal conduction for sufficiently long to fix a surface compression and central tension of the sheet. The process results in thermally strengthened glass sheets having improved breakage properties.



Title: SOLAR CONTROL LAMINATE

Priority: US20050713054P 20050831 US20050713056P 20050831 US20050721913P 20050929
US20050721719P 20050929 US20050721797P 20050929 US20060512814 20060830
WO2006US33984 20060831

Family:	Publication number	Publication date	Application number	Application date
	AU2006284757 AA	20070308	AU20060284757	20060831
	AU2006284757 BB	20101209	AU20060284757	20060831
	CN101258027 A	20080903	CN200680031871	20060831
	EP1940614 A2	20080709	EP20060824865	20060831
	JP2009505871 T2	20090212	JP20080529264T	20060831
	JP5203945 B2	20130605	JP20080529264T	20060831
	US2007048519 AA	20070301	US20060512814	20060830
	US8871335 BB	20141028	US20060512814	20060830
	WO07027861 A2	20070308	WO2006US33984	20060831
	WO07027861 A3	20070628	WO2006US33984	20060831

Probable Assignee: E I DU PONT DE NEMOURS AND CO

Assignee(s):(std): ANDERSON JERREL C ; DU PONT ; EIDU PONT DE NEMOURS AND CO ; SILVERMAN LEE A ; FUGIEL RICHARD A ; HAYES RICHARD A ; KURARAY AMERICA INC

Assignee(s): E I DU PONT DE NEMOURS AND CO ; E I DU PONT DE NEMOURS AND COMPANY ; EI DU PONT DE NEMOURS AND CO

Inventor(s):(std): ANDERSON JERREL C ; FUGIEL RICHARD A ; HAYES RICHARD A ; SILVERMAN LEE A

Inventor(s): JERREL C ANDERSON ; LEE A SILVERMAN ; RICHARD A FUGIEL ; RICHARD A HAYES ; SILVERMAN LEE ; HAYES RICHARD ; FUGIEL RICHARD ; ANDERSON JERREL

Agent(s): HOULIHAN²; HOULIHAN² PTY LTD; HOULIHAN²; HEINEMANN MONICA; KUMAKURA YOSHIO; OGAWA NOBUO; HAKODA ATSUSHI; HIRAYAMA KOJI; ASAI KENJI; E I DU PONT DE NEMOURS AND COMPANY, LEGAL PATENT RECORDS CENTER; E I DU PONT DE NEMOURS AND CO LEGAL PATENT RECORDS CENTER; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/10 B32B27/00 B32B27/08 B32B27/16 B32B27/18 B32B27/28 B32B27/30 B32B27/32 B32B27/34 B32B27/36 B32B27/40 B32B5/16 B32B7/02 C08K3/22 (Advanced/Invention); B32B17/06 B32B27/18 B32B27/30 B32B27/32 B32B27/34 B32B27/36 B32B27/40 B32B5/16 C08K3/00 (Core/Invention)

CPC: B32B17/10743 B32B17/10 B32B17/10018 B32B17/10036 B32B17/10761 B32B17/10788 B32B27/08 B32B27/16 B32B27/18 B32B27/30B B32B27/30C B32B27/32 B32B27/36 B32B27/40 B32B2250/24 B32B2255/10 B32B2255/20 B32B2255/26 B32B2264/102 B32B2307/412 B32B2307/42 B32B2307/518 B32B2307/54 B32B2367/00 B32B2419/04 B32B2551/00 B32B2605/00 B32B2605/006 B32B17/10633 Y10T428/24091 Y10T428/2495 Y10T428/24975 Y10T428/25 Y10T428/256 Y10T428/269 Y10T428/31504 Y10T428/31507 Y10T428/3154 Y10T428/31551 Y10T428/31739 Y10T428/31786 Y10T428/31855 Y10T428/31935 Y10T428/31938 Y10T428/31971

European class: B32B17/10 B32B17/10C2 B32B17/10C4 B32B17/10G24 B32B17/10G28 B32B17/10G36 B32B27/08 B32B27/16 B32B27/18 B32B27/30B B32B27/30C B32B27/32 B32B27/36 B32B27/40 L32B250/24 L32B255/10 L32B255/20 L32B255/26 L32B264/10D L32B307/412 L32B307/420 L32B307/518 L32B307/540 L32B367/00 L32B419/04 L32B551/00 L32B605/00 L32B605/00D

US class: 428/109 428/213 428/216 428/323 428/323P 428/328 428/328S 428/339 428/339S 428/411.1 428/412 428/412S 428/421 428/421S 428/423.1 428/423.100S 428/475.5 428/475.500S 428/480 428/480S 428/500 428/500S 428/522 428/522S 428/523 428/523S 428/532 428/532S

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Cited documents: WO9828663 A1, WO9628504 A1, WO9101880 A1, WO06128090 A2, WO06074168 A2, WO06008518 A1, WO03057478 A1, WO0241041 A3, WO0241041 A2, WO02078885 A1, WO02060988 A1, WO0100404 A1, US6733872 BB, US6686032 BA, US6673456 BA, US6663950 BB, US6632274 BB, US6620477 BB, US6579608 BA, US6528156 BA, US6506487 BB, US6432522 BA, US6404543 BA, US6329061 BB, US6319613 BA, US6315848 BA, US6294251 BA, US6277187 BA, US6261684 BA, US6221945 BA, US6191884 BA, US6084007 A, US6060154 A, US5956175 A, US5830568 A, US5807511 A, US5742118 A, US5733823 A, US5690994 A, US5654090 A, US5518810 A, US5376308 A, US4868288 A, US4624912 A, US4398014 A, US4383025 A, US4339567 A, US2005238923 AA, US2004131845 AA, US2004071957 AA, US2004028920 AA, US2002086926 AA, JP2007514050 T2, JP2007509785 T2, JP2005181966 A2, JP2004520186 T2, JP2003252656 A2, JP2002514533 T2, JP2002301785 A2, JP2002301785, JP2000117906 A2, JP11320769 A2, EP1724110 A1, EP1529632 A1, EP1235683 B1, EP1227070 A1, EP1188551 A1, EP1154000 A1, EP1008564 B1, EP0947566 B1, EP0164314 A2, EP0153904 A2, EP0094915 A2, EP0094914 A2, EP0054509 A2, EP0044274 A2, EP0035969 A1,

Forward Citations: WO17053401, WO11102494, WO10090893, WO10062338, WO09132513, WO09105527, WO09079322, WO09079322, WO09079321, WO09008857, WO09008856, WO09002813, WO08012088, WO07070747, WO07070747, US9913318, US9862842, US9738559, US9114595, US8637150, US8529813, US8422126, US7892647, US7883761, US7781055, US7754338, US7625627, US7585436, US2016060491, US2016002097, US2015205481, US2015064475, US2012088101, US2011212318, US2011168239, US2011165425, US2011094665, US2010275978, US2010068532, US2009286046, US2009151773, US2009084424, US2008292820, US2008268204, US2008264558, US2008254302, US2007298264, US2007286995, US2007135534, US2007134499, US10174220, US10155877, KR20160061745, KR101800805, JP5167557, JP2014135263, JP2011507277, JP2009269773, EP2848595, EP2835352, EP2833173, EP2368857, EP2261030, CN104428699, CN103803810, CN103059641, CN101993203, CN101784385, AU2007356431,

Abstract:
Provided are solar control laminates comprising a solar control film and a polymeric sheet. The solar control film comprises a polymeric film coated with a coating comprising inorganic infrared absorbing nanoparticles. Preferably, inorganic infrared absorbing nanoparticles comprise nanoparticles of antimony tin oxide (ATO), indium tin oxide (ITO), lanthanum hexaboride (LaB₆) or mixtures thereof. Optionally, the solar control laminate also comprises a rigid sheet, such as a glass sheet.

Priority: EP20140190620 20141028 EP20150780846 20151014 WO2015EP73741 20151014

Family:	Publication number	Publication date	Application number	Application date
	CN107107565 A	20170829	CN201580058976	20151014
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	EP3212395 A1	20170906	EP20150780846	20151014
	EP3212395 B1	20180926	EP20150780846	20151014
	ES2691380 T3	20181127	ES20150780846T	20151014
	JP2018501174 T2	20180118	JP20170523236T	20151014
	JP6370488 B2	20180808	JP20170523236T	20151014
	KR20170060109 A	20170531	KR20177011019	20151014
	US2017259532 AA	20170914	US20150326462	20151014
	WO16066423 A1	20160506	WO2015EP73741	20151014

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s):(std): SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE ; SAINT GOBAIN SA

Inventor(s):(std): ECKELT CHRISTIAN

Agent(s): LENDVAI TOMAS DIPL CHEM DRRERNAT; LENDVAI TOMAS; MORITA HIROSHI

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/10 B32B27/30 B32B27/40 B32B3/24 C03C15/00 C03C27/12 E04B5/46 E04F15/02 E04F15/08 (Advanced/Invention)

CPC: B32B17/10293 B32B17/1077 B32B17/10788 B32B2471/00 B32B2307/744 B32B17/10036 B32B17/10798 B32B17/10972 E04B5/46 E04F15/02172 E04F15/08 B32B2250/02 B32B2255/26 B32B2255/28 B32B2307/412 B32B2315/08 B32B2329/06 B32B2383/00 B32B2419/00 B32B17/10302 B32B17/10045 B32B17/10091 B32B17/10137 B32B17/10146 B32B17/10761 B32B3/266

[Classification Explorer](#)

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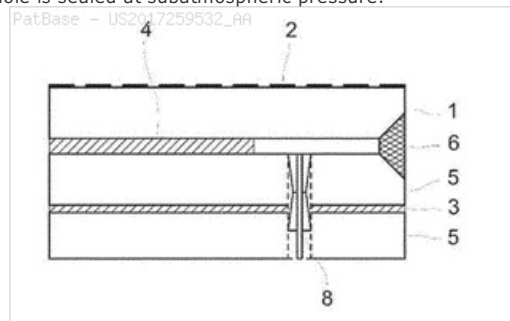
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DE10016485 A1, DE10016485 A1, DE10003404 A1, DE10003404 A1, CN103874578 A,

Forward Citations: WO19011694,

Abstract:

A walk-on laminated safety glass pane having an anti-slip surface is described. The laminated safety glass pane includes at least two glass panes, which are permanently bonded to each other using a polymeric layer. A polymeric intermediate layer is applied to one surface of the laminated safety glass pane. A glass pane having an anti-slip surface is applied to the polymeric intermediate layer. An elastic polymeric gasket is inserted circumferentially in the edge region of the polymeric intermediate layer. The laminated safety glass pane has a drilled hole and the drilled hole is sealed at subatmospheric pressure.



17) Family number: 44153200 (US2009324935A)

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Title: TRANSPARENT LIGHT-WEIGHT SAFETY GLAZINGS

Priority: US20080215839 20080630 EP20090773983 20090601 WO2009US45799 20090601
US20090618036 20091113

Family:	Publication number	Publication date	Application number	Application date
	BRPI0908644 A2	20150811	BR2009PI08644	20090601
	DE602009015759 D1	20130711	DE200960015759T	20090601
	EP2310197 A1	20110420	EP20090773983	20090601
	EP2310197 B1	20130515	EP20090773983	20090601
	MX2010014208 A1	20110221	MX20100014208	20090601
	US2009324935 AA	20091231	US20080215839	20080630
	US2010062236 AA	20100311	US20090618036	20091113
	US7641965 BA	20100105	US20080215839	20080630
	US7919175 BB	20110405	US20090618036	20091113
	WO10002531 A1	20100107	WO2009US45799	20090601

Probable Assignee: E I DU PONT DE NEMOURS AND CO

Assignee(s):(std): BENNISON STEPHEN J ; DU PONT ; OVALLE ANDRES ; KRISTUNAS DAVID F

Assignee(s): E I DU PONT DE NEMOURS AND CO ; E I DU PONT DE NEMOURS AND COMPANY ; EI DU PONT DE

NEMOURS AND CO ; EI DU PONT DE NEMOURS AND CO WILMINGTON

Inventor(s):(std): BENNISON STEPHEN J ; KRISTUNAS DAVID F ; OVALLE ANDRES

Inventor(s): STEPHEN J BENNISON ; DAVID F KRISTUNAS ; ANDRES OVALLE

Agent(s): MARKS AND CLERK LUXEMBOURG LLP; HEINEMANN MONICA; E I DU PONT DE NEMOURS AND COMPANY,LEGAL PATENT RECORDS CENTER; E I DU PONT DE NEMOURS AND CO LEGAL PATENT RECORDS CENTER; KELLY LAW REGISTRY; MARIA M; KULLER MARK D

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/06 B32B17/10 B32B27/06 B32B7/02 F41H5/04 (Advanced/Invention); B32B17/06 B32B27/06 B32B7/02 (Core/Invention)

CPC: Y10T428/24967 Y10T428/26 Y10T428/263 Y10T428/269 B32B17/10761 B32B17/10045 B32B17/10743 B32B2369/00 F41H5/0407 Y10T428/31507 Y10T428/31525 Y10T428/31533 Y10T428/3154 Y10T428/31544 Y10T428/31601 Y10T428/31612 Y10T428/31616 Y10T428/31627 Y10T428/3163 Y10T428/31638 Y10T428/31645 Y10T428/31649

European class: B32B17/10C4B B32B17/10G24 B32B17/10G28 F41H5/04B L32B369/00

US class: 428/215 428/215P 428/332 428/334 428/334P 428/339 428/339S 428/412 428/412S 428/417 428/417S 428/419 428/419S 428/421 428/421S 428/422 428/422S 428/425.6 428/425.600S 428/426 428/426S 428/429 428/429S 428/430 428/430S 428/432 428/432S 428/436 428/437 428/439 428/439S 428/441 428/441S 428/442

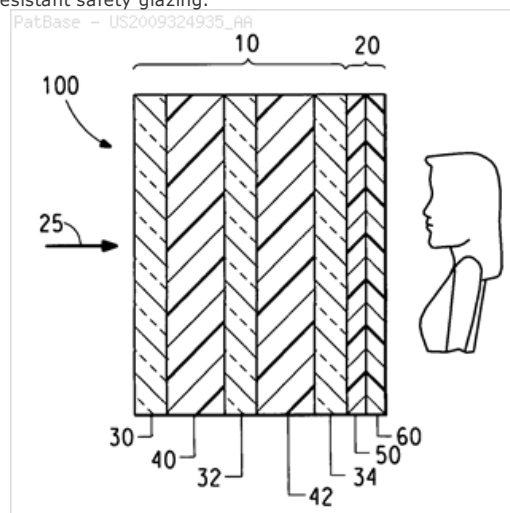
[Classification Explorer](#)

Cited documents: WO9958334 A2, WO9101880 A1, WO07149082 A1, WO07079091 A1, WO06057771 A2, WO03068501 A1, WO03057478 A1, WO0160604 A1, US7294401 BB, US7191694 BA, US6818819 BB, US6818268 BB, US6675550 BA, US6630235 BB, US6569787 BA, US6521825 BB, US6518365 BA, US6500888 BB, US6432522 BA, US6334382 BB, US6280826 BA, US6276750 BA, US6265054 BA, US6150028 A, US6129974 A, US6108999 A, US5908674 A, US5906411 A, US5895721 A, US5858483 A, US5763062 A, US5759698 A, US5747170 A, US5707695 A, US5698053 A, US5645940 A, US5631089 A, US5567529 A, US5560149 A, US5506051 A, US5501910 A, US5496643 A, US5415942 A, US5393365 A, US5368904 A, US5318853 A, US5229204 A, US5028674 A, US5019443 A, US5002820 A, US4956227 A, US4952457 A, US4879183 A, US4861666 A, US4812359 A, US4799346 A, US4774143 A, US4747896 A, US4668574 A, US4663228 A, US4647493 A, US4619973 A, US4595624 A, US4594290 A, US4495624 A, US4469743 A, US4467943 A, US4355077 A, US4328277 A, US4242403 A, US4112171 A, US4075386 A, US4072779 A, US4059469 A, US4035549 A, US3762988 A, US3404134 A, US3344014 A, US3311517 A, US2008044666 AA, US2007289693 AA, US2007122633 AA, US2007092706 AA, US2006182983 AA, US2005238880 AA, US2005228880 AA, US2004111986 AA, US2003124296 AA, US2002160198 AA, US2002155302 AA, US2001032540 AA, EP1759832 A1, EP1182710 A1, CA2388107 AA, BRPI0401634, BR04016343,

Forward Citations: WO17214398, WO17079018, WO17040388, WO16094210, WO15199750, WO15168096, WO15085165, WO14100313, WO14100309, WO14100301, WO12044385, WO12044385, WO10102282, US9688018, US9383173, US9382355, US9365015, US9157703, US9090503, US9040160, US8758898, US8640591, US8399098, US8399097, US2016249414, US2015202845, US2015024165, US2014162039, US2013139886, US2012297964, US2012269995, US2012070642, US2011225916, US2011165425, US2010297418, US2010167061, US2010112356, US2009242030, US10195826, US10125205, US10046540, US10030941, US10022908, EP3120722, EP2934883, EP2934882, EP2588309, EP2376547, EP2376547, EP2342241, EP2342241, CN104125983, CN104125983,

Abstract:

Provided is a transparent and light-weight ballistic resistant safety glazing comprising an ionomer sheet. The ionomer sheet comprises an ionomer derived from a parent acid copolymer that comprises copolymerized units of an alpha-olefin having 2 to 10 carbon atoms and, based on the total weight of the acid copolymer, about 20 to about 30 wt percent of copolymerized units of an alpha,beta-ethylenically unsaturated carboxylic acid having 3 to 8 carbon atoms. The ionomer is neutralized to a level of about 5 percent to about 90 percent, based on the total carboxylic acid content of the acid copolymer, and further comprises at least one cation. Further provided are articles comprising the light-weight ballistic resistant safety glazing.



18) Family number: 32390202 (FR2869605B)

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Title: STRUCTURE FEUILLETEE A RESISTANCE BALISTIQUE

Priority: FR20040004598 20040430

Family:

Publication number	Publication date	Application number	Application date
FR2869605 A1	20051104	FR20040004598	20040430
FR2869605 B1	20070406	FR20040004598	20040430

Probable Assignee: SAINT GOBAIN

Assignee(s):(std): SAINT GOBAIN

Assignee(s): SAINT GOBAIN GLASS FRANCE ; SAINT GOBAIN GLASS FRANCE SOC ANONYME ; SAINT GOBAIN GLASS FRANCE SOCIETE ANONYME

Inventor(s):(std): LEHRMANN HERVE ; GY RENE ; CHAUSSADE PIERRE ; BRAJER XAVIER

Inventor(s): XAVIER BRAJER ; RENE GY ; PIERRE CHAUSSADE ; HERVE LEHRMANN

Agent(s): SAINT GOBAIN RECHERCHE

International class (IPC 8-9): B32B17/10 B32B27/36 C03C4/00 F41H5/04 (Advanced/Invention); B32B17/06 B32B27/36 C03C4/00 F41H5/00 (Core/Invention)

International class (IPC 1-7): B32B17/10 C03C4/00

CPC: B32B17/10137 B32B7/12 B32B17/10045 B32B17/1077 B32B27/36 B32B27/365 B32B2307/412 B32B2309/105 B32B2369/00 B32B2571/02 F41H5/0407

European class: B32B17/10C30B B32B17/10C4B B32B17/10G30 B32B27/36 F41H5/04B L32B369/00
[Classification Explorer](#)

Cited documents: WO03068501 A1, US4595624 A, US3930452 A, US3864204 A, FR2516646 A1, FR2065678 A1, BE842057 A,

Forward Citations: WO16130499, WO08063697, US9097496, EP2879868, CN107407545,

Abstract:
A laminated structure, notably transparent, with ballistic resistance incorporates two opposing polycarbonate sheets connected to the rest of the structure by an intercalary adhesive layer, notably of polyurethane. The structure comprises at least three sheets of 0.9 to 3 mm glass following each other with interposition, between two neighbouring sheets, of an intercalary adhesive layer. It has a total thickness of between 15 and 40 mm. Independent claims are also included for: (a) glazing resistant to one or several impacts of 44 Magnum bullets; (b) a land, aquatic or air vehicle, building, airlock, shop window, hatch, cabin or interior partition incorporating this glazing.

19) Family number: 32067209 (US2005238880A)

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Title: ONE WAY BULLET-RESISTANT TRANSPARENT PANEL MEETING NIJ LEVEL III STANDARDS AND ARMOR PIERCING BULLET-RESISTANT TRANSPARENT PANEL

Priority: US20030745196 20031223 US20040854130 20040525 US20050047748 20050201

Family:

Publication number	Publication date	Application number	Application date
US2005238880 AA	20051027	US20050047748	20050201
US7318956 BB	20080115	US20050047748	20050201
WO05062932 A2	20050714	WO2004US43322	20041223
WO05062932 A3	20060406	WO2004US43322	20041223
WO06073478 A2	20060713	WO2005US18449	20050525
WO06073478 A3	20061207	WO2005US18449	20050525

Probable Assignee: ARMOUR GROUP INC

Assignee(s):(std): LABOCK TECHNOLOGIES INC ; LABOCK YOSEF

Assignee(s): STRIKE ONE LLC ; ADVANCED BLAST PROTECTION INC ; ARMOUR GROUP INC ; FRENKEL LEON ; JOSEPH GUNNAR AND CO ; JOSEPH GUNNAR AND CO LLC

Inventor(s):(std): LABOCK YOSEF

Agent(s): LERNER AND GREENBERG PA; GREENBERG LAURENCE A; STEMER WERNER H; LOCHER RALPH E; WERNER H; RALPH E; LAURENCE A

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR HW HU ID IE IL IN IS IT JP KE KG KM KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8-9): B32B17/06 B32B17/10 B32B27/30 B32B27/32 B32B27/36 B32B27/40 B32B7/02 B32B7/12 (Advanced/Invention); B32B17/06 B32B27/30 B32B27/36 B32B7/02 (Core/Invention)

International class (IPC 1-7): B32B17/10 B32B27/32 B32B27/36 B32B27/38 B32B7/02

CPC: B32B17/10045 B32B7/12 B32B17/10761 B32B17/10779 B32B27/08 B32B27/308 B32B27/365 B32B2255/10 B32B2307/536 B32B2307/584 B32B2307/718 B32B2571/02 F41H5/0407 Y10T428/24942 B32B17/1077 B32B27/30 B32B27/36 Y10T428/31507 Y10T428/31515 Y10T428/31518 Y10T428/31551 B32B17/10018 B32B2307/412 B32B2369/00 B32B2571/00

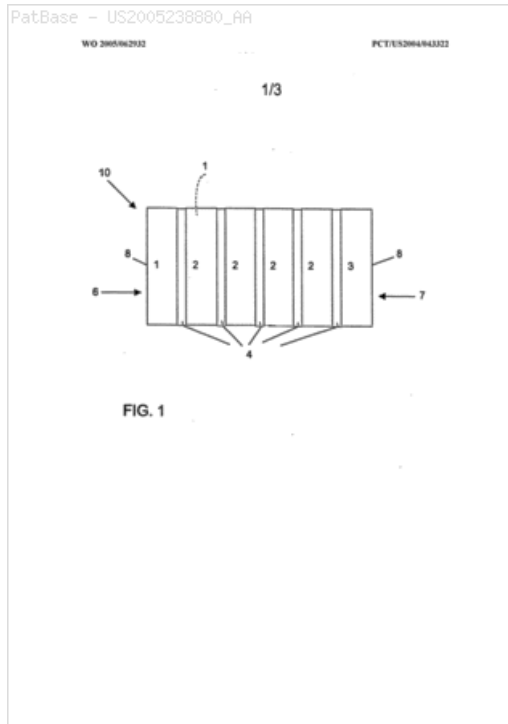
European class: B32B17/10C2 B32B17/10C4B B32B17/10G28 B32B17/10G30 B32B17/10G32 B32B27/08 B32B27/30 B32B27/30D B32B27/36 B32B27/36A B32B7/12 F41H5/04B L32B255/10 L32B307/536 L32B307/584 L32B307/718 L32B571/02

US class: 428/212 428/220 428/412 428/412P 428/414 428/415 428/423.1 428/426 52/786.1 52/786.11
[Classification Explorer](#)

Cited documents: US5747159 A, US5506051 A, US4594290 A,

Forward Citations: WO11033323, US9157703, US8656821, US8397618, US8291657, US8028612, US7919175, US7681485, US7641965, US7478580, US2011017053, US2010031810, EP2724113, EP2724113, CN103496225, CN103496225,

Abstract:
Transparent panels having unidirectional bullet-resisting characteristics contain at least one sheet of glass, several intermediate sheets formed of an acrylic resin or further glass sheets, and an inner sheet formed of a polycarbonate resin. A transparent adhesive bonds the sheets to each other to form the panel. The level of bullet resistance capability is measured according to NIJ standards and the panels have a Level III or Level IV rating.



20) Family number: 54155248 (US2015024184A)

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Title: GLASS PANE CONSTRUCTION
Priority: DE201110122199 20111223 DE201210002661 20120210 WO2012EP04078 20120928
Family:

Publication number	Publication date	Application number	Application date
BR112014012710 A2	20170613	BR20141112710	20120928
BR112014012710 A8	20170620	BR20141112710	20120928
BR112014012710 A8	20170613	BR20141112710	20120928
CO7020903 A2	20140811	CO20140158749	20140722
DE102011122199 A1	20130627	DE201110122199	20111223
DE102012002661 A1	20130814	DE201210002661	20120210
EP2794264 A1	20141029	EP20120780411	20120928
US2015024184 AA	20150122	US20120367754	20120928
WO13091743 A1	20130627	WO2012EP04078	20120928

Probable Assignee: ISOCLIMA SPA
Assignee(s):(std): ISOCLIMA SPA
Assignee(s): ISOCLIMA S P A
Inventor(s):(std): ALBERTO BERTOLINI ; BERTOLINI ALBERTO
Agent(s): SEITZ RALF HANS FRANK; SEITZ RALF
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/06 B32B17/10 B60J3/04 C03C27/12 F41H5/04 G02B1/00 G02B1/04 G02B1/10 G02B5/22 G02F1/153 (Advanced/Invention)

CPC: B60J3/04 G02B5/22 B32B17/10458 B32B2369/00 G02F1/1533 G02F2001/1536 G02F2201/086 B32B17/10174 B32B27/08 G02B5/208 B32B17/10761 B32B17/1044 B32B17/10779 B32B17/10752 B32B17/10788 B32B17/10045 B32B17/10504 B32B17/10513 B32B17/1077 B32B2307/416 F41H5/0407 Y10T428/31507 Y10T428/31551 Y10T428/31601 Y10T428/31616 Y10T428/3163 Y10T428/31649 Y10T428/24983

US class: 428/217 428/412 428/423.1 428/425.6 428/426 428/430 428/437 428/442

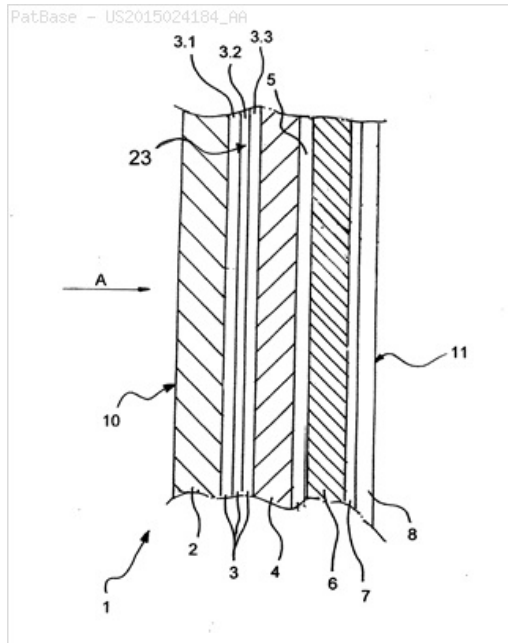
[Classification Explorer](#)

Cited documents: US6800337 BA, US6280826 BA, US5506051 A, US5239406 A, US2009115922 AA, US2006193999 AA, US2003137632 AA, EP1010963 B1, DE69810776 T2, DE69609275 T2, DE19745647 A1, DE102008030441 B3

Forward Citations: WO18089562, WO15024926, US10195826, EP3036496, CN106079748, CN106079748,

Abstract:

The present invention relates to a glass pane construction, particularly bullet proof glass pane, to be used in a motor vehicle, having several transparent panes and layers made of glass, ceramic or synthetic material, which are connected in a layered manner connected to each other in a laminate, electrical controllable or switchable electrochromic layer means for electrical controlling or switching of the light transparency of the glass pane construction or of the bullet proof pane, wherein a laminar transparent UV filtering layer means for filtering of striking ultraviolet (UV) radiation is provided so that none or only a part of the UV radiation passes to the electrochromic layer means.



21) Family number: 44126250 (US2011168005A)

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Title: GLAZING WITH INCREASED BULLET RESISTANCE
Priority: FR20080053902 20080612 FR20080053934 20080613 WO2009FR51098 20090611
Family:

	Publication number	Publication date	Application number	Application date
■	CN102056741 A	20110511	CN200980122074	20090611
■	CO6331318 A2	20111020	CO20100163401	20101228
■	EA201170001 A1	20110630	EA20110070001	20090611
■	EP2296877 A2	20110323	EP20090761931	20090611
■	EP2296877 B1	20190220	EP20090761931	20090611
■	FR2932411 A1	20091218	FR20080053902	20080612
■	FR2932411 B1	20110121	FR20080053902	20080612
■	FR2932412 A3	20091218	FR20080053934	20080613
■	FR2932412 B3	20111202	FR20080053934	20080613
■	MX2010013617 A1	20110225	MX20100013617	20090611
■	US2011168005 AA	20110714	US20090997692	20090611
■	WO09150380 A2	20091217	WO2009FR51098	20090611
■	WO09150380 A3	20100325	WO2009FR51098	20090611

Probable Assignee: SAINT GOBAIN GLASS FRANCE
Assignee(s):(std): LERAY STEPHANE ; MENNECHEZ FRANCOISE ; PLUEN VINCENT ; SAINT GOBAIN
Assignee(s): SAINT GOBAIN GLASS FRANCE
Inventor(s):(std): VINCENT PLUEN ; STEPHANE LERAY ; PLUEN VINCENT ; MENNECHEZ FRANCOISE ; LERAY STEPHANE ; FRANCOISE MENNECHEZ
Agent(s): MARGARITA CASTELLANOS ABONDANO; CARDIN ELISE; SAINT GOBAIN RECHERCHE
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RU RS SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TJ TM TN TR TT TZ UA UG US UZ VC VN VZ ZA ZM ZW
International class (IPC 8-9): B23B17/10 B32B17/06 B32B17/10 B32B18/00 B32B27/36 B32B3/18 F41H5/04 F41H5/26 (Advanced/Invention); F41H5/26 (Advanced/Non-invention); B32B17/06 B32B18/00 B32B3/18 F41H5/00 (Core/Invention)
CPC: Y10T156/10 B32B17/10045 B32B17/10761 B32B17/1077 B32B2369/00 F41H5/0407 B32B9/005 B32B9/045 B32B27/08 B32B27/30 B32B27/308 B32B27/365 B32B27/38 B32B27/40 B32B2307/412 B32B2419/00 B32B2571/02 B32B2605/00
European class: B32B17/10C4B B32B17/10G28 B32B17/10G30 F41H5/04B L32B369/00
US class: 156/60 156/60S 89/36.02 89/36.020P 89/904 89/904S 89/905 89/905S 89/906 89/906S 89/917 89/917S

[Classification Explorer](#)

Cited documents: WO06135832 A2, WO06135832, WO03068501 A1, WO03068501 A1, US7681485 BB, US2008092729 AA, EP0918629 B1, CN1160689 A, CN101194141 A,

Forward Citations: WO16020498, WO12044385, WO12044385, US8640591, US10052848, EP2588309, CN104057666, CN104057649,

Abstract:

The subject of the invention is: the use for a transparent bullet-proof and/or splinter-proof laminate, of which at least part of the thickness consists of a mosaic comprising at least two transparent constituent elements, in order to limit deterioration of the laminate beyond one of said at least two constituent elements that receive an impact; such a laminate with dimensions greater than those that are the maximum possible for a plate of monocrystalline sapphire, of which at least part of the thickness consists of an at least partly transparent mosaic, and of which at least one of its outer faces consists of a continuous transparent sheet; glazing for a building or transport vehicle comprising this laminate.

22) Family number: 58631254 (US2015064374A)

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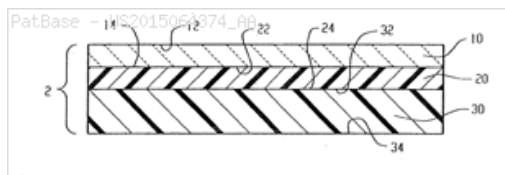
Title: LIGHT-WEIGHT, HIGH STIFFNESS GLASS LAMINATE STRUCTURE
Priority: US20130871928P 20130830 US20140471830 20140828 WO2014US53115 20140828
Family:

Publication number	Publication date	Application number	Application date
■ CN105682921 A	20160615	CN201480059358	20140828
■ CN105682921 B	20181019	CN201480059358	20140828
■ CN109334171 A	20190215	CN201811098387	20140828
■ EP3038826 A2	20160706	EP20140762186	20140828
■ IN201617009730 A	20160729	IN201617009730	20160321
■ JP2016538227 T2	20161208	JP20160537843T	20140828
■ KR20160047566 A	20160502	KR20167008221	20140828
■ TW201509650 A	20150316	TW20140129988	20140829
■ TWI634000 B	20180901	TW20140129988	20140829
■ US2015064374 AA	20150305	US20140471830	20140828
■ WO15031590 A2	20150305	WO2014US53115	20140828
■ WO15031590 A3	20150716	WO2014US53115	20140828

Probable Assignee: CORNING INC
Assignee(s):(std): CORNING CO LTD ; CORNING INC
Inventor(s):(std): JAIN ANURAG ; LAURIN MICHAEL M ; MOORE MICHAEL JOHN ; MAAS CHRISTIANUS JOHANNES JACOBUS ; MAAS CHRISTIANUS JOHANNES JAC ; MCDONALD MICHAEL AARON ; WOOD CHARLIE W
Agent(s): SCHEUERMANN ERIK ; HARDEE RYAN T ET AL
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B32B17/10 B32B27/06 B32B27/08 B32B27/18 B32B27/28 B32B27/36 B32B33/00 B32B37/18 C03B27/012 C03C21/00 C03C27/12 C08G77/448 C08G77/455 E06B3/66 (Advanced/Invention)
CPC: B32B17/10091 B32B37/18 B32B2383/00 B32B2369/00 B32B2367/00 B32B17/10119 B32B17/10761 B32B17/10798 B32B17/10036 B32B17/10137 B32B17/10752 B32B17/10779 B32B17/10788 Y10T428/31507 Y10T428/31663 Y10T156/10 Y10T428/24868 Y10T428/24926 Y10T428/2495 Y10T428/24967 B32B27/283 B32B27/365 B32B17/10018 B32B17/10678 B32B17/1077 E06B3/66 B32B27/28 B32B27/08 B32B27/36 B32B33/00 B32B2307/50 C08G77/448 C08G77/455
US class: 156/60 428/203 428/210 428/213 428/215 428/34 428/412 428/446 428/447
[Classification Explorer](#)
Cited documents: WO8001051 A1, WO12051038 A1, WO06086389 A2, WO0226492 A1, US98642411, US7666511 BB, US6132882 A, US5674790 A, US5589272 A, US5456372 A, US4985099 A, US4483700 A, US4204026 A, US3801423 A, US3666614 A, US3622440 A, US3220973 A, US201313926461, US2013079474 AA, US2013043561, US2006165929 AA, US2006160961 AA, US2003203167 AA, US2001046595 AA, TW201245076 A, JP2031925 A2, JP2011530612 T2, JP2007261837 A2, JP2003160737 A2, EP2363285 A1, EP1787964 A2, EP0669205 A1, DE9211909 U, CN103079811 A, CN101072677 A,
Forward Citations: WO18187391, WO18074198, WO17196171, WO17155849, WO16196427, US9925743, US9908805, US9902640, US9616641, US9573833, US2015075733, US2014087193, US10137667, US10035724, US10035332, US10035331, US10030441, US10017033, US10016960,

Abstract:

A laminate structure having a first chemically strengthened glass layer, a second chemically strengthened glass layer, and a polymer interlayer structure intermediate the first and second glass layers. The polymer interlayer structure can include a first polymeric layer adjacent to the first glass layer, a second polymeric layer adjacent to the second glass layer, and a polymeric rigid core intermediate the first and second polymeric layers.

**23) Family number: 42116265** (DE102007009031B4)

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Title: Verfahren zur Herstellung einer Scheibenanordnung fuer ein Fahrzeug oder Bauwerk
Priority: DE200710009031 20070223

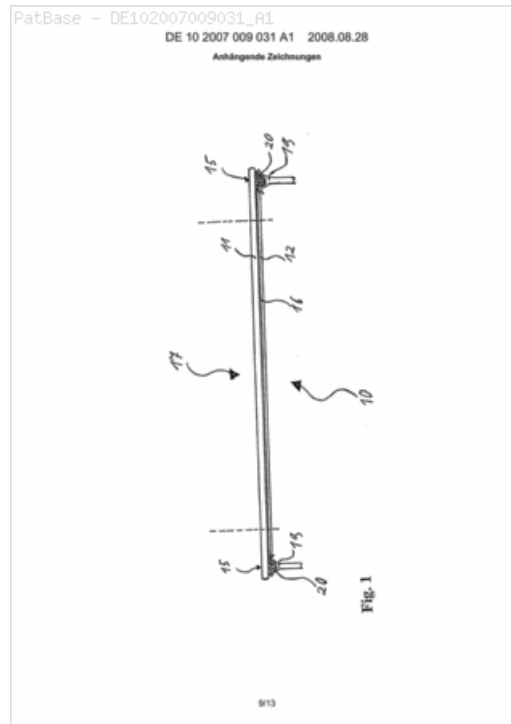
Publication number	Publication date	Application number	Application date
■ DE102007009031 A1	20080828	DE200710009031	20070223
■ DE102007009031 B4	20120614	DE200710009031	20070223

Probable Assignee: WEBASTO AG
Assignee(s):(std): WEBASTO AG
Inventor(s):(std): BOZINOVIC TOMISLAV ; ENGL ANDREAS ; KRON STEFAN ; STREICHER HERBERT
International class (IPC 8-9): B08B3/00 B32B17/10 B32B37/10 B32B38/00 B32B38/16 C03C27/12 (Advanced/Invention); B32B17/06 B32B37/10 B32B38/00 (Core/Invention)
CPC: B32B38/162 B08B3/00 B32B17/10018 B32B17/10302 B32B17/10761 B32B17/1077 B32B17/10788 B32B2310/049 B32B2315/08 B32B2331/04 B32B2333/12 B32B2367/00 B32B2369/00
European class: B08B3/00 B32B17/10C2 B32B17/10E16B B32B17/10G28 B32B17/10G30 B32B17/10G36 B32B38/16A L32B310/04D L32B315/08 L32B331/04 L32B333/12 L32B367/00 L32B369/00

Cited documents: US5622580 A, US4999071 A, US2005236018 AA, EP0077168 A1, DE69515962 T2, DE69330005 T2, DE60021627 T2, DE4443757 A1, DE2544307 A1, DE19835496 A1, DE10206717 A1, DE102004034175 B3

Abstract:

Source: DE102007009031B4 [DE] Verfahren zur Herstellung einer Scheibenanordnung fuer ein Fahrzeug oder Bauwerk, umfassend eine Glasscheibe (11) sowie ein mit der Glasscheibe (11) fest verbundenes, insbesondere auflaminiertes, wenigstens teilweise transparentes Splitterschutzelement (12), wobei Glasscheibe (11) und Splitterschutzelement (12) an jeweiligen Verbindungsflaechen (24, 25) vollflaechig unmittelbar oder mittelbar verbunden sind, umfassend die folgenden Schritte: - Bereitstellen der vorgereinigten Glasscheibe (11), - Nachreinigen der Glasscheibe (11) durch Einwirkung von Heissdampf und - Zusammenbringen der Glasscheibe (11) und des Splitterschutzelements (12) ggf. unter Einbindung von Zwischenlagen oder -schichten in einem Laminationsprozess, wobei die Beaufschlagung mit Heissdampf unmittelbar vor Zusammenbringen von Glasscheibe (11) und Splitterschutzelement (12) vorgenommen wird.

**24) Family number: 64061266 (US2018111355A)**

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Title: PANE WITH THERMAL-RADIATION-REFLECTING COATING AND FASTENING OR SEALING ELEMENT ATTACHED THERETO

Priority: EP20150167777 20150515 WO2016EP60475 20160510

Family:	Publication number	Publication date	Application number	Application date
	BR112017024628 A2	20180731	BR20171124628	20160510
	CA2981124 AA	20170927	CA20162981124	20160510
	CN106457778 A	20170222	CN201680000863	20160510
	CN106457778 B	20180330	CN201680000863	20160510
	EA201792378 A1	20180330	EA20170092378	20160510
	EP3294548 A1	20180321	EP20160723070	20160510
	ID201805799 A	20180531	ID2017P0008050	20160510
	IN201737032393 A	20171013	IN201737032393	20170913
	JP2018522798 T2	20180816	JP20170559687T	20160510
	KR20170136606 A	20171211	KR20177032620	20160510
	MX2017014575 A1	20180315	MX20170014575	20160510
	US2018111355 AA	20180426	US20160562889	20160510
	WO16184732 A1	20161124	WO2016EP60475	20160510

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s):(std): SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE ; SAINT GOBAIN SA

Assignee(s): HAGEN JAN ; MANZ FLORIAN

Inventor(s):(std): FLORIAN MANZ ; JAN HAGEN ; MANZ FLORIAN ; HAGEN JAN

Agent(s): GOUDREAU GAGE DUBUC ; LAVERY DE BILLY LLP ; FEIST FLORIAN ARNO ; IRMIGNI MYRIASANDRA NOERHADI MIP MSEL ; MORITA HIROSHI ; GEBAUER DIETER

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/06 B32B17/10 B32B27/42 B32B3/06 B32B9/00 B60J1/00 B60J1/10 B60J10/70 B60J10/90 B60J7/043 C03C17/34 C03C17/42 (Advanced/Invention); B60J1/10 (Advanced/Non-invention)

CPC: C03C17/3417 B32B17/10165 B32B17/1055 B32B17/10807 B32B27/42 B32B2255/20 B32B2255/28 B32B2307/416 B32B2605/006 B60J1/10 C03C17/42 B60J10/90 B32B2307/412 B32B2307/202 B32B2605/08 B32B2309/105 C03C2217/241 C03C2217/213 C03C2217/948 C03C2217/281

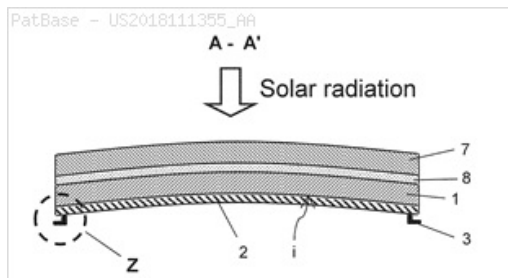
[Classification Explorer](#)

Cited documents:

WO14127867 A1, WO13131667 A1, US6309755 BA, US5492951 A, US2011146172 AA, JP60081047 A2, JP5058157 A2, JP2015512854 T2, JP2010013345 A2, JP2009511774 T2, JP11302038, EP2639032 B1, EP2639032 A1, EP2247549 A2, EP1917222 B1, EP1281613 A2, EP1218307 B1, EP1047644 B1, EP0877006 B1, EP0576179 A1, EP0515847 A2, EP0434656 A2, DE4232554 C1, DE3930414 A1, DE19604397 C1, CN104159861 A, CN103562152 A,

Abstract:

A pane for separating an interior from an external environment, at least including a substrate, and a thermal-radiation-reflecting coating on the interior-side surface of the substrate is disclosed. The coating has at least one functional layer containing a transparent conductive oxide and a topmost layer containing silicon dioxide, and a polymeric fastening or sealing element on the thermal-radiation-reflecting coating.



25) Family number: 62569273 (US2017336175A)

© PatBase

Title: ARMORED GLAZING MANUFACTURED FROM MASS-PRODUCED LAMINATED GLAZING CONSTITUENTS

Priority: FR20140061900 20141204 WO2015FR53274 20151201

Family:	Publication number	Publication date	Application number	Application date
	BR112017010124 A2	20180130	BR20171110124	20151201
	CN107003100 A	20170801	CN201580065683	20151201
	CO20170005539 A2	20170818	CO20170005539	20170602
	EP3227112 A1	20171011	EP20150817959	20151201
	FR3029454 A1	20160610	FR20140061900	20141204
	IN201717016067 A	20170929	IN201717016067	20170508
	MX2017007029 A1	20170824	MX20170007029	20151201
	US2017336175 AA	20171123	US20150532611	20151201
	WO16087764 A1	20160609	WO2015FR53274	20151201

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s):(std): SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE

Inventor(s):(std): BOUIGEON CHRISTIAN ; CHAUSSADE PIERRE ; CHRISTIAN BOUIGEON ; PIERRE CHAUSSADE

Agent(s): MARGARITA CASTELLANOS ABONDANO; SAINT GOBAIN RECHERCHE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class B32B17/10 F41H5/04 F41H5/26 (Advanced/Invention)

(IPC 8-9):

CPC: B32B17/10009 B32B17/10761 B32B17/10788 B32B17/10743 B32B2367/00 B32B17/10036 B32B2571/02 B32B2309/105 F41H5/0407 B32B17/10045 B32B17/1077 B32B2250/04 B32B2369/00

[Classification Explorer](#)

Cited documents: WO14022663 A1, US2013312594 AA, US2013302581 AA, US2009311497 AA, FR2676049 A1, FR2632950 A1,

DE202009009173 U1

CN1805849 A, CN1172526 A, CN103619582 A, CN102975432 A,

Abstract:

A process for manufacturing a light armored curved laminated glazing intended to be fitted in an opening of a transport vehicle suitable for the mass-production fitting of a curved laminated glazing containing two glass sheets, wherein use is made of at least three constituent curved glass sheets of such mass-produced curved laminated glazing containing two glass sheets, including both sheets from one and the same such mass-produced curved laminated glazing containing two glass sheets, which have been previously bent together.

26) Family number: 54899287 (US2014060306A)

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Title: BULLETPROOF WINDOW

Priority: DE20201006237 20120904 EP20120006237 20120904 ES20120006237T 20120904

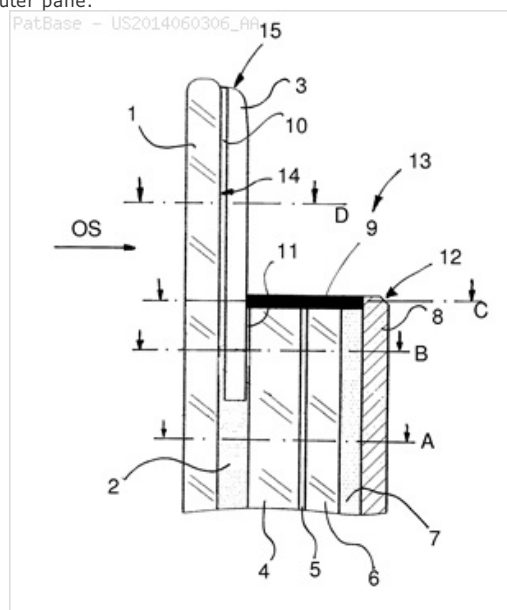
Family:	Publication number	Publication date	Application number	Application date
	DE12006237 T1	20140618	DE20120006237T	20120904
	DE202013006063 U1	20131010	DE201320006063U	20130705
	EP2703157 A1	20140305	EP20120006237	20120904
	ES2465615 T1	20140606	ES20120006237T	20120904

ITMI20131417 A1	20140305	IT2013MI01417	20130827
US2014060306 AA	20140306	US20130959190	20130805
US9534871 BB	20170103	US20130959190	20130805

Probable Assignee: ISOCLIMA SPA
Assignee(s):(std): ISOCLIMA SPA
Inventor(s):(std): BERTOLINI ALBERTO
Agent(s): SEITZ RALF HANS FRANK; LOPEZ JUAN LUIS; HAUPTMAN HAM LLP
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR
International class (IPC 8-9): B32B17/10 C03C27/12 F41H5/00 F41H5/04 F41H5/26 F41H7/00 (Advanced/Invention)
CPC: F41H5/0421 F41H5/0428 F41H7/00 F41H5/0407 B32B17/10293 B32B17/10761 B32B17/1077 B32B17/10788 F41H5/263
US class: 89/36.02
[Classification Explorer](#)
Cited documents: WO0053410 A1, US6708595 BA, US6280826 BA, US2010132540 AA, US2008032104 AA, EP1010963 B1,
Forward Citations: WO19008494, US9803959, US2017146321, US2015377595,

Abstract:

The present invention refers to a bulletproof window, in particular for use as a window of a motor vehicle or car, comprising at least one outer pane, at least one inner pane, one or more middle panes arranged between the outer pane and the inner pane, adhesive layers each between respective two panes in a laminate, the outer pane protrudes over the other panes on a peripheral edge of the bulletproof window and the inner pane protrudes over the one or more middle panes on the peripheral edge of the bulletproof window, and a bullet resistant, rigid reinforcement covering at least a part of an inner side of the outer pane at the peripheral edge of bulletproof window, being arranged at least partly between the outer pane and the following middle pane in the extension of an adhesive layer, and being fitted to the inner side of the outer pane.



27) Family number: 41555294 (US2008047655A)

© PatBase

Title: INJECTION MOLDED MULTIPLE LAYER GLAZINGS
Priority: US20060466765 20060823 AU20070286709 20070822 JP20090525744 20070822
JP20120248974 20070822 EP20070814326 20070822 WO2007US76462 20070822
AU20120201329 20120306 JP20150000346 20150105

Family:	Publication number	Publication date	Application number	Application date
	AT518649 E	20110815	AT20070814326T	20070822
	AU2007286709 AA	20080228	AU20070286709	20070822
	AU2012201329 AA	20120329	AU20120201329	20120306
	AU2012201329 BB	20130815	AU20120201329	20120306
	BRPI0715858 A2	20130723	BR2007PI15858	20070822
	CA2661057 AA	20090218	CA20072661057	20070822
	CA2661057 C	20141021	CA20072661057	20070822
	CN101535045 A	20090916	CN200780038681	20070822
	CN101535045 B	20140618	CN200780038681	20070822
	DE602007016301 D1	20110929	DE200760016301T	20070822
	EP2057010 A1	20090513	EP20070814326	20070822
	EP2057010 B1	20110803	EP20070814326	20070822
	ES2368613 T3	20111118	ES20070814326T	20070822
	IL197126 A0	20091118	IL20070197126	20070822
	IL197126 A1	20150831	IL20070197126	20070822
	IN01463CN2009 A	20141219	IN2009CN01463	20090313
	JP2010501374 T2	20100121	JP20090525744T	20070822
	JP2013063662 A2	20130411	JP20120248974	20121113
	JP2015128901 A2	20150716	JP20150000346	20150105
	JP5713983 B2	20150507	JP20120248974	20121113

JP6012774 B2	20161025	JP20150000346	20150105
KR101424299 B1	20140806	KR20097003525	20070822
KR20090053788 A	20090527	KR20097003525	20070822
MX2009001931 A1	20090416	MX20090001931	20070822
NO20091097 A	20090522	NO20090001097	20090313
RU2009109093 A	20100927	RU20090109093	20070822
RU2447033 C2	20120410	RU20090109093	20070822
TH115336 A	20120731	TH20071004066	20070815
TW200819280 A	20080501	TW20070130227	20070815
TWI418455 B	20131211	TW20070130227	20070815
US2008047655 AA	20080228	US20060466765	20060823
US9242401 BB	20160126	US20060466765	20060823
VN10270 A1	20120625	VN20090000343	20070822
WO08024805 A1	20080228	WO2007US76462	20070822
ZA200901821 A	20100331	ZA20090001821	20090313

Probable Assignee: SOLUTIA INC

Assignee(s):(std): YUAN PING ; KORAN FRANCOIS ; KARAGIANNIS ARISTOTELIS ; SOLUTIA INC ; KORAN FRANCOIS ANDRE

Assignee(s): SOLUTIA INC575 MARYVILLE CENTRE DRIVEST. LOUISMO63141US ; SOLUTIA INC ST LOUIS ; CITIBANK NA ; CFFILMS INC ; DEUTSCHE BANK TRUST CO ; DEUTSCHE BANK TRUST CO AMERICAS COLLATERAL AGENT A ; DEUTSCHE BANK TRUST CO AMERICAS COLLATERAL AGENT AS ; FLEXSYS AMERICA LP

Inventor(s):(std): ARISTOTELIS KARAGIANNIS ; FRANCOIS KORAN ; KARAGIANNIS ARISTOTELIS ; KORAN FRANCOIS ; KORAN FRANCOIS ANDRE ; PING YUAN ; YUAN PING

Inventor(s): YUAN PING AMHERST ; YUAN PINGUS ; KORAN FRANCOIS LONGMEADOW ; KORAN FRANCOISUS ; KARAGIANNIS ARISTOTELIS AMHERST ; KARAGIANNIS ARISTOTELISUS

Agent(s): BALDWINS INTELLECTUAL PROPERTY; NELLIGAN O BRIEN PAYNE LLP; NELLIGAN OBRIEN PAYNE LLP; KRAUS AND WEISERT PATENTANWAELTE PARTGMBB; BECKMANN CLAUS; REINHOLD COHN AND PARTNERS; OSAKI KATSUMASA; TSUBOKURA MICHIAKI; KANAYAMA MASATAKA; KAWAGUCHI YOSHIO; ONO MAKOTO; YAMAMOTO OSAMU; TAKEUCHI SHIGEO; ONO SHINJIRO; MATSUYAMA MINAKO; KOBAYASHI YASUSHI; BRENC LAW, ANDREW BRENC; BRENC LAW ANDREW BRENC; STEVEN A; BRENC ANDREW

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B29C45/00 B29C45/14 B29C45/78 B29C65/42 B32B B32B17/10 B32B27/30 C03C27/00 C03C27/12 (Advanced/Invention); B29K31/00 B29K709/08 B29K75/00 B29L31/00 B60J1/00 (Advanced/Non-invention); B29C45/14 B32B17/06 B32B27/30 C03C27/00 C03C27/12 (Core/Invention); B29C B32B (Subclass/Invention)

International class (IPC 1-7): B29C45/14 B32B17/10

CPC: B29C45/14467 B29C45/0001 B29C45/14778 B29K2031/04 B29K2075/00 B29K2709/08 B29K2995/0088 B29L2031/7782 B32B17/10036 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788 B32B17/10917

European class: B29C45/00B B29C45/14G B29C45/14Q B32B17/10C4 B32B17/10G24 B32B17/10G28 B32B17/10G30 B32B17/10G36 B32B17/10L16B2 L29K31/04 L29K709/08 L29K75/00 L29K995/00F29 L29L31/7782

US class: 1/1 156/109

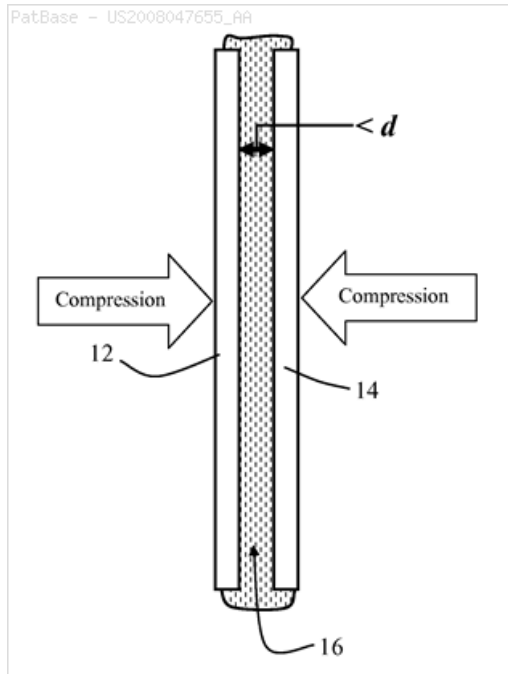
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Cited documents: WO8801230 A1, WO0138088 A1, WO0138088, US6797396 BA, US6669890 BA, US6368537 BA, US6296799 BA, US6265054 BA, US5980666 A, US5728472 A, US5415909 A, US5352530 A, US5268049 A, US5137954 A, US5013779 A, US4935470 A, US4806191 A, US4799745 A, US4786783 A, US4614781 A, US4584229 A, US4299639 A, US4144217 A, US4017661 A, US3841890 A, US264510 A, US2282057 A, US2282026 A, US2008047655 AA, US2003161997 AA, US1937396 A, JP9286039 A2, JP9286039, JP8231639 A2, JP6340453 A2, JP61502179 T2, JP61502179, JP49099136 A2, JP48025714 A2, JP4275113 A2, JP4275113, JP3221424 A2, JP2005187226 A2, JP2005187226, JP2004537492 T2, JP2004537492, JP1128935, JP11138668 A2, JP11138668, JP11028935, JP11001349 A2, GB1444730 A, GB1401986 A, FR2750075 A1, EP0908287 A1, EP0490580 A1, EP0211818 A1, EP0157030 A1, DE2728762 A1, CA981172 A1,

Forward Citations: WO18160452, US9833976, US9242401, US9023463, US8095348, US7901780, US2014024142, US2010086744, US2009324969, US2008234989, US2006216501, JP2010525971, EP2822766, EP2181875, DE102008043393, DE102008043393, CN102806726, CN102806726,

Abstract:

The present invention is directed to the use of injection molding to form polymeric interlayers directly between two rigid substrates that are positioned so that after injection of the melted polymeric material and after cooling, the resulting multiple layer panel functions as a safety panel that can be used in any appropriate conventional safety glazing application. Methods of the present invention utilize a relatively low molecular weight polymer, multiple injection points, mold compression, and/or a heated substrate in order to facilitate the injection of polymer into the relatively narrow space between glazing substrates that is typically found in safety glazings.



28) Family number: 58631298 (US2015064475A)

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Title: SAFETY AGGLUTINATION GLASS STRUCTURE

Priority: US20130014598 20130830

Family:

Publication number	Publication date	Application number	Application date
US2015064475 AA	20150305	US20130014598	20130830

Probable Assignee: CHUNG HOW PAINT FACTORY CO LTD

Assignee(s):(std): CHUNG HOW PAINT FACTORY CO LTD

Assignee(s): CHUNG HOW PAINT FACTORY CO

Inventor(s):(std): WANG WEN TING

International class B32B17/10 B32B7/12 (Advanced/Invention)
(IPC 8-9):

CPC: B32B7/12 B32B17/10752 B32B17/10614 B32B17/1055 B32B17/10036 Y10T428/31507 Y10T428/31601 Y10T428/31616 Y10T428/31649 B32B17/10633 B32B17/10761 B32B17/1077 B32B17/10788 F41H5/0407

US class: 428/412 428/425.6 428/426 428/430 428/432 428/442

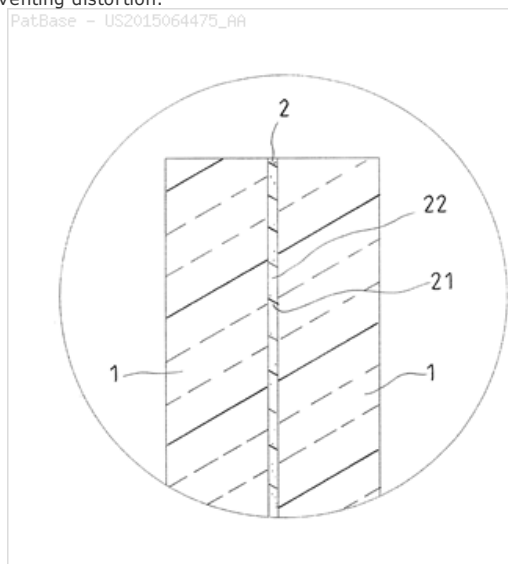
[Classification Explorer](#)

Cited documents: US2007256782 AA, US2007048519 AA,

Forward Citations: US10195826,

Abstract:

The invention relates to a safety agglutination glass structure, comprising two glass substrates and a heat insulating adhesive membrane. The heat insulating adhesive membrane constituted of heat insulating particles and a colloid material is disposed between the two glass substrates. Therefore, the two glass substrates can combine together by heating and pressurizing for the purpose of simplifying processing procedures, reducing the costs and preventing distortion.



Title:	HIGH-CLARITY BLENDED IONOMER COMPOSITIONS AND ARTICLES COMPRISING THE SAME																																																																															
Priority:	US20080141504P 20081230 WO2009US62940 20091102		EP20090836578 20091102 US20120486511 20120601																																																																													
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Publication number	Publication date	Application number	Application date																																																																													
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 WO10077429 A8	20110113	WO2009US62940	20091102																																																																													
Probable Assignee:	E I DU PONT DE NEMOURS AND CO																																																																															
Assignee(s):(std):	DU PONT ; SHAFFER W ALEXANDER ; HAYES RICHARD ALLEN ; HAUSMANN KARLHEINZ ; SMITH CHARLES ANTHONY ; PESEK STEVEN C ; EIDU PONT DE NEMOURS AND CO																																																																															
Assignee(s):	EI DU PONT DE NEMOURS AND CO WILMINGTON ; E I DU PONT DE NEMOURS AND CO ; E I DU PONT DE NEMOURS AND COMPANY ; E I DUPONT DE NEMOURS AND CO ; EI DU PONT DE NEMOURS AND CO																																																																															
Inventor(s):(std):	KARLHEINZ HAUSMANN ; ALLEN HAYES RICHARD ; ANTHONY SMITH CHARLES ; ALEXANDER SHAFFER W ; W ALEXANDER SHAFFER ; CHARLES ANTHONY SMITH ; STEVEN C PESEK ; RICHARD ALLEN HAYES ; PESEK STEVEN C ; SMITH CHARLES ANTHONY ; HAUSMANN KARLHEINZ ; HAYES RICHARD ALLEN ; SHAFFER W ALEXANDER																																																																															
Inventor(s):	SHAFFER W ALEXANDER ORANGE ; PESEK STEVEN C ORANGE ; HAYES RICHARD ALLEN BEAUMONT ; SMITH CHARLES ANTHONY VIENNA																																																																															
Agent(s):	HOULIHAN2; HOULIHAN ² ; HOULIHAN ² PTY LTD; MARKS AND CLERK LUXEMBOURG LLP; DANNENBERGER OLIVER ANDRE; YAMASAKI KAZUO; HAKODA ATSUSHI; ICHIKAWA SATSUKI; KUMAKURA YOSHIO; ASAI KENJI; E I DU PONT DE NEMOURS AND COMPANY,LEGAL PATENT RECORDS CENTER; E I DU PONT DE NEMOURS AND CO LEGAL PATENT RECORDS CENTER; MARIA M; KELLY LAW REGISTRY; TONG T; KOURTAKIS MARIA																																																																															
Designated states:	AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW																																																																															
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US class:	136/244 136/251 136/252 136/259 428/220 428/220S 428/339 428/339S 428/35.7 428/35.700P 428/441 428/500 524/556 525/196 525/221 525/221S 526/317.1																																																																															

[Classification Explorer](#)

Cited documents: WO9958334 A2, WO9904971 A2, WO08010597 A1, WO06095762 A1, WO06085603 A1, WO06057771 A2, WO06002389 A1, WO04062881 A1, WO04011755 A1, WO03045186 A1, WO02051916, WO0064670 A1, WO0063309 A1, US7951865 BA, US7763360 BB, US7201672 BB, US7189457 BB, US7128864 BB, US7005098 BB, US6866158 BA, US6852792 BA, US6737151 BA, US6699027 BB, US6690930 BA, US6586271 BB, US6518365 BA, US6500888 BB, US6455161 BA, US6432522 BA, US6353042 BA, US6320116 BA, US6319596 BA, US6268415 BA, US6265054 BA, US6245915 BA, US6238801 BA, US6207761 BA, US6191199 BA, US6187845 BA, US6187448 BA, US6179732 BA, US6179732 B1, US6150028 A, US6114046 A, US6011115 A, US5986203 A, US5973046 A, US5958534 A, US5895721 A, US5866658 A, US5866658, US5807192 A, US5803833 A, US5788890 A, US5782707 A, US5782703 A, US5763062 A, US5762720 A, US5759698 A, US5752889 A, US5741370 A, US5733382 A, US5580927 A, US5580057 A, US5553852 A, US5478402 A, US5476553 A, US5452898 A, US5439227 A, US5428177 A, US5428162 A, US5387635 A, US5344513 A, US5094921 A, US5028674 A, US5002820 A, US4968752 A, US4944906 A, US4937035 A, US4906703 A, US4857258 A, US4799346 A, US4732944 A, US4714253 A, US4668574 A, US4663228 A, US4619973 A, US4173669 A, US3762988 A, US3471460 A, US3404134 A, US3344014 A, US3328367 A, US2897183 A, US2009297747 AA, US2009120489 AA, US2009023867 AA, US2008269388 AA, US2008058465 AA, US2008044666 AA, US2008023064 AA, US2008023063 AA, US2008017241 AA, US2007289693 AA, US2007282069 AA, US2007221268 AA, US2007122633 AA, US2006273485 AA, US2006182983 AA, US2006165929 AA, US2006141212 AA, US2006084763 AA, US2006057392 AA, US2006043632 AA, US2005279401 AA, US2005129888 AA, US2005058498 AA, US2004176531 AA, US2004144415 AA, US2004011755 AA, US2003124296 AA, US2003044579 AA, US2003000568 AA, US2002180083 AA, US2002175136 AA, US2002155302 AA, KR930703393 A, KR20070019734 A, KR200700019734, KR20060016105 A, KR20060016105, KR19930703393, JP9510243 T2, JP9510243, JP4227910 A2, JP4227910, JP2006190867 A2, JP2006190865 A2, JP2006186237 A2, JP2006036876 A2, JP2006036875 A2, JP2006036874 A2, JP2006032308 A2, JP2005064268 A2, JP2004506770 T2, JP2004506770, JP2004031445 A2, JP2001144313 A2, JP2001119057 A2, JP2001119056 A2, JP2001119047 A2, JP2001089616 A2, JP2001031801 A2, JP2000186114 A2, JP1999026791 A2, JP1996316508 A2, JP1994322334 A2, JP1991510646 B2, JP1990094574 A2, JP1981116047 A2, JP11512767 T2, JP11512767, EP1816147 A1, EP0855155 B1, EP0591102 B1, EP0589839 B1, EP0483087 A1, EP0157030 A1, DE4316876 A1, DE4316622 A1, DE4316611 A1, CN1413230, CA893216,

Forward Citations: WO14059212, WO14059206, WO13188489, US9925743, US8399096, US8334033, US2015274951, US2010166992, US2010112253, EP2376547, EP2376547, EP2342241, EP2342241,

Abstract:

An ionomer blend composition comprises a blend of a first ionomer and a second ionomer that is different from the first ionomer. The first ionomer is derived from a first precursor acid copolymer that has a melt flow rate of about 10 to about 4000 g/10 min and that comprises copolymerized units of an α -olefin and about 20 to about 30 wt percent of copolymerized units of an α , β -ethylenically unsaturated carboxylic acid. Moreover, the first precursor acid can be neutralized to a level of about 40 percent to about 90 percent to form a sodium ionomer that has a MFR of about 0.7 to about 25 g/10 min and a freeze enthalpy that is less than about 3.0 J/g or that is not detectable, when determined by differential scanning calorimetry (DSC). A variety of articles may comprise or be produced from the ionomer blend composition, for example by injection molding.

30) Family number: 72874318 (WO19011677A1)

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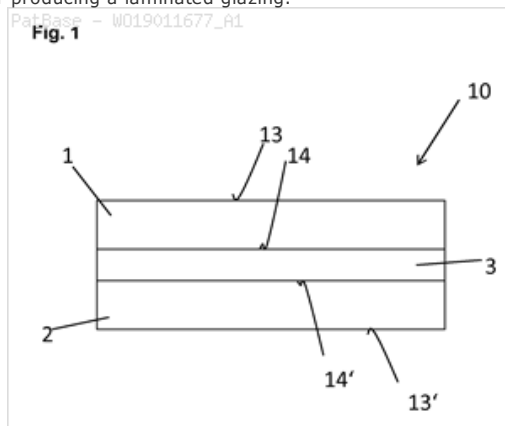
Title: LAMINATED GLAZING, LIGHTING UNIT AND METHOD FOR PRODUCING A LAMINATED GLAZING
Priority: EP20170181281 20170713
Family:

Publication number	Publication date	Application number	Application date
WO19011677 A1	20190117	WO2018EP67632	20180629

Probable Assignee: BASF SE
Assignee(s):(std): BASF SE
Inventor(s):(std): IVANOVICI SORIN ; ROEDER JENS
Agent(s): ROEMER MICHAEL
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B32B17/10 (Advanced/Invention)
CPC: B32B17/10036 B32B17/10541 B32B17/10669 B32B17/10733 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788 B32B17/10798 B32B17/10
[Classification Explorer](#)
Cited documents: WO09037283 A1, WO07023083 A1, WO07006717 A1, US8080726 BB, US6518635 BA, US6500888 BB, US5028674 A, US3404134 A, US2015308659 AA, US2014355106 AA, US2014076397 AA, US2013252001 AA, US2008210287 AA, EP2110237 A1, DE102014015695 A1

Abstract:

A laminated glazing (10) comprising in this order a first layer (A) (1), a functional interlayer (C) (3) and a second layer (B) (2) is provided, wherein the functional interlayer (C) (3) is sandwiched between the first layer (A) (1) and the second layer (B) (2) and is arranged parallel to the first layer (A) (1) and the second layer (B) (2). Further, the functional interlayer (C) (3) comprises at least one organic luminescent colorant which is homogeneously distributed within the material forming the functional interlayer (C) (3). The first layer (A) (1) and the second layer (B) (2) are optically transparent layers produced in a float glass process having an air-side (14, 14') and a tin-side (13, 13') and the air-side (14) of the first layer (A) (1) and the air side (14') of the second layer (B) (2) are arranged such that they face towards the functional interlayer (C) (3). Further aspects of the invention relate to a lighting unit comprising a laminated glazing and to methods for producing a laminated glazing.



31) Family number: 9074324 (FR2697829A)

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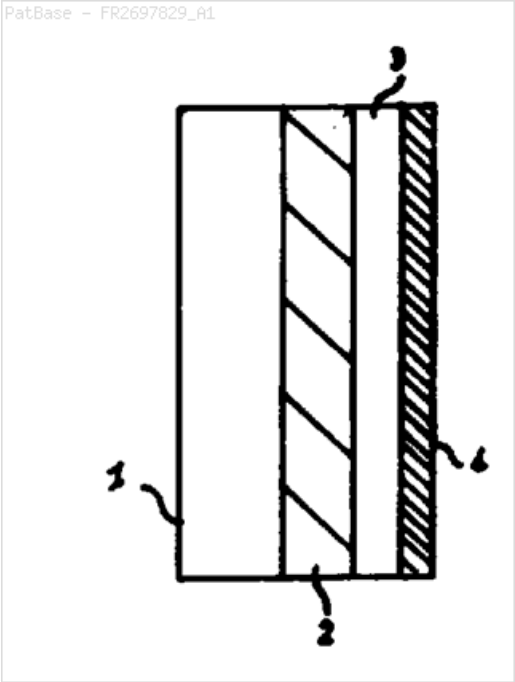
Title: Anti-splinter laminated glass - for armoured vehicles consists of annealed or tempered glass sheet interleaved with resin layer and having layer of elastic energy absorbing plastic eg polyvinylbutyral on cabin surface.
Priority: FR19920013584 19921112 CA19922086370 19921229
Family:

Publication number	Publication date	Application number	Application date
CA2086370 AA	19940513	CA19922086370	19921229
FR2697829 A1	19940513	FR19920013584	19921112
FR2697829 B1	19950127	FR19920013584	19921112

Probable Assignee: SAINT GOBAIN VITRAGE INT
Assignee(s):(std): GOURIO NOEL ; LECOCQ JEAN CLAUDE ; SAINT GOBAIN VITRAGE INT
Assignee(s): SAINT GOBAIN VITRAGE INTERNAL

Inventor(s):(std): GOURIO NOEL ; JEAN CLAUDE LECOCQ ; LECOCQ JEAN CLAUDE ; NOEL GOURIO
Agent(s): GOUDREAU GAGE DUBUC
International class (IPC 8-9): B32B17/10 B32B27/36 C03C27/12 F41H5/26 (Advanced/Invention)
International class (IPC 1-7): B32B17/10 C03C17/28 C03C27/12 F41H5/26
CPC: B32B17/10036 B32B17/10045 B32B17/10743 B32B17/10761 B32B2367/00 F41H5/0407
European class: B32B17/10C4 B32B17/10C4B B32B17/10G24 B32B17/10G28 F41H5/04B L32B367/00
[Classification Explorer](#)
Cited documents: WO8801230 A1, GB1384542 A, FR2632950 A1, FR2360526 A1, FR2322106 A1, EP0418123 A1, DE2532412 A1,
Forward Citations: WO03087785, WO03087785, US7867605, US7197941, US2016249414, EP1495305, AU2003244692, AU2003244692,

Abstract:
Shatter resistant laminated glazing for armoured vehicles has sheet of annealed or, thermal or chemically, tempered glass interleaved with a solid resin based layer (2). The glass sheet receiving the impact (1) is 4-10mm thick. The interleaved layer (2) is 1.5-10mm thick. The glass layer next to the cabin is 1-6mm thick (3) and covered with an anti-splinter layer (4) having elastic and energy absorption properties eg composite film of polyvinylbutyral and a layer of polyester coated with polysiloxane. USE/ADVANTAGE - Shatter and splinter proof glass for armoured vehicles. Gives very good resistance to shocks partic from shrapnel and ensures total protection to the occupants from glass splinters.



32) Family number: 69445366 (WO18075853A1)

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Title: COLD FORMED 3D COVER GLASS ARTICLES AND FORMING PROCESS TO MAKE THE SAME
Priority: US20160410482P 20161020
Family:

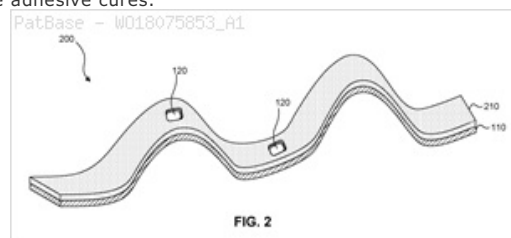
Publication number	Publication date	Application number	Application date
■ TW201829162 A	20180816	TW20170136097	20171020
■ WO18075853 A1	20180426	WO2017US57529	20171020

Probable Assignee: CORNING INC
Assignee(s):(std): CORNING INC
Inventor(s):(std): CLEARY THOMAS MICHAEL ; SUN YAWEI ; ZHANG CHUNHE
Agent(s): PATEL PAYAL A
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B30B3/02 B32B17/06 B32B17/10 B32B7/12 (Advanced/Invention)
CPC: B32B17/10036 B32B7/12 B32B17/06 B32B17/10119 B32B17/10137 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788 B32B17/10862
[Classification Explorer](#)
Cited documents: WO16007815 A1, US5154117 A, US2016207290 AA, US2007291384 AA, FR3012073 A1, EP1046493 A2, EP0525970 A1, EP0316224 A1,
Forward Citations: US10175802,

Abstract:
In some embodiments, a process comprises applying an adhesive layer to a substrate having a developable shape. The process further comprises initially applying a force to press a thin glass layer against the adhesive layer along a generation line. The generation line moves across the substrate to cold-form the thin glass layer into the shape of the substrate, while maintaining the application of force on areas of the substrate over which the generation line has passed. The application of force is maintained on

areas of the substrate over which the generation line has passed until the adhesive cures.



33) Family number: 44120368 (US2011185884A)

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Title: BULLET-RESISTANT TRANSPARENT LAMINATE COMPOSITE AND PROTECTION ARRANGEMENT HAVING A BULLET-RESISTANT TRANSPARENT LAMINATE COMPOSITE

Priority: DE200810028318 20080613 EP20090761514 20090612 WO2009EP04255 20090612
EP20110000362 20090612

Family:	Publication number	Publication date	Application number	Application date
	DE102008028318 A1	20091217	DE200810028318	20080613
	DE602009051187 D1	20180329	DE200960051187T	20090612
	EP2294352 A2	20110316	EP20090761514	20090612
	EP2322894 A1	20110518	EP20110000362	20090612
	EP2322894 B1	20180307	EP20110000362	20090612
	IL209432 A0	20110131	IL20090209432	20090612
	IL209432 A1	20160929	IL20090209432	20090612
	US2011185884 AA	20110804	US20090997873	20090612
	US8833233 BB	20140916	US20090997873	20090612
	WO09149951 A2	20091217	WO2009EP04255	20090612
	WO09149951 A3	20100408	WO2009EP04255	20090612

Probable Assignee: IABG LICHTENAU

Assignee(s):(std): ESW GMBH ; HAMPEL JAN ; HINRICHSSEN DENNI ; KRD SICHERHEITSTECHNIK GMBH ; IABG LICHTENAU ; KRUEGER THOMAS ; SCHAEFER ROGER ; JENOPTIK ADVANCED SYSTEMS GMBH

Inventor(s):(std): HAMPEL JAN DR ; SCHAEFER ROGER DR ; HAMPEL JAN ; SCHAEFER ROGER ; KRUEGER THOMAS ; HINRICHSSEN DENNI

Agent(s): SOELTENFUSS DIRK CHRISTIAN; PRUEFER AND PARTNER MBB PATENTANWAELTE RECHTSANWAELTE; LUZZATTO AND LUZZATTO; GREER BURNS AND CRAIN LTD; SOELTENFUSS DIRK

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B29C65/02 B32B17/10 B32B27/08 B32B27/30 B32B7/12 B63B3/10 C03C27/12 F41H F41H5/04 F41H5/24 F41H5/26 F41H7/02 F41H7/04 (Advanced/Invention); B32B27/08 (Advanced/Non-invention); B32B27/30 B32B7/12 C03C27/12 F41H5/00 (Core/Invention); B32B27/08 (Core/Non-invention); F41H (Subclass/Invention)

CPC: B32B7/12 B32B17/10844 B32B27/08 B32B27/30 B32B2369/00 F41H5/0407 F41H5/263 B32B7/02 B32B9/005 B32B9/045 B32B27/304 B32B27/36 B32B27/365 B32B27/40 B32B2270/00 B32B2307/412 B32B2307/54 B32B2571/02 B32B2605/00 B32B2605/16 B32B2605/18 B32B17/10064 B32B17/1077

European class: B32B17/10L10B2B B32B27/08 B32B27/30 B32B7/12 F41H5/04B F41H5/26B L32B369/00

US class: 156/285 156/285S 89/36.02 89/36.020P 89/904 89/904S 89/905 89/905S

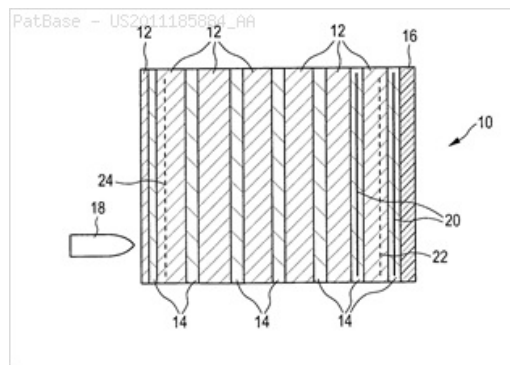
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Cited documents: WO9316872 A1, WO9316872 A1, USH1567 H1, US8297168 BB, US8176828 BB, US8025004 BB, US7908958 BB, US7793580 BB, US7584689 BB, US5747170 A, US4595624 A, US4594290 A, US4322476 A, US4321777 A, US3930452 A, US3917891 A, US3671370 A, US3671370 A, US2012001027 AA, US2010300276 AA, US2010288117 AA, US2010275767 AA, US2010132540 AA, US2009308239 AA, US2009217813 AA, US2007068376 AA, US2007068375 AA, US2006093804 AA, US1428461 A, FR2516646 A1, EP1693640 A1, EP0807797 A2, EP0807797 A2, EP0130886 A1, DE9111130 U1, DE9111130 U1, DE9111130 U, DE9111130 U, DE4006708 A1, DE4006708 A1, DE3639781 C1, DE3243136 A1, DE3243136 A1, DE234569 A, DE232553 A, DE19548338 A1, DE19548338 A1, DE19539607 A1, DE19539607 A1, DE1199152 B,

Forward Citations: WO16026554, WO14014241, WO13064491, WO13052182, WO13052182, US9803959, US9739572, US9689635, US9682536, US9500445, US9494389, US2017030684, US2016040961, US2015377595, US2015072118, US2014290473, US2012152099, US2011088541, US10119790, JP2017149152, JP2017149151, EP2724113, EP2565290, EP2565290, DE202011103687, DE102015115511, DE102013022080, DE102012017146, DE102011117340, DE102011117340, CN105507772,

Abstract:

A bullet-resistant transparent laminate composite (10) has at least two plates (12) arranged one behind the other and at a spacing relative to each other in the direction of threat and comprising a transparent first material with a modulus of elasticity of at least about 1,500 N/mm², and a respective intermediate layer (14) of a transparent second material with a lower modulus of elasticity than that of the first material between two adjacent plates (12). The layer thicknesses of the plates (12) and the intermediate layer or layers (14) are so selected that the overall layer structure of the layer composite (10) of plates and intermediate layer or layers has a modulus of elasticity which is at least about 10 percent lower in comparison with a block made exclusively from the first material and of the same overall thickness.



34) Family number: 70158373 (CO20170012697A)

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Title: LAMINADO CON OSCURACION IMPRESA QUE POSEE RESISTENCIA Y CALIDAD OPTICA SUPERIOR With OSCURACION LAMINATE HAVING PRINTED resistance and superior optical quality (Machine translation)

Priority: US20170566201P 20170929

Family:

Publication number	Publication date	Application number	Application date
CO20170012697 A1	20180228	CO20170012697	20171211

Probable Assignee: AGP AMERICA SA

Assignee(s):(std): AGP AMERICA S A ; AGP AMERICA SA

Inventor(s):(std): GRANADOS CARO LAURA ; MANNHEIM ASTETE MARIO ARTURO ; MENDOZA CARRANZA ELENA K ; SARMIENTO SANTOS ANDRES FERNANDO ; VOELTZEL CHARLES STEPHEN

Inventor(s): MARIO ARTURO BENJAMIN MANNHEIM ASTETE ; LAURA GRANADOS CARO ; ANDRES FERNANDO SARMIENTO SANTOS ; CHARLES STEPHEN VOELTZEL ; ELENA K MENDOZA CARRANZA

Agent(s): CARLOS REINALDO OLARTE GARCIA

International class (IPC 8-9): C03C27/12 F41H5/04 (Advanced/Invention)

CPC: B32B17/10266 B32B17/10036 B32B17/10091 B32B17/10137 B32B17/10174 B32B17/10348 B32B17/10568 B32B17/10706 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788

[Classification Explorer](#)

Abstract:

Source: CO20170012697A [ES] El uso de sistemas de seguridad basados en camaras esta creciendo a un ritmo acelerado en los automoviles modernos. De la misma manera, los parabrisas, donde la mayoria de las camaras son montadas, cada vez son mas grandes y de formas mas complejas A medida que la industria avanza hacia el desarrollo de vehiculos con capacidad autonoma, el numero de camaras requeridas y la resolucion de las mismas aumentan. Sin embargo, la calidad optica del parabrisas es menor que la optima. Uno de los problemas es causado por la tipica frit de esmalte negro que se imprime en el vidrio, antes de calentarse y curvarse, para ocultar u oscurecer los componentes de la camara. Los abruptos gradientes termicos durante el curvado, causados porque la frit negra que absorbe el calor, dan como resultado un alto nivel de distorsion en el campo de vision de la camara. El objeto de la presente invencion es proporcionar un vidrio laminado para automotores que contenga un area de oscurecimiento producida al crear el oscurecimiento despues del calentamiento y curvado del vidrio, suministrando el oscurecimiento en una o mas de las superficies del vidrio a curvar en frio en o cerca del campo de vision de la camara que luego sirve como oscurecimiento en lugar de imprimir y cocer una banda sobre el vidrio. Esto da como resultado un laminado que posee una calidad optica superior, una mayor resistencia y una menor probabilidad de rotura en comparacion a un laminado con un oscurecimiento de banda negra. **Machine translation:** The use of camera-based security systems is growing at an accelerated pace in modern cars. In the same way, the windshield, where the majority of the cameras are mounted, are increasingly large and more complex shapes as the industry moves toward the development of autonomous vehicles with capacity, the number of chambers required and the resolution of the same increase. However, the optical quality of the windshield is less than optimum. One of the problems is caused by the typical black enamel frit that is printed on the glass, before being heated and curved, to hide or obscure the components of the chamber. Abrupt thermal gradients during bending, caused because the frit black absorbs the heat, resulting in a high level of distortion in the field of view of the camera. The object of the present invention is to provide a laminated glass for motor vehicles that contains an area of darkening produced by creating the darkening after heating and bending of the glass, by supplying the darkening in one or more of the surfaces of the glass to be bent cold at or near the field of view of the camera which then serves as a darkening instead of printing and cook a band on the glass. This results in a laminate having a superior optical quality, increased resistance and less likely to break compared to a laminate with a darkening of black band.

35) Family number: 70158379 (CO20170012699A)

© PatBase

Title: LAMINADO CON OSCURACION INCRUSTADA QUE POSEE RESISTENCIA Y CALIDAD OPTICA SUPERIOR Laminated with OSCURACION EMBEDDED HAVING STRENGTH AND superior optical quality (Machine translation)

Priority: US20170566227P 20170929

Family:

Publication number	Publication date	Application number	Application date
CO20170012699 A1	20180228	CO20170012699	20171211

Probable Assignee: AGP AMERICA SA

Assignee(s):(std): AGP AMERICA S A ; AGP AMERICA SA

Inventor(s):(std): VOELTZEL CHARLES STEPHEN ; SARMIENTO SANTOS ANDRES FERNANDO ; ROJAS VALLE MERLYN ; MENDOZA CARRANZA ELENA K ; MANNHEIM ASTETE MARIO ARTURO ; GRANADOS CARO LAURA

Inventor(s): ANDRES FERNANDO SARMIENTO SANTOS ; CHARLES STEPHEN VOELTZEL ; ELENA K MENDOZA CARRANZA ; LAURA GRANADOS CARO ; MARIO ARTURO BENJAMIN MANNHEIM ASTETE ; MERLYN ROJAS VALLE

Agent(s): CARLOS REINALDO OLARTE GARCIA
International class C03C27/12 F41H5/04 (Advanced/Invention)
(IPC 8-9):
CPC: B32B3/08 B32B17/10036 B32B17/10174 B32B17/10293 B32B17/10568 B32B17/1066 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788 B32B17/10908 B32B17/10981

[Classification Explorer](#)

Abstract:

Source: CO20170012699A [ES] El uso de sistemas de seguridad basados en camaras esta creciendo a un ritmo acelerado en los automoviles modernos. De la misma manera, los parabrisas, donde muchas de las camaras son montadas, cada vez son mas grandes y de formas mas complejas A medida que la industria avanza hacia el desarrollo de vehiculos con capacidad autonoma, el numero de camaras requeridas y la resolucion de las mismas aumentan. Sin embargo, la calidad optica del parabrisas es menor que la optima. Uno de los problemas es causado por la tipica frita de esmalte negro que se imprime en el vidrio, antes de calentarse y curvarse, para ocultar u oscurecer los componentes de la camara. Los abruptos gradientes termicos durante el curvado, causados porque la frita negra absorbe el calor, dan como resultado un alto nivel de distorsion en el campo de vision de la camara. El objeto de la presente invencion es proporcionar un vidrio laminado para automotores que contenga un area de oscurecimiento producida al crear el oscurecimiento despues del calentamiento y curvado del vidrio, retirando una porcion de la capa intermedia de plastico en el campo de vision de la camara y reemplazandolo con una incrustacion hecha de un plastico sustancialmente opaco u otro material adecuado, en o cerca del campo de vision de la camara que luego sirve como oscurecimiento en lugar de imprimir y cocer una banda sobre el vidrio. Esto da como resultado un laminado que posee una calidad optica superior, una mayor resistencia y una menor probabilidad de rotura en comparacion a un laminado con un oscurecimiento de banda negra. **Machine translation:** The use of camera-based security systems is growing at an accelerated pace in modern cars. In the same way, the windshield, where many of the Chambers are mounted, are increasingly large and more complex shapes as the industry moves toward the development of autonomous vehicles with capacity, the number of chambers required and the resolution of the same increase. However, the optical quality of the windshield is less than optimum. One of the problems is caused by the typical black enamel frit that is printed on the glass, before being heated and curved, to hide or obscure the components of the chamber. Abrupt thermal gradients during bending, caused because the frit black absorbs the heat, resulting in a high level of distortion in the field of view of the camera. The object of the present invention is to provide a laminated glass for motor vehicles that contains an area of darkening produced by creating the darkening after heating and bending of the glass, removing a portion of the intermediate layer of plastic in the field of view of the camera and replacing it with an insert made of a substantially opaque plastic or other suitable material, in or near the field of view of the camera which then serves as a darkening instead of printing and cook a band on the glass. This results in a laminate having a superior optical quality, increased resistance and less likely to break compared to a laminate with a darkening of black band.

36) Family number: 47204381 (US2012025559A)

© PatBase

Title:	TRANSPARENT LAMINATED GLASS AND USE THEREOF																																																																																																								
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WO10121986 A1	20101028	WO2010EP55108	20100419																																																																																																						
Probable Assignee:	SAINT GOBAIN GLASS FRANCE																																																																																																								
Assignee(s):(std):	DUNKMANN BENNO ; OFFERMANN VOLKMAR ; SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE ; SAINT GOBAIN SEKURIT D GMBH ; SAINT GOBAIN GLASS PRANCE ; SAINT GOBAIN SA																																																																																																								
Assignee(s):	SAINT GOBAIN SEKURIT DEUTSCHLAND GMBH AND CO KG																																																																																																								
Inventor(s):(std):	BENNO DUNKMANN ; DUNKMANN BENNO ; OFFERMANN VOLKMAR ; VOLKMAR OFFERMANN ; OFFERMANN VOLKMAR DR																																																																																																								
Agent(s):	GOUDREAU GAGE DUBUC; LAVERY DE BILLY LLP; LENDVAI TOMAS DIPL CHEM DRRERNAT; LENDVAI TOMAS; DE ELZABURU ALBERTO; KAWAGUTI AND PARTNERS; STEINFL AND BRUNO LLP																																																																																																								
Designated states:	AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW																																																																																																								
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US class: 1/1 156/102 156/99 296/84.1 296/84.100P 428/174 428/215 428/215S

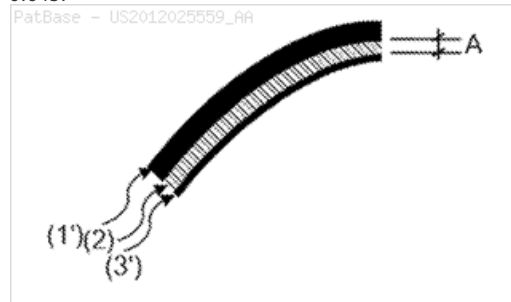
[Classification Explorer](#)

Cited documents: US7459199 BB, US7070863 BB, US6280847 BA, US6270605 BA, US5759698 A, US5589272 A, US5348805 A, US5162145 A, US4985099 A, US4898789 A, US4075381 A, US3799817 A, US3799817, US3658636 A, US3639198 A, US3592726 A, US3592726, US2005266247 AA, US2002150744 AA, US03799817, US03592726, JP2008266056 A2, JP2008266056, JP2008037667 A2, JP2008037667, JP2007290549 A2, JP2007290549, JP2007070200 A2, JP2007070200, JP2002326847 A2, JP2002326847, JP2002173346 A2, JP2002173346, JP2000277 U1, JP2000277 U, JP2000277 U, GB2011316 A1, GB1580366 A, GB1339980 A, EP0908302 A2, EP0887180 A2, EP0004001 A1, DE4415878 C2, DE4415878 A1, DE3919290 A1, DE2758581 B1, DE2703785 A1, DE1946358 A1,

Forward Citations: WO18172022, WO18136860, WO18095693, WO18066903, WO17157660, WO17103032, WO13054059, WO13004473, WO12157617, WO12157616, WO12073030, US9670714, US2014141206, US2014093702, US2012217973, US10035332, US10035331, US10017033, JP2017518246, JP2017508693, JP2017048075, JP2012157617, FR3031065, FR3012073, EP2729303, EP2409834, EA027455, EA027002, CN106458743, CN105636778, CN105636778, CN103635315, CN103635315, BE1020051,

Abstract:

the present invention relates to a transparent laminated glass comprising a transparent outer pane (1) with a thickness of 1.45 mm to 1.8 mm, at least one polymer layer (2) with a thickness of 0.5 mm to 4.0 mm and a transparent inner pane (3) with a thickness of 1.0 mm to 1.4 mm, wherein the at least one polymer layer contains ethylene vinyl acetates, plasticized polyvinyl butyrals, polyurethanes, polycarbonates, polyethylene terephthalates, and/or ionomers as wet as copolymers and/or combinations thereof, and the ratio of the thickness of the transparent outer pane (1) to the sum of the thickness of the transparent outer pane (1) and the transparent inner pane (3) is 0.509 to 0.643.



37) Family number: 44012395 (US2012175908A)

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Title: BALLISTIC TRANSPARENCY
Priority: US20080031081P 20080225 US20090391715 20090224 WO2009US35110 20090225
Family:

Publication number	Publication date	Application number	Application date
AU2009246795 AA	20091119	AU20090246795	20090225
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CN101960251 B	20150401	CN200980106380	20090225
CO6280566 A2	20110520	CO20100096477	20100806
EP2247911 A2	20101110	EP20090747030	20090225
IL207626 A0	20101230	IL20090207626	20090225
IL207626 A1	20160630	IL20090207626	20090225
JP2011523916 T2	20110825	JP20100547858T	20090225
KR101296058 B1	20130812	KR20107018799	20090225
KR20100112181 A	20101018	KR20107018799	20090225
MX2010009142 A1	20100907	MX20100009142	20090225
RU2010139510 A	20120410	RU20100139510	20090225
RU2465536 C2	20121027	RU20100139510	20090225
US2012175908 AA	20120712	US20090391715	20090224
US8905460 BB	20141209	US20090391715	20090224
WO09139944 A2	20091119	WO2009US35110	20090225
WO09139944 A3	20100114	WO2009US35110	20090225

Probable Assignee: PPG IND OHIO INC
Assignee(s):(std): MCCARTHY DENNIS P ; MILLER JOHN R ; PPG IND OHIO INC ; PPG INDASTRIZ OGAJO INK
Assignee(s): PPG INDUSTRIES OHIO INC
Inventor(s):(std): MCCARTHY DENNIS P ; MILLER JOHN R ; MC CARTHY DENNIS P ; MCCARTHY DENNIS ; MILLER JOHN ; MAKKARTI DENNIS P ; MILLER DZHON R
Inventor(s): JOHN R MILLER ; DENNIS P MCCARTHY
Agent(s): MALLESONS STEPHEN JAUQUES ; KING AND WOOD MALLESONS ; MINTER ELLISON ; NAYADE SALAZAR STAYLES ; POLYPATENT ; SANFORD TCOLB AND CO ; ANDREW C ; SIMINERIO ANDREW C ET AL
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B32B17/06 B32B17/10 B32B3/06 B32B7/02 B60J1/00 B60J1/02 C03C27/12 E06B5/12 F41H F41H5/04 F41H5/26 F41H7/04 (Advanced/Invention); F41H5/04 F41H7/04 (Advanced/Non-invention); F41H5/00 F41H7/00 (Core/Invention); F41H (Subclass/Invention)

CPC: F41H7/044 Y10S428/911 F41H5/0407 B32B17/10036 B32B17/10293 B32B17/10761 B32B2369/00

F41H5/26 F41H5/263 Y10T428/24752 Y10T428/2476

European class:

B32B17/10C4 B32B17/10E16 B32B17/10G28 F41H5/04B F41H5/26 F41H5/26B L32B369/00

US class:

296/146.15 296/187.07 296/84.1 296/84.100P 428/189 428/189S 428/190 428/190S 428/38 428/38S 428/911 52/786.12

[Classification Explorer](#)

Cited documents:

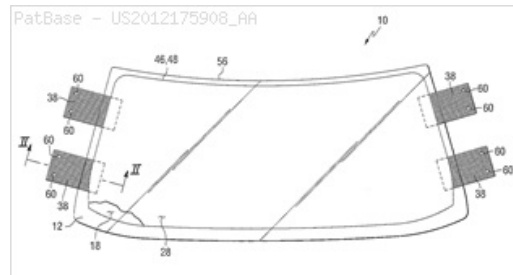
WO07042716 A1, WO05014964 A1, US8153237 BB, US6708595 BA, US6569787 BA, US6280826 BA, US6276100 BA, US5796055 A, US5445890 A, US5393593 A, US5385872 A, US5240886 A, US5030594 A, US5030593 A, US4792536 A, US4746347 A, US4287107 A, US3953630 A, US3843193 A, US3762988 A, US2991207 A, JP48100899 A2, JP2003503296 T2, JP2000516906 T2, EP0459704 A1, EP0376190 A2, DE3729870 C1,

Forward Citations:

WO15142317, WO14022663, WO12147382, WO11141172, US9506727, US9248773, US9182197, US9162552, US9061717, US8925286, US2017146321, US2014144313, US2013312594, US2013076057, RU2550791, KR101917024, JP5811727, JP2015531700, JP2012108103, ITPD20100182,

Abstract:

A ballistic transparency includes a first ply having a peripheral edge; a second ply spaced from the first ply and having a peripheral edge; a polymeric layer located between the first ply and the second ply; and at least one flexible mounting member having a first end extending within the polymeric layer and a second end extending beyond the peripheral edges of the first and second plies.



38) Family number: 55703395 (EP2875947A1)

© PatBase

Title:

LAMINATED GLAZINGS VITRAGES FEUILLETES

Priority:

GB20130020707 20131125

Family:

	Publication number	Publication date	Application number	Application date
■	EP2875947 A1	20150527	EP20140194702	20141125
■	GB201320707 A0	20140108	GB20130020707	20131125
■	GB2520535 A1	20150527	GB20130020707	20131125

Probable Assignee:

ESSEX SAFETY GLASS LTD

Assignee(s):(std):

ESSEX SAFETY GLASS LTD

Inventor(s):(std):

SADEGHI ESFAHLANI SHABNAM ; SINDEN SCOTT

Inventor(s):

SCOTT SINDEN ; SHABNAM SADEGHI ESFAHLANI

Agent(s):

IP21 LTD

Designated states:

AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8-9):

B32B17/06 B32B17/10 C09K21/02 (Advanced/Invention); C08K5/549 (Advanced/Non-invention)

CPC:

B32B17/10045 B32B17/10119 B32B17/10311 B32B17/10724 B32B17/10761 B32B17/1077 B32B17/10798 B32B2333/12 B32B2369/00 B32B2375/00 C08K5/549 B32B17/10 B32B17/064 B32B17/068 B32B17/069 B32B17/10064 B32B17/10366 B32B17/10614 B32B17/10743 B32B17/10752 B32B17/10779 B32B2255/20 B32B2255/26 B32B2305/08 B32B2307/3065 C03C2217/00 C09K21/02

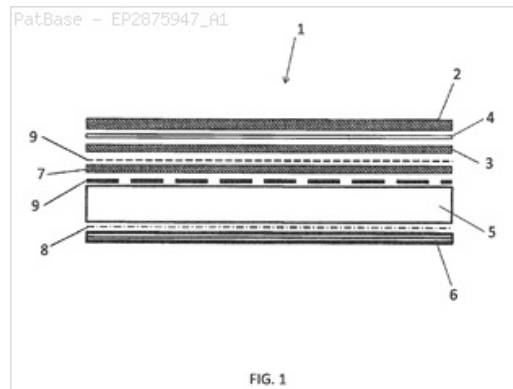
[Classification Explorer](#)

Cited documents:

WO13111990 A1, WO09111196 A1, WO06132656 A2, US2014050909 AA, US2013177748 AA, US2013127202 AA, US2010273011 AA, US2010146886 AA, US2008020190 AA, US2007275231 AA, US2007047077 AA, GB2104838 A1, EP2439064 A1,

Abstract:

A laminated glazing comprises at least two glass layers, a fire resistant layer between said glass layers, and one or more layers of polymeric material; said layers of polymeric material comprising a reinforcing film incorporating polyhedral oligomeric silsesquioxane (POSS) nano-particles; or said layer being itself reinforced by polyhedral oligomeric silsesquioxane (POSS) nano-particles.



Title: GLASS LAMINATE STRUCTURES FOR HEAD-UP DISPLAY SYSTEM

Priority: US20140949359P 20140307 US20150638224 20150304 WO2015US19101 20150306
US20160156620 20160517

Family:

Publication number	Publication date	Application number	Application date
■ CN106255592 A	20161221	CN201580021799	20150306
■ EP3113949 A1	20170111	EP20150710079	20150306
■ JP2017512175 T2	20170518	JP20160555983T	20150306
■ KR20160130462 A	20161111	KR20167027638	20150306
■ TW201542356 A	20151116	TW20150107238	20150306
■ US2015251377 AA	20150910	US20150638224	20150304
■ US2016257095 AA	20160908	US20160156620	20160517
■ WO15134836 A1	20150911	WO2015US19101	20150306

Probable Assignee: CORNING INC

Assignee(s):(std): CORNING CO LTD ; CORNING INC

Inventor(s):(std): ZAKHARIAN ARAM AIS ROBERT ; ZAKHARIAN ARAM AIS ; WANG CHUAN CHE ; WANG CHUAN CHE ; PRIESTLEY RICHARD SEAN ; GOFORTH DOUGLAS EDMON ; CLEARY THOMAS MICHAEL

Agent(s): SCHEUERMANN ERIK; PATEL PAYAL A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/00 B32B17/06 B32B17/10 B32B27/30 B32B3/26 B60J1/00 C03C21/00 C03C27/12 G02B27/01 G02B27/02 (Advanced/Invention); C03C27/12 (Advanced/Non-invention)

CPC: B32B17/064 B32B17/10568 Y10T428/24612 B32B17/10761 C03C21/002 B32B2457/20 B32B17/10137 B32B17/10036 B32B17/10119 G02B27/0101 G02B2027/0121 G02B2027/0194 B32B27/306 B32B3/263 B32B2605/00 B32B17/10743 B32B17/1077 B32B17/10788 B32B2605/08 B32B9/045 B32B27/06 B32B27/30 B32B27/365 B32B27/40 B32B2270/00 B32B2307/558 B32B2307/584 B32B2307/732 B32B2605/006 G02B2027/0196

US class: 428/172 428/215

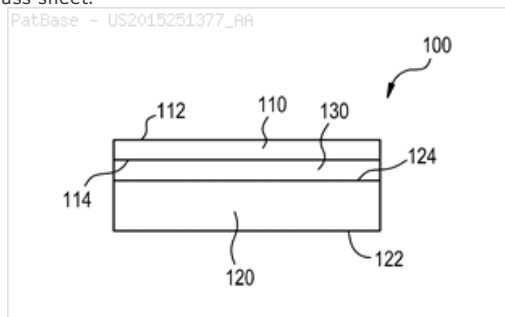
[Classification Explorer](#)

Cited documents: US5812332 A, US5624763 A, US3396075 A, US2013295357 AA, US2013127202 AA, US2013004719 AA, US2012094084 AA, US2003121287 AA, JP5138840 A2, EP1958764 A1, EP1800855 A1, EP0420228 A2, CN1604876 A, CN101038349 A,

Forward Citations: WO18114307, WO18044082, WO17157660, WO17153166, WO17106081, WO17055470, US9925743, US9908805, US9902640, US9770888, US9616641, US9573833, US2017017079, US2016375659, US2016341960, US10175480, US10137667, US10077204, US10035724, US10035419, US10035332, US10035331, US10017033, US10016960, TWI639858, EP3269547, DE102016225718, CN105842850,

Abstract:

A glass laminate structure comprising a non-strengthened external glass sheet, a strengthened internal glass sheet, and at least one polymer interlayer intermediate the external and internal glass sheets. The internal glass sheet can have a thickness ranging from about 0.3 mm to about 1.5 mm, the external glass sheet can have a thickness ranging from about 1.5 mm to about 3.0 mm, and the polymer interlayer can have a first edge with a first thickness and a second edge opposite the first edge with a second thickness greater than the first thickness. Other embodiments include external and internal strengthened glass sheets as well as an external strengthened glass sheet and an internal non-strengthened glass sheet.



Title: PET AS EDGE SEAL FOR MULTILAMINATED COMPOSITIONS

Priority: US20030451263P 20030304 US20040548305 20040304 WO2004US06469 20040304
US20050548305 20051205

Family:

Publication number	Publication date	Application number	Application date
■ BRPI0408096 A	20060214	BR2004PI08096	20040304
■ EP1603745 A2	20051214	EP20040785728	20040304
■ US2006105121 AA	20060518	US20040548305	20040304
■ WO05000577 A2	20050106	WO2004US06469	20040304
■ WO05000577 A3	20050421	WO2004US06469	20040304

Probable Assignee: AGP AMERICA SA

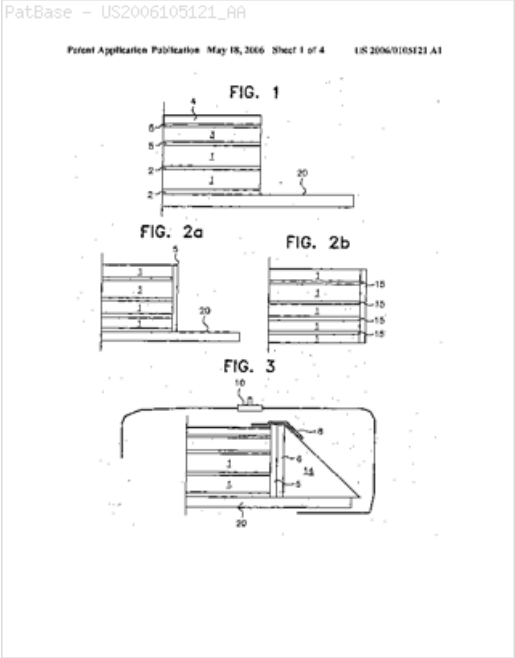
Assignee(s):(std): CRUZ ANDREA ; GTI SUCURSAL COLOMBIA ; IDEA INC

Assignee(s): AGP AMERICA SA

Inventor(s):(std): CRUZ ANDREA

Inventor(s): ANDREA CRUZ
Agent(s): JACOBSON HOLMAN PLLC
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
International class (IPC 8-9): B32B17/10 B32B27/36 E06B3/00 E06B5/10 F41H5/04 (Advanced/Invention); E06B5/00 (Advanced/Non-invention)
International class (IPC 1-7): B32B17/00 B32B17/10 E06B5/10 F41H5/04
CPC: B32B2369/00 B32B17/10009 B32B17/10302 B32B17/10761 B32B17/1077 B32B27/36 C03C27/10 F41H5/0407 Y10T428/31551 Y10T428/31663 Y10T428/31786 B32B7/12 B32B2315/08 B32B2367/00 B32B2571/02 C03C17/3405
European class: B32B17/10C B32B17/10E16B B32B17/10G28 B32B17/10G30 B32B27/36 C03C17/34B C03C27/10 F41H5/04B
US class: 428/34 428/34P 428/423.1 428/423.100S 428/447 428/447S 428/480 428/480S
[Classification Explorer](#)
Cited documents: US6294233 BA, US6276100 BA, US5637363 A, US5340661 A, US5156894 A, US4429005 A, US4046951 A, US3899621 A, US3549466 A, EP1090969 A2,
Forward Citations: WO19008466, WO18041539, WO13192615, WO13192615, WO10062311, US9879474, US9417038, US2011177310, EP2678145, EP2340345, EP2340345,

Abstract:
This invention provides an edge seal that employs Polyethylene Terephthalate (PET) adhered to the edge of a laminated glass by a layer adhesive material in order to improve the protection against environmental conditions. The edge seal claimed by this invention also acts as a scratch resistant material, helping to prevent edge marring during handling, transport and installation of the laminated glass product. This edge can be applied to architectural or transportation laminated glass constructions, either flat or curved, including bullet resistance glass.



41) Family number: 31388411 (WO04101272A1) © PatBase

Title: IMAGE CARRYING SHEET
Priority: AU20030902296 20030513 AU20030903224 20030624
Family:

Publication number	Publication date	Application number	Application date
AU2003902296 A0	20030529	AU20030902296	20030513
AU2003903224 A0	20030710	AU20030903224	20030624
WO04101272 A1	20041125	WO2004AU00626	20040513

Probable Assignee: DIGIGLASS PTY LTD
Assignee(s):(std): ANDERSON ANTHONY JOHN LUK ; DIGIGLASS PTY LTD ; MC CLUSKEY GERARD MICHAEL
Inventor(s):(std): ANDERSON ANTHONY JOHN LUK ; MC CLUSKEY GERARD MICHAEL
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
International class (IPC 8-9): B32B17/10 C03C27/12 (Advanced/Invention); B41M5/035 (Advanced/Non-invention); B32B17/06 C03C27/12 (Core/Invention); B41M5/035 (Core/Non-invention)
International class (IPC 1-7): B32B17/10 B41M5/035 C03C27/12
CPC: B32B17/10743 B32B17/10761 B32B17/10036 B32B17/10247 B32B17/1077 B32B17/10788 B41M5/035

European class: B32B17/10C4 B32B17/10E12 B32B17/10G28 B32B17/10G30 B32B17/10G36 L41M5/035

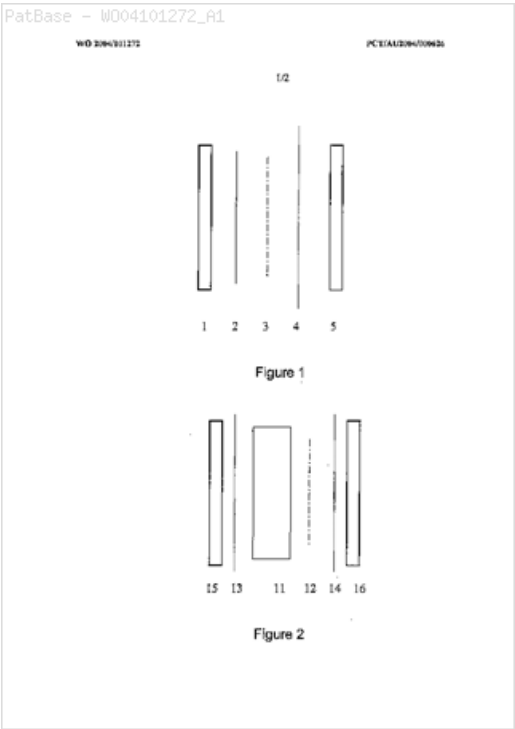
[Classification Explorer](#)

Cited documents: US5364479 A, US4173672 A, JP2002307639, FR2639631 A3, EP1129844 A1,

Forward Citations: WO14198422,

Abstract:

An image carrying sheet including: a substrate laminated between rigid layers, the substrate having an image formed by sublimation. The layers are preferably formed of glass or perspex.



42) Family number: 43081420 (US2013305912A)

© PatBase

Title: LIGHTWEIGHT TRANSPARENT ARMOR WINDOW
Priority: US20070975661P 20070927 US20080052021 20080320 WO2008US77873 20080926
Family:

Publication number	Publication date	Application number	Application date
CN101815688 A	20100825	CN200880109500	20080926
CN101815688 B	20130717	CN200880109500	20080926
EP2244988 A2	20101103	EP20080834214	20080926
EP2244988 A4	20140402	EP20080834214	20080926
IL204586 A0	20101130	IL20080204586	20080926
IL204586 A1	20150630	IL20080204586	20080926
TW200930674 A	20090716	TW20080137341	20080926
TWI450869 B	20140901	TW20080137341	20080926
US2013305912 AA	20131121	US20080052021	20080320
US8603616 BA	20131210	US20080052021	20080320
WO09042877 A2	20090402	WO2008US77873	20080926
WO09042877 A3	20090528	WO2008US77873	20080926

Probable Assignee: ORAN SAFETY GLASS INC
Assignee(s):(std): SCHOTT CORP ; WEINHOLD CARSTEN
Assignee(s): ORAN SAFETY GLASS INC
Inventor(s):(std): CARSTEN WEINHOLD ; WEINHOLD CARSTEN
Agent(s): FUCHS; REINHOLD COHN AND PARTNERS; OHLANDT GREELEY RUGGIERO AND PERLE LLP; BRANIGAN JENNIFER J ET AL
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/06 B32B17/10 B32B27/32 B32B7/02 B32B9/00 C03C C03C1/00 C03C27/12 F41H5/00 F41H5/02 F41H5/04 (Advanced/Invention); C03C27/12 (Core/Invention); C03C27/12 (Core/Non-invention); C03C F41H (Subclass/Invention)

CPC: F41H5/0407 B32B17/10045 B32B17/10761 B32B17/1077 B32B2333/12 B32B2369/00 B32B17/10119 Y10T428/24942 Y10T428/31507 Y10T428/31518 Y10T428/31601

European class: B32B17/10C4B B32B17/10G28 B32B17/10G30 F41H5/04B L32B333/12 L32B369/00

US class: 428/212 428/220 428/412 428/415 428/425.6 428/428 89/36.02 89/903 89/910 89/917

[Classification Explorer](#)

Cited documents: WO09096930 A1, WO09008914 A2, WO08130457 A2, WO08130457 A1, WO06135832 A2, WO03022767 A1, USH1567 H1, US7335331 BA, US7332221 BB, US7197972 BB, US7157149 BB, US7147544 BB,

US7104177 BA, US6995103 BB, US6895851 BA, US6862970 BB, US6805034 BA, US6756121 BB, US6708595 BA, US6699412 BB, US6408733 BA, US6334382 BB, US6197429 BA, US5952253 A, US5783297 A, US5640666 A, US5567529 A, US5502011 A, US5496640 A, US5060553 A, US4953442 A, US4911061 A, US4869175 A, US4737327 A, US4704943 A, US4633756 A, US4494342 A, US4473653 A, US4209474 A, US4154787 A, US4028476 A, US3947550 A, US3857744 A, US3808012 A, US3796564 A, US3765300 A, US3749571 A, US3730827 A, US3725015 A, US3671374 A, US3573150 A, US3291623 A, US2391353 A, US2010242715 AA, US2010154622 AA, US2009217813 AA, US2008280034 AA, US2008264244 AA, US2008187721 AA, US2008092729 AA, US2008032104 AA, US2007068375 AA, US2007060465 AA, US2005135724 AA, US2005119104 AA, US2004157720 AA, US2004065868 AA, US2004020354 AA, US2003110931 AA, US2003092558 AA, US2003035917 AA, US2002183187 AA, JP2129071 A2, JP10279376 A2, GB2284655 A1, GB2146315 A1, EP0470621 A2, EP0322007 A1,

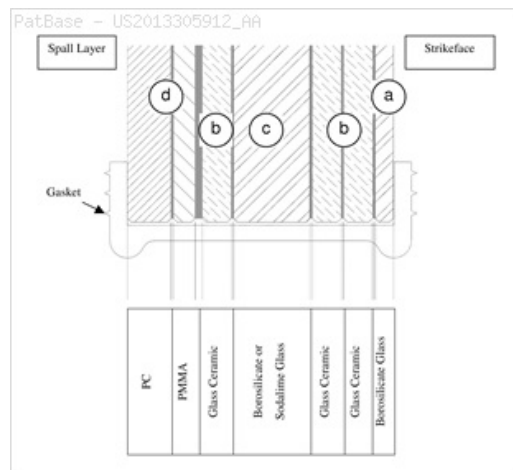
DE202007001565 U1

CA2592452 AA,

Forward Citations: WO16003518, WO13064491, WO12145664, WO12044385, WO12044385, WO11150047, USRE46898, US9383173, US9285191, US9162426, US8695476, US8640591, US8404350, US8176831, US2015354923, US2015024165, US2014290473, US2014162039, US2012198989, US2010154622, US10195826, US10101129, US10094641, US10046540, US10041767, US10030941, EP3309501, EP3309500, EP2699405, EP2588309, EP2409834, DE102012220009, DE102012220009, DE102011117340, DE102010032092, CN106273907, CN104057666,

Abstract:

The invention relates to a lightweight transparent armor laminate comprising layers of borosilicate glass, layers of transparent glass-ceramics and a polymer spall layer of polycarbonate and/or polymethyl methacrylate. The layers are bound by polyurethane and/or polyvinylbutyral interlayer films.



43) Family number: 66939425 (WO17153309A1)

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Title: SECURITY SYSTEM HAVING A TRANSPARENT PANE DEVICE
Priority: DE201610204082 20160311 WO2017EP55133 20170306
Family:

Publication number	Publication date	Application number	Application date
DE102016204082 A1	20170914	DE201610204082	20160311
EP3426513 A1	20190116	EP20170711581	20170306
WO17153309 A1	20170914	WO2017EP55133	20170306

Probable Assignee: PR GERMANY GMBH
Assignee(s):(std): PR GERMANY GMBH
Inventor(s):(std): REINECKE PETER
Agent(s): TONGBHOYAI MARTIN
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B60J3/04 C03C27/12 F41H5/04 (Advanced/Invention)
CPC: F41H5/0407 B60J3/04 B32B17/10036 B32B17/10045 B32B17/10055 B32B17/10504 B32B17/10743 B32B17/10761
[Classification Explorer](#)
Cited documents: WO17011023 A1, US4879183 A, EP2062862 B1, EP1566300 A2, DE4228927 A1, DE202014001058 U1, DE19705498 B4, CN2893806 Y,

Abstract:

The invention relates to a security system (1) having a transparent pane device (2). The transparent pane device (2) is designed, for example, as a window of a room of a building or as a window of a transportation means. The security system (1) has a liquid crystal film (3) with an adjustable transparency, wherein the liquid crystal film (3) is arranged on the transparent pane device (2) and/or at a distance to the transparent pane device (2). A sensor unit (4, 5, 7A to 7E) is designed to emit a sensor signal. The sensor unit (4, 5, 7A to 7E) is arranged on the transparent pane device (2). In addition, a control device (8) is provided for adjusting the transparency of the liquid crystal film (3) in accordance with the sensor signal.

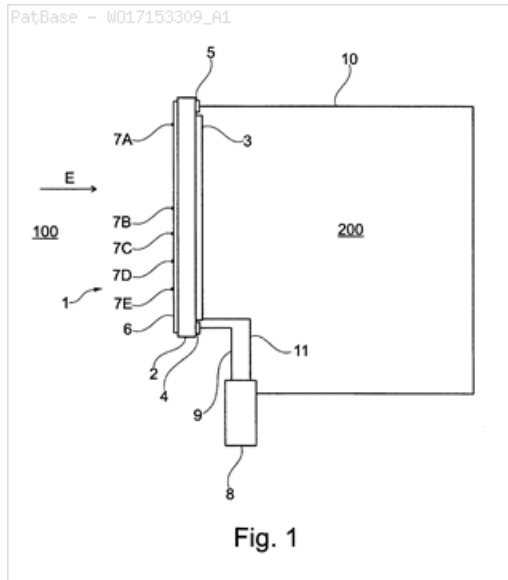


Fig. 1

44) Family number: 59607426 (US2016236383A)

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Title: GLASS-RESIN LAMINATE AND METHOD FOR PRODUCING SAME

Priority: JP20130259588 20131216 WO2014JP82586 20141209

Family:

Publication number	Publication date	Application number	Application date
■ CN105829051 A	20160803	CN201480068532	20141209
■ CN105829051 B	20180807	CN201480068532	20141209
■ EP3085510 A1	20161026	EP20140871026	20141209
■ EP3085510 A4	20170726	EP20140871026	20141209
■ JP2015093352 A1	20170316	JP20150553491T	20141209
■ US2016236383 AA	20160818	US20160139599	20160427
■ US9999998 BB	20180619	US20160139599	20160427
■ WO15093352 A1	20150625	WO2014JP82586	20141209

Probable Assignee: ASAHI GLASS CO LTD

Assignee(s):(std): ASAHI GLASS CO LTD

Assignee(s): N A ; AGC INC

Inventor(s):(std): MIYAZAKI SYO

Agent(s): MUELLER BORE AND PARTNER PATENTANWALTE PARTG MBB; OBLON MCCLELLAND MAIER AND NEUSTADT LLP; SENMYO KENJI ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B29C45/14 B32B17/10 C03C27/12 (Advanced/Invention); B29C45/56 B29K669/00 B29K709/08 B29K75/00 B29L31/30 (Advanced/Non-invention)

CPC: B29C45/14508 B32B17/10752 B32B17/10036 B32B2250/40 B29C45/561 B29C2045/14532 B29K2075/00 B29K2669/00 B29K2709/08 B29L2031/3052 B29C45/14467 B32B17/10018 B32B17/10761 B32B17/1077 B32B17/10788 B32B2369/00 B32B2419/00 B32B17/10

US class: 428/215

[Classification Explorer](#)

Cited documents: WO9612604 A1, WO12157617 A1, WO138088 A1, US6368537 BA, US2012128952 AA, US2008176043 AA, US2003118840 AA, JP9286039 A2, JP60250927 A2, JP3251448 A2, JP2012025152 A2, JP2002180019 A2, CN85102735 A,

Forward Citations: WO18084041,

Abstract:

A glass/resin laminate (A) including glass plates laminated on both sides of a polycarbonate layer through bonding layers made of a thermoplastic resin, each of the glass plates having a thickness of from 0.3 to 1 mm and having compressive stresses of at least 3 MPa on an entire surface thereof is provided. The glass/resin laminate (A) is obtainable by a process including a step (1) for disposing a bonding layer on one side of a polycarbonate film having a certain thickness, the bonding layer being made of a thermoplastic resin; a step (2) for stacking a glass plate on the bonding layer to prepare a laminate (B) with the polycarbonate film and the glass plate being laminated through the bonding layer; and a step (3) for preparing another similar laminate (B), placing both laminates (B) in a mold such that both polycarbonate films are confronted each other, and forming a polycarbonate layer between the confronted polycarbonate films.



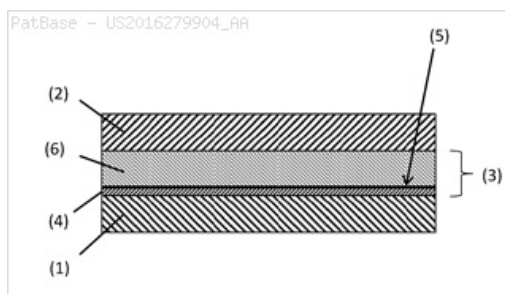
Title: LAMINATED GLASS HAVING AT LEAST ONE CHEMICALLY TEMPERED PANE
Priority: EP20130189859 20131023 EP20140755367 20140822 WO2014EP67903 20140822
Family:

Publication number	Publication date	Application number	Application date
BR112016005950 A2	20170801	BR20161105950	20140822
CA2925022 AA	20160321	CA20142925022	20140822
CA2925022 C	20180717	CA20142925022	20140822
CN105636778 A	20160601	CN201480057849	20140822
CN105636778 B	20180918	CN201480057849	20140822
EA201690830 A1	20160831	EA20160090830	20140822
EP3060392 A1	20160831	EP20140755367	20140822
ID201705955 A	20170602	ID2016P0002723	20140822
IN201637009286 A	20160701	IN201637009286	20160317
JP2016539894 T2	20161222	JP20160525969T	20140822
KR101870545 B1	20180622	KR20167010297	20140822
KR20160060113 A	20160527	KR20167010297	20140822
MX2016005192 A1	20160708	MX20160005192	20140822
TH165988 A	20170810	TH20161002214	20140822
US2016279904 AA	20160929	US20140029091	20140822
WO15058885 A1	20150430	WO2014EP67903	20140822

Probable Assignee: SAINT GOBAIN GLASS FRANCE
Assignee(s):(std): SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE ; SAINT GOBAIN GLASS FRANCE S A ; SAINT GOBAIN SA
Assignee(s): SAINT GOBAIN GLASS FRANCE SA ; GY RENE ; KREMERS STEPHAN ; SIENERTH SANDRA
Inventor(s):(std): GY RENE ; KREMERS STEPHAN ; SIENERTH SANDRA ; STEPHAN KREMERS ; SANDRA SIENERTH ; RENE GY
Agent(s): GOUDREAU GAGE DUBUC ; LAVERY DE BILLY LLP; GEBAUER DIETER EDMUND; DR TOETI HERATY N ROOSSENSO; LENDVAI TOMAS
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B32B17/04 B32B17/10 C03C21/00 C03C27/12 C03C3/085 E06B9/00 (Advanced/Invention); B32B17/04 (Core/Invention)
CPC: B32B2305/345 B32B17/10045 E06B9/00 E06B2009/2417 B32B17/10036 B32B17/10119 B32B17/10137 B32B17/10174 B32B17/10761 B32B17/1077 B32B17/10788 B32B2307/202 B32B2307/212 B32B2307/402 B32B2307/71 B32B17/10
US class: 49/506
[Classification Explorer](#)
Cited documents: WO12177426 A1, WO12177426, WO12051038 A1, WO10084092 A1, US6333285 BA, US2003203167, KR20050020785, JP60008059 A2, JP5084738 A2, JP2248349 A2, JP2012254915 A2, JP2012126578 A2, JP2012126578, JP2012006798 A2, JP2011514849 T2, JP2011132567 A2, JP2010222233 A2, JP2010222233, JP2006001807 A2, JP2000516903 T2, EP1241144 A1, EP0724955 A2, EP0450466 A2, DE202010008729 U1, DE202010008729 U, DE102006042538 A1, DE102006012552 A1, CN202826594 U, CN101454154 A,
Forward Citations: WO18172022, WO18122769, WO18114307, WO18095693, WO18029995, WO18011287, WO17103471, WO17103032, WO17068076, FR3045595, EP3269546, DE202015003739, DE102015006644,

Abstract:

A laminated glass comprising at least one chemically tempered pane is described. The chemically tempered pane comprises a first pane and a second pane, which are connected to each other by means of an intermediate layer. The first pane is a chemically tempered glass pane having a thickness less than or equal to 2.1 mm, wherein the intermediate layer contains at least one thermoplastic connection layer and a thermoplastic carrier layer, and the carrier layer has a functional coating or functional inclusions.



Title: LAMINATE HAVING ORGANIC INK DECORATION AND HIGH IMPACT RESISTANCE

Priority: US20170506018P 20170515

Family:

Publication number	Publication date	Application number	Application date
WO18213213 A1	20181122	WO2018US32625	20180515

Probable Assignee: CORNING INC

Assignee(s):(std): CORNING INC

Inventor(s):(std): CLEARY THOMAS MICHAEL ; FRISKE MARK STEPHEN ; HUTEN TIMOTHY SCOTT

Agent(s): PATEL PAYAL A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

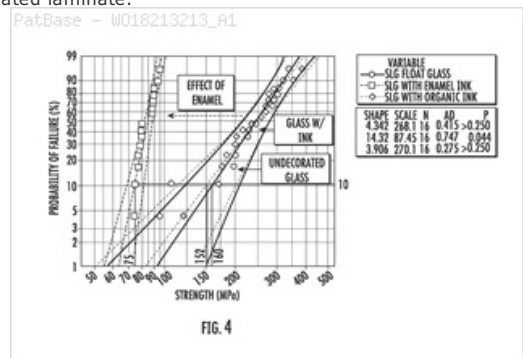
International class (IPC 8-9): B32B17/10 (Advanced/Invention)

CPC: B32B17/10348 B32B17/10036 B32B17/10137 B32B17/10266 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788

[Classification Explorer](#)

Cited documents: WO16196546 A1, US2017021597 AA, US2016243796 AA, US2013295358 AA, EP2722318 A1,

Abstract:
A decorated laminate including: an outer ply; an inner ply; a polymer interlayer between the inner ply and the outer ply; and organic ink printed decoration on one or both of internal surfaces of the laminate between the outer ply and the polymer interlayer or between the inner ply and polymer interlayer, wherein the decorated laminate has a stone impact resistance as defined herein. Also disclosed is a method of making and using the decorated laminate.



47) Family number: 55198454 (US2013312594A)

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Title: PANE CONSTRUCTION AND CORRESPONDING BULLET PROOF WINDOW

Priority: EP20120003952 20120521 WO2013EP01505 20130521

Family:

Publication number	Publication date	Application number	Application date
BR112014029068 A2	20170627	BR20141129068	20130521
CO7151519 A2	20141229	CO20140279279	20141219
DE602012005894 D1	20150430	DE201260005894T	20120521
EP2667143 A1	20131127	EP20120003952	20120521
EP2667143 B1	20150318	EP20120003952	20120521
ITMI20130825 A1	20131122	IT2013MI00825	20130521
US2013312594 AA	20131128	US20130897835	20130520
US9182197 BB	20151110	US20130897835	20130520
WO13174511 A1	20131128	WO2013EP01505	20130521

Probable Assignee: ISOCLIMA SPA

Assignee(s):(std): ISOCLIMA SPA

Assignee(s): ISOCLIMA ESTE SPA ; ISOCLIMA S P A

Inventor(s):(std): ALBERTO BERTOLINI ; BERTOLINI ALBERTO

Agent(s): LUIS FELIPE CASTILLO GIBSON; MOTSCH AND SEITZ; SEITZ RALF HANS FRANK; HAUPTMAN HAM LLP; SEITZ RALF

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/10 B60J1/00 B60J11/00 F41H5/04 F41H5/26 F41H7/00 (Advanced/Invention)

CPC: B32B17/10018 B32B17/10036 B32B17/10119 B32B17/10761 B32B17/1077 F41H5/263 B32B17/10 B32B2369/00 B32B2333/12 F41H7/00 B60J11/00 F41H5/0407 F41H5/0414 F41H5/0442

US class: 1/1 89/36.02 89/36.08

[Classification Explorer](#)

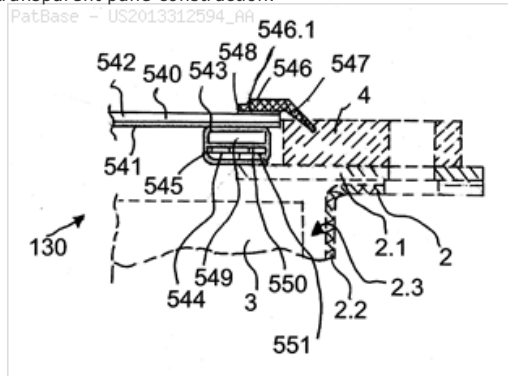
Cited documents: US7191694 BA, US6565980 BA, US6495261 BA, US5594193 A, US5487323 A, US5117587 A, US5002820 A, US4336644 A, US4316404 A, US4284677 A, US3061490 A, US2012175908 AA, US2012133179 AA, US2011274486 AA, US2004058125 AA,

DE202004007765 U1

Forward Citations: WO18068141, WO16087764, US9571632, US2014080546, RU178598, FR3029454,

Abstract:
The present invention relates to a pane construction or screen for covering and protecting at least a part of the outside of a

ballistic block of a bullet proof window. The ballistic window for use in a motor vehicle may comprise the ballistic block having transparent panes and layers made of glass, ceramic, or plastic which are arranged in a layered manner in a laminate, and it has an outside surface which is covered completely or at least in part by the transparent pane construction.



48) Family number: 29389476 (US4427743A)

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Title: LAMINATED PANEL

Priority: JP19790074194 19790613 JP19800039805U 19800326 US19800158137 19800610
JP19790074195 19790613 JP19800404898 19800327
JP19800034843 19800321 JP19800040489U 19800327

Family:

Publication number	Publication date	Application number	Application date
DE3022253 A1	19801218	DE19803022253	19800613
DE3022253 C2	19910926	DE19803022253	19800613
FR2458390 A1	19810102	FR19800013163	19800613
FR2458390 B1	19841116	FR19800013163	19800613
GB2051675 A1	19810121	GB19800019387	19800613
GB2051675 B2	19830602	GB19800019387	19800613
JP1146232 C3	19830512	JP19790074194	19790613
JP1175303 C3	19831114	JP19790074195	19790613
JP55166243 A2	19801225	JP19790074194	19790613
JP55166244 A2	19801225	JP19790074195	19790613
JP56140429 U1	19811023	JP19800039805U	19800326
JP56143040 U1	19811028	JP19800040489U	19800327
JP57039227 B4	19820820	JP19790074194	19790613
JP58009757 B4	19830222	JP19790074195	19790613
US4427743 A	19840124	US19820379015	19820517

Probable Assignee: NIPPON SHEET GLASS CO LTD

Assignee(s):(std): NIPPON SHEET GLASS CO LTD ; NIPPON SHEET GLASS CO LTD OSAKA JP

Assignee(s): NIPPON SHEET GLASS CO

Inventor(s):(std): KATSUKI KAZUO ; KATSUKI KAZUO TAKARAZUKA HYOGO JP ; MIWA TAKAO ; OHNISHI SHUNJI ; OHNISHI SHUNJI NISHINOMIYA HYOGO JP ; OONISHI SHIYUNJI ; OONISHI TOSHIJI ; SHIBAOKA KAZUO ; SHIBAOKA KAZUO ; SHIBAOKA KAZUO ITAMI HYOGO JP

International class (IPC 8-9): B29C63/00 B32B15/04 B32B15/08 B32B17/10 B32B37/00 (Advanced/Invention); B29C63/00 B32B15/04 B32B15/08 B32B17/06 B32B37/00 (Core/Invention)

International class (IPC 1-7): B32B15/08 B32B17/06 B32B17/10 B32B27/28 B32B27/36 B32B31/04 B32B7/02 B32B7/12 B60J1/00 E04B1/80

CPC: Y10T428/31507 Y10T428/3158 Y10T428/31587 Y10T428/31645 Y10T428/31649 B32B27/08 B32B7/12 B32B27/283 B32B27/306 B32B27/40 B32B2307/412 B32B2307/51 B32B2605/00 B32B2607/00 B32B17/10 B32B17/10018 B32B17/10036 B32B17/10174 B32B17/10577 B32B17/10761 B32B17/1077 B32B17/10788 B32B2605/08 B32B5/024 B32B5/026 B32B27/302 B32B27/304 B32B27/308 B32B27/365 B32B2250/40 B32B2260/021 B32B2260/04 B32B2305/186 B32B2305/188 B32B2307/416 B32B2307/56 B32B2311/00 B32B2325/00 B32B2327/06 B32B2329/06 B32B2331/04 B32B2333/00 B32B2369/00 B32B2375/00 B32B17/10798

European class: B32B17/10 B32B17/10C2 B32B17/10C4 B32B17/10E10 B32B17/10G28 B32B17/10G2D B32B17/10G30 B32B17/10G36 L32B605/08

US class: 156/104 428/412 428/424.6 428/424.8 428/441 428/442

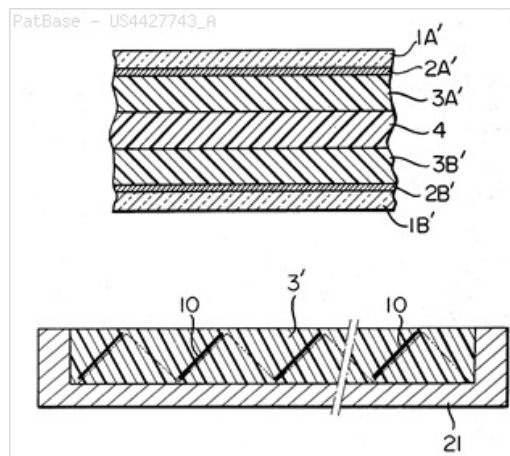
[Classification Explorer](#)

Cited documents: US4121014 A, US4081581, US3762988 A, US3666614 A, JP54073859 A2, JP54010964 A2, JP48022813 A2, JP48022813 A2, GB1600867 A, GB1315489 A, FR886804 A, FR1542454 A, FR1180141 A, DE2302400 A1, DE1285122 B,

Forward Citations: WO17210412, WO15130961, WO08074430, WO05102685, WO05042246, WO04037532, WO0020690, US9370622, US9254594, US9162420, US8970949, US8640862, US8539725, US8136330, US8034042, US8034041, US7332216, US7291398, US7135219, US7135219, US7121380, US6821629, US6132882, US5415909, US5219630, US4952462, US4952459, US4874654, US4679918, US2010146894, US2010075558, US2010000657, US2009311458, US2007235154, US2005233136, US2005202198, US2005089692, US2005064128, US2005014007, US2004040232, US2003111159, US2002068177, US10071204, TWI583548, KR100811031, JP6079249, JP58140749, JP58067451, JP3040313, JP2014136338, JP2014065169, JP2014012373, FR2731424, EP3235636, EP1396734, EP1396734, EP1112840, EP0946359, EP0602644, EP0407852, EP0407852, EP0370370, EP0370370, DE9404582, DE4112097, CN101563201, AU672250, AU2004285035, AT296,

Abstract:

A laminated panel composed of a plastic sheet and a glass sheet bonded to each other through an adhesive layer having a thickness of not more than about 200 microns and composed of a thermoplastic resin having a softening point of less than about 100 DEG C., containing substantially no plasticizer and being plastic at room temperature, said plastic sheet being composed of a resin having a higher softening point than said thermoplastic resin.



49) Family number: 72568489 (WO18233989A1)

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Title: VEHICLE WINDOW HAVING A LIQUID CRYSTAL ARRANGEMENT

Priority: DE201710113985 20170623

Family:

Publication number	Publication date	Application number	Application date
DE102017113985 A1	20181227	DE201710113985	20170623
WO18233989 A1	20181227	WO2018EP64086	20180529

Probable Assignee: WEBASTO SE

Assignee(s):(std): WEBASTO SE

Inventor(s):(std): BAIERL DANIELA ; BUCHMANN MAX ; DIETRICH JONAS ; GROTHE JAN ; HEISEL OLIVER ; LORENZ STEFFEN

Agent(s): ADVOTEC PATENT U RECHTSANWAELTE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B60J1/00 B60J3/04 G02F1/1333 G02F1/1339 (Advanced/Invention); B32B17/10 B60J1/00 B60J3/04 E06B3/67 E06B9/24 (Advanced/Non-invention)

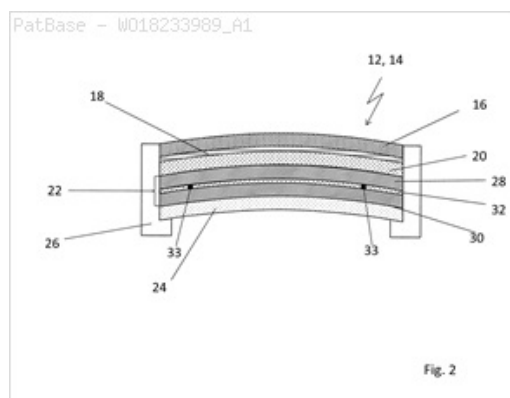
CPC: B32B17/10541 B32B17/10018 B32B17/10504 B32B17/10733 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788 B32B17/10798 B32B17/10853 B32B17/10871 B32B2367/00 E06B9/24 G02F1/1333 G02F1/133305 G02F1/1339 G02F2001/133302 G02F2201/54 G02F2202/28

[Classification Explorer](#)

Cited documents: WO9411779 A2, WO15117736 A1, WO07077099 A1, US6466298 BA, US2015367782 AA, EP0343419 A2, DE10329643 A1,

Abstract:

The invention relates to a vehicle window, comprising a plate-like window body (16) which has an outer side facing a vehicle environment and an inner side facing away from the outer side, and wherein a shading arrangement is arranged on the inside thereof, which is formed by a liquid crystal arrangement (22) that has a liquid crystal cell (32). The liquid crystal arrangement (22) comprises two layers (28, 30) of flexible thin glass, between which the liquid crystal cell (32) is arranged, wherein spacers are disposed between the two layers (28, 30) of thin glass so that the liquid crystal cell (32) has an at least largely constant thickness over its extension.



50) Family number: 56035518 (US2014087159A)

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Title: METHODS FOR PRODUCING ION EXCHANGED GLASS AND RESULTING APPARATUS

Priority: US20120626958 20120926 US20130926461 20130625 CN201380050054 20130923
WO2013US61164 20130923 WO2014US43619 20140623 US20160178901 20160610

Family:

Publication number	Publication date	Application number	Application date
CN104812572 A	20150729	CN201380050054	20130923

CN105492205 A	20160413	CN201480046872	20140623
CN105492205 B	20181127	CN201480046872	20140623
CN109250904 A	20190122	CN201811406254	20130923
EP2900471 A1	20150805	EP20130771726	20130923
EP3013580 A1	20160504	EP20140740069	20140623
IN11660DN2015 A	20160513	IN2015DN11660	20151222
JP2015534536 T2	20151203	JP20150533246T	20130923
JP2016528139 T2	20160915	JP20160521881T	20140623
JP6080279 B2	20170215	JP20150533246T	20130923
KR20150060782 A	20150603	KR20157009904	20130923
KR20160024947 A	20160307	KR20167001806	20140623
US2014087159 AA	20140327	US20130926461	20130625
US2014087193 AA	20140327	US20120626958	20120926
US2016280591 AA	20160929	US20160178901	20160610
US9387651 BB	20160712	US20130926461	20130625
WO14052229 A1	20140403	WO2013US61164	20130923
WO14209861 A1	20141231	WO2014US43619	20140623

Probable Assignee: CORNING INC

Assignee(s):(std): CITES JEFFREY SCOTT ; CLEARY THOMAS MICHAEL ; CORNING CO LTD ; CORNING INC ; COUILLARD JAMES GREGORY ; MOORE MICHAEL JOHN

Inventor(s):(std): CITES JEFFREY SCOTT ; CLEARY THOMAS MICHAEL ; COUILLARD JAMES GREGORY ; HUTEN TIMOTHY SCOTT ; JAIN ANURAG ; MARCELLUS BRENNNA ; MARCELLUS BRENNNA ELIZABETH ; MOORE MICHAEL JOHN

Agent(s): KINGSBURY OLIVER WILLIAM; SCHEUERMANN ERIK; PAYAL A; HARDEE RYAN T

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/00 B32B17/10 B32B3/26 B32B7/02 C03C15/00 C03C21/00 C03C23/00 C03C27/10 C03C27/12 C03C3/085 C03C3/095 (Advanced/Invention)

CPC: B32B17/10743 B32B17/1077 B32B17/10788 B32B7/02 B32B2307/50 C03C3/085 C03C3/095 C03C27/10 Y10T428/2495 Y10T428/24967 Y10T428/24983 Y10T428/269 Y10T428/315 B32B17/10119 B32B17/10036 B32B17/10761 C03C15/00 B32B3/263 B32B2250/03 B32B2250/40 B32B2605/006 B32B2419/00 C03C21/002 B32B17/10137

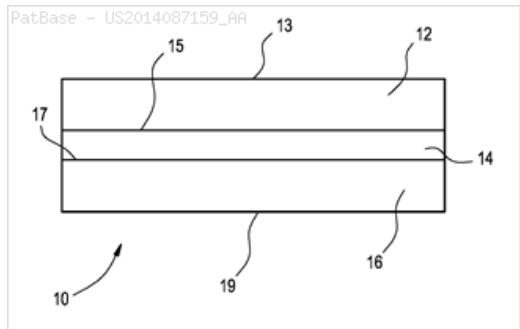
US class: 1/1 428/213 428/215 428/217 428/339 428/410 65/30.14

[Classification Explorer](#)

Cited documents: WO13191200 A1, WO12082528 A2, WO12051038 A1, WO12051038, WO12037094 A2, WO12037094, WO11085190 A1, WO11085190, WO10009154 A2, US8677782 BB, US7666511 BB, US7508406 BB, US6516634 BA, US6270605 BA, US5928793 A, US5674790 A, US4483700 A, US3798013 A, US3781184 A, US3751238 A, US3751238, US3630704 A, US3445316 A, US3395998 A, US3282772 A, US2015064374 AA, US2013295357 AA, US2013164483 AA, US2012328843 AA, US2012135195 AA, US2012131961 AA, US2012094084 AA, US2012085130 AA, US2012052275 AA, US2012034435 AA, US2011294649 AA, US2011294648 AA, US2011293942 AA, US2011241977 AA, US2011165393 AA, US2011045961 AA, US2010291353 AA, US2010167059 AA, US2010028607 AA, US2010009154 AA, US2009220761 AA, US2009215607 AA, US2007060465 AA, US2005284179 AA, US2005084679 AA, US2004221615 AA, JP6321587 A2, JP6321587, JP6206740 A2, JP61251541 A2, JP61251541, JP48005144 Y1, JP48005144 U1, JP42026640 B4, JP42026640 B1, JP2012246213 A2, JP2012229154 A2, JP2012218995 A2, JP2012148955 A2, JP2012072054 A2, JP2011527661 T2, JP2011527661, JP2011136895 A2, JP2007197288 A2, JP2003055007 A2, JP2003055007, JP2002514533 T2, JP2002514533, JP11060294 A2, JP11060294,

Forward Citations: WO18114307, WO17070283, WO15195465, WO15168529, US9925743, US9908811, US9908810, US9908805, US9902648, US9902640, US9676663, US9616641, US9573833, US9567254, US9517968, US9487434, US9206079, US2014234607, US10150698, US10144198, US10137667, US10118858, US10035724, US10035332, US10035331, US10017417, US10017033, EP3144141, EP3144141, EP3100854, CN106604901, CN106470952,

Abstract:
A laminate structure having a first glass layer, a second glass layer, and at least one polymer interlayer intermediate the first and second glass layers. The first glass layer is comprised of a thin, chemically strengthened glass having a surface compressive stress of between about 250 MPa and about 350 MPa and a depth of layer (DOL) of compressive stress greater than about 60 micro m. The second glass layer can also be comprised of a thin, chemically strengthened glass having a surface compressive stress of between about 250 MPa and about 350 MPa and a depth of layer (DOL) of compressive stress greater than about 60 micro m.



51) Family number: 62548528 (EP3028844A1)

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Title: COMPOSITE GLASS TUBE TUBE DE VERRE COM
Priority: EP20140425150 20141202

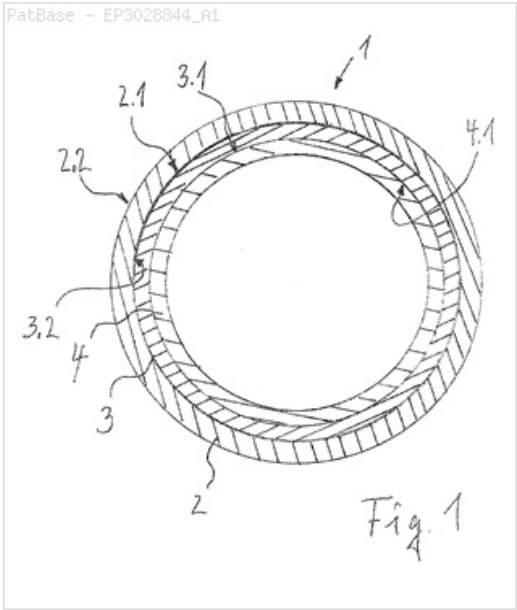
Family:

Publication number	Publication date	Application number	Application date
EP3028844 A1	20160608	EP20140425150	20141202

Probable Assignee: ISOCLIMA SPA
Assignee(s):(std): ISOCLIMA SPA
Inventor(s):(std): BERTOLINI ALBERTO
Agent(s): SEITZ RALF HANS FRANK
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR
International class (IPC 8-9): B32B1/08 B32B17/10 E04C3/36 E04H12/02 F16L9/10 (Advanced/Invention)
CPC: B32B17/10761 B32B1/08 B32B17/10018 B32B17/10119 B32B17/1077 B32B17/10788 B32B17/10853 B32B2367/00 B32B2369/00 E04H12/02 E04C3/285 E04C3/36

[Classification Explorer](#)
Cited documents: WO13086025 A1, US6177161 BA, US5556673 A, EP2071635 A2, DE10261755 A1,

Abstract:
The present invention relates to a composite glass tube (1) and a corresponding manufacturing method which comprises a glass tube (2) and an anti-shatter layer construction provided on an inside surface of the glass tube (2) for restraining glass parts and splinters in case of breakage of the glass tube (2), wherein the anti-shatter layer construction comprises at least one supporting anti-shatter foil (4) or layer and at least one adhesive anti-shatter foil (3) or layer deposited or laminated on the inside surface (2.1) of the glass tube (2) wherein the supporting anti-shatter foil (4) or layer is arranged on an inside surface (3.1) of the adhesive anti-shatter foil (3) or layer.



52) Family number: 34068540 (US2007000593A)

© PatBase

Title: METHODS OF MAKING POLYMER INTERLAYERS COMPRISING POLY(CYCLOHEXANEDIMETHYLENE TEREPHTHALATE-CO-ETHYLENE TEREPHTHALATE) COPOLYESTER
Priority: US20050170445 20050630 US20050170643 20050630 WO2006US25771 20060629
Family:

Publication number	Publication date	Application number	Application date
AU2006265787 AA	20070111	AU20060265787	20060629
BRPI0614042 A2	20110309	BR2006PI14042	20060629
CA2613550 AA	20071227	CA20062613550	20060629
CN101208196 A	20080625	CN200680023261	20060629
EP1910076 A1	20080416	EP20060786087	20060629
EP1910076 B1	20161005	EP20060786087	20060629
IL188451 A0	20080413	IL20060188451	20060629
JP2009500278 T2	20090108	JP20080519653T	20060629
KR20080027280 A	20080326	KR20077030452	20060629
MX2008000100 A1	20080319	MX20080000100	20060629
NO20080214 A	20080114	NO20080000214	20080114
NZ565050 A	20100326	NZ20060565050	20060629
RU2008100215 A	20090810	RU20080100215	20060629
TW200711834 A	20070401	TW20060123579	20060629
UA90725 C2	20100525	UA20080000472	20060629
US2007000593 AA	20070104	US20050170445	20050630
US2007003746 AA	20070104	US20050170643	20050630
US7686906 BB	20100330	US20050170445	20050630
WO07005711 A1	20070111	WO2006US25771	20060629

Probable Assignee: SOLUTIA INC
Assignee(s):(std): CHEN WENJIE ; SOLUTIA INC ; SZYDLOWSKI WITOLD
Assignee(s): KARAGIANNIS ARISTOTELIS ; FLEXSYS AMERICA LP ; CITIBANK NA ; CPFILMS INC ; DEUTSCHE BANK TRUST CO ; DEUTSCHE BANK TRUST CO AMERICAS COLLATERAL AGENT A ; DEUTSCHE BANK TRUST CO AMERICAS COLLATERAL AGENT AS
Inventor(s):(std): CHEN WEN JIE ; CHEN WENJIE ; KARAGIANNIS ARISTOTELIS ; SZYDLOWSKI WITOLD ; WITOLD

SZYDLOWSKI ; WENJIE CHEN ; ARISTOTELIS KARAGIANNIS

Agent(s): BALDWINS INTELLECTUAL PROPERTY; NELLIGAN O BRIEN PAYNE LLP; BECKMANN CLAUS; OSAKI KATSUMASA; TSUBOKURA MICHIAKI; KANAYAMA MASATAKA; KAWAGUCHI YOSHIO; ONO MAKOTO; BRENC LAW, ANDREW BRENC; BRENC LAW ANDREW BRENC; HAMILTON BROOK SMITH AND REYNOLDS PC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B29C47/06 B32B17/00 B32B17/10 B32B27/08 B32B27/30 B32B27/36 B32B27/40 C03C27/00 C03C27/12 C08G63/183 C08J5/18 C08L67/02 G02C7/00 (Advanced/Invention); B32B17/10 B32B27/08 B32B27/36 C08G63/199 C08J5/18 C08L67/02 (Advanced/Non-invention); B29C47/06 B32B17/00 B32B17/06 B32B27/08 B32B27/30 B32B27/36 B32B27/40 C03C27/00 C03C27/12 C08J5/18 C08L67/00 G02C7/00 (Core/Invention); C08J5/18 C08L67/00 (Core/Non-invention); B32B (Subclass/Invention)

CPC: B32B17/10761 Y10T428/31551 Y10T428/31616 Y10T428/31786 Y10T428/31797 Y10T428/31645 Y10T428/31649 B32B17/10779 B32B2250/03 B32B2307/536 B32B2307/558 B32B2307/702 B32B2605/006 B32B27/08 B32B27/306 B32B27/32 B32B2323/04 B32B2331/04 B32B2375/00 B32B2551/00 B32B17/10 B32B17/10036 B32B17/1077 B32B17/10788 B32B27/30 B32B27/36 B32B27/40 B32B2367/00 C08G63/199 B29C48/08 B29C48/18 B32B17/10018

European class: B29C47/06 B32B17/10 B32B17/10C2 B32B17/10C4 B32B17/10G30 B32B17/10G32 B32B17/10G36 B32B27/08 B32B27/30 B32B27/36 B32B27/40 L32B250/03 L32B307/536 L32B307/558 L32B307/702 L32B367/00 L32B605/00D M08G63/199

US class: 156/99 156/99P 264/176.1 264/176.100S 428/220 428/220P 428/423.1 428/423.100S 428/430 428/430S 428/441 428/442 428/480 428/480S 428/483 428/483S

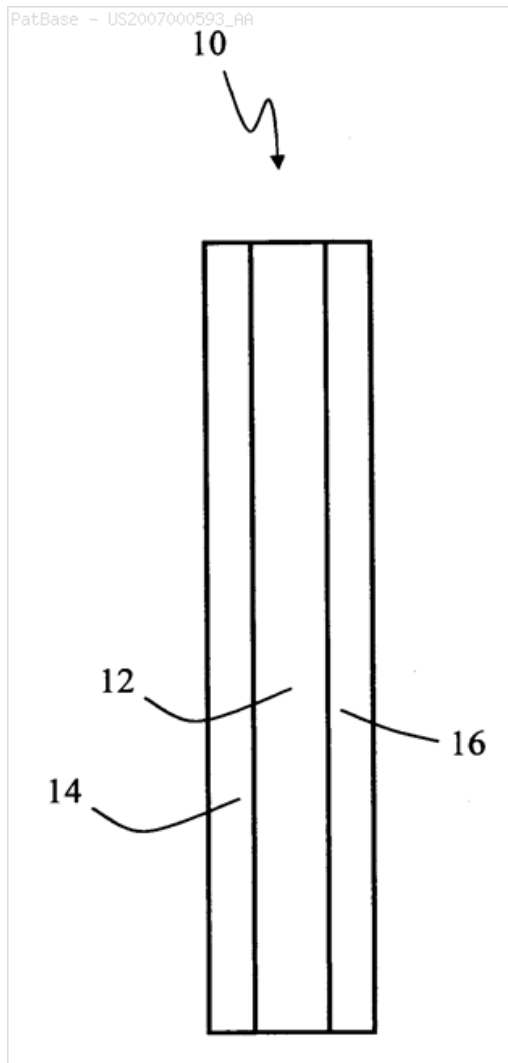
[Classification Explorer](#)

Cited documents: WO9722474 A1, US6844047 BB, US6830713 BB, US6827886 BB, US6808658 BB, US6797396 BA, US6788463 BB, US6783349 BB, US6689474 BB, US6667095 BB, US6664366 BB, US6610409 BB, US6596843 BB, US6451414 BA, US6183848 BA, US6159608 A, US6093471 A, US5998005 A, US5852164 A, US5804617 A, US5756578 A, US5728472 A, US5654083 A, US5567529 A, US5558912 A, US5484632 A, US5480926 A, US5474730 A, US5459224 A, US5455103 A, US5427842 A, US5415909 A, US5352530 A, US5340907 A, US5310787 A, US5208080 A, US5145746 A, US5095089 A, US5091258 A, US5064722 A, US5013779 A, US4973511 A, US4952457 A, US4935470 A, US4911984 A, US4671913 A, US4634737 A, US4614781 A, US4574021 A, US4559388 A, US4536538 A, US4465736 A, US4452840 A, US4373002 A, US4144217 A, US3841890 A, US2005019530 AA, US2004247879 AA, US2004135742 AA, US2004004778 AA, US2003211347 AA, US2003152775 AA, US2003148093 AA, US2003144469 AA, US2003012904 AA, US2002184120 AA, EP91870026, EP0918064 A2, EP0444003 A1,

Forward Citations: WO18081570, WO14176059, WO13184897, WO13134599, WO09158291, WO09087868, WO08147620, US9114595, US8529813, US8080311, US7604863, US2016057877, US2011094665, US2008254302, US2008081194, US10173396, KR20160076786, KR101497454, KR101202861, JP2016522138, JP2009161406, EP3205632, EP2030778, CN104684861,

Abstract:

The present invention is in the field of polymer interlayers used in multiple layer glass panels having one or more glass layers, and specifically the present invention is in the field of polymer interlayers comprising a layer of poly(cyclohexanedimethylene terephthalate-co-ethylene terephthalate) copolyester (PETG).

**53) Family number: 58453571** (US2016176163A)

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Title: MODULAR WALL PANELS AND PLANAR STRUCTURES

Priority: US20130860539P 20130731 US20140907926 20140723 WO2014US47724 20140723
US20160907926 20160127 US20180994500 20180531

Family:

	Publication number	Publication date	Application number	Application date
	EP3027407 A1	20160608	EP20140750099	20140723
	JP2016533924 T2	20161104	JP20160531756T	20140723
	US2016176163 AA	20160623	US20140907926	20140723
	US2018272659 AA	20180927	US20180994500	20180531
	US10011094 BB	20180703	US20140907926	20140723
	WO15017198 A1	20150205	WO2014US47724	20140723

Probable Assignee: CORNING INC

Assignee(s):(std): CORNING INC

Inventor(s):(std): BROWN GORDON CHARLES ; CLEARY THOMAS MICHAEL ; GREGORSKI JOAN DEANNA

Agent(s): GREENE SIMON KENNETH; HARDEE RYAN T

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class
(IPC 8-9): B32B17/04 B32B17/06 B32B17/10 B66B11/02 C03C27/12 E04B2/72 E04B9/04 E04B9/32 E04F13/077 E04F13/15 F21V33/00 (Advanced/Invention); A47B96/20 (Advanced/Non-invention)

CPC: B32B17/10779 B32B17/10541 B32B17/10247 B32B17/10064 E04F13/077 E04B2/72 E04B9/045 E04B9/32 B32B2607/02 B32B2375/00 B32B2329/06 B32B2331/04 B32B2367/00 B32B17/064 B32B17/10018 B32B17/10137 B32B17/10761 B32B17/1077 B32B17/10788 A47B96/20 B32B17/10036 B32B17/10293 B32B17/10743

US class: 428/38 428/67

[Classification Explorer](#)

Cited documents: WO12029347 A1, US7305329 BB, US7089708 BA, US7016817 BB, US6631589 BA, US4571446 A, JP850282, JP8050282 A2, JP5825041, JP58025041 A2, JP5751515, JP57051515 A2, JP48060332 U1, JP348000815, JP2012247484 A2, JP2012199284 A2, JP2010138025 A2, JP2009518910 T2, JP2006113183 A2, JP11095192, DE19616490 A1,

DE102000422008 A1

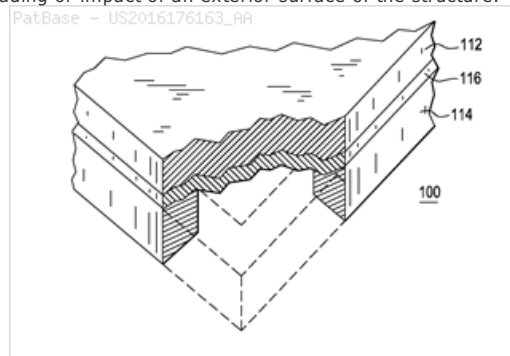
DE102004022008 A1

DE10105329 A1, AT218187 B,

Forward Citations: US2017142523, US10174509, US10091567,

Abstract:

A modular glass panel comprising a glass structure having at least one thin glass sheet having a thickness ranging from about 0.5 mm to about 2.0 mm, a backing frame positioned adjacent the glass structure and situated along the perimeter of the glass structure, and a polymer layer intermediate the glass structure and backing frame to adhere the glass structure together with the backing frame. The glass structure can further comprise the at least one thin glass sheet and a second glass sheet having a polymer interlayer therebetween. The backing frame generally has a geometric cross-section with a rounded interior edge adjacent the glass structure to prevent breakage of the structure upon loading or impact of an exterior surface of the structure.



54) Family number: 43119571 (DE202008016395U1)

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Title: Glasaufbau einer Panzerglasverbundscheibe Structure of glass of a bullet-proof glass compound plate (Machine translation)

Priority: DE200820016395U 20081212

Family:	Publication number	Publication date	Application number	Application date
	DE202008016395 U1	20090326	DE200820016395U	20081212

Probable Assignee: GUS PRAEZISION IN KUNSTSTOFF GLAS UND OPTIK GMBHand CO KG

Assignee(s):(std): GUS PRAEZISION IN KUNSTSTOFF GLAS UND OPTIK GMBHand CO KG

International class (IPC 8-9): B32B17/10 C03C27/12 F41H5/26 (Advanced/Invention); B32B17/06 C03C27/12 F41H5/00 (Core/Invention)

CPC: B32B17/10045 B32B17/10761 B32B17/1077 B32B2333/12 B32B2369/00 F41H5/0407

European class: B32B17/10C4B B32B17/10G28 B32B17/10G30 F41H5/04B L32B333/12 L32B369/00

[Classification Explorer](#)

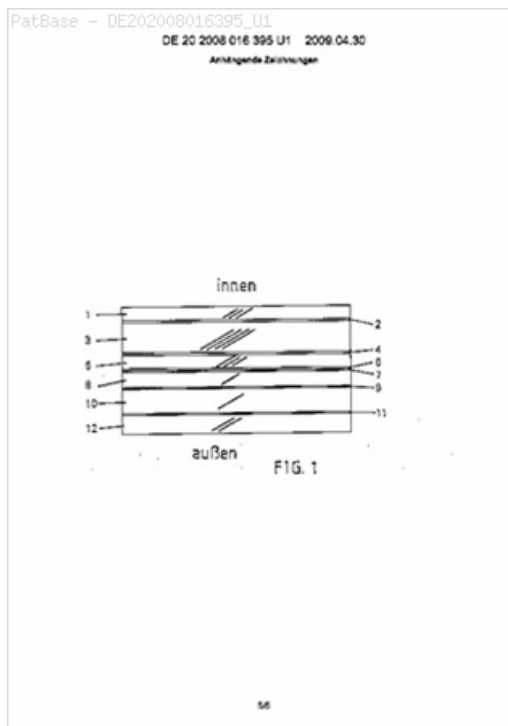
Cited documents: DE202005017657 U1

Forward Citations: WO13064491, DE102012102206, DE102011117340,

Abstract:

Source: DE202008016395U1 [DE] (Claim 1) 1. Glasaufbau einer Panzerglasverbundscheibe, wie fuer ein nach STANAG 4569, Level 1 gepanzertes Kraftfahrzeug, aus mehreren Schichten miteinander verbundener Glas-, Kunststoff- und/oder Keramikscheiben, mit einer Kunststoffscheibe auf der einem Innenraum zugewandten Innenseite und einer Floatglasscheibe auf der nach aussen gerichteten Aussenseite, dadurch gekennzeichnet, dass der ersten Floatglasscheibe (12) eine Floatglasscheibe (10) mit einem groesseren Dickenmass und darauf eine Floatglasscheibe (8) mit einem geringeren Dickenmass als dem der ersten Floatglasscheibe folgt und sich daran eine Polycarbonatglasscheibe (5), eine PMMA-Scheibe (3) und wieder eine Polycarbonatglasscheibe (1) als Abschlusscheibe auf der Innenseite anschliesst, wobei im uebergangsbereich von Floatglas- zu Kunststoffscheiben eine Verbindungsschicht mit einem gegenueber dem Mass der anderen Verbindungsschichten (2; 4; 6; 7; 9; 11) vergroesserten Dickenmass angeordnet ist.

Machine translation: (Claim 1) 1. Structure of glass of a bullet-proof glass compound plate, as for after STANAG 4569, level 1 armored motor vehicle, from several layers of connected glass, plastic and/or ceramic(s) disks, with a plastic disk on an interior turned the inside and a floating windowpane on the exterior, by, the fact directed outward, characterized that a floating windowpane (10) with a larger thickness measure follows the first floating windowpane (12) and after it a floating windowpane (8) with a smaller thickness measure than that the first floating windowpane and itself to it a polycarbonate windowpane (5), a PMMA disk (3) and again a polycarbonate windowpane (1) as thrust washer on the inside attaches, whereby in the transient area from floating glass to plastic disks a session layer with one in relation to the measure of the other session layers (2; 4; 6; 7; 9; 11) increased thickness measure is arranged.



55) Family number: 50898580 (EP2439064A1)

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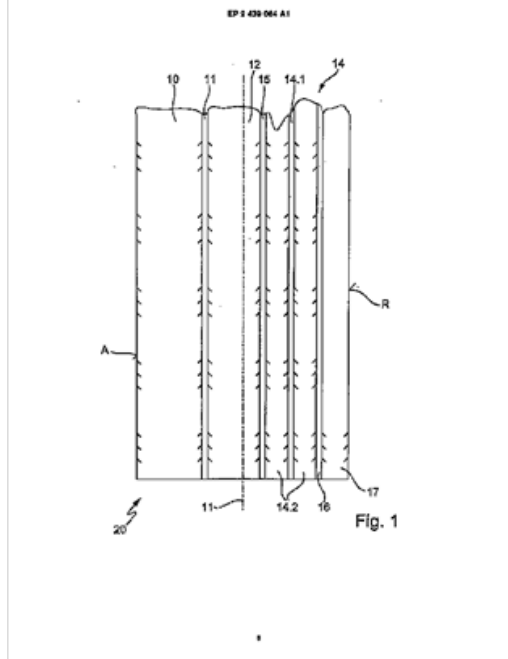
Title: LAMINATED GLAZING
Priority: DE201010037992 20101005
Family:

Publication number	Publication date	Application number	Application date
DE102010037992 A1	20120405	DE201010037992	20101005
EP2439064 A1	20120411	EP20110178380	20110823

Probable Assignee: SCHOTT AG
Assignee(s):(std): SCHOTT AG
Inventor(s):(std): FREITAG RUEDIGER ; PANZNER GERRIT
Agent(s): FLECK HERMANN JOSEF
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR
International class (IPC 8-9): B32B17/10 C03C27/12 F41H5/04 (Advanced/Invention)
CPC: B32B17/10311 B32B17/10045 B32B17/10761 B32B17/1077 B32B17/10871 B32B2369/00 F41H5/0407
European class: B32B17/10C4B B32B17/10E18 B32B17/10G28 B32B17/10G30 B32B17/10L10D F41H5/04B L32B369/00
[Classification Explorer](#)
Cited documents: WO10091525 A1, WO10014362 A1, WO08084083 A1, WO08068744 A1, WO05090255 A2, US2009246426 AA, GB1451931 A, EP2110238 A1, DE102008043718 A1, CH700398 A2,
Forward Citations: EP2875947,

Abstract:

The plate (20) has a wind screen (10) that is provided with attack side (A) and fire protection glazing portion (14). An intumescent layer (14.1) of attack side is arranged behind the geometric center plane (m) of main portion. The center plane of thrust washer (17) is placed behind the fire protection glazing portion. The fire protection glazing portion is made of plastic material comprising polyvinyl butyral, polycarbonate and polymethyl methacrylate. The intumescent layer is made of alkali silicates and aqueous acrylic polymer.

**56) Family number: 55376592 (US2015158277A)**

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Title: PROCESS FOR LAMINATING THIN GLASS LAMINATES

Priority: US20120659533P 20120614 US20130406715 20130612 WO2013US45317 20130612

Family:

Publication number	Publication date	Application number	Application date
EP2861542 A1	20150422	EP20130729910	20130612
JP2015526367 T2	20150910	JP20150517379T	20130612
JP5981648 B2	20160831	JP20150517379T	20130612
US2015158277 AA	20150611	US20130406715	20130612
US9925743 BB	20180327	US20130406715	20130612
WO13188489 A1	20131219	WO2013US45317	20130612

Probable Assignee: CORNING INC

Assignee(s):(std): CORNING INC ; FISHER WILLIAM KEITH ; FRISKE MARK STEPHEN ; RICKERL PAUL GEORGE ; SHENG HUAN HUNG

Inventor(s):(std): FISHER WILLIAM KEITH ; FRISKE MARK STEPHEN ; RICKERL PAUL GEORGE ; SHENG HUAN HUNG

Agent(s): GUNNING JACK PETER; FRANK BROCK; HARDEE RYAN T

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/10 B32B37/06 B32B37/10 B32B37/18 C03B23/03 C03C27/12 (Advanced/Invention)

CPC: B32B17/10935 B32B37/06 B32B37/1018 B32B37/18 B32B2315/08 B32B2329/06 B32B17/10036 B32B17/10137 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788 B32B17/10844 B32B37/1009 B32B2309/02 B32B2309/105 B32B2309/12 B32B2331/04 B32B2375/00 B32B2605/08

US class: 156/102 156/104

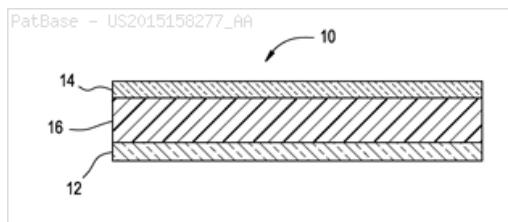
[Classification Explorer](#)

Cited documents: WO201251038, WO200987868, WO15054112 A1, WO15031594 A2, WO15031151 A1, WO15031148 A1, WO12073030 A1, WO12051038 A1, WO09087868 A1, WO0130568 A1, US908338 A, US8986072 BB, US7666511 BB, US6355125 BA, US6270605 BA, US5674790 A, US5622580 A, US5415909 A, US4898632 A, US4483700 A, US4398979 A, US4107366 A, US3960627 A, US3912542 A, US3806387 A, US311497 A, US3027288 A, US2016145139 AA, US2016082705 AA, US2015321940 AA, US2015274571 AA, US2015251377 AA, US2015232367 AA, US2015232366 AA, US2015158277 AA, US2015158275 AA, US2015140301 AA, US2015132538 AA, US2015122406 AA, US2015111016 AA, US2015064374 AA, US2014356604 AA, US2014239034 AA, US2014141217 AA, US2014087193 AA, US2014087159 AA, US2014017455 AA, US2013323415 AA, US2013319046 AA, US2013295357 AA, US2013127202 AA, US2013125592 AA, US2013125589 AA, US2013086948 AA, US2012328843 AA, US2012094084 AA, US2011192525 AA, US2010285310 AA, US2010166991 AA, US2009311497 AA, US2008264558 AA, US2008264548 AA, US2008210361 AA, US2007052121 AA, US2004231778 AA, US03027288, JP2011136895 A2, JP2011136895, JP2008169052 A2, JP2008100853 A2, JP2003040656 A2, JP2001247342 A2, GB908338 A, GB1392560 A, DE102006042538 A1

Forward Citations: WO19008470, WO18172094, WO18152495, WO16066423, WO16039477, WO16039476, WO16039475, WO16039474, WO16039473, WO16039472, WO16039471, WO15191527, WO15084902, US9931817, US9925743, US9908805, US9902640, US9616641, US9573833, US2016257094, US10137667, US10035724, US10035332, US10035331, US10017033, JP6370488, JP6313781, JP6240018, JP2018501174, JP2016039471, JP2015196611, EP3212395, CN104773964,

Abstract:
A process for producing glass laminates including at least one sheet of glass having a thickness not exceeding 1.0 mm with reduced optical distortion and shape consistency. A pre-laminate stack of two glass sheets and a polymer interlayer are stacked

between two buffer plates that are formed nominally to the desired shape of the laminate mold. The pre-laminate stack is held between the buffer plates while a vacuum is applied to the edges of the pre-laminate stack and the stack is heated to a temperature somewhat above the softening temperature of the interlayer to de-air and tack the interlayer to the two glass sheets forming the desired shaped laminate with reduced optical distortion.



57) Family number: 62658595 (US2017341344A)

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Title: LAMINATE OF A THICK POLYMER MATERIAL SHEET AND OF A THIN GLASS SHEET

Priority: FR20140062264 20141211 WO2015FR53367 20151208

Family:	Publication number	Publication date	Application number	Application date
	BR112017011280 A2	20180403	BR20171111280	20151208
	CN107000387 A	20170801	CN201580067211	20151208
	CO20170005580 A2	20170818	CO20170005580	20170605
	EP3230059 A1	20171018	EP20150817976	20151208
	FR3029836 A1	20160617	FR20140062264	20141211
	FR3029836 B1	20161223	FR20140062264	20141211
	IN201717018505 A	20171117	IN201717018505	20170526
	MX2017007406 A1	20171106	MX20170007406	20151208
	US2017341344 AA	20171130	US20150534842	20151208
	WO16092196 A1	20160616	WO2015FR53367	20151208

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s):(std): SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE

Inventor(s):(std): CATHERINE DESCUSSE ; CHAUSSADE PIERRE ; DESCUSSE CATHERINE ; GREGOIRE MATHEY ; MATHEY GREGOIRE ; MICHEL ROUBY ; PIERRE CHAUSSADE ; ROUBY MICHEL

Agent(s): MARGARITA CASTELLANOS ABONDANO; SAINT GOBAIN RECHERCHE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/10 B32B27/06 (Advanced/Invention)

CPC: B32B17/10761 B32B17/10018 B32B17/10743 B32B17/1077 B32B17/10788 B32B2333/12 B32B2369/00

[Classification Explorer](#)

Cited documents: US5589272 A, US2009246517 AA, FR2750075 A1, DE4415878 A1, CN101300133 A,

Abstract:

A glazing includes a transparent polymer material sheet having a thickness of from 5 to 25 mm and a glass sheet having a thickness of between 0.5 and 1.5 mm, which are bonded to one another by an adhesive interlayer, the hardness of which at a temperature at least equal to -5 degrees centigrade is at most equal to 70 Shore A and the thickness of which is a decreasing function of the thickness of the glass sheet, an adhesive interlayer thickness of 2.5 mm being sufficient for a glass sheet thickness of 0.55 mm and an adhesive interlayer thickness of 1.25 mm being sufficient for a glass sheet thickness of 1.25 mm.

58) Family number: 42796598 (US2009217813A)

© PatBase

Title: GLASS-CERAMIC WITH LAMINATES

Priority: US20070689299 20070321 EP20080826142 20080320 WO2008US03662 20080320
US20090349832 20090107 US20090362256 20090129 WO2010US00033 20100107
US20110340181 20111229

Family:	Publication number	Publication date	Application number	Application date
	CN101702934 A	20100505	CN200880016828	20080320
	CN101702934 B	20130619	CN200880016828	20080320
	EP2126509 A2	20091202	EP20080826142	20080320
	EP2126509 A4	20130327	EP20080826142	20080320
	EP2259003 A2	20101208	EP20100010265	20080320
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	EP2373948 A1	20111012	EP20100729378	20100107
	IL201060 A0	20100517	IL20080201060	20080320
	IL201061 A0	20100517	IL20080201061	20080320
	IL213994 A0	20110831	IL20100213994	20100107
	US2009217813 AA	20090903	US20090349832	20090107
	US2012097017 AA	20120426	US20090362256	20090129
	US2013019741 AA	20130124	US20110340181	20111229
	US2013312593 AA	20131128	US20070689299	20070321
	US8176828 BB	20120515	US20090349832	20090107
	US8176829 BA	20120515	US20090362256	20090129

US8544376 BB	20131001	US20110340181	20111229
US9091510 BB	20150728	US20070689299	20070321
WO09008914 A2	20090115	WO2008US03662	20080320
WO09008914 A3	20090305	WO2008US03662	20080320
WO10080699 A1	20100715	WO2010US00033	20100107

Probable Assignee: ORAN SAFETY GLASS INC

Assignee(s):(std): DYNAMIC DEFENSE MATERIALS LLC ; FORSYTHE GEORGE D ; LEIGHTON KATHERINE ; LEIGHTON KATHERINE T ; SERAFIN WIKTOR ; MIRATA MARCELLA ; SCHOTT DIAMONDDVIEW ARMOR PRODU ; SCHOTT DIAMONDDVIEW ARMOR PRODUCTS LLC ; SCHOTT CORP ; ALESHIRE EDGAR ; BOYETT JOHN ; CARBERRY JOHN ; CLINE CARL

Assignee(s): DIAMONDDVIEW ARMOR PRODUCTS LLC ; ORAN SAFETY GLASS INC

Inventor(s):(std): ALESHIRE EDGAR ; BOYETT JOHN ; CLINE CARL ; JOHN CARBERRY ; KATHERINE LEIGHTON ; LEIGHTON KATHERINE T ; MIRATA MARCELLA ; SERAFIN WIKTOR ; LEIGHTON KATHERINE ; FORSYTHE GEORGE D ; CARBERRY JOHN

Agent(s): SAWODNY MICHAEL WOLFGANG; PITTS AND BRITTIAN P C; OHLANDT GREELEY RUGGIERO AND PERLE LLP; FITCH MORGAN L ET AL; RUGGIERO CHARLES N J ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/10 E06B F41H F41H5/04 F41H5/26 (Advanced/Invention); F41H5/00 (Core/Invention); F41H (Subclass/Invention)

CPC: B32B17/10064 B32B15/18 B32B17/061 B32B17/10027 F41H5/0421 F41H5/0428 Y10S428/911 F41H5/0407 F41H5/0414 B32B17/10036 B32B17/10045 B32B17/10119 B32B17/10761 B32B17/1077

European class: B32B15/18 B32B17/06A B32B17/10C28 B32B17/10C2B B32B17/10C4 B32B17/10C4B B32B17/10C6 B32B17/10G28 B32B17/10G30 F41H5/04B F41H5/04C2 F41H5/04C4

US class: 1/1 428/911 89/36.01 89/36.02 89/36.020P 89/905 89/906 89/906S 89/908 89/910 89/910S 89/914 89/914S 89/917 89/917S 89/936

[Classification Explorer](#)

Cited documents: WO09008914 A2, WO09000891 A2, WO07068376 A1, WO06135832 A2, WO03022767 A1, USH1567 H1, US8176829 BA, US8176828 BB, US8161862 BA, US7875565 BA, US7157149 BB, US7147544 BB, US7104177 BA, US6995103 BB, US6895851 BA, US6862970 BB, US6708595 BA, US6479155 BA, US6408733 BA, US6334482 BB, US6334382 BB, US6197429 BA, US5952253 A, US5783297 A, US5773139 A, US5567529 A, US5502011 A, US5060553 A, US4953442 A, US4911061 A, US4869175 A, US4704943 A, US4633756 A, US4494342 A, US4473653 A, US4028476 A, US3917891 A, US3730827 A, US3671374 A, US3573150 A, US2391353 A, US2010242715 AA, US2009217813 AA, US2008280034 AA, US2008271595 AA, US2008264244 AA, US2008092729 AA, US2007068376 AA, US2007068375 AA, US2007060465 AA, US2006160689 AA, US2005135724 AA, US2005119104 AA, US2004157720 AA, US2004020354 AA, US2003035917 AA, US2002183187 AA, GB2284655 A1, FR2876786 A1,

Forward Citations: WO13002865, WO12145664, WO12022320, WO12022320, WO11142867, WO11142867, USRE46898, US9925742, US9657513, US9655293, US9453710, US9365015, US9285191, US9170071, US9162426, US9140522, US9040160, US8936298, US8833233, US8705805, US8695476, US8603616, US8544376, US8176831, US8176829, US8037804, US7861638, US2015354923, US2014366713, US2014290473, US2014260932, US2014127500, US2013256315, US2012325076, US2012297964, US2012181817, US2012177255, US20111203452, US2011185884, US2011088541, US2011023697, US2010330341, US2010257997, US10046540, US10030941, EP3141863, EP2929408, EP2699405, EP2409834, DE102011110513, DE102011110513, CN104885030, CN104870929, CN103827622, CN103827622, CN103471465, CN103180685, CN103180685,

Abstract:

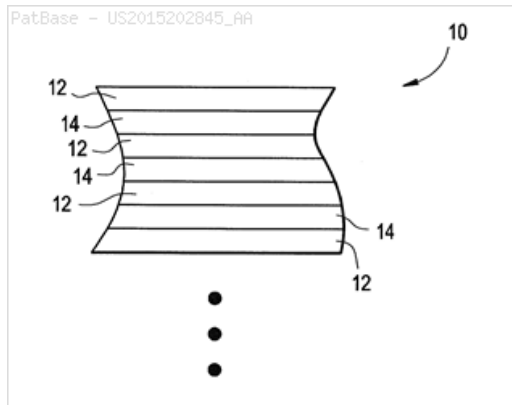
A transparent armor system includes a hard face fabricated from a substantially transparent glass-ceramic material exhibiting crystalline bodies throughout the mass of the glass-ceramic material and a backing covering a rear surface of the hard face opposite an anticipated incoming projectile. The backing has a refractive index substantially matching that of the hard face such as to allow substantial transparency of the transparent armor system. The hard face serves to disburse energy caused by the impact of an incoming projectile with the transparent armor system, while the backing serves to retain any pieces of the hard face fractured during ballistic impact. In certain embodiments, a plurality of hard faces are held in parallel and spaced apart arrangement.

59) Family number: 55718611 (US2015202845A)

Title:	MULTI-LAYER TRANSPARENT LIGHT-WEIGHT SAFETY GLAZING																														
Priority:	US20120679330P 20120803	US20130418982 20130801	WO2013053219 20130801																												
Family:	<table border="1"> <thead> <tr> <th>Publication number</th><th>Publication date</th><th>Application number</th><th>Application date</th></tr> </thead> <tbody> <tr> <td>EP2879868 A1</td><td>20150610</td><td>EP20130826363</td><td>20130801</td></tr> <tr> <td>EP2879868 A4</td><td>20160413</td><td>EP20130826363</td><td>20130801</td></tr> <tr> <td>JP2015531700 T2</td><td>20151105</td><td>JP20150525596T</td><td>20130801</td></tr> <tr> <td>JP6070969 B2</td><td>20170201</td><td>JP20150525596T</td><td>20130801</td></tr> <tr> <td>US2015202845 AA</td><td>20150723</td><td>US20130418982</td><td>20130801</td></tr> <tr> <td>WO14022663 A1</td><td>20140206</td><td>WO2013053219</td><td>20130801</td></tr> </tbody> </table>			Publication number	Publication date	Application number	Application date	EP2879868 A1	20150610	EP20130826363	20130801	EP2879868 A4	20160413	EP20130826363	20130801	JP2015531700 T2	20151105	JP20150525596T	20130801	JP6070969 B2	20170201	JP20150525596T	20130801	US2015202845 AA	20150723	US20130418982	20130801	WO14022663 A1	20140206	WO2013053219	20130801
Publication number	Publication date	Application number	Application date																												
EP2879868 A1	20150610	EP20130826363	20130801																												
EP2879868 A4	20160413	EP20130826363	20130801																												
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US2015202845 AA	20150723	US20130418982	20130801																												
WO14022663 A1	20140206	WO2013053219	20130801																												
Probable Assignee:	CORNING INC																														
Assignee(s):(std):	CHEREKDJIAN SARKO ; CORNING INC ; SORENSEN CHARLES MITCHEL																														
Inventor(s):(std):	CHEREKDJIAN SARKO ; SORENSEN CHARLES MICHAEL JR ; SORENSEN CHARLES MITCHEL ; SORENSEN JR CHARLES MITCHEL																														
Agent(s):	OLDROYD RICHARD DUNCAN; HARDEE RYAN T																														
Designated states:	AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GO GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY NZ NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW																														
International class (IPC 8-9):	B32B17/04 B32B17/10 B32B37/12 B60J1/00 C03C27/12 F41H5/04 (Advanced/Invention)																														
CPC:	B32B2369/00 F41H5/0407 B32B17/10045 B32B17/10137 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788 B32B2250/42 B32B2571/02 Y10T428/24967 Y10T428/31507 Y10T428/31573 Y10T428/31601 Y10T428/3163																														
US class:	428/215 428/412 428/424.2 428/425.6 428/426 428/437																														
Classification Explorer																															
Cited documents:	WO9958334 A2, WO9958334, WO99058334, WO9310973 A1, WO201282272, WO201251038, WO12082272 A1, WO12082272, WO12051038 A1, WO12051038, WO10036219 A1, WO03068501 A1, US4663228 A, US4204025 A, US3930452 A, US3558415 A, US2012183756 AA, US2012175908 AA, US2012094084 AA, US2012021230 AA, US20120175908, US20120094084, US2010024692 AA, US2009324935 AA, US2009311497 AA, US2009142568 AA, US20090311497, US2009029158 AA, US2001032540 AA, US20010032540, JP7503414 T2, JP60501201 T2, JP60501201, JP2013540621 T2, JP2013540621, JP2011523916 T2, JP2011523916, JP2008094712, JP2008094712 A2, JP2008094712, JP2006124255 A2, JP2006124255, JP2002514533 T2, JP2002514533, JP2001247342 A2, JP2001247342, JP2000516906 T2, JP2000516906, FR2869605 A1, EP1759832 A1, EP01759832,																														
Foreign Citations:	WO18178824, WO16087764, US2016057877, US10173397, US10124566, US10077204, FR3029454, EP3127699,																														

Abstract:

A multi-layer glass structure is provided having n layers of annealed or chemically strengthened glass and n-1 layers of a polymer interlayer where n is a positive integer greater than 2. In another embodiment, a glass laminate structure is provided having a plurality of annealed or chemically strengthened glass sheets, one or more polymeric interlayers positioned between adjacent annealed or chemically strengthened glass sheets, and a thin annealed or chemically strengthened glass sheet on a first side of the glass laminate structure.



60) Family number: 32302626 (US2005227061A)

Title:	METHODS FOR LAMINATING FILMS FOR SPD LIGHT VALVES AND SPD LIGHT VALVES INCORPORATING SUCH LAMINATED FILMS							
Priority:	US20040562329P 20040413		US20040562329P 20040413		EP20040779006 20040723		JP20070508320 20040723	
Family:	US20040562329P 20040413		US20040562329P 20040413		EP20040779006 20040723		WO2004US23747 20040723	
	Publication number	Publication date	Application number	Application date				
	AU2004318735 AA	20051103	AU20040318735	20040723				
	AU2004318735 BB	20090730	AU20040318735	20040723				
	CA2563303 AA	20061004	CA20042563303	20040723				
	CA2563303 C	20120515	CA20042563303	20040723				
	EP1735156 A2	20061227	EP20040779006	20040723				

EP1735156 A4	20111026	EP20040779006	20040723
EP1735156 B1	20160720	EP20040779006	20040723
ES2598406 T3	20170127	ES20040779006T	20040723
JP2007533490 T2	20071122	JP20070508320T	20040723
JP2011189751 A2	20110929	JP20110137559	20110621
JP5173408 B2	20130403	JP20070508320T	20040723
KR101113919 B1	20120229	KR20067022380	20040723
KR20070007164 A	20070112	KR20067022380	20040723
PL1735156 T3	20170131	PL20040779006T	20040723
US2005227061 AA	20051013	US20040898303	20040723
US7361252 BB	20080422	US20040898303	20040723
WO05102688 A2	20051103	WO2004US23747	20040723
WO05102688 A3	20060629	WO2004US23747	20040723

Probable Assignee: RESEARCH FRONTIERS INC

Assignee(s):(std): CHAKRAPANI SRINIVASAN ; RES FRONTIERS INC ; RESEARCH FRONTIERS INC ; SAXE ROBERT L ; SLOVAK STEVEN M

Inventor(s):(std): SAXE ROBERT ; SLOVAK STEVEN ; SLOVAK STEVEN M ; SAXE ROBERT L ; CHAKRAPANI SRINIVASAN

Inventor(s): ROBERT L SAXE ; SRINIVASAN CHAKRAPANI ; STEVEN M SLOVAK

Agent(s): PHILLIPS ORMONDE FITZPATRICK; OSLER HOSKIN AND HARCOURT LLP; WALCHER ARMIN; CARPINTERO MARIO; OSTROLENK FABER GERB AND SOFFEN; OSTROLENK FABER GERB AND SOFFEN LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR HW HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8-9): B29C65/00 B29C65/40 B32B17/10 B32B27/00 B32B27/04 B32B37/10 C09J7/02 G02F1/17 (Advanced/Invention); B29K67/00 B29K69/00 B29L9/00 B32B27/04 B32B37/10 C09J7/02 (Advanced/Non-invention)

International class (IPC 1-7): B32B27/00

CPC: B32B17/10064 B32B17/10 B32B17/10036 B32B17/10174 B32B17/10532 B32B17/10761 B32B17/1077 B32B17/10788 B32B17/10816 B32B17/10825 B32B2367/00 B32B2369/00 G02F1/172 G02F2202/022 G02F2202/023 Y10T428/25 Y10T428/31504

European class: B32B17/10 B32B17/10C4 B32B17/10C6 B32B17/10E10 B32B17/10E40D68 B32B17/10G28 B32B17/10G30 B32B17/10G36 B32B17/10L10 B32B17/10L10B L32B367/00 L32B369/00 S02F1/17A S02F202/02B S02F202/02B2

US class: 156/104 156/105 156/106 156/285 156/286 156/286S 428/323 428/323P 428/411.1 428/411.100S

[Classification Explorer](#)

Cited documents: WO04016897 A2, WO04016560 A2, US6900923 BB, US6416827 BA, US6301040 BA, US6271956 BA, US6151153 A, US6119807 A, US5728251 A, US5463492 A, US5463491 A, US5461506 A, US5409734 A, US4772103 A, US46548903, US4407565 A, US4247175 A, US2005077005 AA, US2004033369 AA, US2003227663 AA, US2003107797 AA, US2000151153, JP7323504 A2, JP3229218 A2, JP2003525468 T2, JP2001188893 A2, DE19908737 A1, DE10043141 A1,

Forward Citations: WO17192378, WO16202617, WO16097047, WO14174310, WO14174308, WO14023475, WO13189798, WO13189796, WO13189794, WO13189790, WO13132191, WO12154663, WO12045456, WO12039725, WO12009399, WO11033313, WO09153593, WO09070256, WO08097741, WO07122428, WO07079539, US9895864, US9638979, US9539883, US9417471, US9193135, US8995039, US8926778, US8922872, US8827347, US8670173, US8551603, US8405901, US8349153, US8218224, US8098419, US7927706, US7894117, US7710671, US2014004767, US2012176656, US2011171443, US2011100709, US2011030290, US2010208326, US2010047593, US2010000868, US2009316254, US2009241424, US2009219468, US2009176101, US10207480, US10137668, US10082716, JP6165126, JP6113241, JP5666128, JP2016170442, JP2016040225, JP2015110515, JP2013532844, JP2013505188, JP2011524546, JP2009534283, EP3366467, EP3106304, EP3034297, EP2861420, EP2593833, EP2494855, EP2462479, EP2462479, EP2462479, EP2376396, EP2376396, EP2124097, EP2124097, EP2010385, EA030021, DE102016005449, DE102013214249, DE102010048097, CN104520097, CN103003746, CN102598878, CN102472890, AU2016235455, AU2011279272,

Abstract:

The invention is directed to a method for laminating a suspended particle device (SPD) film which comprises forming a suspended particle device film; positioning the suspended particle device film within an unlaminated stack of components for forming a laminated suspended particle device film, wherein the stack comprises at least one hot melt adhesive sheet or film contacting an outer surface of the suspended particle device film; subjecting the unlaminated stack to at least a partial vacuum, preheating the unlaminated stack of components under the vacuum for a time and at a temperature selected to permit at least partial degassing of the stack and applying a sufficient net pressure to the stack at a sufficient temperature and for a sufficient time to produce a laminated suspended particle device film from the unlaminated stack.

PatBase - KR20070007164_A

(19)  KOREAN INTELLECTUAL PROPERTY OFFICE

KOREAN PATENT ABSTRACTS

(11) Publication number: 1020070007164 A

(43) Date of publication of application: 12.01.2007

(21) Application number: 1020067022180

(71) Applicant: RESEARCH FRONTIERS INCORPORATED

(22) Date of filing: 26.10.2006

(72) Inventor: SLOVAN STEVEN M. CHAKRAPANI SRINIVASAN SANE ROBERT L.

(30) Priority: 2004 562329 US 11.04.2004

(51) Int. Cl. B32B 27/04 (2006.01); B32B 17/10 (2006.01)

(54) METHODS FOR LAMINATING FILMS FOR SPD LIGHT VALVES AND SPD LIGHT VALVES INCORPORATING SUCH LAMINATED FILMS

(57) Abstract:

The invention is directed to a method for laminating a suspended particle device (SPD) film which comprises forming a suspended particle device film; positioning the suspended particle device film within an unlaminated stack of components for forming a laminated suspended particle device film, wherein the stack comprises at least one hot melt adhesive sheet or film contacting an outer surface

of the suspended particle device film; subjecting the unlaminated stack to at least a partial vacuum, preheating the unlaminated stack of components under the vacuum for a time and at a temperature selected to permit at least partial degassing of the stack and applying a sufficient net pressure to the stack at a sufficient temperature and for a sufficient time to produce a laminated suspended particle device film from the unlaminated stack.

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This Facsimile First Page has been artificially created from the Korean Patent Abstracts CD Rom

61) Family number: 69744627 (WO18089562A1)

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Title:	DIMMABLE WINDOW PANE WITH REDUCED BOW AND INSULATED GLAZING UNIT COMPRISING THE SAME			
Priority:	US20160419633P 20161109			
Family:	Publication number	Publication date	Application number	Application date
	WO18089562 A1	20180517	WO2017US60740	20171109
Probable Assignee:	CORNING INC			
Assignee(s):(std):	CORNING INC			
Inventor(s):(std):	COUILLARD JAMES GREGORY ; GRIESBACH HAWKINS LISA LYNN ; GROCHOCINSKI JAMES MARTIN			
Agent(s):	HOOD MICHAEL A			
Designated states:	AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW			
International class (IPC 8-9):	B32B17/10 (Advanced/Invention)			
CPC:	B32B17/10504 B32B17/10036 B32B17/10045 B32B17/10055 B32B17/10091 B32B17/10119 B32B17/10137 B32B17/10174 B32B17/10467 B32B17/10486 B32B17/10513 B32B17/10761 B32B17/1077 B32B17/10788			
Classification Explorer				
Cited documents:	WO15117736 A1, US5197242 A, US2015024184 AA, US2009115922 AA, US2005068629 AA, US2004229049 AA, DE102006042538 A1			

Abstract:
 A window pane includes a transmission control layer including a first glass sheet, a second glass sheet, and a liquid crystal material disposed between the first glass sheet and the second glass sheet. Each of the first glass sheet and the second glass sheet has a thickness of about 1 mm or less. A first panel is bonded to the first glass sheet of the transmission control layer. A second panel is bonded to the second glass sheet of the transmission control layer. The transmission control layer is disposed between the first panel and the second panel. The liquid crystal material is controllable to adjust a transmittance of the window pane.

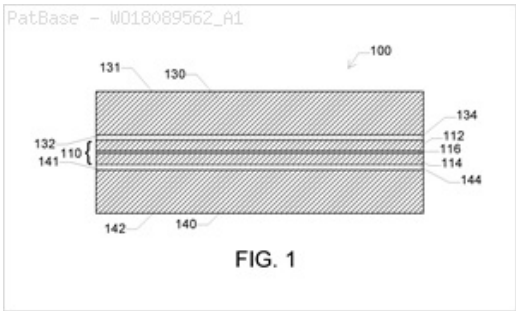


FIG. 1

Title: METHOD FOR THE PRODUCTION OF A PROTECTION DEVICE

Priority: DE201010042812 20101022

Family:

Publication number	Publication date	Application number	Application date
DE102010042812 B3	20120405	DE201010042812	20101022
EP2444247 A1	20120425	EP20110186163	20111021
SG180126 A1	20120530	SG20110076643	20111019
US2012096703 AA	20120426	US20110278522	20111021
US8568550 BB	20131029	US20110278522	20111021

Probable Assignee: SCHOTT AG

Assignee(s):(std): CORVERS STEPHAN ; GOETZ HELGA ; HAASE STEFAN ; HABECK ANDREAS ; HASSE STEFAN ; PLAPPER VOLKER ; SCHOTT AG ; ZACHAU THILO

Inventor(s):(std): CORVERS STEPHAN ; DR CORVERS STEPHAN ; DR HABECK ANDREAS ; DR PLAPPER VOLKER ; DR ZACHAU THILO ; HABECK ANDREAS ; HASSE STEFAN ; PLAPPER VOLKER ; ZACHAU THILO ; ZACHAU THILO DR ; PLAPPER VOLKER DR ; HABECK ANDREAS DR ; HAASE STEFAN ; GOETZ HELGA ; CORVERS STEPHAN DR ; VOLKER PLAPPER ; THILO ZACHAU ; STEPHAN CORVERS ; STEFAN HAASE ; HELGA GOETZ ; ANDREAS HABECK

Agent(s): HROVAT ANDREA DARINKA; ELLA CHEONG SPRUSON AND FERGUSON SINGAPORE PTE LTD; OHLANDT GREELEY RUGGIERO AND PERLE LLP

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8-9): B23P17/04 B29C65/00 B32B17/10 B32B19/02 B32B27/06 B32B37/00 B32B38/00 B32B38/04 B32B7/02 C03B33/07 F41H5/04 (Advanced/Invention)

CPC: B32B27/06 B32B3/10 B32B3/18 B32B17/10036 B32B17/10146 B32B17/10733 B32B17/10761 B32B17/1077 B32B19/02 B32B38/0004 B32B2038/045 B32B2307/56 B32B2307/718 B32B2309/025 B32B2309/105 B32B2315/02 B32B2315/08 B32B2369/00 B32B2571/02 C03B33/074 F41H5/0428 F41H5/0471 F41H5/0492 B32B7/03 Y10T29/49 Y10T156/1026 Y10T156/1057 Y10T156/1064 Y10T156/1082

European class: B32B17/10C30D B32B17/10C4 B32B17/10G22 B32B17/10G28 B32B17/10G30 B32B19/02 B32B27/06 B32B3/10 B32B3/18 B32B38/00A B32B7/00A C03B33/07C F41H5/04C4 F41H5/04F F41H5/04H L32B307/560 L32B307/718 L32B309/02B L32B309/10C L32B315/02 L32B315/08 L32B369/00 L32B38/04B L32B571/02

US class: 125/23.01 156/211 156/253 156/257 156/268 29/592 29/592P

[Classification Explorer](#)

Cited documents: WO07058665 A2, WO0185443 A1, US6792843 BB, US3018210 A, US2012118133 AA, US2010288115 AA, US2010071536 AA, US2009320675 AA, US2009258187 AA, US2008173687 AA, US2007125223 AA, US2005217471 AA, US2005129909 AA, US2004084043 AA, US2003110932 AA, GB2475023 B2, GB2475023 A1, GB2377006 A1, FR2727507 A1, EP1942082 A1, EP1524104 A1, EP01942082, EP0194208 A2, EP01524104, EP0152410 A1, DE9006087 U1, DE9006087 U, DE202008014264 U,

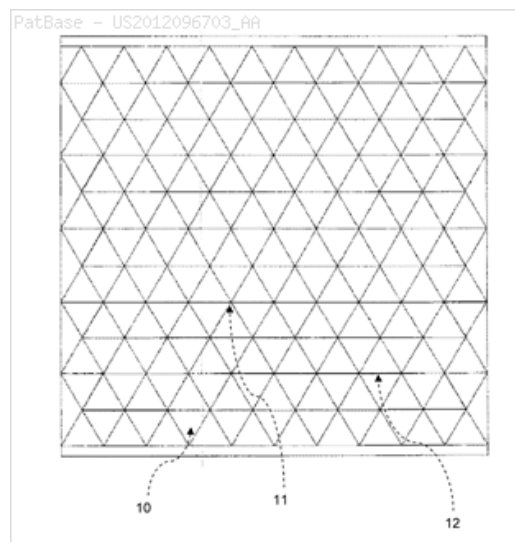
DE102008050263 A1

DE102004026515 A1

Forward Citations: US9835417, US2016349014, EP3098560,

Abstract:

A method for the production of protection devices is provided. The method includes the step of providing a tile package. The provision of the tile package includes the steps of: laminating at least one board of a tile material onto a polymer foil; scoring the board on the side which is opposite to the polymer foil; and fracturing the board along the scoring lines for achieving a plurality of tiles which are fixed on the polymer foil.



Title: REDUCED WEIGHT ARMOR SYSTEMS AND METHODS OF MANUFACTURING THE SAME

Priority: US20140318195 20140627

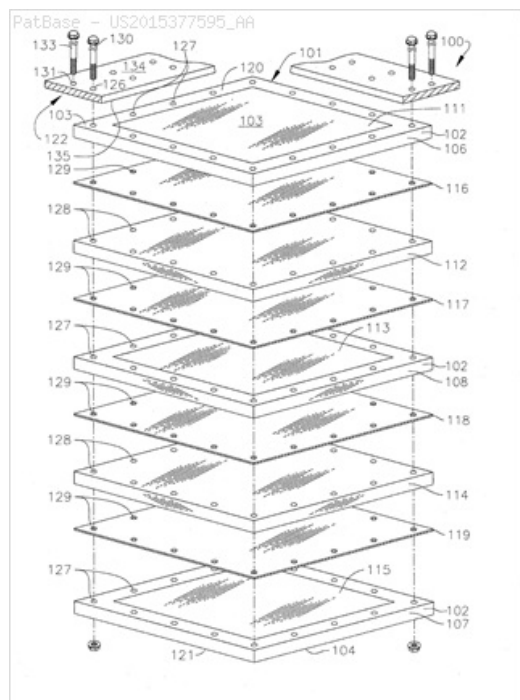
Family:

Publication number	Publication date	Application number	Application date
US2015377595 AA	20151231	US20140318195	20140627

Probable Assignee: PPG IND OHIO INC
Assignee(s):(std): PPG IND OHIO INC
Inventor(s):(std): SCARINCI CARLO ; PALERMO DAVID
Agent(s): LEWIS ROCA ROTHGERBER CHRISTIE LLP
International class (IPC 8-9): B32B17/10 B32B37/06 B32B37/10 F41H5/013 F41H5/04 F41H5/26 F41H7/04 (Advanced/Invention); B32B37/04 (Advanced/Non-invention)
CPC: F41H5/0407 B32B2307/546 B32B2307/558 B32B2311/00 B32B2323/04 B32B2369/00 B32B2323/10 B32B2375/00 B32B2329/06 B32B2331/04 B32B2367/00 B32B2571/02 F41H5/0428 B32B17/10045 B32B17/10293 B32B17/10761 B32B17/1077 B32B17/10788 B32B37/04 B32B2309/02 B32B2315/08 F41H5/013 F41H5/263
US class: 156/285 156/89.11 156/89.28 89/36.02
[Classification Explorer](#)
Cited documents: ZAWO2005045351 A1
 WO08140480 A1, WO08127272 A1, WO05045351 A1, US9532447 BB, US9040160 BB, US8906484 BA, US8763512 BB, US8689671 BB, US8088472 BB, US8088462 BA, US7854190 BB, US7823498 BB, US7698985 BB, US7225717 BB, US6818268 BB, US6708595 BA, US6569787 BA, US6546692 BA, US6327954 BA, US6129974 A, US5723807 A, US5670734 A, US5668344 A, US5594193 A, US5398592 A, US5271311 A, US5229204 A, US5032466 A, US5002820 A, US4932608 A, US4716810 A, US4550044 A, US4081581 A, US3776094 A, US3624238 A, US3380406 A, US2991209 A, US2410022 A, US2016265882 AA, US2016152015 AA, US2015300784 AA, US2015292838 AA, US2015268009 AA, US2015268007 AA, US2015211830 AA, US2015114211 AA, US2015024165 AA, US2014144313 AA, US2014060306 AA, US2013284339 AA, US2012204711 AA, US2012160084 AA, US2012103178 AA, US2011185884 AA, US2009282968 AA, US2009047453 AA, US2008187721 AA, US2006252328 AA, US2005087064 AA, US2001032540 AA, FR816814 A, EP1916496 A1, DEEP1916496, DE9314982 U, DE899605 A, DE4415879 A1, DE4230073 A1, DE19914538 A1, DE1653706 A1, DE10244368 A1,
 DE102014209212 A1
 DE102009060923 A1
 DE10043793 A1,
Forward Citations: US9846013, US2016025458,

Abstract:

An armor system configured to be coupled to a frame surrounding a window in a vehicle or other structure, such as a building. The armor system may be configured to provide any desired ballistics protection rating. The armor system includes a ballistics-grade armor panel and at least one insert embedded in the ballistics-grade armor panel. The insert extends around at least a portion of a periphery of the ballistics-grade armor panel. The one or more inserts may be configured to reduce the parasitic weight of the armor system.



64) Family number: 30896654 (US2006232093A)

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Title:	WINDOW ARRANGEMENT FOR A VEHICLE AND METHOD FOR THE PRODUCTION THEREOF			
Priority:	DE20031006957 20030219 WO2004DE000302 20040218	DE20032020917U 20030219 WO2004DE000302 20040218	EP20040711981 20040218 WO2004DE000302 20050817	
Family:	Publication number	Publication date	Application number	Application date
	AT511442 E	20110615	AT20040711981T	20040218
	CN1750928 A	20060322	CN200480004584	20040218
	CN1750928 B	20120404	CN200480004584	20040218
	DE10306957 A1	20040909	DE20031006957	20030219
	DE20320917 U1	20050623	DE20032020917U	20030219
	DE502004012565 D1	20110714	DE200450012565T	20040218
	EP1594692 A1	20051116	EP20040711981	20040218

EP1594692 B1	20110601	EP20040711981	20040218
JP2006517876 T2	20060803	JP20060501504T	20040218
JP4771935 B2	20110914	JP20060501504T	20040218
KR100910482 B1	20090804	KR20057015092	20040218
KR20050105472 A	20051104	KR20057015092	20040218
MXPA05008882 A1	20051005	MX2005PA08882	20040218
US2006232093 AA	20061019	US20040546423	20040218
US7641274 BB	20100105	US20040546423	20040218
WO04073976 A1	20040902	WO2004DE000302	20040218
WO04073976 C1	20050512	WO2004DE000302	20040218

Probable Assignee: WEBASTO AG

Assignee(s):(std): BOEHM HUBERT ; ERBECK GERIT ; PAETZ WERNER ; TESCHNER HELMUT ; VILSMAYER SWEN ; WEBASTO AG ; WEBASTO VEHICLE SYS INT GMBH ; WEBASTO FAHRZEUGTECHNIK AG ; WEBASTO AG FAHRZEUGTECHNIK

Assignee(s): WEBASTO VEHICLE SYSTEMS INTERNATIONAL GMBH ; WEBASTO SE ; WEBASTO VEHICLE SYSTEMS INT GMBH

Inventor(s):(std): ERBECK GERIT ; PAETZ WERNER ; SWEN BOEHM HUBERT ERBECK GERIT ; TESCHNER HELMUT ; VILSMAYER SWEN ; WERNER PAETZ ; SWEN VILSMAYER ; HUBERT BOEHM ; HELMUT TESCHNER ; GERIT ERBECK ; BOEHM HUBERT

Inventor(s): BOEHM HUBERT ERBECK GERIT PAETZ WERNER ; BOEHM HUBERT ERBECK GERIT PAETZ WERNER TESCHNER HE ; BOEHM HUBERT ERBECK GERIT PAETZ WERNER TESCHNER HELMUT VILSMAYER SWEN

Agent(s): SCHWAN SCHWAN SCHORER; ROBERTS MLOTKOWSKI AND HOBBS; DAVID S; ROBERTS MLOTKOWSKI SAFRAN AND COLE PC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8-9): B32B17/06 B32B17/10 B60J1/00 B60J1/02 B60J10/00 B60J10/02 B60J7/00 H01L31/042 (Advanced/Invention); B32B17/06 B60J1/00 B60J10/02 H01L31/042 (Advanced/Non-invention); B32B17/06 B60J1/00 B60J1/02 B60J10/00 B60J10/02 B60J7/00 H01L31/042 (Core/Invention)

International class (IPC 1-7): B32B17/06 B60J1/00 B60J10/02 B60J7/00 H01L31/042

CPC: B60J10/18 B60J10/30 B60J10/70 B32B17/10761 B32B17/10018 B32B17/10293 B32B17/10366 B32B17/1077 B32B17/10788 B32B2367/00 B32B2369/00

European class: B32B17/10C2 B32B17/10E16 B32B17/10E30 B32B17/10G28 B32B17/10G30 B32B17/10G36 B60J10/00C4 B60J10/00G B60J10/02 L32B367/00 L32B369/00

US class: 296/211 296/216.09 296/96.21 296/96.210P

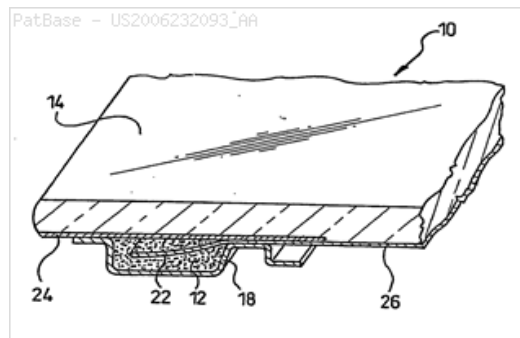
[Classification Explorer](#)

Cited documents: WO03041980 A2, US6942288 BB, US6908147 BB, US6867893 BB, US6565980 BA, US4857376 A, US4543283 A, US4509791 A, US2750312 A, US2004160090 AA, JP7179125 A2, JP63094017 U1, JP63094017 U, JP63094017 A2, JP63064818 A2, JP61066645 A2, JP60124715 U1, JP60124715 U, JP60124715 A2, JP57091624 U1, JP57091624 U, JP57091624 A2, JP48041423 A2, JP2004175211 A2, JP2000233951 A2, GB1399124 A, FR2720328 A1, EP1336520 A1, EP1310823 A1, EP1025986 A1, DE4323140 A1, DE3632472 A1, DE3521115 A1, DE2247644 A1, DE19803435 C1, DE19721853 A1, DE10206717 A1, DE10151156 A1,

Forward Citations: WO16041628, WO08152254, WO08152254, WO08101479, WO08053118, WO07113413, WO07042716, WO07003177, WO06034734, WO06034734, WO05095136, WO05095136, US9931918, US9694659, US9688128, US9259994, US9205722, US8998297, US8966840, US8839589, US8668256, US8393668, US8153237, US8029040, US7390037, US7311347, US2017217291, US2012292951, US2012227887, US2011047905, US2011025090, US2011018303, US2010244483, US2009189411, US2009148642, US2009019798, US2007275216, US2004258855, KR101509887, KR101309018, JP5249765, JP5079784, JP2009532269, JP2009511774, JP2008279946, FR2919282, FR2917311, FR2917008, FR2899155, FR2883227, EP3285304, EP1859931, EP1729988, EA013307, DE202016008385, DE102017208918, DE102016215461, DE102012103757, DE102007009039, DE102005031610, DE102005031610, DE102005025163, DE102004048469, DE102004048469, DE102004015920, CN103373202, CN103373202, CN102089147,

Abstract:

An arrangement for closing an opening of a vehicle and a corresponding manufacturing method, in which a shattering protection element (30, 30 A, 30 B) is fixed to a pane or to a functional element (60) fixed at the pane. The pane and the shattering protection element are connected via a permanently elastic adhesive connection (12) to the vehicle body or to a holding element (18) connected to the vehicle body.



65) Family number: 69563658 (US2018117883A)

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Title: WEDGE-SHAPED MULTILAYER INTERLAYER AND GLASS LAMINATE
Priority: US20160414015P 20161028 US20170796192 20171027

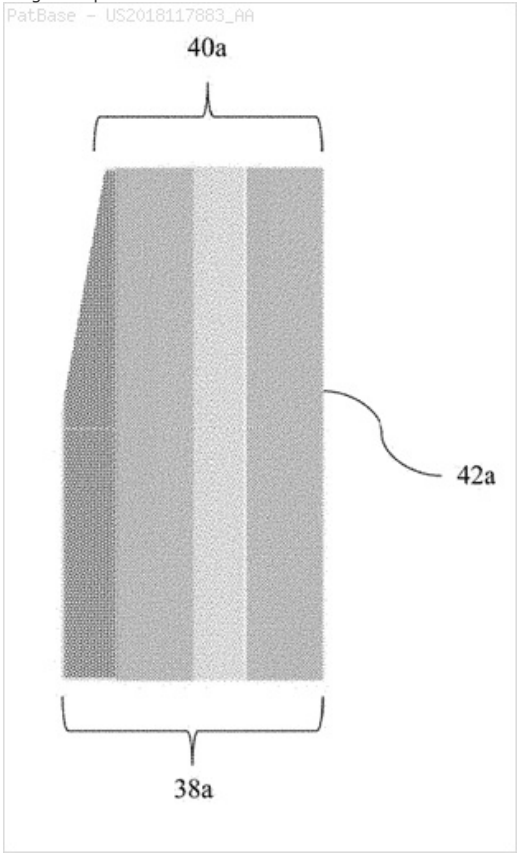
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	Publication number	Publication date	Application number	Application date												
	US2018117883 AA	20180503	US20170796192	20171027												
WO18081570 A1	20180503	WO2017US58776	20171027													
Probable Assignee:	KURARAY CO LTD															
Assignee(s):(std):	HANSEN STEVEN M ; KURARAY AMERICA INC ; KURARAY CO LTD ; OLSON JAMES ; PUTS RUTGER D															
Inventor(s):(std):	HANSEN STEVEN M ; OLSON JAMES ; PUTS RUTGER D ; PUTS RUTGER ; HANSEN STEVEN															
Agent(s):	MASON DEREK J ET AL															
Designated states:	AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW															
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CPC:	B32B17/10871 B32B17/10568 B32B17/10651 B32B17/10045 B32B17/10761 B32B27/30 B32B3/02 B32B3/263 B32B27/08 B32B27/42 B32B2274/00 B32B2307/10 B32B2307/4026 B32B2307/732 B32B2605/006 B32B17/10036 B32B17/10633 B32B17/10743 B32B2250/04															

[Classification Explorer](#)

Cited documents: WO16076340 A1, WO16076339 A1, WO16076338 A1, WO16076337 A1, WO16076336 A1, WO15199750 A1, WO14100313 A1, WO14055583 A1, WO03033583 A1, US8399096 BB, US8334033 BB, US8075983 BB, US7989083 BB, US7883761 BB, US7842395 BB, US7794818 BB, US7700179 BB, US7521110 BB, US7351468 BB, US6866918 BB, US6636370 BB, US6534152 BB, US6518365 BA, US6500888 BB, US5812332 A, US5639538 A, US5499145 A, US5340654 A, US5190826 A, US5087502 A, US5028674 A, US5013134 A, US4316868 A, US3404134 A, US201715588986, US2016291324 AA, US2016200076 AA, US2016171961 AA, US2016166024 AA, US2016160034 AA, US2016160033 AA, US2016160032 AA, US2016160029 AA, US2016160028 AA, US2016160027 AA, US2016160026 AA, US2016160025 AA, US2016159050 AA, US2016159049 AA, US2016159048 AA, US2016159047 AA, US2016122526 AA, US2016115380 AA, US2016111077 AA, US2016107424 AA, US2016096350 AA, US2016096349 AA, US2015174862 AA, US2015125656 AA, US2015099132 AA, US2014363651 AA, US2014044941 AA, US2013323516 AA, US2013273379 AA, US2013273378 AA, US2013236693 AA, US2013202863 AA, US2013189528 AA, US2013183532 AA, US2013183507 AA, US2013157065 AA, US2013075949 AA, US2013028540 AA, US2012288722 AA, US2012263958 AA, US2012244364 AA, US2012244329 AA, US2012135191 AA, US2012052274 AA, US2012021321 AA, US2011192678 AA, US2011105681 AA, US2010295331 AA, US2010239802 AA, US2010108125 AA, US2010028642 AA, US2009294212 AA, US2009159362 AA, US2008268204 AA, US2008254302 AA, US2008163977 AA, US2008102280 AA, US2007000593 AA, US2006216501 AA, US2006216485 AA, US2006210782 AA, US2006210776 AA, US2006188965 AA, US2003139520 AA, JP2013006727 A2, JP2013006726 A2, JP2012214305 A2, EP2803648 A1, EP2612843 A1, EP2017237 A1, EP1235683 A1, EP0710545 A1, CA2388107 AA,

Forward Citations: WO19027865, US2016341960,

Abstract:
 Provided is a wedge-shaped multilayer interlayer and a glass laminate containing such interlayer, wherein the interlayer is based on the combination of (a) an integrated multilayer interlayer sheet having an overall substantially consistent thickness and a substantially consistent thickness of an interior layer, and (b) a separate wedge-shaped film.



Family:

Publication number	Publication date	Application number	Application date
CN105683118 A	20160615	CN201480058878	20140821
EP3038990 A1	20160706	EP20140783687	20140821
US2016207819 AA	20160721	US20140913904	20140821
WO15031148 A1	20150305	WO2014US52025	20140821

Probable Assignee: CORNING INC

Assignee(s):(std): CORNING CO LTD ; CORNING INC

Inventor(s):(std): CLEARY THOMAS MICHAEL ; COUILLARD JAMES GREGORY ; EARLY KINTU ODINGA X ; HUTEN TIMOTHY SCOTT

Agent(s): SCHEUERMANN ERIK; HARDEE RYAN T

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/10 C03B25/00 C03B25/02 C03B27/00 C03C21/00 C03C23/00 (Advanced/Invention)

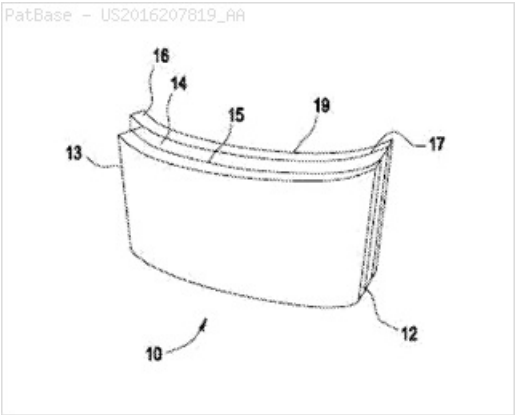
CPC: B32B17/10091 C03C23/007 C03C2218/34 C03B25/025 B32B17/10036 B32B17/10137 C03C21/002 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788

US class: 428/215
[Classification Explorer](#)

Cited documents: WO12177426 A1, WO0207967 A1, US8518544 BB, US7666511 BB, US5674790 A, US5632442 A, US4671814 A, US4483700 A, US4477486 A, US4400194 A, US4236909 A, US4178082 A, US4154590 A, US4075381 A, US3751238 A, US3396001 A, US3304166 A, US3169900 A, US3119680 A, US201313926461, US2013122254 AA, US2012236526 AA, US201213626958, US2011183118 AA, US2010009154 AA, US2005189328 AA, GB1283695 A, DE805773 A, DE10257972 B3, DE102012014372 A1, CN1553236 A, CN102992601 A,

Forward Citations: WO17132461, WO17123573, WO17020040, US9975801, US9957190, US9925743, US9908805, US9902640, US9802853, US9783448, US9776905, US9616641, US9573833, US10137667, US10077204, US10035724, US10035332, US10035331, US10017033, US10005691, NL2018497,

Abstract:
A method of providing locally annealed regions for a glass article. The method includes providing a strengthened glass article having a first surface compressive stress and a first depth of layer of compressive stress, annealing the strengthened glass article to achieve a second surface compressive stress and a second depth of layer of compressive stress, and masking a portion of the glass article during the annealing step to achieve a third surface compressive stress and a third depth of layer of compressive stress in the masked portion. The glass article can be a laminate structure comprising a first glass layer, a second glass layer, and at least one polymer interlayer intermediate the first and second glass layers. The glass layers can include differing surface compressive stresses depths of layer of compressive stress.



67) Family number: 66281670 (US2019022985A)

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Title: PROCESS FOR MANUFACTURING AN AUTOMOTIVE GLAZING PANEL INTO WHICH AN OLED SCREEN IS INCORPORATED

Priority: FR20150063453 20151230 WO2016FR53631 20161222

Family:

Publication number	Publication date	Application number	Application date
BR112018011806 A2	20181204	BR20181111806	20161222
CA3007402 AA	20180604	CA20163007402	20161222
CN107148344 A	20170908	CN201680004745	20161222
EP3397484 A1	20181107	EP20160829275	20161222
FR3046382 A1	20170707	FR20150063453	20151230
ID201810023 A	20180914	ID2018PID04704	20161222
IN201817020994 A	20180907	IN201817020994	20180605
KR20180100048 A	20180906	KR20187018236	20161222
MX2018007974 A1	20181109	MX20180007974	20161222
US2019022985 AA	20190124	US20160067268	20161222
WO17115036 A1	20170706	WO2016FR53631	20161222

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s):(std): SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE ; SAINT GOBAIN SA

Assignee(s): LABROT MICHAEL

Inventor(s):(std): LABROT MICHAEL ; MICHAEL LABROT

Agent(s): GOUDREAU GAGE DUBUC; LAVERY DE BILLY LLP; SAINT GOBAIN RECHERCHE; IR MIGNI MYRIASANDRA SH MIP MSEL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/10 B32B37/00 B32B37/10 B32B37/14 B60J1/00 C03C27/12 (Advanced/Invention)

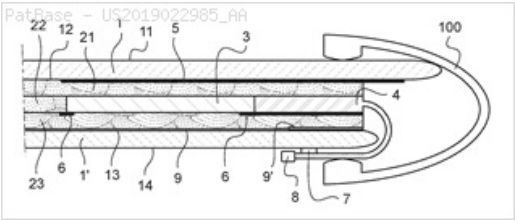
International class (IPC 1-7): B32B17/10 C03C27/12

CPC: B32B17/10174 B32B17/10541 B32B17/10743 B32B17/10844 B32B17/1099 B32B17/10871 B32B17/10036 B32B17/10761 B32B17/1077 B32B17/10788

[Classification Explorer](#)

Cited documents: WO14083110 A1, US2009219468 AA, FR2578485 A1, EP2955164 A1, DE102013003686 A1 DE102007012571 A1

Abstract:
A process for manufacturing a transport vehicle laminated glazing includes placing in succession to form a stack: a first glazing, a first lamination interlayer made of polymeric material, a second lamination interlayer made of polymeric material and, in a reserve produced in the latter, a flexible OLED element or screen, which is directly extended toward one edge of the glazing by a connection element that is connected thereto and that extends out of the stack, a third lamination interlayer made of polymeric material, and a second glazing, then in subjecting the resulting assembly to a vacuum at room temperature so as to remove air from the stack, then heating the resulting assembly to a temperature of at most equal to 85 degrees centigrade while continuing to subject it to a vacuum.



68) Family number: 48844694 (US2015000511A) © PatBase

Title: BULLET-PROOF GLASS PANE AND ASSOCIATED BULLET-RESISTANT APPATUS

Priority: DE201120001371U 20110112 EP20120704652 20120104 WO2012DE000004 20120104

Family:	Publication number	Publication date	Application number	Application date
	BR112013017349 A2	20161004	BR20131117349	20120104
	CN103429447 A	20131204	CN201280005022	20120104
	CN103429447 B	20161214	CN201280005022	20120104
	CO6821900 A2	20131231	CO20130187115	20130806
	DE112012000449 A5	20131002	DE201211000449T	20120104
	DE202011001371 U1	20110519	DE201120001371U	20110112
	DE502012009636 D1	20170413	DE201250009636T	20120104
	EP2663460 A1	20131120	EP20120704652	20120104
	EP2663460 B1	20170301	EP20120704652	20120104
	ES2444893 T1	20140227	ES20120704652T	20120104
	ES2444893 T3	20170825	ES20120704652T	20120104
	MX2013007983 A1	20131202	MX20130007983	20120104
	MX345276 B	20170124	MX20130007983	20120104
	PE08462014 A1	20140719	PE20130001552	20120104
	RU2013132152 A	20150220	RU20130132152	20120104
	RU2587748 C2	20160620	RU20130132152	20120104
	US2015000511 AA	20150101	US20120979440	20120104
	US9273934 BB	20160301	US20120979440	20120104
	WO12095098 A1	20120719	WO2012DE000004	20120104

Probable Assignee: ISOCLIMA SPA

Assignee(s):(std): ENGL ANDREAS ; ISOCLIMA GMBH ; ISOCLIMA SPA

Assignee(s): ISOCLIMA ESTE SPA

Inventor(s):(std): ENGL ANDREAS ; ANDREAS ENGL

Agent(s): MOTSCH AND SEITZ; SEITZ RALF HANS FRANK; LOPEZ JUAN LUIS; HAUPTMAN HAM LLP; SEITZ RALF

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/10 B60J1/00 B60J1/02 B60J1/06 C03C27/12 F41H5/04 F41H5/06 F41H5/26 F41H7/00 (Advanced/Invention)

CPC: F41H5/0478 B32B2571/02 F41H5/263 B32B17/10045 B32B17/10293 B32B17/10761 B32B17/1077 B32B2369/00 F41H5/0407 Y10T428/239 B60J1/00 F41H5/06

European class: B32B17/10C4B B32B17/10E16 B32B17/10G28 B32B17/10G30 F41H5/04B F41H5/26B L32B369/00

US class: 1/1 428/76 89/36.08

Cited documents:

WO03078917 A1, US6565980 BA, US6280826 BA, US6276100 BA, US6129974 A, US2345336 A, US2013171398 AA, US2010300276 AA, US2008187721 AA, US2005172792 AA, RU70641 U, EP2434249 A1, EP2434249 A1, EP1010963 A2, EP1010963 A2, EP1004433 B1, EP1004433 B1, EP1004433 A1, EP0528354 A1, DE4415879 A1, DE4415879 A1, DE4335336 A1, DE4142416 C2, DE4142416 A1, DE4142416 A1, DE4006711 A1, DE19918526 A1, DE19918526 A1, DE19745248 A1, DE19745248 A1, DE10244368 A1, DE10244368 A1,

DE102010020560 A1

DE102010020560 A1

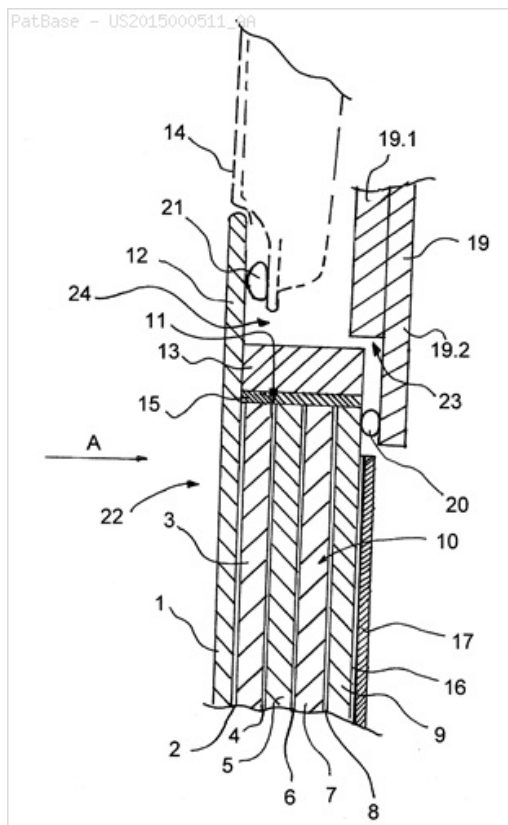
DE10048566 A1, DE10043793 A1, DE10043793 A1, CN201322579 Y,

Forward Citations:

WO18024387, WO14082688, US9506727, US2017146321, EP3309501, EP3309500, EP2738512, EP2738512,

Abstract:

The present invention relates to a bullet-proof glass pane, in particular for use in a motor vehicle, comprising a ballistic block comprising a plurality of panes of glass, ceramic or plastic material bonded to each other over their surfaces in a layered composite, and interposed bonding interlayers of plastic material, wherein at least one bullet-resistant strip is provided, having, in particular, an essentially rectangular cross-section and covering the ballistic block of the bullet-proof glass pane at its peripheral edge.

**69) Family number: 66712697** (US2017239918A)

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Title:

INTERLAYER FOR LAMINATED GLASS AND LAMINATED GLASS

Priority:

JP20160032959 20160224

Family:

Publication number	Publication date	Application number	Application date
■ CN107116865 A	20170901	CN201710099460	20170223
■ EP3210775 A1	20170830	EP20170000282	20170222
■ JP2017149604 A2	20170831	JP20160032959	20160224
■ US2017239918 AA	20170824	US20170442300	20170224

Probable Assignee:

ASAHI GLASS CO LTD

Assignee(s):(std):

ASAHI GLASS CO LTD

Assignee(s):

N A ; AGC INC

Inventor(s):(std):

ATSUSHI NAKAMURA ; NAKAMURA ATSUSHI

Agent(s):

MUELLER BORE AND PARTNER PATENTANWALTE PARTG MBB

Designated states:

AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8-9):

B32B17/06 B32B17/10 B32B27/30 B32B37/06 B32B37/12 B32B7/02 B32B7/12 B32B9/00 B60J1/00 C03C27/12 (Advanced/Invention)

CPC:

B32B17/06 B32B2309/105 B32B2250/03 B32B2250/40 B32B2309/02 B32B17/10761 B32B17/1077 B32B17/10779 B32B17/10788 B32B27/30 B32B17/10036 B32B17/10568 B32B7/12 B32B9/005 B32B17/10807 B32B37/06 B32B37/12 B32B2307/102 B32B2250/05 B32B2250/42

Cited documents:

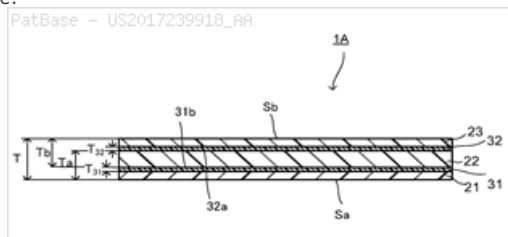
WO11081190 A1, US2015125656 AA, US2014363651 AA, US2013236693 AA, US2006008658 AA,

Forward Citations:

US9994001, US2017210097, US10016960, EP3248775,

Abstract:

There are provided an interlayer for laminated glass having a multilayer structure, capable of sufficiently suppressing generation of air bubbles and increase of area of air bubbles when the interlayer is made into a laminated glass. The interlayer for laminated glass includes alternately laminated at least one skin layer and two or more core layers, the skin layer having a storage modulus of 1.0×10^6 Pa or more measured by a dynamic viscoelasticity test under conditions of a frequency of 1 Hz, a swing angle gamma of 0.01 percent and a temperature of 20 degrees centigrade, and the core layers having a storage modulus of less than 1.0×10^6 Pa, wherein a value of a product of a value obtained by averaging thicknesses (mm) of the respective core layers and a thickness (mm) of the whole interlayer for laminated glass is 0.15 or more.



70) Family number: 30064699 (US2005233136A)

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Title: LAMINATED GLASS SHEET WITH A LAMINATED FILM
Priority: DE20021020299 20020507 DE20022021989U 20020507 EP20030755052 20030507
 WO2003FR01418 20030507

Family:	Publication number	Publication date	Application number	Application date
	AU2003254526 AA	20031212	AU20030254526	20030507
	CN100391731 C	20080604	CN20038010140	20030507
	CN1649727 A	20050803	CN20038010140	20030507
	DE10220299 A1	20031204	DE20021020299	20020507
	DE20221989 U1	20100602	DE20022021989U	20020507
	DE60346827 D1	20141113	DE20036046827	20030507
	EP1549490 A1	20050706	EP20030755052	20030507
	EP1549490 B1	20141001	EP20030755052	20030507
	ES2525088 T3	20141217	ES20030755052T	20030507
	IN01822KN2004 A	20060804	IN2004KN01822	20041201
	IN233860 B	20090417	IN2004KN01822	20041201
	JP2005529766 T2	20051006	JP20040507061T	20030507
	KR101110303 B1	20120217	KR20047017852	20030507
	KR20050003413 A	20050110	KR20047017852	20030507
	MXPA04011037 A1	20050125	MX2004PA11037	20030507
	PT1549490 T	20141218	PT20030755052T	20030507
	US2005233136 AA	20051020	US20050512071	20050422
	US7135219 BB	20061114	US20050512071	20050422
	WO03099553 A1	20031204	WO2003FR01418	20030507

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s):(std): GOERENZ WALTER ; LINDEN LUDWIG ; OFFERMANN VOLKMAR ; SAINT GOBAIN ; SAINT GOBAIN SA ; SAINT GOBAIN SEKURIT D GMBH ; SCHILDE HEINZ ; STEFFENS MICHAEL

Assignee(s): SAINT GOBAIN SEKURIT DEUTSCHLAND GMBH AND CO KG ; SAINT GOBAIN GLASS FRANCE

Inventor(s):(std): WALTER GOERENZ ; VOLKMAR OFFERMANN ; MICHAEL STEFFENS ; LUDWIG LINDEN ; HEINZ SCHILDE ; STEFFENS MICHAEL ; SCHILDE HEINZ ; OFFERMANN VOLKMAR ; LINDEN LUGWIG ; LINDEN LUDWIG ; GOERENZ WALTER

Agent(s): BOCKHORN AND KOLLEGEN PATENT U RECHTSANWAELTE; COLOMBIER CHRISTIAN; DE ELZABURU ALBERTO; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

International class (IPC 8-9): B32B17/10 B32B27/00 B32B27/08 B32B27/30 B32B27/36 B32B7/02 B32B7/12 B60J3/00 C03C27/12 E06B3/66 (Advanced/Invention); B32B17/06 B32B27/00 B32B27/08 B32B27/30 B32B27/36 B32B7/02 B32B7/12 B60J3/00 C03C27/12 E06B3/66 (Core/Invention)

International class (IPC 1-7): B32B17/10 B32B27/00 B32B27/30 B32B27/36 B32B27/42 B60J3/00 C03C27/12 E06B3/66

CPC: Y10T428/24851 Y10T428/24868 Y10T428/24876 Y10T428/24893 Y10T428/24901 Y10T428/24942 Y10T428/2495 Y10T428/24959 Y10T428/266 Y10T428/269 B32B27/36 B32B17/10036 B32B17/10045 B32B17/10339 B32B17/10743 B32B17/10761 B32B17/10788 B32B17/10935 Y10T428/31616 Y10T428/3163 Y10T428/31645 Y10T428/31649 Y10T428/31678 Y10T428/31681 Y10T428/31786 Y10T428/31797 Y10T428/31909 Y10T428/31928 Y10T428/31935 Y10T428/31938 B32B17/10

European class: B32B17/10 B32B17/10C4 B32B17/10C4B B32B17/10E26 B32B17/10G24 B32B17/10G28 B32B17/10G36 B32B17/10L16F B32B27/36

US class: 428/201 428/203 428/204 428/206 428/207 428/212 428/213 428/214 428/337 428/339 428/339P 428/426 428/426S 428/430 428/437 428/437S 428/441 428/442 428/457 428/458 428/480 428/480S 428/483 428/515 428/520 428/522 428/522S 428/523

[Classification Explorer](#)

Cited documents: US6926786 BB, US6926786 BA, US6833184 BB, US6833184 BA, US6673456 BA, US6455141 BA, US6432522 BA, US6410120 BA, US6352754 BA, US6294251 BA, US6242081 BA, US5683805 A, US5622580 A, US5567529 A, US5496643 A, US5415909 A, US5352528 A, US4911984 A, US4816096 A, US4797317 A, US4591525 A, US4427743 A, US3952135 A, US3923757 A, US3630809 A, US3622440 A, JP10297945 A2, JP10287452 A2, GB857174 A, GB590235 A, GB1470844 A, EP0852999 A2, EP0287861 A1,

Forward Citations: WO08085680, WO08078042, WO08078042, WO05042246, US9102123, US7291398, US2011217558,

Abstract:

In a composite pane having a film laminate which adhesively connects two rigid panes to one another to form a pane assembly and comprises at least one coloured adhesive film and at least one uncoloured adhesive film which can be fused on during production of the pane assembly, according to the invention, at least one intermediate layer is provided between the two differently coloured fused-on adhesive films and results in a uniform flattening of the mutually facing surfaces of the two adhesive films while being fused on. This results in the finished product being homogeneously coloured when being looked through.

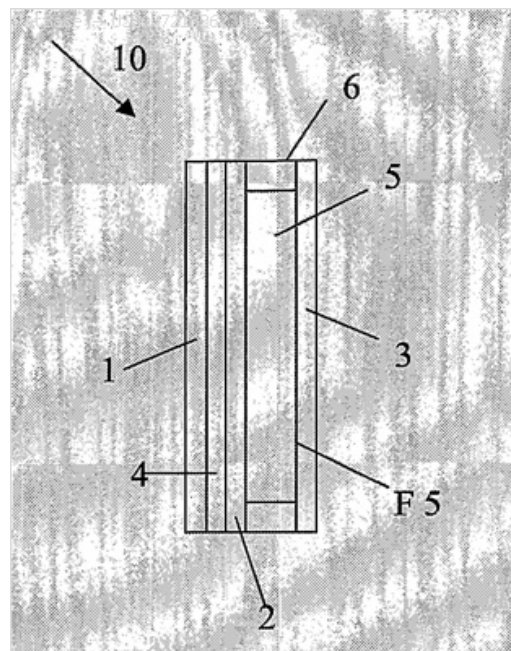
71) Family number: 32248703 (US2007218262A)

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Title:	GLAZING																																												
Priority:	EP20040100905 20040305		EP20050729688 20050303		WO2005EP50945 20050303																																								
Family:	<table><thead><tr><th>Publication number</th><th>Publication date</th><th>Application number</th><th>Application date</th></tr></thead><tbody><tr><td> CN1946643 A</td><td>20070411</td><td>CN200580012758</td><td>20050303</td></tr><tr><td> EP1577276 A1</td><td>20050921</td><td>EP20040100905</td><td>20040305</td></tr><tr><td> EP1725505 A2</td><td>20061129</td><td>EP20050729688</td><td>20050303</td></tr><tr><td> JP2007526204 T2</td><td>20070913</td><td>JP20070501291T</td><td>20050303</td></tr><tr><td> RU2006135008 A</td><td>20080420</td><td>RU20060135008</td><td>20050303</td></tr><tr><td> RU2375320 C2</td><td>20091210</td><td>RU20060135008</td><td>20050303</td></tr><tr><td> US2007218262 AA</td><td>20070920</td><td>US20050598594</td><td>20050303</td></tr><tr><td> WO05090255 A2</td><td>20050929</td><td>WO2005EP50945</td><td>20050303</td></tr><tr><td> WO05090255 A3</td><td>20060413</td><td>WO2005EP50945</td><td>20050303</td></tr></tbody></table>					Publication number	Publication date	Application number	Application date	 CN1946643 A	20070411	CN200580012758	20050303	 EP1577276 A1	20050921	EP20040100905	20040305	 EP1725505 A2	20061129	EP20050729688	20050303	 JP2007526204 T2	20070913	JP20070501291T	20050303	 RU2006135008 A	20080420	RU20060135008	20050303	 RU2375320 C2	20091210	RU20060135008	20050303	 US2007218262 AA	20070920	US20050598594	20050303	 WO05090255 A2	20050929	WO2005EP50945	20050303	 WO05090255 A3	20060413	WO2005EP50945	20050303
Publication number	Publication date	Application number	Application date																																										
 CN1946643 A	20070411	CN200580012758	20050303																																										
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 US2007218262 AA	20070920	US20050598594	20050303																																										
 WO05090255 A2	20050929	WO2005EP50945	20050303																																										
 WO05090255 A3	20060413	WO2005EP50945	20050303																																										
Probable Assignee:	AGC FLAT GLASS EUROPE SA																																												
Assignee(s):(std):	AGK FLEHT GLASS JUROP SA ; DEGAND ETIENNE ; GLAVERBEL ; GOELFF PIERRE																																												
Assignee(s):	AGC FLAT GLASS EUROPE SA ; AGC GLASS EUROPE																																												
Inventor(s):(std):	DEGAND ETIENNE ; GOELFF PIERRE ; PIERRE DEGAND ETIENNE GOELFF ; GEL F P ER ; DEGAN EHT EN																																												
Inventor(s):	GEL'F P'ER ; DEGAN EHT'EN ; DEGAND ETIENNE GOELFF PIERRE																																												
Agent(s):	AKERMAN SENTERFITT																																												
Designated states:	AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW																																												
International class (IPC 8-9):	B32B17/10 B32B7/00 C03C17/34 C03C17/42 C03C27/10 C03C27/12 E06B3/66 (Advanced/Invention); E06B5/16 (Advanced/Non-invention)																																												
International class (IPC 1-7):	B32B17/10 C03C17/28 C03C17/34 C03C17/42 C03C27/10 E06B3/66																																												
CPC:	Y10T428/24967 Y10T428/26 B32B17/10055 B32B17/10 B32B17/10036 B32B17/10045 B32B17/10174 B32B17/10311 B32B17/10761 B32B17/10788 C03C17/34 C03C27/10 E06B5/162 F41H5/0407 Y10T428/3163 Y10T428/31649																																												
European class:	B32B17/10 B32B17/10C4 B32B17/10C4B B32B17/10C4B4 B32B17/10E10 B32B17/10E18 B32B17/10G28 B32B17/10G36 C03C17/34 C03C27/10 P06B5/16B																																												
US class:	428/215 428/215P 428/332 428/332S 428/437 428/437S 428/442 428/442S 428/702 428/702S																																												
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Cited documents:	WO0037383 A1, US4173668 A, JP5245975 A2, JP2003026938 A2, JP2002220495 A2, JP2001097747 A2, JP2000344553 A2, EP1147066 A1, EP0617078 A1, EP0219801 A2, DE4224053 A1, DE2542441 A1, DE19916506 C1,																																												
Forward Citations:	WO10014362, WO08084083, WO07118886, US9718727, US9359251, US9193625, US8147973, US2013236666, US2011135940, US2011117300, RU2535558, RU2503543, EP2995450, EP2520896, EP2439064, EP2110238, DE202010008731, DE102011050039, DE102010037992, CN106218141, CN106218141, CN102112304,																																												

Abstract:

A glazing panel having dimensions of at least 40 cm by 30 cm and a mechanical resistance rating of at least 2B2 in a pendulum test according to European standard EN12600 comprises a first glass sheet having a thickness within the range 1.5 mm to 14 mm, a second glass sheet having a thickness within the range 1.5 mm to 14 mm, spaced from the first glass sheet and an interlayer adhered between the first and second glass sheets so as to form a laminated assembly, the interlayer having a maximum heat release rate of less than 650 kW/m².



72) Family number: 34299707 (US2009246517A)

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Title: PROCESS FOR PRODUCING LAMINATED GLASS COMPOSED PARTLY OF PLASTIC SHEET, AND LAMINATED GLASS

Priority: JP20050253722 20050901 JP20050253726 20050901 JP20050253732 20050901
 JP20050253735 20050901 JP20070534341 20060828 JP20070534341T 20060828
 WO2006JP316880 20060828 WO2006JP16880 20060828 JP20110233298 20111024

Family:	Publication number	Publication date	Application number	Application date
	CA2618158 AA	20080206	CA20062618158	20060828
	CN101300133 A	20081105	CN200680040535	20060828
	EP1930150 A1	20080611	EP20060783109	20060828
	EP1930150 A4	20110323	EP20060783109	20060828
	JP2007029541 A1	20090319	JP20070534341T	20060828
	JP2012035633 A2	20120223	JP20110233298	20111024
	JP4951515 B1	20120613	JP20070534341T	20060828
	JP4951515 B2	20120613	JP20070534341T	20060828
	KR20080044316 A	20080520	KR20087007805	20060828
	MX2008002827 A1	20080327	MX20080002827	20060828
	RU2008112308 A	20091010	RU20080112308	20060828
	TH87782 A	20071130	TH20061004176	20060831
	US2009246517 AA	20091001	US20060991290	20060828
	WO07029541 A1	20070315	WO2006JP316880	20060828

Probable Assignee: SEKISUI CHEMICAL CO LTD

Assignee(s):(std): HATTA BUNGO ; SEKISUI CHEMICAL CO LTD

Assignee(s): SEKISUI CHEMICAL CO ; SEKISUI CHEM CO LTD

Inventor(s):(std): BUNGO HATTA ; HATTA BUNGO

Agent(s): TORYS LLP; WELLER WOLFGANG ET AL; IWATANI RYO; WENDEROTH LIND AND PONACK LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B29C65/40 B29C65/52 B32B17/10 B32B27/28 B32B37/00 B32B37/16 C03C27/12 (Advanced/Invention); B32B17/10 B32B27/28 C03C27/12 (Advanced/Non-invention); B32B17/06 B32B27/28 B32B37/00 C03C27/12 (Core/Invention)

International class (IPC 1-7): C03C27/12

CPC: Y10T428/269 B32B17/10018 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788 B32B27/08 B32B2333/12 B32B2369/00 B32B17/10605

European class: B32B17/10C2 B32B17/10G24 B32B17/10G28 B32B17/10G30 B32B17/10G36 B32B27/08 L32B333/12 L32B369/00

US class: 156/106 156/106S 156/99 156/99S 428/339 428/339P 428/426 428/426S

[Classification Explorer](#)

Cited documents: US7332216 BB, US6710137 BB, US4822684 A, US4675237 A, US4537828 A, US4364786 A, US3666614 A, US2004071435 AA, US2003111159 AA, JP7002551 A2, JP7002551, JP61225271 A2, JP61225271, JP6009932 A2, JP6009932, JP4805817, JP4805817 A2, JP4635156 B1, JP46035156 B4, JP46035156 B1, JP46035156 B1, JP4261842 A2, JP2005213068 A2, JP2005213068, JP2004114481 A2, JP2004061914 A2, JP2004050750 A2, JP2004050750, JP2003176159 A2, JP2003176159, JP2002235049 A2, JP2002234926 A2, JP2002226773 A2, JP2002180019 A2, JP2002180019, JP2002146330 A2, JP2001220183 A2, JP2000154046 A2, JP1158612, JP1135349, JP11058612 A2, JP11058612, JP11035349 A2, JP11035349, JP10287451 A2, JP0702551, JP0609932,

Forward Citations: WO18159520, WO16092196, WO11024783, WO11016495, US8722194, US8097114, US2015140324,

US2014084148, RU2584533, KR101038032, JP6360704, JP5709634, JP5679177, JP2015196612, JP2012232416, JP2011148307, JP2010530815, JP2010274581, FR3029836, EP3243652, CN107000387, CN105473527, CN102806726, CN102806726,

Abstract:

There is provided a novel laminated glass composed partly of plastic sheet advantageous in light weight property, obtainable by the step of laminating a plastic sheet having the first interlayer film adhered to one side thereof and an inorganic glass sheet having the second interlayer film adhered to one side thereof through the first and second interlayer films interposed therebetween, which warps little, exhibits almost no perspective distortion, exhibits satisfactory adhesion between the plastic sheet and the inorganic glass sheet through the interposed interlayer films, and is excellent in transparency.

Patbase - KR20050044316_1		실시예 1	실시예 2	실시예 3	실시예 4
합판 유리층의 두께 (mm)	면 ①	0.04	0.08	0.03	0.08
	면 ②	0.09	0.07	0.03	0.08
	면 ③	0.01	0.04	0.04	0.11
	면 ④	0.05	0.08	0.07	0.08
실용 평균 조도	제1 중간막	2.1	1.5	1.7	1.2
	제2 중간막	1.7	2.5	1.9	2.1
중간막과 플라스틱층의 계면에서의 박리		없음	없음	없음	없음
중간막과 무기유리층의 계면에서의 박리		없음	없음	없음	없음
제1 중간막과 제2 중간막의 계면에서의 박리		없음	없음	없음	없음
합판 유리층의 색차 (ΔE)		0.8	0.9	0.9	0.8

73) Family number: 68240719 (US2018017789A)

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Title: LAMINATED GLASS

Priority: JP20160140812 20160715

Family:

Publication number	Publication date	Application number	Application date
■ CN107618234 A	20180123	CN201710565894	20170712
■ EP3269547 A1	20180117	EP20170001153	20170705
■ JP2018008862 A2	20180118	JP20160140812	20160715
■ US2018017789 AA	20180118	US20170641446	20170705

Probable Assignee: ASAHI GLASS CO LTD

Assignee(s):(std): ASAHI GLASS CO LTD

Assignee(s): N A ; AGC INC

Inventor(s):(std): AOKI TOKIHIKO ; AYAKA Ikegami ; Ikegami Ayaka ; Matsuzaki Ayaka ; Sadakane Shunsuke ; Shunsuke Sadakane ; Tokihiro Aoki

Agent(s): MUELLER BORE AND PARTNER PATENTANWALTE PARTG MBB; ITOH TADASHIGE; ITOH TADASHIHO

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8-9): B32B17/00 B32B17/10 B32B27/00 B60J1/00 B60J1/02 C03C27/12 G02B27/00 G02B27/01 (Advanced/Invention); B60K35/00 (Advanced/Non-invention)

CPC: G02B27/0101 G02B27/0018 B60J1/02 B60K35/00 G02B27/012 G02B27/0194 B32B17/10174 B32B17/10348 B32B17/10568 B32B17/10761 B32B17/1077 B32B17/10779 B32B17/10788 G02B27/01 B32B17/10036 G02B27/0121 B32B17/10743

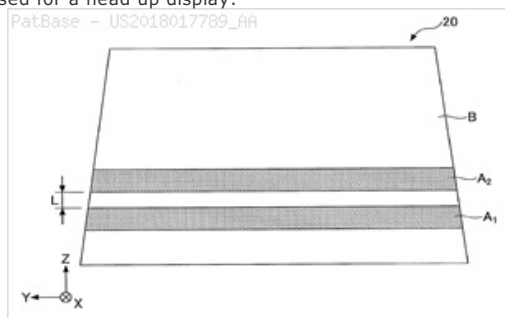
[Classification Explorer](#)

Cited documents: WO17175639 A1, WO16091435 A1, WO16017566 A1, WO15134836 A1, WO15086234 A1, US6414796 BA, US5812332 A, US2018149867 AA, US2018149865 AA, US2017363863 AA, US2017343806 AA, US2017274631 AA, US2017072663 AA, US2016291324 AA, US2016168353 AA, US2010314900 AA, US2007148472 AA, JP2016140812 A2, JP2014024752 A2,

Forward Citations: US2016341960,

Abstract:

A laminated glass includes first and second glass plates to be arranged on a vehicle inner side and outer side, respectively; and an intermediate film positioned between the first and second glass plates and bonded to the glass plates. The laminated glass includes a first region, a transition region, and a second region, from a lower side of the laminated glass. Each of the first and second regions includes a region having a wedge-shaped cross section, in which an upper edge side thickness is greater than a lower edge side thickness, or having a thickness that is constant. The transition region connects the first and second regions, and includes a region having a wedge-shaped cross section, in which an upper edge side thickness is greater than a lower edge side thickness. At least one of the first and second regions includes a region used for a head up display.



74) Family number: 66161738 (US2018250918A)

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Title: HEATABLE LAMINATED GLASS COMPRISING A THIN INNER PANE AND A THIN OUTER PANE

Priority: EP20150200334 20151216 WO2016EP81323 20161215

Family:	Publication number	Publication date	Application number	Application date
	BR112018010379 A2	20181204	BR20181110379	20161215
	CA3005510 AA	20180516	CA20163005510	20161215
	CN107107571 A	20170829	CN201680003204	20161215
	EP3390044 A1	20181024	EP20160825716	20161215
	ID201809544 A	20180831	ID2018PID04225	20161215
	IN201817019785 A	20180928	IN201817019785	20180528
	KR20180082548 A	20180718	KR20187016611	20161215
	MX2018007312 A1	20180906	MX20180007312	20161215
	US2018250918 AA	20180906	US20160739046	20161215
	WO17103032 A1	20170622	WO2016EP81323	20161215

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s):(std): SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE ; SAINT GOBAIN SA

Assignee(s): SCHALL GUNTHER ; SCHULZ VALENTIN

Inventor(s):(std): GUENTHER SCHALL ; VALENTIN SCHULZ ; SCHULZ VALENTIN ; SCHALL GUENTHER ; SCHALL GUNTHER

Agent(s): GOUDREAU GAGE DUBUC ; LAVERY DE BILLY LLP ; GEBAUER DIETER EDMUND ; DR TOETI HERATY N ROOSSENSO ; GEBAUER DIETER

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/10 (Advanced/Invention)

International class (IPC 1-7): B32B17/10

CPC: B32B17/10174 B32B17/10211 B32B17/1022 B32B2307/202 B32B2309/105 B32B2605/08 B32B17/10229 B32B17/10036 B32B17/10119 B32B17/10137 B32B17/10761 B32B17/1077 B32B17/10788

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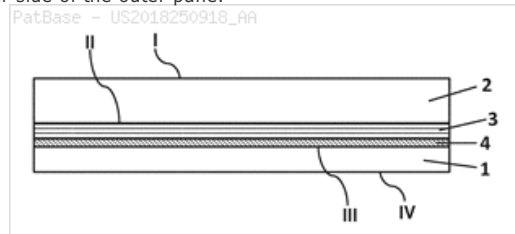
Cited documents: WO15158464 A1, WO15058885 A1, WO13104439 A1, WO13104438 A1, WO11105991 A1, WO10115558 A1, WO03024155 A2, US2014017472 AA, US2007082219 AA, US2007020465 AA, EP2421704 B1, EP2141135 A1, EP0025755 B1, DE9313394 U, DE4235063 A1,

DE202004019286 U1

DE10333618 B3,

Abstract:

A vehicular laminated glass for separating a vehicle interior from an external environment is presented. The laminated glass includes inner and outer panes made of glass and having respective inner sides and outer sides, and a thermoplastic intermediate layer that bonds the inner side of the inner pane to the inner side of the outer pane. According to one aspect, the thickness of the inner pane is less than or equal to 1.4 mm, the thickness of the outer pane is less than or equal to 1.8 mm. An electrically heatable coating is applied on the inner side of the inner pane or the inner side of the outer pane.



75) Family number: 62805754 (US2017348945A)

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Title: LAMINATED GLASS PANEL WITH THIN SHEET OF SHATTERPROOF GLASS

Priority: FR20140063375 20141229 WO2015FR53683 20151221

Family:	Publication number	Publication date	Application number	Application date
	BR112017011277 A2	20180403	BR20171111277	20151221
	CN107107569 A	20170829	CN201580071639	20151221
	CO20170006283 A2	20170911	CO20170006283	20170627
	EP3240685 A1	20171108	EP20150830818	20151221
	FR3031065 A1	20160701	FR20140063375	20141229
	IN201717018236 A	20171117	IN201717018236	20170524
	MX2017008573 A1	20171115	MX20170008573	20151221
	US2017348945 AA	20171207	US20150539924	20151221
	WO16108005 A1	20160707	WO2015FR53683	20151221

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s):(std): SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE

Inventor(s):(std): BENOIT LUBIN ; CHAUSSADE PIERRE ; DAUDIFFRET STEPHANE ; LUBIN BENOIT ; MICHAEL ROUBY ; MICHEL ROUBY ; PIERRE CHAUSSADE ; ROUBY MICHEL ; STEPHANE DAUDIFFRET

Agent(s): MARGARITA CASTELLANOS ABONDANO ; SAINT GOBAIN RECHERCHE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class B32B17/06 B32B17/10 B32B7/04 B32B7/12 C03C27/12 (Advanced/Invention)

(IPC 8-9):

CPC: B32B17/10036 B32B2605/18 B32B17/10211 B32B17/10045 B32B17/10137 B32B17/10743
B32B17/10761 B32B17/1077 B32B17/10788 B32B2605/10

[Classification Explorer](#)

Cited documents: WO14029605 A1, WO13184897 A1, US4595624 A, US2012025559 AA, FR2632950 A1, FR2540096 A1, CN200978253 Y,

Abstract:

A laminated glazing unit includes one to ten first glass sheets each of thickness included between 1.5 and 22 mm, if needs be adhesively bonded to one another by one or more first adhesive interlayers, and a second glass sheet forming one of the two faces of the laminated glazing unit, of thickness included between 0.5 and 1.5 mm, and adhesively bonded to the first glass sheet(s) by a second adhesive interlayer, the second glass sheet being made of aluminosilicate or soda-lime glass that is chemically toughened, having a surface stress comprised between 300 and 1000 and between 200 and 500 MPa, respectively, and a depth under compression between 20 and 100 micro m.

76) Family number: 66945781 (WO17154583A1)

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Title: GLASS WINDOW HAVING A LUMINOUS CAPABILITY
Priority: US20160305118P 20160308 US20160414192P 20161028 WO2017JP06695 20170223
Family:

Publication number	Publication date	Application number	Application date
EP3426615 A1	20190116	EP20170713793	20170223
WO17154583 A1	20170914	WO2017JP06695	20170223

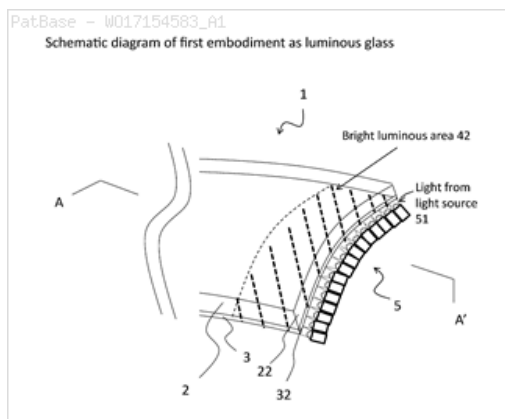
Probable Assignee: CENTRAL GLASS CO LTD
Assignee(s):(std): CENTRAL GLASS CO LTD
Inventor(s):(std): BARD MICHAEL ; NAKAI NOBUYUKI ; OBARA YOSHIHIKO ; SOLCHENBACH TOBIAS
Agent(s): STONER GERARD PATRICK; KOBAYASHI HIROMICHI ET AL
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B32B17/10 C03C1/00 C03C17/00 F21V8/00 (Advanced/Invention)
CPC: C03C17/007 B32B17/10541 C03C1/008 C03C2217/46 C03C2217/48 C03C2217/485 C03C2218/113 G02B6/0055 B32B17/10018 B32B17/10036 B32B17/10761 B32B17/1077 B32B17/10788 B32B2323/04 B32B2327/06 B32B2367/00 B32B2369/00

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Cited documents: WO15118279 A1, WO12059126 A1, WO10097110 A1, US8299169 BB, US8246848 BB, US8216670 BB, US2015298601 AA, US2015030778 AA, US2010227159 AA, US2010143600 AA, US2007098969 AA, JP2015034281 A2, JP2011215568 A2, EP2401639 A1, EP2219056 A1,

Abstract:

Disclosed is a glass window having a luminous capability, which is suitable for use in automotive applications, architectural applications, or other applications. Exemplary embodiments of a glass window having a luminous capability include one or more glass sheet layers, a thin film layer having fine particles dispersed in a matrix of a thin film material, and at least one light source for introducing light into the thin film layer. The fine particles scatter the light and generate luminousness of the glass window. Exemplary embodiments of a glass window having luminous capability may further include one or more resinous sheet layers or one or more interlayers such as a plastic film layer.



77) Family number: 42521783 (WO08140480A1)

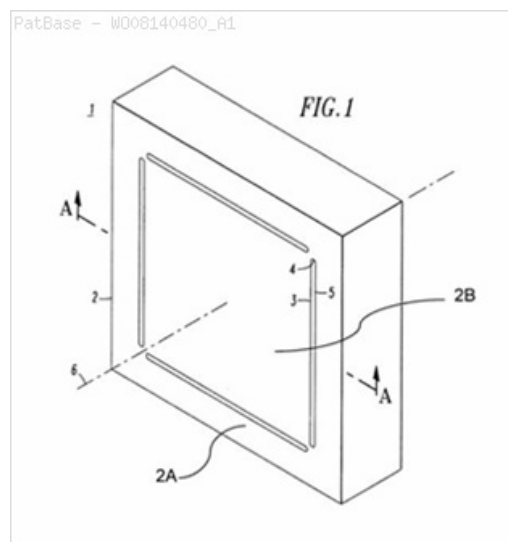
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Title: CRACK-ARRESTING TRANSPARENT ARMOR
Priority: US20060861925P 20061130
Family:

Publication number	Publication date	Application number	Application date
WO08140480 A1	20081120	WO2007US23551	20071108

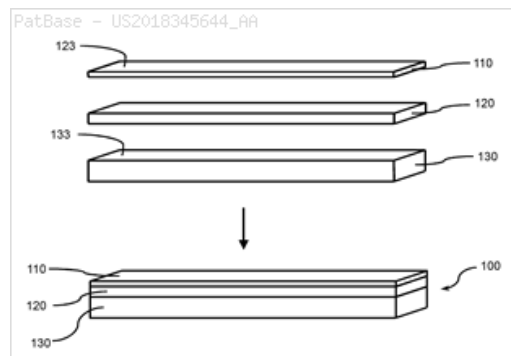
Probable Assignee: CORNING INC
Assignee(s):(std): CORNING INC ; GENIER MICHAEL L ; PINCKNEY LINDA R ; SHUSTACK PAUL J ; ZHANG JIAN ZHI J
Inventor(s):(std): GENIER MICHAEL L ; PINCKNEY LINDA R ; SHUSTACK PAUL J ; ZHANG JIAN ZHI J
Agent(s): SCHAEFERLE TIMOTHY M

Abstract: The invention describes a transparent glass armor having a plurality of crack arrestors. The armor may be monolithic, laminated or segmented. The crack arrestors enhance the ability of a transparent armor to absorb multiple projectile impacts without catastrophic failure or loss of optical transparency. The crack arrestors restrict propagation of cracks, and may be at non-orthogonal angles to the strike face.



Publication number	Publication date	Application number	Application date
■ CN108349230 A	20180731	CN201680063342	20161027
■ EP3368310 A1	20180905	EP20160791769	20161027
■ JP2018533507 T2	20181115	JP20180521953T	20161027
■ KR20180073655 A	20180702	KR20187014742	20161027
■ US2018345644 AA	20181206	US20160771694	20161027
■ WO17075118 A1	20170504	WO20160558967	20161027

Abstract: Embodiments of the present disclosure relate generally to methods of forming a laminate structure. In one or more embodiments, the method includes situating an interlayer between a glass substrate and a non-glass substrate having a softening point to form an assembled stack, heating the assembled stack to a temperature in a range of greater than the T_g of the interlayer to less than the softening point of the non-glass substrate and applying a force to at least one of the laminate glass surface and the laminate non-glass surface to bond that counter-balances thermal stress and polymer cure forces during bonding and prevents warpage, distortion and breakage of the laminate. In some embodiments, the interlayer has a coefficient of thermal expansion (CTE) at least 10 times greater than the CTE of the glass substrate.



79) Family number: 58643807 (US2016207290A)

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Title: THIN GLASS LAMINATE STRUCTURES

Priority: US20130871602P 20130829 US20140915437 20140828 WO2014US53122 20140828

Family:	Publication number	Publication date	Application number	Application date
	■ CN105705330 A	20160622	CN201480059991	20140828
	■ EP3038827 A2	20160706	EP20140762187	20140828
	■ JP2016530204 T2	20160929	JP20160537845T	20140828
	■ JP6431069 B2	20181128	JP20160537845T	20140828
	■ KR20160046889 A	20160429	KR20167007845	20140828
	■ US2016207290 AA	20160721	US20140915437	20140828
	■ WO15031594 A2	20150305	WO2014US53122	20140828
	■ WO15031594 A3	20150723	WO2014US53122	20140828

Probable Assignee: CORNING INC

Assignee(s):(std): CORNING CO LTD ; CORNING INC

Inventor(s):(std): CLEARY THOMAS MICHAEL ; EARLY KINTU ODINGA X ; FRISKE MARK STEPHEN ; HART SHANDON DEE ; HU GUANGLI ; MARCELLUS BRENNAN ELIZABETH ; ZHANG CHUNHE

Agent(s): GREENE SIMON KENNETH; HARDEE RYAN T

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class B32B17/06 B32B17/10 B32B37/10 B32B37/18 B60J1/00 C03C15/00 C03C21/00
(IPC 8-9): C03C27/12 (Advanced/Invention)

CPC: B32B17/10174 B32B17/10761 B32B17/10119 B32B17/10743 B32B17/1077 B32B17/10788 B32B17/10366 B32B37/182 B32B2398/00 B32B2315/08 B32B2307/412 B32B2307/558 B32B17/10036 B32B17/10091 B32B17/10137 B32B17/10146 B32B2605/006 B32B17/064 B32B17/06 B32B37/10 B32B2329/06

US class: 428/215

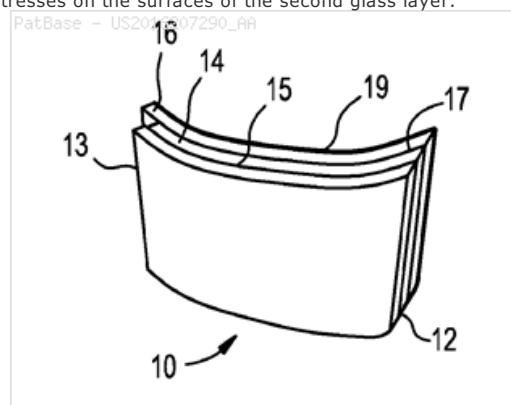
[Classification Explorer](#)

Cited documents: WO13094567 A1, WO13094567, WO13078039 A1, WO13078039, US98642411, US7666511 BB, US5674790 A, US4483700 A, US201361869962 P, US201313926461, US2013127202 AA, US2013043561, US201213626958, US2012094084 AA, US2012052302 AA, JP2001247372 A2, JP2001247372,

Forward Citations: WO18129065, WO18081068, WO18075853, WO17203175, WO17203171, WO17203170, WO17155932, WO17116907, WO17106081, WO17019851, WO16196531, US9975801, US9925743, US9908805, US9902640, US9802853, US9783448, US9776905, US9616641, US9573833, US10189228, US10175802, US10137667, US10077204, US10035724, US10035332, US10035331, US10017033, US10005691, EP3100854, CN104944807,

Abstract:

A laminate structure having a first glass layer, a second glass layer, and at least one polymer interlayer intermediate the first and second glass layers. In some embodiments, the first glass layer can be comprised of a strengthened glass having first and second surfaces, the second surface being adjacent the interlayer and chemically polished and the second glass layer can be comprised of a strengthened glass having third and fourth surfaces, the fourth surface being opposite the interlayer and chemically polished and the third surface being adjacent the interlayer and having a substantially transparent coating formed thereon. In another embodiment, the first glass layer is curved and the second glass layer is substantially planar and cold formed onto the first glass layer to provide a difference in surface compressive stresses on the surfaces of the second glass layer.



80) Family number: 55352807 (US2015122406A)

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Title: PROCESS FOR LAMINATING THIN GLASS LAMINATES

Priority: US20120657272P 20120608 JP20150516206T 20130606 WO2013US44493 20130606
US20130405668 20130606 JP20160082743 20160418

Family:

Publication number	Publication date	Application number	Application date
EP2858822 A1	20150415	EP20130729888	20130606
JP2015521575 T2	20150730	JP20150516206T	20130606
JP2016175835 A2	20161006	JP20160082743	20160418
JP5981647 B2	20160831	JP20150516206T	20130606
US2015122406 AA	20150507	US20130405668	20130606
WO13184904 A1	20131212	WO2013US44493	20130606

Probable Assignee: CORNING INC

Assignee(s):(std): CORNING INC ; FISHER WILLIAM KEITH ; MOORE MICHAEL JOHN ; MOYER STEVEN LUTHER ; SHENG HUAN HUNG ; SMITH LARRY GENE

Inventor(s):(std): FISHER WILLIAM KEITH ; MOORE MICHAEL JOHN ; MOYER STEVEN LUTHER ; SHENG HUAN HUNG ; SMITH LARRY GENE ; WILLIAM KEITH FISHER ; STEVEN LUTHER MOYER ; MICHAEL JOHN MOORE ; LARRY GENE SMITH

Agent(s): OLDROYD RICHARD DUNCAN; HARDEE RYAN T

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/10 B32B37/06 B32B37/10 B32B37/18 C03B23/035 C03C27/10 C03C27/12 (Advanced/Invention)

CPC: B32B17/10137 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788 B32B17/10853 B32B17/1088 B32B17/10889 B32B17/10972 B32B37/1018 C03B23/0357 C03C27/10 B32B37/06 B32B37/182 B32B2309/12 B32B2309/68 B32B2309/02 B32B2315/08 B32B2329/06 B32B2331/04 B32B2375/00 B32B2250/03 B32B2250/40 B32B2307/10 B32B17/10036 Y10T156/1044

US class: 156/222 156/285

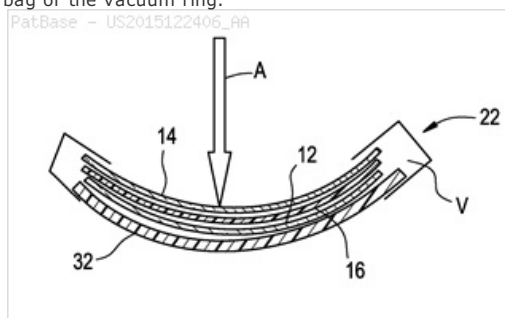
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Cited documents: WO201251038, WO12133668 A1, WO12051038 A1, WO12044385 A2, WO10102282 A1, WO10102282, US7666511 BB, US6451435 BA, US5674790 A, US5467522 A, US4663228 A, US4483700 A, US3458388 A, US3027288 A, US2012094084 AA, US2011100416 AA, US2010227135 AA, US2010177383 AA, US2008210361 AA, US2004231778 AA, US03027288, JP9208271 A2, JP63056229 U1, JP61134249 A2, JP2064044 A2, JP2011136895 A2, JP2011136895, JP2011001543 A2, JP2008542068 T2, JP2008536785 T2, JP2007197288 A2, JP2005255466 A2, JP2004123423 A2, JP2003512283 T2, JP1301542 A2, GB1339980 A, EP0221287 A2, DE102007037891 A1, DE102006042538 A1

Forward Citations: WO19008470, WO18172094, WO18138503, WO17196171, WO15191527, US9925743, US9908805, US9902640, US9616641, US9573833, US10137667, US10035724, US10035332, US10035331, US10017033, CN105884216, CN105870208,

Abstract:

A process using a vacuum ring or vacuum bag to produce glass laminates with improved optical distortion and shape consistency using thin glass having a thickness not exceeding 1.0 by using a soak temperatures not exceeding 120 degrees centigrade or not exceeding 100 degrees centigrade and a vacuum not exceed about -0.6 bar. One or more assembled stacks of two glass sheets and a polymer interlayer being laminated may be stacked on a single reference mold and processed simultaneously in a single vacuum bag or vacuum ring. One more thin glass sheets may be placed on top the assembled stack(s) on the reference mold to protect the assembled stack from irregular forces applied by the vacuum bag or the vacuum ring.


81) Family number: 64288808 (US2018215125A)

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Title: LIGHT-RESPONSIVE THIN GLASS LAMINATES

Priority: US20150169755P 20150602 US20160578385 20160601 WO2016US35130 20160601

Family:

Publication number	Publication date	Application number	Application date
CN107743443 A	20180227	CN201680032619	20160601
EP3302967 A1	20180411	EP20160729436	20160601
JP2018526302 T2	20180913	JP20170562618T	20160601
KR20180014753 A	20180209	KR20177037277	20160601

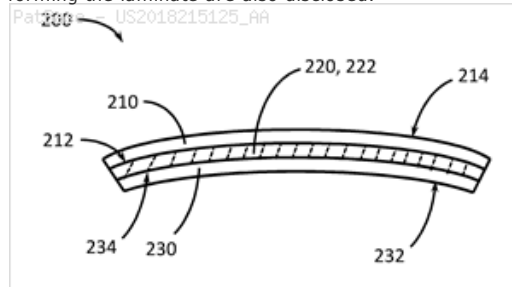
US2018215125 AA	20180802	US20160578385	20160601
WO16196531 A1	20161208	WO2016US35130	20160601

Probable Assignee: CORNING INC
Assignee(s):(std): CORNING CO LTD ; CORNING INC
Inventor(s):(std): GAHAGAN KEVIN THOMAS
Agent(s): EPPING HERMANN FISCHER; PATEL PAYAL A
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B32B17/00 B32B17/10 B32B27/00 C03B27/012 C03C21/00 C03C27/12 (Advanced/Invention)
CPC: B32B17/10743 B32B17/10137 C03C21/002 B32B17/10752 B32B17/10935 B32B2329/06 B32B2331/04 B32B2369/00 B32B2375/00 B32B2457/202 B32B2457/204 B32B2457/206 B32B17/10495 B32B17/10036 B32B17/10119 B32B17/10486 B32B17/10504 B32B17/10513 B32B17/10532 B32B17/10761 B32B17/1077 B32B17/10788 B32B2457/20

[Classification Explorer](#)

Cited documents: WO15031594 A2, WO15006201 A1, WO14174308 A1, US5023209 A, US4668270 A, US2014055834 AA, DE102007037891 A1
Forward Citations: WO19010401, WO18129065, WO18125683, WO17155932, US10175802,

Abstract:
Embodiments of this disclosure pertain to a laminate including a first substrate, an interlayer and a light responsive material disposed on the first substrate, and a second substrate disposed on the interlayer. The laminate may be complexly curved. The light responsive material may include any one or more of an electrochromic material, a photochromic material, a suspended particle material, a micro-blind material and a liquid crystal material. In one or more embodiments, the laminate comprises a display unit disposed between the first and second substrate. Methods for forming the laminate are also disclosed.



82) Family number: 32790811 (US2008032104A)

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Title: ARMORED GLASS COMPOSITION WITH PERIMETER REINFORCEMENT
Priority: CO20040096136 20040928 EP20050818533 20050928 WO2005IB03094 20050928
Family:

Publication number	Publication date	Application number	Application date
BRPI0516956 A	20080930	BR2005PI16956	20050928
CO5680113 A1	20060929	CO20040096136	20040928
DE602005044227 D1	20140828	DE200560044227T	20050928
EP1800086 A2	20070627	EP20050818533	20050928
EP1800086 B1	20140716	EP20050818533	20050928
US2008032104 AA	20080207	US20050663949	20050928
US8088472 BB	20120103	US20050663949	20050928
US8088472 C1	20130430	US20050663949	20050928
WO06035312 A2	20060406	WO2005IB03094	20050928
WO06035312 A3	20060518	WO2005IB03094	20050928

Probable Assignee: AGP AMERICA SA
Assignee(s):(std): AGP AMERICA S A ; AGP AMERICA SA ; BOCANEGRA PARRA VLADIMIR ; GLASS TEHCNOLOGY INVEST ; GTI SUCURSAL COLOMBIA ; MANNHEIM ASTETE ARTURO
Assignee(s): GLASS TEHCNOLOGY INVESTMENT ; CREDIT SUISSE CAYMAN ISLANDS BRANCH AG
Inventor(s):(std): ASTETE ARTURO MANNHEIM ; PARRA VLADIMIR BOCANEGRA ; MANNHEIM ASTETE ARTURO ; BOCANEGRA PARRA VLADIMIR ; MANNHEIM ARTURO ; BOCANEGRA VLADIMIR
Inventor(s): VLADIMIR BOCANEGRA PARRA ; VLADIMIR BOCANEGRA ; ARTURO MANNHEIM ; ARTURO MANNHEIM ASTETE
Agent(s): CARLOS REINALDO OLARTE GARCIA; ABG PATENTES SL; JACOBSON HOLMAN PLLC
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
International class (IPC 8-9): B32B17/06 B32B7/02 B32B7/12 C03C17/00 C03C17/34 F41H5/04 F41H5/26 F41H7/04 (Advanced/Invention); B32B17/06 B32B7/02 C03C17/00 F41H5/00 F41H7/00 (Core/Invention)
CPC: Y10T428/24942 Y10T428/24967 B32B17/10045 B32B17/10293 B32B17/10366 B32B17/10761 B32B17/1077 B32B2369/00 F41H5/0407 F41H5/263
European class: B32B17/10C4B B32B17/10E16 B32B17/10E30 B32B17/10G28 B32B17/10G30 F41H5/04B F41H5/26B L32B369/00
US class: 428/212 428/215 428/215P 428/426 428/426S 428/433 428/433S

Cited documents:

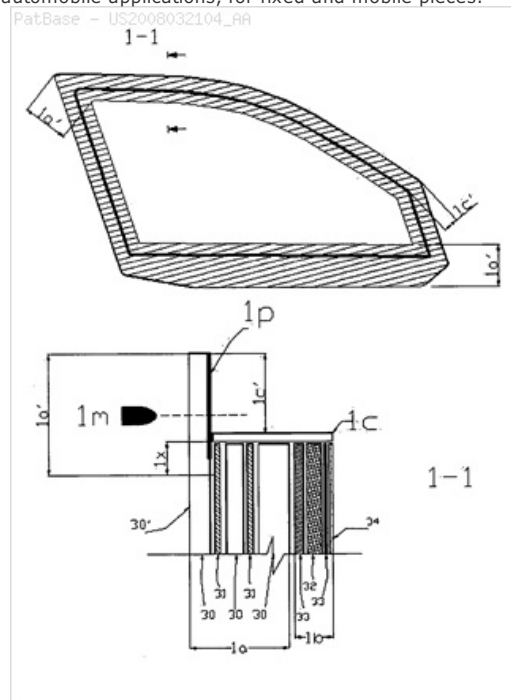
WO0100403 A1, WO0053410 A1, US7584689 BB, US6708595 BA, US6569787 BA, US6334382 BB, US6280826 BA, US6129974 A, US5637363 A, DE19918526 A1, DE19803435 C1, DE10048566 A1, DE10043793 A1, DE10002671 A1,

Forward Citations:

WO19008494, WO19008466, US9950944, US9803959, US9534871, US9506727, US9383173, US9157703, US9032669, US8846174, US8603616, US2016023938, US2015377595, US2015024165, US2014144313, US2013305912, US2010212231, JP2010538238, EP2703157, EP2188124,

Abstract:

The invention relates to a special array of materials located on the periphery of a glass armored composition (BRG), with the purpose of having a controlled deformation zone being able to absorb residual energy of impacts made on the edge of the armored piece, therefore providing an effective retention of the projectile and of the glass fragments generated by the impact. The invention provides superior ballistic protection for BRGs destined for automobile applications, for fixed and mobile pieces.

**83) Family number: 64288813 (US2018297331A)**

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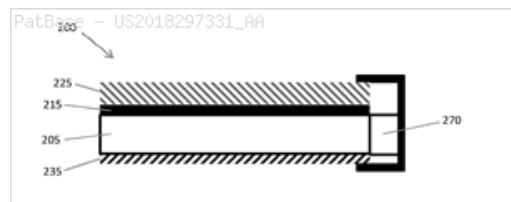
Title:	LAMINATE STRUCTURES AND AUTOMOTIVE GLAZINGS COMPRISING LIGHT GUIDE PLATES				
Priority:	US20150169910P 20150602		US20160578388 20160601		WO2016US35137 20160601
Family:	Publication number	Publication date	Application number	Application date	
	■ CN107690388 A	20180213	CN201680032672	20160601	
	■ EP3303235 A2	20180411	EP20160735742	20160601	
	■ JP2018527271 T2	20180920	JP20170562606T	20160601	
	■ KR20180019127 A	20180223	KR20177037546	20160601	
	■ TW201704176 A	20170201	TW20160117161	20160601	
	■ US2018297331 AA	20181018	US20160578388	20160601	
	■ WO16196535 A2	20161208	WO2016US35137	20160601	
	■ WO16196535 A3	20170112	WO2016US35137	20160601	
	Probable Assignee:	CORNING INC			
Assignee(s):(std):	CORNING CO LTD ; CORNING INC				
Inventor(s):(std):	GAHAGAN KEVIN THOMAS				
Agent(s):	SCHEUERMANN ERIK; HARDEE RYAN T				
Designated states:	AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW				
International class (IPC 8-9):	B32B17/10 B32B7/02 B60J1/00 B60J3/00 C03C27/12 C03C3/076 C03C3/078 C03C3/083 C03C3/085 C03C3/087 C03C3/093 C03C4/00 C03C4/08 F21V8/00 G02B6/00 (Advanced/Invention)				
CPC:	C03C3/093 C03C4/0092 G02B6/00 B32B17/10743 B60J1/02 G02B6/005 G02B6/0065 B32B17/101 B32B2307/412 B32B2307/416 B32B2329/06 B32B2331/04 B32B2375/00 B32B2457/20 B32B2605/006 B60J1/08 B60J1/18 B60J7/043 B60Q1/0017 B32B17/10036 B32B17/10045 B32B17/10091 B32B17/10119 B32B17/10137 B32B17/10486 B32B17/10541 B32B17/10761 B32B17/1077 B32B17/10788 B60J1/001 C03C3/078 C03C3/083 C03C3/085 C03C3/087				

Cited documents:

WO15068741 A1, WO13130665 A2,

Abstract:

Disclosed herein are laminate structures comprising a light guide plate including a first glass sheet, wherein the first glass sheet comprises from about 50 mol percent to about 90 mol percent SiO_2 , from about 0 mol percent to about 15 mol percent Al_2O_3 , and about 0 mol percent to about 19 mol percent R_xO , wherein x is 1 and R is chosen from Zn, Mg, Ca, Sr, or Ba, or wherein x is 2 and R is chosen from Li, Na, K, Rb, or Cs, and wherein the concentration of Fe is less than about 50 ppm



84) Family number: 43038815 (US2010300276A)

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Title: HIGH-PERFORMANCE BULLETPROOF GLAZING

Priority: FR20070057425 20070907 WO2008FR51582 20080905

Family:	Publication number	Publication date	Application number	Application date
	BRPI0816440 A2	20150303	BR2008PI16440	20080905
	CN101795862 A	20100804	CN200880105952	20080905
	CO6190546 A2	20100819	CO20100039710	20100407
	EA201070347 A1	20100630	EA20100070347	20080905
	EP2188124 A2	20100526	EP20080835310	20080905
	FR2920764 A1	20090313	FR20070057425	20070907
	FR2920764 B1	20091030	FR20070057425	20070907
	JP2010538238 T2	20101209	JP20100523569T	20080905
	MX2010002386 A1	20100325	MX20100002386	20080905
	US2010300276 AA	20101202	US20080676835	20080905
	WO09044048 A2	20090409	WO2008FR51582	20080905
	WO09044048 A3	20090528	WO2008FR51582	20080905

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s):(std): JUSTAMON GUILLAUME ; SAINT GOBAIN

Assignee(s): SAINT GOBAIN GLASS FRANCE ; SAINT GOBAIN GLASS FRANCE SOC ANONYME ; SAINT GOBAIN GLASS FRANCE SOCIETE ANONYME

Inventor(s):(std): JUSTAMON GUILLAUME ; GUILLAUME JUSTAMON

Agent(s): MARGARITA CASTELLANOS ABONDANO; CARDIN ELISE; SAINT GOBAIN RECHERCHE; TSUBOKURA MICHIAKI; OSAKI KATSUMASA; KAWAGUCHI YOSHIO; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B23B17/10 B32B17/06 B32B17/10 B32B3/00 B32B37/00 B32B37/12 B60J1/00 C03C27/12 F41H5/02 F41H5/04 F41H7/04 (Advanced/Invention); B32B37/00 B60J1/00 (Advanced/Non-invention); B32B17/06 B32B37/00 B60J1/00 C03C27/12 F41H5/00 F41H7/00 (Core/Invention); B32B37/00 B60J1/00 (Core/Non-invention)

CPC: Y10T156/10 B32B17/10045 B32B17/10293 B32B17/10366 B32B17/10761 B32B17/1077 B32B2369/00 B32B2605/08 F41H5/0407 F41H5/263

European class: B32B17/10C4B B32B17/10E16 B32B17/10E30 B32B17/10G28 B32B17/10G30 F41H5/04B F41H5/26B L32B369/00 L32B605/08

US class: 156/60 156/60S 428/77 428/77S 89/36.02 89/36.020P 89/905 89/905S

[Classification Explorer](#)

Cited documents: WO06136761 A2, WO06035312 A2, WO0100403 A1, US7908958 BB, US6818268 BB, US6708595 BA, US6569787 BA, US5637363 A, US4321777 A, US2010132540 AA, US2008187721 AA, JP9503039 T2, JP2008543717 T2, JP2003503296 T2, JP11035349 A2, EP0693366 A1, DE4415879 A1,

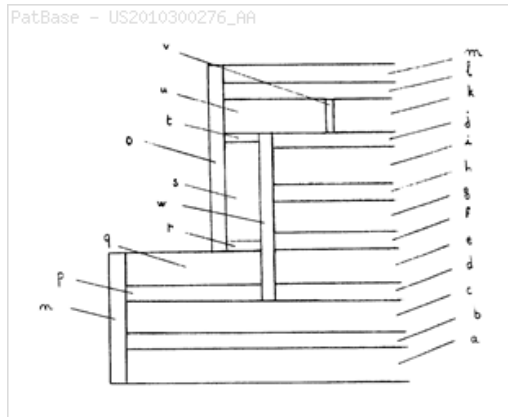
DE202007001565 U1

DE19729897 C1, DE10043793 A1,

Forward Citations: WO16020498, US9273934, US9157703, US8833233, US2015000511, US2011200804, US2011185884, RU2570523,

Abstract:

A transparent laminated bulletproof and/or splinter-proof structure comprising three stacks of glass sheets (a, c; e, g, i; k) all connected together by adhesive interlayers (b, d, f, h, j), in which the first stack (a, c) is adjacent to and protrudes from the second stack (e, g, i), which is itself adjacent to and protrudes from the third stack (k), a liner (q, s, u) made of bulletproof and/or splinter-proof material is bonded to the laminated structure on the free peripheral surface of the first stack (a, c), the edge and the free peripheral surface of the second stack (e, g, i) and the edge of the third stack (k), and a transparent plastic sheet (m) is bonded to the liner (u) and to the free face of the third stack (k). A manufacturing process, the application of this laminated structure, and a glazing comprising it.



85) Family number: 64288821 (US2018154615A)

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Title: GLASS LAMINATE WITH PANE HAVING GLASS-GLASS LAMINATE STRUCTURE
Priority: US20150169834P 20150602 US20150256842P 20151118 WO2016US35151 20160601
US20160578128 20160601

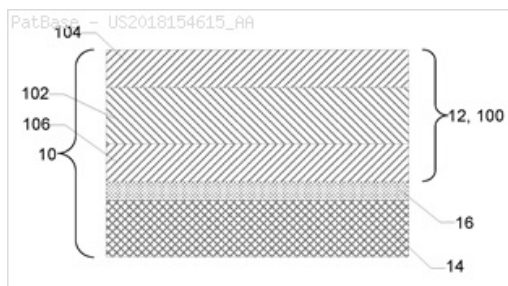
Family:	Publication number	Publication date	Application number	Application date
	■ CN107848267 A	20180327	CN201680044311	20160601
	■ EP3302968 A1	20180411	EP20160729437	20160601
	■ JP2018526303 T2	20180913	JP20170563084T	20160601
	■ KR20180015713 A	20180213	KR20187000059	20160601
	■ TW201704009 A	20170201	TW20160117238	20160601
	■ US2018154615 AA	20180607	US20160578128	20160601
	■ WO16196546 A1	20161208	WO2016US35151	20160601

Probable Assignee: CORNING INC
Assignee(s):(std): CORNING CO LTD ; CORNING INC
Inventor(s):(std): DOHN PAUL BENNETT ; GOLYATIN VIADISLAV YURYEVICH ; GOLYATIN VLADISLAV YURYEVICH ; VADDI BUTCHI REDDY ; VENKATARAMAN NATESAN
Agent(s): SCHEUERMANN ERIK; HOOD MICHAEL A
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class B32B17/06 B32B17/10 B32B37/08 B32B37/12 B32B7/02 C03B15/10 C03B17/06 C03C21/00
(IPC 8-9): C03C27/12 (Advanced/Invention)
CPC: B32B17/10266 B32B17/10743 B32B2309/105 B32B37/08 B32B2605/006 B32B17/10137 B32B17/10036 B32B17/10091 B32B17/10247 B32B17/10761 B32B17/1077 B32B17/10788

[Classification Explorer](#)

Cited documents: WO14055840 A2, US4023953 A, US2009053534 AA, US2006191625 AA, US2004197575 AA,
Forward Citations: WO19010401, WO18213213, WO18187391, WO18129065, WO18114307, US2018181165, US10175802,

Abstract:
A glass laminate includes a first pane having a glass-glass laminate structure, a second pane, and an interlayer disposed between the first pane and the second pane and including a polymeric material.



86) Family number: 61378832 (US2016011483A)

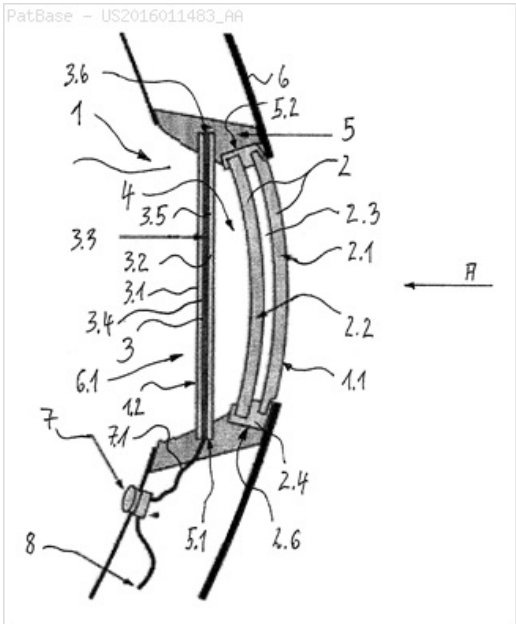
© PatBase

Title: SWITCHABLE WINDOW
Priority: EP20140425094 20140711

Family:	Publication number	Publication date	Application number	Application date
	■ DE602014031683 D1	20181004	DE201460031683T	20140711
	■ EP2965903 A1	20160113	EP20140425094	20140711
	■ EP2965903 B1	20180905	EP20140425094	20140711
	■ ES2700923 T3	20190220	ES20140425094T	20140711
	■ US2016011483 AA	20160114	US20150796845	20150710

Probable Assignee: ISOCLIMA SPA
Assignee(s):(std): ISOCLIMA SPA
Assignee(s): ISOCLIMA ESTE SPA ; ISOCLIMA S P A
Inventor(s):(std): BERTOLINI MARCO
Agent(s): MOTSCH AND SEITZ; SEITZ RALF HANS FRANK; HAUPTMAN HAM LLP
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR
International class (IPC 8-9): B32B17/10 B64C1/14 E06B9/24 G02F1/1333 G02F1/1334 G02F1/137 G02F1/153 G02F1/157 (Advanced/Invention)
CPC: G02F1/157 E06B9/24 B64C1/14 G02F1/1334 G02F1/133305 G02F1/137 G02F1/1533 E06B2009/2464 E06B2009/2411 E06B2009/2417 G02F2001/1536 B32B17/10036 B32B17/10532 B32B17/10761 B32B17/1077 B32B17/10788 B32B2369/00 B32B2375/00 B32B2605/18
US class: 359/275
[Classification Explorer](#)
Cited documents: US6493128 BA, US6407847 BA, US2014300945 AA, US2014133008 AA, US2013321915 AA, US2012307337 AA, US2012307337 AA, US2012157587 AA, US2012157587 AA, US2011292502 AA, US2011078960 AA, US2010316886 AA, US2010092784 AA, US2009135319 AA, US2009135319 AA, US2009093578 AA, US2009093578 AA, US2007210287 AA, US2007210287 AA,
Forward Citations: US2017057660, US10173788, CN106516077, CN106516077,

Abstract:
The present invention refers to a switchable window, in particular for use in an aircraft, helicopter, or space vehicle, which comprises an outer pane construction subjected to sunlight, and an inner pane construction having an electrically switchable film for changing a color or transmittance of the switchable window, the outer pane construction covering at least an irradiated part of the inner pane construction, wherein the outer pane construction absorbs IR radiation of the sunlight and it absorbs or reflects UV radiation of the sunlight.



87) Family number: 34852846 (US2007172636A)

© PatBase

Title: DECORATIVE SHEETS HAVING ENHANCED ADHESION AND LAMINATES PREPARED THEREFROM
Priority: US20050755163P 20051230 US20060645974 20061227 WO2006US49457 20061228
Family:

Publication number	Publication date	Application number	Application date
AU2006332747 AA	20070712	AU20060332747	20061228
AU2006332747 BB	20110407	AU20060332747	20061228
EP1976690 A2	20081008	EP20060846084	20061228
US2007172636 AA	20070726	US20060645974	20061227
WO07079160 A2	20070712	WO2006US49457	20061228
WO07079160 A3	20071004	WO2006US49457	20061228

Probable Assignee: E I DU PONT DE NEMOURS AND CO
Assignee(s):(std): DU PONT ; HAYES RICHARD A ; SMITH REBECCA L
Assignee(s): EI DU PONT DE NEMOURS AND CO ; E I DU PONT DE NEMOURS AND CO ; E I DU PONT DE NEMOURS AND COMPANY
Inventor(s):(std): HAYES RICHARD A ; SMITH REBECCA L
Inventor(s): REBECCA L SMITH ; RICHARD A HAYES ; SMITH REBECCA ; HAYES RICHARD
Agent(s): HOULIHAN²; HOULIHAN² PTY LTD; HOULIHAN²; E I DU PONT DE NEMOURS AND COMPANY, LEGAL PATENT RECORDS CENTER; E I DU PONT DE NEMOURS AND CO LEGAL PATENT RECORDS CENTER
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class B32B17/10 B32B27/32 B44F1/06 C03C27/12 C09D11/02 C09D7/12 (Advanced/Invention);

(IPC 8-9): B44F1/06 C09D11/02 (Advanced/Non-invention); B32B17/06 B32B27/32 C03C27/12 C09D7/12 (Core/Invention); B44F1/00 C09D11/02 (Core/Non-invention)

CPC: B32B27/22 B32B27/28 B32B27/30 B32B27/32 B32B2307/75 B32B27/08 B32B7/12 B32B17/10018 B32B17/10036 B32B17/10339 B32B17/10688 B32B17/10761 B32B17/10788 B32B27/06 B32B27/306 B32B27/308 B32B27/32 B32B27/36 B32B37/06 B32B37/08 B32B37/1018 B32B37/12 B32B38/0008 B32B38/06 B32B38/145 B32B2038/166 B32B2307/4023 B32B2309/02 B32B2309/04 B32B2309/105 B32B2309/12 B32B2309/14 B32B2367/00 B32B2419/00 B32B2605/006 B44F1/066 C09D11/101 C09J2205/114 C09J2423/006 C09J2423/046 C09J2427/006 C09J2431/006 C09J2433/006 C09J2459/006 C09J2475/006 C09J2483/00 Y10T428/24802 B32B17/10275 C09J7/22 C09J7/38

European class: B32B17/10C2 B32B17/10C4 B32B17/10E12 B32B17/10E26 B32B17/10G12 B32B17/10G28 B32B17/10G36 B32B27/08 B32B27/36 B44F1/06D C09D11/101 C09J7/02K4 C09J7/02K9B L32B367/00 M09J205/114 M09J423/00S M09J423/04S M09J427/00S M09J431/00S M09J433/00S M09J459/00S M09J475/00S M09J483/00

US class: 428/195.1 428/195.100P 428/220 428/220S

[Classification Explorer](#)

Cited documents: WO04018197 A1, WO03092999 A1, US7278730 BB, US7232213 BB, US6432522 BA, US5914178 A, US5733823 A, US4968553 A, US4868288 A, US4648925 A, US4624912 A, US4600627 A, US4398014 A, US4383025 A, US4339567 A, US4277538 A, US4045397 A, US2008286542 AA, US2008280076 AA, US2008268214 AA, US2008264558 AA, US2008233412 AA, US2008233377 AA, US2008233371 AA, US2008233352 AA, US2008233279 AA, US2008206504 AA, US2008105371 AA, US2007245605 AA, US2007172637 AA, US2007125490 AA, US2005271865 AA, US2005118401 AA, US2004234735 AA, US2004187732 AA, US2003203167 AA, EP1129844 A1, EP1004642 A2,

Forward Citations: WO14048589, WO13019375, WO13019375, WO09008857, WO09008856, WO08141258, US9752022, US9751286, US9434132, US9114595, US8529813, US8173247, US7625627, US2016222652, US2014141223, US2011094665, US2010180942, US2008254302, US2008233352, US10184247, US10065404, ITRM20080559, EP2736721, EP2711346, CN103687726, CN103687726,

Abstract:
The present invention is a decorated polymer sheet, said polymer having a modulus of from about 1000 psi (7 KPa) to about 20,000 psi (138 MPa), as determined according to ASTM D 638-03, wherein at least one of said surfaces of said sheet has disposed thereon an image and an adhesive composition, and at least a portion of said adhesive composition is in contact with said image.

88) Family number: 42026859 (EP2110238B1) © PatBase

Title: Blast effect-limiting glazing structure

Priority: DE200820005366U 20080417

Family:

	Publication number	Publication date	Application number	Application date
	AT490077 E	20101215	AT20090154338T	20090304
	DE202008005366 U1	20080710	DE200820005366U	20080417
	DE502009000204 D1	20110113	DE200950000204T	20090304
	EP2110238 A1	20091021	EP20090154338	20090304
	EP2110238 B1	20101201	EP20090154338	20090304

Probable Assignee: SAELZER SICHERHEITSTECHNIK

Assignee(s):(std): SAELZER SICHERHEITSTECHNIK

Assignee(s): SAELZER SICHERHEITSTECHNIK GMBH

Inventor(s):(std): SAELZER HEINRICH

Agent(s): BAUER DIRK

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK TR

International class (IPC 8-9): B32B17/10 C03C27/12 E06B5/12 F41H5/04 F41H5/26 (Advanced/Invention); F41H5/04 F41H5/26 (Advanced/Non-invention)

CPC: B32B17/10045 B32B17/10055 B32B17/10174 B32B17/10311 B32B17/10761 B32B2333/04 B32B2369/00 E06B3/66 E06B5/12 F41H5/0407 F41H5/26

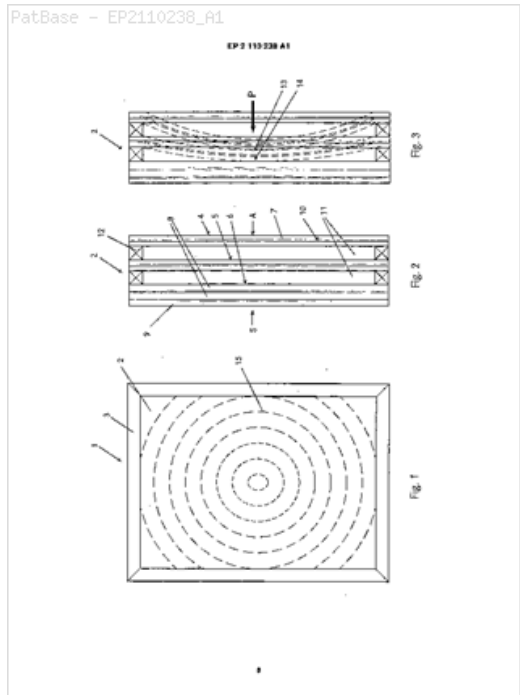
European class: B32B17/10C4B B32B17/10C4B4 B32B17/10E10 B32B17/10E18 B32B17/10G28 E06B5/12 F41H5/04B F41H5/26 L32B333/04 L32B369/00 P06B3/66

[Classification Explorer](#)

Cited documents: US2007218262 AA, EP0053774 A1, DE2901951 A1, DE2524241 A1, DE2125693 A1, DE202005016189 U1, DE202005016189 U,

Forward Citations: WO18028990, WO18024387, US9016922, US2013279201, EP3332674, EP2995450, EP2594723, EP2439064, CN105822200, CN104220358, CN104220358,

Abstract:
The structure includes a series of glass sheet assemblies separated by gas spaces. The thickness of the third sheet assembly exceeds that of the second sheet assembly and/or that of the first sheet assembly. The third assembly comprises at least three sheets bonded by an adhesive layer. The sheet of the third assembly which faces the protected side, is thinner than the others in this assembly, being preferably 3 mm or less. The thickness of the third assembly exceeds that of the second, which in turn is thicker than the first. The third assembly has at least 130 percent the thickness of the second. The second assembly has at least 130 percent the thickness of the first. The first and/or second assemblies are bonded composites, the adhesive thickness being preferably 15 percent that of the respective assembly. Alternatively the first and second assemblies each comprise a single sheet of hardened safety glass. The first and second interspaces are 12-16 mm. The first sheet assembly is 7-12 mm thick and the second is 11-22 mm thick. Adhesive layers are formed by polyvinyl butyral sheets and are preferably 1.5 mm thick. At least one assembly, preferably the second, includes a layer of transparent fire protection gel, preferably of sodium silicate, located between two sheets. At least one interspace is filled with a gas of low thermal conductivity, especially argon or krypton. At least one sheet is float glass, hardened safety glass, polyacrylate, polycarbonate and/or includes an infra-red reflecting coating. The interspace is sealed off and placed in a common frame.



89) Family number: 43030900 (US2009071589A)

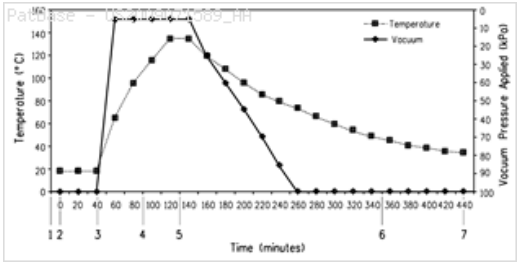
© PatBase

Title:	GLASS LAMINATE CONTAINING POLY VINYL ACETAL																																				
Priority:	US20070856385 20070917		US20070856531 20070917		WO2008US76349 20080915																																
Family:	<table><tr><th>Publication number</th><th>Publication date</th><th>Application number</th><th>Application date</th></tr><tr><td> EP2190663 A1</td><td>20100602</td><td>EP20080832091</td><td>20080915</td></tr><tr><td> US2009071589 AA</td><td>20090319</td><td>US20070856385</td><td>20070917</td></tr><tr><td> US2009071604 AA</td><td>20090319</td><td>US20070856531</td><td>20070917</td></tr><tr><td> US8097113 BB</td><td>20120117</td><td>US20070856385</td><td>20070917</td></tr><tr><td> US8097114 BB</td><td>20120117</td><td>US20070856531</td><td>20070917</td></tr><tr><td> WO09039053 A1</td><td>20090326</td><td>WO2008US76349</td><td>20080915</td></tr><tr><td> ZA201000713 A</td><td>20110428</td><td>ZA20100000713</td><td>20100129</td></tr></table>					Publication number	Publication date	Application number	Application date	 EP2190663 A1	20100602	EP20080832091	20080915	 US2009071589 AA	20090319	US20070856385	20070917	 US2009071604 AA	20090319	US20070856531	20070917	 US8097113 BB	20120117	US20070856385	20070917	 US8097114 BB	20120117	US20070856531	20070917	 WO09039053 A1	20090326	WO2008US76349	20080915	 ZA201000713 A	20110428	ZA20100000713	20100129
Publication number	Publication date	Application number	Application date																																		
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 ZA201000713 A	20110428	ZA20100000713	20100129																																		
Probable Assignee:	KURARAY CO LTD																																				
Assignee(s):(std):	DU PONT ; MOEYERSONS LUC A																																				
Assignee(s):	E I DU PONT DE NEMOURS AND CO ; E I DU PONT DE NEMOURS AND COMPANY ; KURARAY AMERICA INC ; KURARAY CO LTD																																				
Inventor(s):(std):	MOEYERSONS LUC ; MOEYERSONS LUC A																																				
Agent(s):	DANNENBERGER OLIVER ANDRE; E I DU PONT DE NEMOURS AND COMPANY,LEGAL PATENT RECORDS CENTER; E I DU PONT DE NEMOURS AND CO LEGAL PATENT RECORDS CENTER; LUCAS K; SHAY LUCAS K																																				
Designated states:	AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW																																				
International class (IPC 8-9):	B29C65/00 B32B17/10 B32B37/10 C03C27/12 (Advanced/Invention); B32B17/06 B32B37/10 C03C27/12 (Core/Invention)																																				
CPC:	B32B17/10036 B32B17/10743 B32B17/10761 B32B17/10834 B32B17/10871 B32B17/10972 B32B17/1099 B32B17/10853 B32B17/10981 B32B37/1018 B32B2309/022 B32B2309/025 B32B17/10018 B32B2309/12 B32B2317/18 B32B2367/00 B32B2369/00 B32B2605/00																																				
European class:	B32B17/10C2 B32B17/10C4 B32B17/10G24 B32B17/10G28 B32B17/10L10B2 B32B17/10L10B2B2 B32B17/10L10D B32B17/10L20 B32B17/10L22 B32B17/10L24 B32B37/10B L32B309/02A L32B309/02B L32B309/12 L32B317/18 L32B367/00 L32B369/00 L32B605/00																																				
US class:	156/104 156/285 156/286 156/311 156/381 156/382																																				
Classification Explorer																																					
Cited documents:	WO9101880 A1, WO07029541 A1, WO05090504 A1, WO04011538 A2, US5763062 A, US5728472 A, US5698053 A, US5536347 A, US5147485 A, US3282722 A, US3234062 A, US2006182983 AA, US2006141212 AA, US2005266187 AA, US2005234185 AA, US2005233125 AA, US2005089692 AA, US2004238998 AA, US2004234731 AA, US2004221526 AA, EP0748687 A2, CA2388107 AA,																																				
Forward Citations:	WO15191527, WO15054011, WO13017797, US9994000, US2016271910, US2016159282, US2015059990, US2011247754, US10151566, NL2014890, FR2978698, EP2821224, EP2298707, EP2298707, CN105636779,																																				

Abstract:

A process comprises constructing a sub-assembly including a rigid layer and a poly (vinyl acetal) interlayer in a vacuum bag or vacuum press; applying vacuum to the vacuum bag or vacuum press for a maximum of 30 to 60 minutes while maintaining the sub-assembly at a temperature between 10 degrees centigrade and 22 degrees centigrade to produce a cooled sub-assembly; increasing the temperature of the cooled sub-assembly to at least 100 degrees centigrade or 125 degrees centigrade over a minimum of 10 minutes or 20 minutes to produce a heated sub-assembly; maintaining the heated sub-assembly at minimum of 100 degrees centigrade or 125 degrees centigrade for a minimum of 10 minutes or 20 minutes to form a laminate; cooling the laminate at a rate of at least 0.5 degrees centigrade /minute until the laminate reaches a temperature below 40 degrees centigrade; contemporaneously with the cooling, removing the vacuum from the vacuum bag, containing the laminate, and

allowing the laminate to reach atmospheric pressure.



90) Family number: 51805910 (US2012219749A) © PatBase

Title: TRANSPARENT LAMINATE STRUCTURES
Priority: US20110446623P 20110225 US20120404849 20120224 WO2012US26598 20120224
Family:

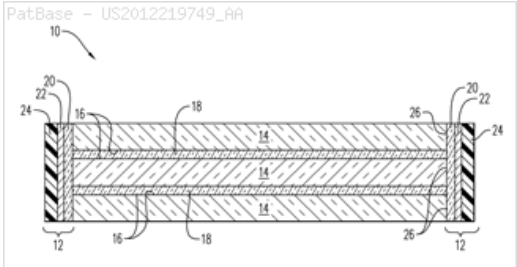
Publication number	Publication date	Application number	Application date
EP2678145 A1	20140101	EP20120749635	20120224
EP2678145 A4	20150513	EP20120749635	20120224
IL228089 A0	20130930	IL20120228089	20120224
IL228089 A1	20160531	IL20120228089	20120224
US2012219749 AA	20120830	US20120404849	20120224
US8846174 BB	20140930	US20120404849	20120224
WO12116316 A1	20120830	WO2012US26598	20120224

Probable Assignee: ORAN SAFETY GLASS INC
Assignee(s):(std): ALESHIRE EDGAR L ; CARBERRY JOHN ; CHRISTOPHER M SNIVELY ; EDGAR L ALESHIRE ; ERIC URRUTI ; SCHOTT CORP ; NEILL REBECCA S ; LEIGHTON KATHERINE T ; SERAFIN WIKTOR ; SNIVELY CHRISTOPHER M ; REBECCA S NEILL ; JOHN CARBERRY ; KATHERINE T LEIGHTON ; WEGERT THEODORE A ; URRUTI ERIC ; WIKTOR SERAFIN ; THEODORE A WEGERT
Assignee(s): ORAN SAFETY GLASS INC
Inventor(s):(std): NEILL REBECCA S ; LEIGHTON KATHERINE T ; ALESHIRE EDGAR L ; SERAFIN WIKTOR ; WEGERT THEODORE A ; URRUTI ERIC ; SNIVELY CHRISTOPHER M ; CARBERRY JOHN ; KATHERINE T LEIGHTON ; EDGAR L ALESHIRE ; JOHN CARBERRY ; ERIC URRUTI ; CHRISTOPHER M SNIVELY ; REBECCA S NEILL ; THEODORE A WEGERT ; WIKTOR SERAFIN
Agent(s): HROVAT ANDREA DARINKA; SOROKER AGMON; OHLANDT GREELEY RUGGIERO AND PERLE LLP; MCMAHON EDWARD L
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B29C B29C51/26 B29C51/28 B32B15/00 B32B17/06 B32B17/10 B32B18/00 B32B27/08 B32B27/36 B32B3/02 C04B35/634 C04B37/00 C04B37/02 C04B37/04 F41H5/04 (Advanced/Invention); B29C B32B C04B (Subclass/Invention)
CPC: B32B18/00 B32B17/10036 B32B17/10302 B32B17/10761 B32B17/1077 B32B27/365 B32B2307/412 B32B2369/00 C04B35/63408 C04B35/6342 C04B35/63424 C04B35/63456 C04B35/63488 C04B37/008 C04B37/028 C04B37/047 C04B2235/32 C04B2235/483 C04B2235/6581 C04B2235/9653 C04B2237/34 C04B2237/341 C04B2237/346 C04B2237/36 C04B2237/366 C04B2237/368 C04B2237/402 C04B2237/403 C04B2237/405 C04B2237/406 C04B2237/407 C04B2237/704 C04B2237/706 C04B2237/72 C04B2237/80 F41H5/0407 Y10T428/23 Y10T428/239 B32B17/10018 Y10T428/31507
European class: B32B18/00 C04B37/00K M04B235/32 M04B235/96J4
US class: 428/412 428/412S 428/68 428/68S 428/76 428/76P

Classification Explorer

Cited documents: WO11138725 A2, US8028612 BB, US7985481 BB, US7875356 BB, US782302 A, US7771892 BB, US7763360 BB, US7604876 BB, US7478579 BB, US7393584 BB, US7201965 BB, US7191694 BA, US7069836 BA, US6921509 BB, US6818268 BB, US6737151 BA, US6601497 BB, US6548177 BB, US6387477 BA, US6327954 BA, US5637363 A, US5536347 A, US5346752 A, US5045371 A, US5019443 A, US4969386 A, US4911061 A, US4600640 A, US4594290 A, US4592947 A, US4555450 A, US4364786 A, US4177099 A, US3965057 A, US3933552 A, US3900446 A, US3671370 A, US3657057 A, US3652379 A, US3640937 A, US3549466 A, US3388032 A, US2009324858 AA, US2008032104 AA, US2007231577 AA, US2007224402 AA, US2006159912 AA, US2006105121 AA, US2003118840 AA, US2003111159 AA, US1845133 A, JP2008037018 A2, GB1053220 A,
Forward Citations: US9453362, US9383173, US9263626, US9027293, US2017153089, US2015107169, US2015024165, US2014030496, CN104918427,

Abstract: A transparent laminate structure is provided that includes two transparent layers, a transparent interlayer, and an inorganic barrier layer. The two transparent layers each have an inner face and a side edge. The transparent interlayer is between and laminates the inner faces of the two transparent layers to one another. The transparent interlayer also extends over the side edges of the two transparent layers and laminates the inorganic barrier layer to at least the side edges of the two transparent layers.



91) Family number: 50485917 (CN102329087A)

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Title: SIDE PART STRUCTURE INTEGRATED LAMINATED GLASS AND PRODUCTION METHOD THEREOF
Priority: CN201010213847 20100630 CN201110170302 20110622 CN201120212928U 20110622
Family:

Publication number	Publication date	Application number	Application date
■ CN102329087 A	20120125	CN201110170302	20110622
■ CN102329087 B	20130619	CN201110170302	20110622
■ CN202107638 U	20120111	CN201120212928U	20110622

Probable Assignee: CHINA BUILDING MAT ACADEMY
Assignee(s):(std): CHINA BUILDING MAT ACADEMY
Assignee(s): CHINA BUILDING MATERIALS ACADEMY
Inventor(s):(std): FANGZHENG DING ; YINGCHUN OU ; YINCHUI ZHU ; ZHIWEN HUANG ; YAN ZUO ; HAOTIAN SUN ; SHANZHI ZHENG ; YANFANG ZHANG ; CHUAN WEI ; ZHIGUO ZHU ; HAOJIANG XIAO ; ZHU ZHIGUO ; DING FANGZHENG ; SUN HAOTIAN ; OU YINGCHUN ; WEI CHUAN ; ZUO YAN ; HUANG ZHIWEN ; ZHENG SHANZHI ; XIAO HAOJIANG ; ZHU YINCHUI ; ZHANG YANFANG

International class
(IPC 8-9): C03C27/12 (Advanced/Invention)

CPC: B32B17/10036 B32B17/10045 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788

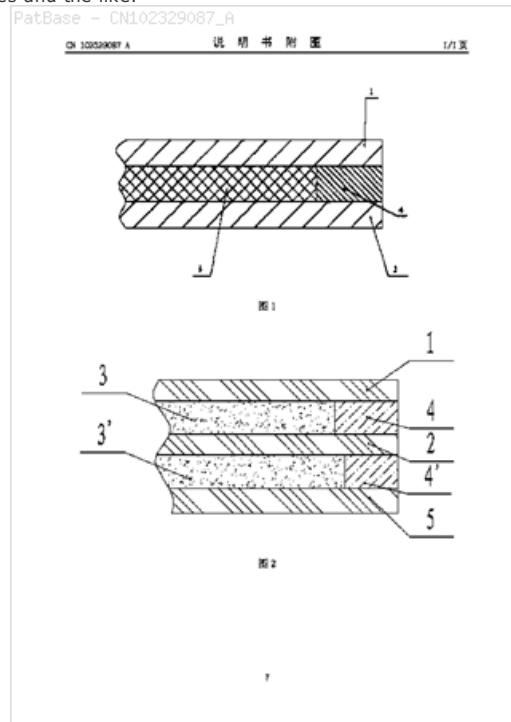
[Classification Explorer](#)

Cited documents: US6361101 BA, US5523138 A, US5380575 A, US2004209053 AA, EP1002641 A1, EP0598209 B1, DE10207600 C1, CN1474748 A, CN101250968 A,

Forward Citations: CN104890347,

Abstract:

The invention relates to side part structure integrated laminated glass and a production method thereof. The laminated glass comprises two or more pieces of single glass and adhesive films which are arranged between every two adjacent pieces of single glass. The adhesive films are clamped in the central area of the single glass. A side part area among pieces of single glass is a filling part. The width of the filling part is 20-50mm. The glass provided by the invention is still a laminated glass on the whole, substances with certain rigidity after the substances are solidified are only filled in the side part area, the rigidity of adhesive film layers of a side part is improved, the mechanical properties of all layers of the glass at the side part are enabled to be similar, the bonding force is improved, external force can be easily transferred to internal layers from the outermost layer or to external layers from the innermost layer, all layers at the side part can be easily destructed or separated from the whole body, and the glass can be applied to doors, windows or outer walls which have escape requirements or other requirements on the rigidity of side parts in the fields such as aviation, buildings, automobiles, locomotives and the like.

**92) Family number: 34023928** (US2007068375A)

© PatBase

Title: TRANSPARENT CERAMIC COMPOSITE
Priority: US20050689688 20050610 US20050689688P 20050610 US20060761814P 20060125
AU20060257867 20060609 EP20060772823 20060609 US20060423210 20060609
WO2006US22667 20060609 US20060423203 20060609 US20090549985 20090828
AU20100203090 20100720 US20100845611 20100728 US20110231109 20110913
AU20120244085 20121002

Family:	Publication number	Publication date	Application number	Application date
	■ AU2006257867 AA	20061221	AU20060257867	20060609
	■ AU2006257867 BB	20100422	AU20060257867	20060609

AU2010203090 AA	20100812	AU20100203090	20100720
AU2010203090 BB	20120802	AU20100203090	20100720
AU2012244085 AA	20121108	AU20120244085	20121002
AU2012244085 BB	20131128	AU20120244085	20121002
BRPI0611917 A2	20101005	BR2006PI11917	20060609
CN101194141 A	20080604	CN200680020530	20060609
CN101194141 B	20130522	CN200680020530	20060609
CN103256861 A	20130821	CN201310130007	20060609
EP1888996 A2	20080220	EP20060772823	20060609
EP1888996 B1	20171213	EP20060772823	20060609
EP2275770 A1	20110119	EP20100183056	20060609
EP2275771 A1	20110119	EP20100183061	20060609
EP2275772 A1	20110119	EP20100183065	20060609
EP2287557 A1	20110223	EP20100183045	20060609
IL187951 A0	20080320	IL20070187951	20071206
IL187951 A1	20130430	IL20060187951	20060609
IL225341 A0	20130627	IL20060225341	20060609
IN02082MN2007 A	20080118	IN2007MN02082	20071207
IN264581 B	20150109	IN2007MN02082	20071207
JP2008543706 T2	20081204	JP20080515999T	20060609
JP5479732 B2	20140423	JP20080515999T	20060609
MX2007015574 A1	20080225	MX20070015574	20060609
RU2007145539 A	20090720	RU20070145539	20060609
RU2386099 C2	20100410	RU20070145539	20060609
US2007068375 AA	20070329	US20060423203	20060609
US2007068376 AA	20070329	US20060423210	20060609
US2009308239 AA	20091217	US20090549985	20090828
US2010288117 AA	20101118	US20100845611	20100728
US2012001027 AA	20120105	US20110231109	20110913
US7584689 BB	20090908	US20060423210	20060609
US7793580 BB	20100914	US20090549985	20090828
US8025004 BB	20110927	US20100845611	20100728
US8297168 BB	20121030	US20110231109	20110913
WO06135832 A2	20061221	WO2006US22667	20060609
WO06135832 A3	20070315	WO2006US22667	20060609

Probable Assignee: SAINT GOBAIN CERAMICS AND PLASTICS INC

Assignee(s):(std): CARLSON ERIC S ; FARRELL KATHLEEN R ; FURCHNER BRIAN C ; JONES CHRISTOPHER D ; LOCHER JOHN W ; MANDELARTZ MATTHIAS ; RIOUX JEFFREY B ; PLUEN VINCENT ; SAINT GOBAIN CERAMICS ; SEHNT GOBEHN KERAMIKS EHND PLA ; SAINT GOBAIN CERAM AND PLASTICS INC

Assignee(s): SAINT GOBAIN CERAMICS AND PLASTICS ; SEHNT GOBEHN KERAMIKS EHND PLASTIKS INK ; SAINT GOBAIN CERAMICS AND PLASTICS INC

Inventor(s):(std): CARLSON ERIC S ; DZHONS KRISTOFER D ; FARCHNER BRAJAN S ; FARELL KEHTLIN R ; FURCHNER BRIAN C ; FARRELL KATHLEEN R ; JONES CHRISTOPHER D ; KARLSON EHRIC S ; RIOUX JEFFREY B ; RIUKS DZHEFFRI B ; VINCENT PLUEN ; LOCHER JOHN W ; MANDELARTS MATTIAS ; MANDELARTZ MATTHIAS ; MATTHIAS MANDELARTZ ; PLJUEN VINSAN ; PLUEN VINCENT ; LOCHER DZHON V ; FARRELL KATHELEEN R

Inventor(s): LOCHER JOHN ; RIOUX JEFFREY ; KATHELEEN R FARRELL ; KATHLEEN R FARRELL ; FURCHNER BRIAN ; JEFFREY B RIOUX ; JOHN W LOCHER ; JONES CHRISTOPHER ; FARRELL KATHLEEN ; ERIC S CARLSON ; CHRISTOPHER D JONES ; BRIAN C FURCHNER ; CARLSON ERIC

Agent(s): E F WELLINGTON AND CO; EF WELLINGTON AND CO; LEIDESCHER THOMAS ET AL; ZIMMERMANN AND PARTNER PATENTANWALTE MB; ZIMMERMANN AND PARTNER; PEARL COHEN ZEDEK LATZER BARATZ; FINCH AND NGUYEN PLLC; SAINT-GOBAIN/GTPP; SAINT GOBAIN GTPP; SAINT-GOBAIN/FINCH; SAINT GOBAIN FINCH; GROSSMAN TUCKER PERREAULT AND PFLEGER PLLC; FINCH AND MALONEY PLLC; ABEL LAW GROUP LLP; CHRISTOPHER

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8-9): B32B17/10 B64D7/00 B64G1/52 C03C27/00 C04B37/04 C30B15/34 F41H5/02 F41H5/04 F41H5/06 F41H5/08 F41H5/26 F41H7/00 F41H7/02 (Advanced/Invention); C30B15/34 (Advanced/Non-invention); B32B17/06 B64D7/00 C03C27/00 C04B37/04 C30B15/34 F41H5/00 F41H7/00 (Core/Invention); C30B15/34 (Core/Non-invention); F41H (Subclass/Invention)

International class (IPC 1-7): C30B15/34 F41H5/04

CPC: B33Y30/00 B32B17/1077 B32B17/10009 B32B17/10045 B32B17/10761 B32B17/10853 B32B2369/00 F41H5/0407 F41H5/0414 F41H5/0428

European class: B32B17/10C B32B17/10C4B B32B17/10G28 B32B17/10G30 B32B17/10L10B B32B17/10L10B2B2 F41H5/04B F41H5/04C F41H5/04C4 L32B369/00

US class: 244/121 244/121S 244/171.7 244/171.700P 89/36.02 89/36.020P 89/36.020S 89/903 89/903S 89/905 89/906 89/917 89/917S 89/918 89/930 89/930S 89/936 89/936S

[Classification Explorer](#)

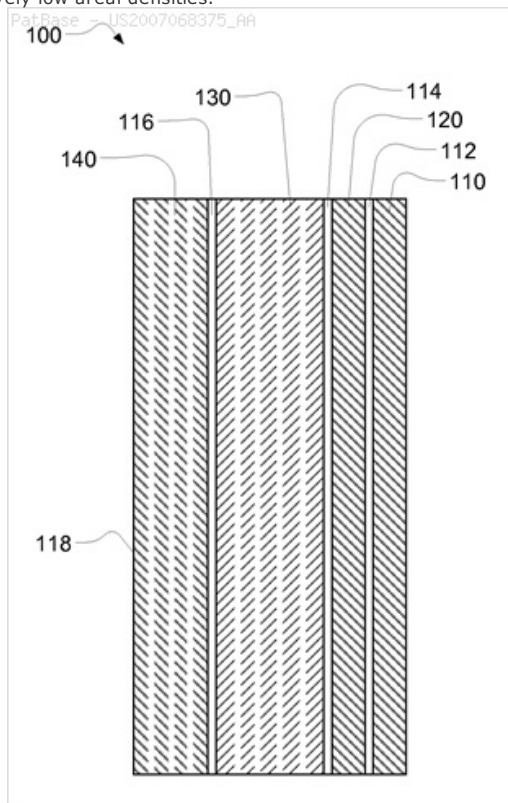
Cited documents: WO08130457 A2, WO07058665 A2, WO05100646 A1, WO03068501 A1, WO03068501 A1, USH1567 H1, USH1519 H1, US82046804, US8025004 BB, US7793580 BB, US7584689 BB, US7348076 BB, US7163731 BB, US6475942 BA, US6009889 A, US6009789 A, US5758845 A, US5558712 A, US5451553 A, US5398640 A, US4930731 A, US4704943 A, US4595624 A, US4402786 A, US4126731 A, US4079161 A, US4028476 A, US3953174 A, US3930452 A, US3917891 A, US3915662 A, US3864204 A, US3846082 A, US3634177 A, US3591348 A, US3471266 A, US3380406 A, US2010288117 AA, US2009308239 AA, US2007068376 AA, US2005227117 AA, US2005227117 AA, SU1758913 T, JP57095899 A2, JP2008522874 T2, JP2008522874, GB2044630 A1,

Forward Citations: WO17104799, WO16100596, WO16020498, WO14193823, WO14193819, WO14151369, WO14151369, WO14070558, WO13017448, WO11142867, WO11142867, WO10114276, WO10114276, WO10080699, WO09150380, WO09150380, WO09108169, WO09096930, WO09039798, WO09039798, WO09008914,

WO09008914, USRE43469, US9963800, US9950944, US9926645, US9909842, US9835429, US9835416, US9772818, US9750150, US9745662, US9719165, US9718249, US9617639, US9400146, US9297617, US9235378, US9162426, US9157703, US9140522, US9091510, US9081409, US9012045, US8977507, US8974924, US8833233, US8789454, US8788220, US8788218, US8746122, US8695476, US8685161, US8640591, US8603616, US8544376, US8338318, US8297168, US8176831, US8176829, US8176828, US8161862, US8157913, US8088472, US8028612, US8025004, US7954416, US7861638, US7793580, US7681485, US2015176950, US2014290473, US2014255704, US2014127500, US2014087197, US2014024142, US2012198989, US2012188078, US2012174761, US2011203452, US2011185884, US2011088541, US2011017053, US2010330341, US2010288117, US2010282160, US2010275767, US2010263525, US2010257997, US2010031810, US2009308239, US2009226662, US2009217813, US2009136702, US2008314237, US2008187721, US2008032104, US10209405, US10101129, US10094641, US10052848, US10041767, RU2645546, JP2014526983, FR2932411, EP2739934, EP2296877, EP2259003, EP2259003, EP2126509, EP2126509, DE102015115511, DE102011107438, DE102011080378, DE102011014100, CZ303349, CZ301508, CN104057666, CN103640273, CN103640273, CN103568406, CN102056741,

Abstract:

A ceramic composite and method of making are provided. The ceramic composite may be transparent and may serve as transparent armor. The ceramic portion of the composite may be single crystal sapphire. The composite may provide adequate protection from projectiles while exhibiting large surface areas and relatively low areal densities.



93) Family number: 43873932 (US2009263651A)

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Title:

Priority:

Family:

Probable Assignee:

Assignee(s):(std):

Assignee(s):

Inventor(s):(std):

Agent(s):

International class (IPC 8-9):

CPC:

European class:

US class:

Classification Explorer

Cited documents:

Forward Citations:

OPTICALLY TRANSPARENT RESILIENT LAMINATE MATERIALS AND METHODS OF MANUFACTURE

US20080026612P 20080206US20090366863 20090206

Publication number	Publication date	Application number	Application date
 US2009263651 AA	20091022	US20090366863	20090206

CCCIP LLC

COOK RICHARD L

CCCIP LLC

COOK RICHARD L

NOBLITT GROUP PLLC

B32B17/10 B32B27/36 B32B37/12 (Advanced/Invention);
B32B17/06 B32B27/36 B32B37/12 (Core/Invention)

B32B27/36 B32B17/10027 B32B17/1077 B32B17/10917 B32B2367/00 B32B2369/00 F41H5/0407
Y10T156/10 Y10T428/269 Y10T428/31507 B32B3/08 B32B23/08 B32B23/20 B32B27/08 B32B27/18
B32B27/365 B32B27/40 B32B2250/24 B32B2260/025 B32B2260/046 B32B2264/10 B32B2264/101
B32B2307/412 B32B2307/554 B32B2307/558 B32B2307/584 B32B2307/712 B32B2307/718
B32B2419/00 B32B2571/02 B32B2605/006

B32B17/10C2B B32B17/10G30 B32B17/10L16B2 B32B27/36 F41H5/04B L32B367/00 L32B369/00

156/60 428/339 428/412

[Classification Explorer](#)

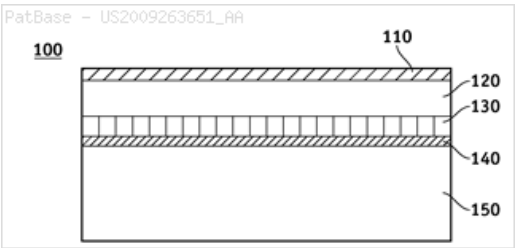
US6127505 A, US2002041943 AA,

WO18102309, US9750150, US9746661, US9745662, US9718249, US9617639, US9162426, US9157703,
US8974924, US2015355453, US2014087197, US2009258974,

Abstract:

In accordance with an exemplary embodiment of the present invention, an optically clear polyurethane/polyurea polymer may comprises an impact resistant material comprising: a first polycarbonate layer; a second layer comprising a first elastomer; a third glass layer; a fourth layer comprising a second elastomer; and a fifth polymeric layer. In another exemplary embodiment,

the third glass layer may be articulated and/or embedded in the second layer. Disclosed features and specifications may be variously controlled, adapted or otherwise optionally modified to improve and/or modify the performance characteristics of the transparent armor composite. Exemplary embodiments of the present invention generally provide lightweight transparent armor for use as, for example, bulletproof windows in vehicles and buildings.



94) Family number: 31800949 (DE10340856B4)

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Title: VERFAHREN UND VORRICHTUNG ZUM HERSTELLEN EINER SCHEIBENANORDNUNG FUER EIN FAHRZEUG, VERWENDUNG DER HERGESTELLTEN SCHEIBENANORDNUNG

Priority: DE20031040856 20030904

Publication number	Publication date	Application number	Application date
DE10340856 A1	20050407	DE20031040856	20030904
DE10340856 B4	20091112	DE20031040856	20030904

Probable Assignee: WEBASTO AG FAHRZEUGTECHNIK

Assignee(s):(std): WEBASTO AG ; WEBASTO AG FAHRZEUGTECHNIK ; WEBASTO FAHRZEUGTECHNIK AG

Inventor(s):(std): BOEHM HUBERT ; ERBECK GERIT ; PAETZ WERNER

International class (IPC 8-9): B29C63/02 B29C63/22 B32B17/10 B32B27/36 B32B37/00 B60J1/00 C03C27/12 (Advanced/Invention); B29C63/00 B32B38/18 (Advanced/Non-invention); B29C63/02 B32B17/06 B32B27/36 (Core/Invention); B29C63/00 B32B38/18 (Core/Non-invention)

International class (IPC 1-7): B29C63/22 B32B17/10 B32B31/20 B60J1/00 C03C27/12

CPC: B32B17/10495 B29C63/0047 B29C63/0065 B29C63/0073 B29C63/02 B29C2043/3647 B29C2791/006 B32B7/12 B32B17/10018 B32B17/10376 B32B17/10761 B32B17/1077 B32B17/10788 B32B17/10889 B32B17/10935 B32B27/36 B32B27/365 B32B37/10 B32B38/1866 B32B2309/68 B32B2367/00 B32B2369/00 B32B2605/08

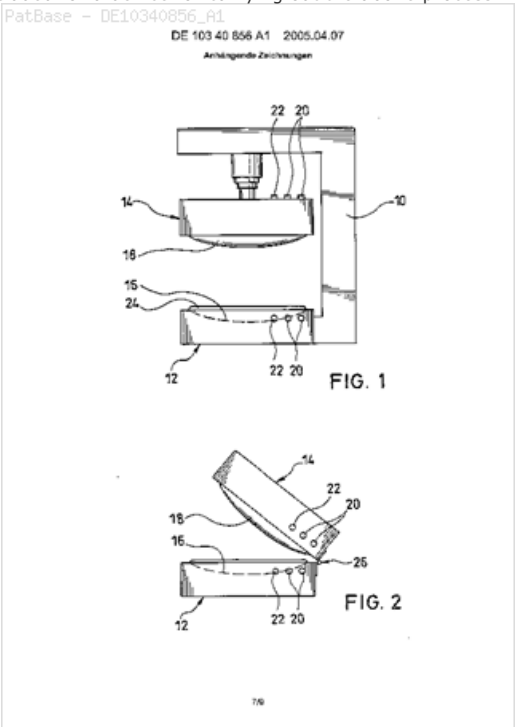
European class: B29C63/02 B32B17/10C2 B32B17/10E32 B32B17/10E40D6 B32B17/10G28 B32B17/10G30 B32B17/10G36 B32B17/10L14 B32B17/10L16F B32B27/36 B32B31/00A5 B32B37/10 L29C43/36D2 L29C63/00E L29C63/00T L29C63/00U L29C791/00E4 L32B309/68 L32B38/18D

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Cited documents: WO8502583 A1, US5631089 A, US5622580 A, US5536347 A, US5028287 A, US4999246 A, US3960627 A, US3806387 A, US2001042585 AA, DE3145698 A1, DE19903171 C2, DE19712145 C1,

Forward Citations: DE102009019687, DE102009019687,

Abstract: The production of a pane arrangement comprises placing a glass pane (40) and a plastic film (42) between the inner surfaces (16, 18) of two workpiece halves (12, 14) to form a film composite, closing the halves to form an air-tight seal between them, evacuating the space between the halves, heat treating the film composite to laminate the plastic film to the pane, and opening the halves to remove the laminated pane. An independent claim is also included for a device for carrying out the above process.



95) Family number: 69899951 (US2018148369A)

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Title: FUSION-FORMABLE AUTOMOTIVE GLASS COMPOSITIONS, ARTICLES, AND LAMINATES

Priority: US20160427921P 20161130 US20170817958 20171120

Family:

Publication number	Publication date	Application number	Application date
US2018148369 AA	20180531	US20170817958	20171120
WO18102172 A1	20180607	WO2017US62514	20171120

Probable Assignee: CORNING INC

Assignee(s):(std): CORNING INC

Inventor(s):(std): GROSS TIMOTHY MICHAEL ; MOORE LISA ANNE TIETZ ; TIETZ MOORE LISA ANNE

Agent(s): PATEL PAYAL A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/00 B32B17/06 B60J1/00 C03C21/00 C03C3/097 C03C4/18 (Advanced/Invention)

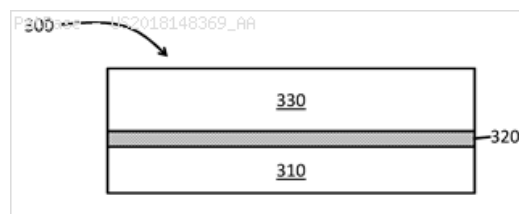
CPC: C03C4/18 B60J1/001 B32B2605/006 C03C2204/00 B32B2309/105 B32B17/06 C03C3/097 C03C21/002 C03C27/10 B32B17/10036 B32B17/10119 B32B17/10137 B32B17/10743 B32B17/10761 B32B17/1077 B32B17/10788 C03B17/064

[Classification Explorer](#)

Cited documents: US3433611 A, US2015314571 AA, US2010215993 AA, EP0885856 A2, EP0885606 A2,

Abstract:

Embodiments of glass articles exhibiting a sag temperature in a range from about 600 degrees centigrade to about 700 degrees centigrade are disclosed. In one or more embodiments, the glass article includes a glass composition including SiO₂ in an amount in a range from about 66 mol percent to about 80 mol percent, Al₂O₃ in an amount in a range from about 2 mol percent to about 15 mol percent, B₂O₃ in an amount in a range from about 0.9 mol percent to about 15 mol percent, P₂O₅ in a non-zero amount up to and including 7.5 mol percent, Li₂O in an amount from about 0.5 mol percent to about 12 mol percent, and Na₂O in an amount from about 6 mol percent to about 15 mol percent. Laminates including the glass articles and methods for forming such laminates are also disclosed.

**96) Family number: 60729953** (WO15166397A1)

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Title: GLASS PANEL WITH CONNECTION TO A SUPPORTING ELEMENT

Priority: IT2014VR00104 20140428

Family:

Publication number	Publication date	Application number	Application date
WO15166397 A1	20151105	WO2015IB53050	20150427

Probable Assignee: SANTONI VETRI DI SANTONI SANDRO AND C S N C

Assignee(s):(std): DEGARA LUCA ; SANTONI VETRI DI SANTONI SANDRO AND C S N C

Assignee(s): SANTONI VETRI DI SANTONI SANDRO AND C SNC

Inventor(s):(std): DEGARA LUCA ; SANTONI SANDRO

Agent(s): LISSANDRINI MARCO

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B32B17/10 E04F11/116 E04F13/14 (Advanced/Invention)

CPC: B32B17/10036 E04F11/116 E04F11/025 E04F11/1045 B32B17/10045 B32B17/10293 B32B17/10743 B32B17/10761 B32B17/10788

[Classification Explorer](#)

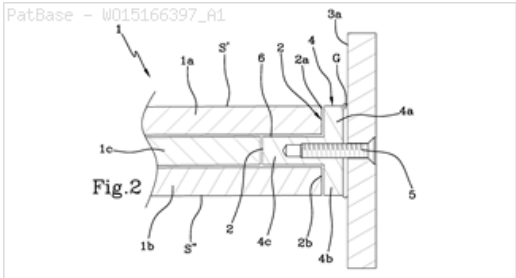
Cited documents: DE202006017856 U1
DE202006003497 U1
DE202006000835 U1
DE202005002695 U1
DE102007017971 A1

Forward Citations: EP3381679,

Abstract:

This invention relates to a glass panel (1) comprising a connecting flange (4) which realises a fixing system between the panel (1) and a support (3). The panel (1) of the invention makes it possible to obviate drawbacks due to inner stresses in the material of the panel (1) which arise due to the action of the constraining forces applied by connecting means (5) to which the fixing action of

the panel (1) to the support (3) is devolved.



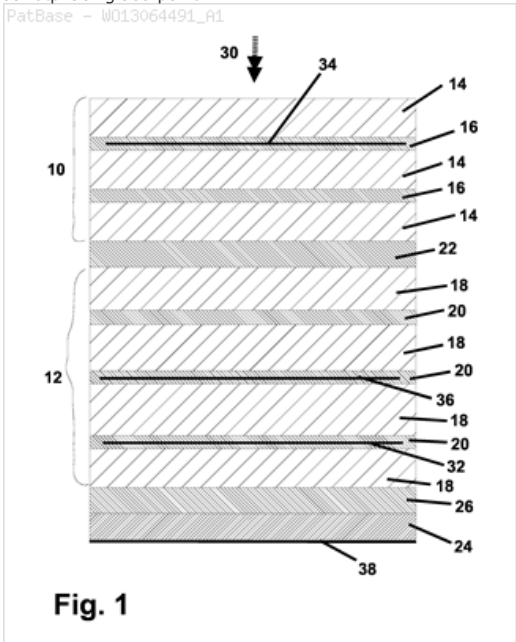
97) Family number: 53654962 (WO13064491A1) © PatBase

Title: BULLET-RESISTANT TRANSPARENT COMPOSITE PANE
Priority: DE201110117340 20111031
Family:

Publication number	Publication date	Application number	Application date
DE102011117340 A1	20130502	DE201110117340	20111031
DE102011117340 B4	20170511	DE201110117340	20111031
WO13064491 A1	20130510	WO2012EP71470	20121030

Probable Assignee: IABG INDUSTRIEANLAGEN BETR SGMBH
Assignee(s):(std): ESW GMBH ; HAMPEL JAN ; IABG INDUSTRIEANLAGEN BETR SGMBH ; IABG INDUSTRIEANLAGEN BETRIEBSGESELLSCHAFT MBH ; JENOPTIK ADVANCED SYSTEMS GMBH
Inventor(s):(std): HAMPEL JAN ; KRUEGER THOMAS ; SCHAEFER ROGER
Agent(s): WALLINGER RICKER SCHLOTTER TOSTMANN
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): B32B17/10 B32B27/08 B32B27/36 C03C27/12 F41H5/04 F41H5/26 (Advanced/Invention)
CPC: B32B17/10761 B32B17/10743 B32B17/10045 B32B17/1077 B32B27/08 B32B2333/12 B32B2369/00 F41H5/0407
[Classification Explorer](#)
Cited documents: WO11120680 A1, WO09149951 A2, WO09042877 A2, DE9218849 U1, DE202008016395 U1, DE102010013641 A1, DE102008028318 A1
Forward Citations: CN104534932, CN104354398,

Abstract:
A bullet-resistant transparent composite pane has a first block (10) which faces the threat side of the composite pane and has, in the direction of thickness, a plurality of transparent glass panels (14) which are connected to one another; and a second block (12) which faces away from the threat side of the composite pane and has, in the direction of thickness, a plurality of transparent plastic panels (18) which are connected to one another. The first block (10) and the second block (12) are arranged behind one another in the direction of thickness and are connected to one another via an elastic compensating layer (22) for compensating for the different thermal expansions of the first and the second block (10, 12) in the case of temperature changes. A composite pane which is composed in this way has, with the same protective effect, a considerably smaller thickness than a pure plastic composite pane and a considerably lower mass per unit area than a pure bulletproof glass pane.



Title:

HEATABLE COMPOSITE PANE HAVING A SECURITY FUNCTION

Priority:

EP20110169563 20110610 EP20120717779 20120503 WO2012EP58128 20120503
US20140122660 20140213 US20180965805 20180427

Family:

Publication number	Publication date	Application number	Application date
BR112013030779 A2	20161206	BR20131130779	20120503
CN103582561 A	20140212	CN201280028396	20120503
CN103582561 B	20160817	CN201280028396	20120503
DE502012012553 D1	20180517	DE201250012553T	20120503
EA027237 B1	20170731	EA20130091816	20120503
EA201391816 A1	20140430	EA20130091816	20120503
EP2718098 A1	20140416	EP20120717779	20120503
EP2718098 B1	20180418	EP20120717779	20120503
ES2676660 T3	20180723	ES20120717779T	20120503
IN03422KN2013 A	20140214	IN2013KN03422	20131121
JP2014524875 T2	20140925	JP20140513965T	20120503
JP5889404 B2	20160322	JP20140513965T	20120503
KR101553785 B1	20150916	KR20147000377	20120503
KR20140037913 A	20140327	KR20147000377	20120503
MX2013014361 A1	20140131	MX20130014361	20120503
MX353536 B	20180118	MX20130014361	20120503
PL2718098 T3	20181031	PL20120717779T	20120503
TR201810109 T4	20180921	TR20180010109T	20120503
US2014151355 AA	20140605	US20120122660	20120503
US2018244242 AA	20180830	US20180965805	20180427
US9981633 BB	20180529	US20120122660	20120503
WO12168009 A1	20121213	WO2012EP58128	20120503

Probable Assignee:

SAINT GOBAIN GLASS FRANCE

Assignee(s):(std):

LISINSKI SUSANNE ; MELCHER MARTIN ; SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE ; SCHLARB ANDREAS ; SAINT GOBAIN SA

Inventor(s):(std):

ANDREAS SCHLARB ; MARTIN MELCHER ; SUSANNE LISINSKI ; SCHLARB ANDREAS ; MELCHER MARTIN ; LISINSKI SUSANNE

Agent(s):

GEBAUER DIETER EDMUND; ELZABURU SLP ELZABURU SLP; MEHMET NAZIM AYDIN DERIS; STEINFL AND BRUNO LLP; LENDVAI TOMAS

Designated states:

AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9):

B32B17/06 B32B17/10 B60J1/00 B60S1/02 C03C27/12 H05B3/22 H05B3/28 H05B3/86 (Advanced/Invention)

CPC:

B60S1/026 B32B17/06 H05B2203/031 H05B2214/02 B32B17/10 B32B17/10036 B32B17/10174 B32B17/10761 B32B17/1077 B32B17/10788 H05B3/86 H05B2203/013 B32B2367/00 Y10T428/31645

European class:

B32B17/10 B32B17/10C4 B32B17/10E10 B32B17/10G28 B32B17/10G30 B32B17/10G36 T05B203/013

US class:

156/99 219/203 428/441

Classification Explorer

Cited documents:

US8692168 BB, US6933051 BB, US6406928 BA, US5911899 A, US4808799 A, US4808799 A, US4078107 A, US4078107 A, US3892947 A, US3892947 A, US2015096969 AA, US2013299479 AA, US2013277352 AA, US2013092676 AA, US2013024169 AA, US2013019618 AA, US2012017975 AA, US2012000896 AA, US2011081135 AA, US2009297132 AA, US2008237219 AA, US2008212189 AA, US2007184282 AA, US2006061008 AA, JP2009196400 A2, JP2009196400, JP2006523601 T2, JP2004306025, JP2000030847, EP2200097 A1, EP2200097 A1, EP2139049 A1, EP2139049 A1, EP0847965 B1, EP0847965 B1, EP0847965 A1, EP0025755 B1, EP0025755 B1, EP0025755 A1, DE9313394 U1, DE9313394 U, DE69731268 T2, DE69731268 T2, DE4235063 A1, DE4235063 A1, DE2344616 A1, DE2344616 A1,

DE202008017611 U1

DE202008017611 U1

DE202004019286 U1

DE202004019286 U1

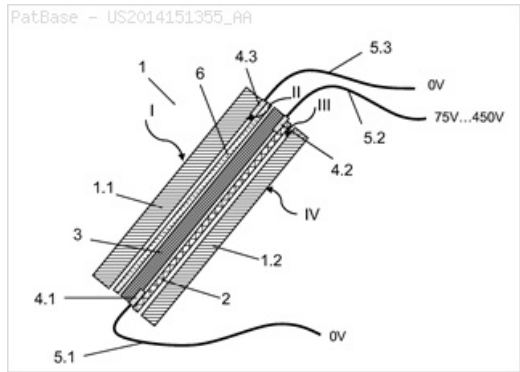
DE10352464 A1, DE10352464 A1, DE10333618 B3, DE10333618 B3, DE10325476 B3, DE10325476 B3, CN200944682 Y, CN1394306 A,

Forward Citations:

US2017238363, US2015244089, JP6403810, JP2017530894, JP2016522504, DE102014016564,

Abstract:

A composite pane is described. The composite pane has a first pane, at least one intermediate layer, a second pane, a transparent, electrically conductive first coating between the intermediate layer and the first pane and/or between the intermediate layer and the second pane, a first busbar and a second busbar, and a transparent, electrically conductive second coating.



99) Family number: 29419970 (US2003203167A)

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Title:	DIGITAL COLOR-DESIGN COMPOSITE FOR USE IN LAMINATED GLASS			
Priority:	US20020135417 20020430 KR20047017500 20041029	WO2003US13236 20030428 US20050193885 20050729	US20030443541 20030522	
Family:	Publication number	Publication date	Application number	Application date
	AT406259 E	20080915	AT20030726514T	20030428
	AU2003228745 AA	20031117	AU20030228745	20030428
	AU2003228745 BB	20080403	AU20030228745	20030428
	BRPI0309749 A	20050215	BR2003PI09749	20030428
	CA2483411 AA	20041025	CA20032483411	20030428
	CN100398314 C	20080702	CN20038015584	20030428
	CN1665680 A	20050907	CN20038015584	20030428
	DE60323219 D1	20081009	DE20036023219	20030428
	EP1499494 A1	20050126	EP20030726514	20030428
	EP1499494 B1	20080827	EP20030726514	20030428
	ES2307935 T3	20081201	ES20030726514T	20030428
	JP2005523866 T2	20050811	JP20040501155T	20030428
	JP4410096 B2	20100203	JP20040501155T	20030428
	KR20050020785 A	20050304	KR20047017500	20030428
	MXPA04010886 A1	20050125	MX2004PA10886	20030428
	NO20044823 A	20050128	NO20040004823	20041105
	NO20044823 A0	20041105	NO20040004823	20041105
	PL373321 A1	20050822	PL20030373321	20030428
	RU2004134734 A	20050510	RU20040134734	20030428
	RU2297330 C2	20070420	RU20040134734	20030428
	TH64403 A	20040930	TH20031001629	20030429
	US2003203167 AA	20031030	US20030443541	20030522
	US2003203214 AA	20031030	US20020135417	20020430
	US2006078716 AA	20060413	US20050193885	20050729
	US6824868 BB	20041130	US20020135417	20020430
	US7727634 BB	20100601	US20050193885	20050729
	WO03092999 A1	20031113	WO2003US13236	20030428
	ZA200408716 A	20050830	ZA20040008716	20041027
Probable Assignee:	SOLUTIA INC			
Assignee(s):(std):	SOLUTIA INC ; SOLJUTIA INK ; YACOVONE VINCENT J			
Assignee(s):	SOLUTIA SYSTEMS INC ; MORAN JAMES R ; DEUTSCHE BANK TRUST CO AMERICAS COLLATERAL AGENT AS ; SOL LOU TIA INN KO PO RAY LTD ; ABLECO FINANCE LLC ; ABLECO FINANCE LLC AS COLLATERAL AGENT ; ABLECO FINANCE LLC COLLATERAL AGENT AS ; BELL WILLIAM PAUL ; CITIBANK NA ; CPFILMS INC ; MONCHEM INC ; MONCHEM INT ; FLEXSYS AMERICA LP ; DEUTSCHE BANK TRUST CO ; DEUTSCHE BANK TRUST CO AMERICAS COLLATERAL AGENT A ; MONCHEM INT INC			
Inventor(s):(std):	PAUL BELL WILLIAM ; YACOVONE VINCET J ; YACOVONE VINCENT J ; YACOVONE VINCENT ; MORAN JAMES R ; MORAN JAMES ; WILLIAM PAUL BELL ; VINCENT J YACOVONE ; MORAN DZHEJMS R ; JAMES R MORAN ; JAKOVONE VINSENT DZH ; BELL WILLIAM P ; BELL UILL JAM POL ; BELL WILLIAM PAUL ; BELL WILLIAM			
Inventor(s):	BELL UILL'JAM POL			
Agent(s):	BALDWINS INTELLECTUAL PROPERTY; NELLIGAN O BRIEN PAYNE LLP; ALBRECHT THOMAS ET AL; HITOSHIO AKIO; TSUBOKURA MICHIAKI; ONO MAKOTO; OSAKI KATSUMASA; KAWAGUCHI YOSHIO; HOWREY LLP; DOWELL AND DOWELL PC; ROBERT J; JOHN P			
Designated states:	AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NI NL NO NZ OM PH PL PT RO RU SC SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW			
International class (IPC 8-9):	B32B17/00 B32B17/10 B32B18/00 B32B27/36 B32B9/00 B41M7/00 C03C27/12 C09J11/06 C09J123/08 C09J129/14 C09J131/04 C09J201/00 C09J5/02 (Advanced/Invention); B32B17/00 B32B17/06 B32B18/00 B32B27/36 B32B9/00 B41M7/00 C03C27/12 C09J11/02 C09J123/00 C09J129/00 C09J131/00 C09J201/00 C09J5/02 (Core/Invention)			
International class (IPC 1-7):	B32B17/00 B32B17/06 B32B17/10 B32B27/00 B32B27/04 B32B27/36 B32B7/12 B32B9/00 B41M7/00 C03C27/12 C09J11/06 C09J123/08 C09J129/14 C09J131/04 C09J201/00 C09J5/02			
CPC:	B32B17/10577 B32B17/10018 B32B17/10284 B32B17/10339 B32B17/10935 B32B17/10981 B32B27/36 Y10T428/24802 Y10T428/2495 Y10T428/264 Y10T428/28 Y10T428/2813 Y10T428/2848 Y10T428/2874 B32B17/10 B32B17/10036 B32B17/10275 B32B17/10761 B32B17/10788 B32B17/1077 Y10T428/24926 Y10T428/2891 B32B17/10247 Y10T428/31616 Y10T428/31623 Y10T428/31627 Y10T428/3163 Y10T428/31645 Y10T428/31725 Y10T428/31786 B32B17/10688 B32B2367/00			

European class: B32B17/10 B32B17/10C2 B32B17/10C4 B32B17/10E12 B32B17/10E12B4 B32B17/10E12B6 B32B17/10E26 B32B17/10G28 B32B17/10G2D B32B17/10G30 B32B17/10G36 B32B17/10L16F B32B17/10L22 B32B27/36

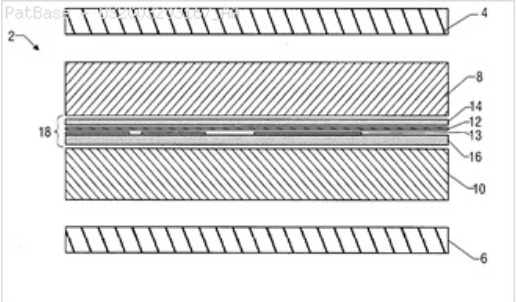
US class: 428/13 428/195.1 428/195.100P 428/210 428/210P 428/213 428/220 428/29 428/335 428/335AC 428/343 428/346 428/354 428/355.0AC 428/355.0AK 428/355AC 428/355AK 428/426 428/426P 428/428 428/43 428/430 428/430S 428/435 428/435S 428/436 428/437 428/441 428/474.4 428/480 428/542.2

[Classification Explorer](#)

Cited documents: WO04018197 A1, WO0218154 A1, US6921509 BB, US6839128 BB, US6824868 BB, US6372352 BA, US6329061 BB, US6235374 BA, US6159608 A, US6153289 A, US6096410 A, US6086983 A, US6080467 A, US6077613 A, US6074732 A, US6042947 A, US5977263 A, US5939207, US5932239 A, US5922424 A, US5914178 A, US5882774 A, US5807515 A, US5796095 A, US5759653 A, US5756186 A, US5756171 A, US5677024 A, US5631089 A, US5618863, US5604019 A, US5602457 A, US5595794 A, US5567533 A, US5567529 A, US5529849 A, US5529848 A, US5505801 A, US5501910 A, US5500274 A, US5468712 A, US5455103, US5451449 A, US5443869 A, US5425977, US5418026 A, US5397635 A, US5252533 A, US5229217 A, US5209972 A, US5208080 A, US5169694 A, US5153062 A, US5137954, US5091258 A, US5089319 A, US5089318 A, US5082738 A, US5069962 A, US5066525 A, US5049433 A, US5024895 A, US5013779, US5010672 A, US4999266 A, US4980108 A, US4976799 A, US4976795 A, US4975332 A, US4971845 A, US4968553 A, US4968533 A, US4952457 A, US4925713 A, US4925457 A, US4902670 A, US4873137 A, US4847237 A, US4842389 A, US4824722 A, US4642255 A, US4575540, US4574136 A, US4537828 A, US4480003 A, US4469743 A, US4444825 A, US4379805 A, US4364786 A, US4281980, US4278736 A, US4255490 A, US4244997 A, US4173672 A, US4144217, US3994654, US3841890, US2909810, US2904844, US2005118401 AA, US2003180541 AA, US2003161997 AA, US2002061395 AA, US2001046595 AA, JP6033936 U, JP10287452, JP10204189, EP1129844 A1, EP0849092 A1, EP0185863, DE20100717 U1, DE20100717, DE19705586 C1,

Forward Citations: WO18167412, WO16096652, WO15031590, WO11103641, WO09008856, WO08115568, WO08115567, WO08008679, WO07079160, WO07079160, WO07076169, WO07076169, WO06138650, WO06078829, WO06078829, USD835419, USD787835, USD779140, USD778069, USD767903, USD730062, US9855731, US9826824, US9801460, US9653006, US9434132, US9339096, US9200186, US9181462, US9144296, US9114595, US9075280, US9023162, US8927100, US8529813, US7883761, US7867605, US7811656, US7625627, US7255913, US6834905, US2014220317, US2012216951, US2012121832, US2011094665, US2011032595, US2010294363, US2010012634, US2009286046, US2008286542, US2008280076, US2008268214, US2008268204, US2008264558, US2008254302, US2008233377, US2008233371, US2008233352, US2008233279, US2008206522, US2008206504, US2008014414, US2007196630, US2007196629, US2007172637, US2007172636, US2007098964, US2006159874, US2006157186, US2005106372, US2004253554, US2003227190, US2003203167, US10140891, KR101870545, JP2015196612, JP2010195618, JP2007526389, ITRM20080559, ITPD20100177, GB2469094, GB2468533, FR3063928, ES2353778, ES2336989, EP2711346, EP2436527, EP2358541, EP2030778, EP1891171, EP1604815, CN105121172, CN105121172, CN105008139, AU2008229343, AU2006332747,

Abstract: This invention is directed to a plastic composite comprising color images printed onto a polyethylene terephthalate (PET) substrate using digital printing technology. The PET layer is then bonded to a second PET layer using a thermally activated adhesive, preferably ethylene vinyl acetate copolymer (EVA). The bonded PET layers are then disposed between two layers of plasticized PVB, forming the plastic composite. The plastic composite can then be placed between two sheets of glass forming the final laminated glass product.



100) Family number: 49698992 (US2013199360A) © PatBase

Title:	TRANSPARENT GLASS/POLYMER COMPOSITE																																																											
Priority:	DE201010013641 20100401		EP20110715168 20110330		WO2011EP01592 20110330																																																							
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Probable Assignee:	SCHOTT AG																																																											
Assignee(s):(std):	KROPFGANS FRIEDER ; SCHAUPERT KURT ; SCHOTT AG ; ZACHAU THILO ; ZACHAU THILO HINRICH																																																											
Inventor(s):(std):	ZACHAU THILO DR ; SCHAUPERT KURT DR ; KROPFGANS FRIEDER ; SCHAUPERT KURT ; ZACHAU THILO ; ZACHAU THILO HINRICH																																																											
Agent(s):	LEHMANN MARIA ISABEL; REINHOLD COHN AND PARTNERS; OHLANDT GREELEY RUGGIERO AND PERLE LLP; SCHOTT AG																																																											
Designated states:	AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST																																																											

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B32B C03C F41H (Subclass/Invention)

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US class:

1/1 89/36.02

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Abstract:

A transparent device for protection from an action of shock, projectiles, fragments or shock waves is provided. The device is a laminate having brittle-fracture, transparent materials that are joined together by way of transparent intermediate layers of organic polymers. The laminate is closed on the protective side facing away from the side of action by a fragment-protective layer that is formed as a transparent polymer layer in a thickness of 0.5 mm to 12 mm. The laminate has facing the side of action a chemically prestressed, brittle-fracture panel that is at a distance of 3 mm to 20 mm from the side of action.

