

Search query (2): [SP]: 1. a substrate coated on one face with a thin-films stack having reflection properties in the infrared and/or in solar radiation comprising a single metallic functional layer and two antireflection coatings, said coatings each comprising at least one dielectric layer, said functional layer being positioned between the two antireflection coatings wherein at least one of said antireflection coatings comprises an intermediate layer, which is an absorbent layer comprising zinc tin oxide $\text{snxzn}y\text{oz}$ with a ratio of 0.1 less than or equal to x/y less than or equal to 2.4 with $0.75(2x+y)$ less than or equal to z less than or equal to $0.95(2x+y)$, and having a physical thickness of between 2 nm and 25 nm.2. the substrate as claimed in claim 1, wherein said intermediate layer comprises zinc tin oxide $\text{snxzn}y\text{oz}$ with a ratio of 0.55 less than or equal to x/y less than or equal to 0.83.3. the substrate as claimed in claim 1, wherein said intermediate layer is located in said dielectric coating positioned beneath said metallic functional layer, directly on a nitride-based dielectric layer and directly under a wetting layer comprising zinc oxide.4. the substrate as claimed in claim 1, wherein said intermediate layer is located in the antireflection coating superjacent to the functional layer.5. a multiple glazing comprising: at least two substrates which are held together by a frame structure, said glazing providing a separation between an external space and an internal space, wherein at least one intermediate gas-filled space is positioned between the two substrates, one of the two substrates being the substrate as claimed in claim 1.6. a process for obtaining a substrate coated on one face with a thin-films stack having reflection properties in the infrared and/or in solar radiation comprising a single metallic functional layer and two antireflection coatings the process comprising the following steps, in order: depositing on one face of said substrate the thin-films stack having reflection properties in the infrared and/or in solar radiation comprising the single metallic functional layer and the two antireflection coatings to form the substrate as claimed in claim 1,treating said thin-films stack using a source that produces radiation in an atmosphere.7. the substrate as claimed in claim wherein the single metallic functional layer is based on silver or on a metal alloy containing silver.8. the substrate claimed in claim 1, wherein the physical thickness is between 2 nm and 12 nm.9. the substrate as claimed in claim 3, wherein said nitride-based dielectric layer having a physical thickness of between 10 and 50 nm.10. the substrate as claimed in claim 9, wherein said nitride-based dielectric layer is based on silicon nitride si_3n_4 .11. the substrate as claimed in claim 3, wherein said nitride-based dielectric layer is based on silicon nitride si_3n_4 .12. the substrate as claimed in claim 4, wherein said intermediate layer is located directly on an overblocker coating located directly on said functional layer.13. a multiple glazing comprising: at least two substrates which are held together by a frame structure, said glazing providing a separation between an external space and an internal space, wherein at least one intermediate gas-filled space is positioned between the two substrates, one of the two substrates being the substrate as claimed in claim 2.14. a multiple glazing comprising: at least two substrates which are held together by a frame structure, said glazing providing a separation between an external space and an internal space, wherein at least one intermediate gas-filled space is positioned between the two substrates, one of the two substrates being the substrate as claimed in claim 4.16. the process as claimed in claim 6, wherein the single metallic functional layer is based on silver or on a metal alloy containing silver.17. the process as claimed in claim 6, wherein the radiation produced in the treating is infrared radiation.18. the process as claimed in claim 17, wherein the atmosphere in the treating comprises oxygen.19. the process as claimed in claim 6, wherein the atmosphere in the treating comprises oxygen.20. a substrate coated on one face with a thin-films stack having reflection properties in the infrared and/or in solar radiation comprising a single metallic functional layer and two antireflection coatings, said coatings each comprising at least one dielectric layer, said functional layer being positioned between the two antireflection coatings, wherein at least one of said antireflection coatings comprises an intermediate layer comprising zinc tin oxide $\text{snxzn}y\text{oz}$ with a ratio of 0.1 less than or equal to x/y less than or equal to 2.4, with $0.75(2x+y)$ less than or equal to z less than or equal to $0.95(2x+y)$, and having a physical thickness of between 2 nm and 25 nm, and wherein the intermediate layer is not a dielectric layer.

Results: 11

1) Family number: 69028184 (WO18055310A1)

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Title: SUBSTRATE COATED WITH A LOW-EMISSIVITY COATING

Priority: FR20160059025 20160926

Family:	Publication number	Publication date	Application number	Application date
	FR3056579 A1	20180330	FR20160059025	20160926
	WO18055310 A1	20180329	WO2017FR52569	20170925

Probable Assignee: SAINT GOBAIN

Assignee(s):(std): SAINT GOBAIN

Assignee(s): SAINT GOBAIN GLASS FRANCE

Inventor(s):(std): GUIMARD DENIS ; SKOLSKI JOHANN

Inventor(s): DENIS GUIMARD ; JOHANN SKOLSKI

Agent(s): 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 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 C03C17/36 (Advanced/Invention)

(IPC 8-9):

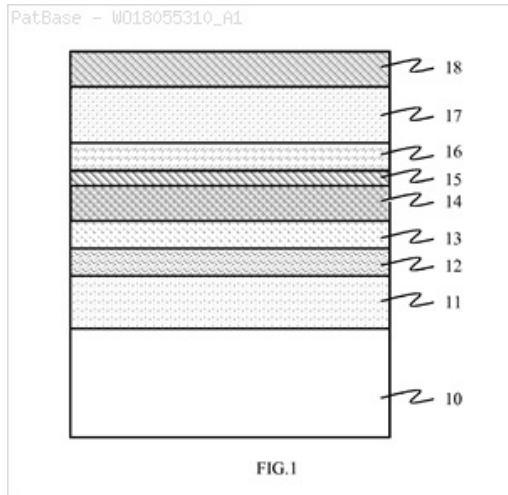
CPC: C03C17/36 C03C17/3626 C03C17/3644 C03C17/366 C03C2218/32

[Classification Explorer](#)

Cited documents: WO16051068 A1, WO15071610 A1, WO10142926 A1, US2012164420 AA, US2009263596 AA,

Abstract:

The invention relates to a material comprising a substrate coated on at least one face with a coating including a first dielectric layer, a wetting layer, a silver layer, and a second dielectric layer, characterised in that at least one of said first and second dielectric layers is an oxide-based dielectric layer and an oxygen barrier layer is disposed between the oxide-based dielectric layer and the wetting layer; as well as to a method for obtaining such a material, said method comprising a step involving the laser annealing of the coating.



2) Family number: 52591193 (US2014191212A)

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Title: SUBSTRATE WITH AN ELECTRODE FOR AN OLED DEVICE AND SUCH AN OLED DEVICE

Priority: FR20110055269 20110616 WO2012FR51336 20120614

Family:	Publication number	Publication date	Application number	Application date
	CN103733372 A	20140416	CN201280039791	20120614
	EP2721660 A1	20140423	EP20120738490	20120614
	FR2976729 A1	20121221	FR20110055269	20110616
	FR2976729 B1	20130607	FR20110055269	20110616
	JP2014517488 T2	20140717	JP20140515262T	20120614
	KR20140048202 A	20140423	KR20147000869	20120614
	US2014191212 AA	20140710	US20120126733	20120614
	WO12172258 A1	20121220	WO2012FR51336	20120614

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s):(std): LIENHART FABIEN ; SAINT GOBAIN ; SAINT GOBAIN SA

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

Inventor(s):(std): LIENHART FABIEN

Inventor(s): FABIEN LIENHART

Agent(s): RIBEAUDEAU MARION CHRISTINE; SAINT GOBAIN RECHERCHE; AOKI ATSUSHI; KOGA TETSUJI; ISHIDA TAKASHI; 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 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): C03C17/36 H01L51/50 H01L51/52 H05B33/02 H05B33/10 H05B33/26 H05B33/28 H05K1/09 (Advanced/Invention)

CPC: H01L51/5203 H05K1/09 C03C17/3602 H01L51/5215 H01L51/5231 H01L2251/55

European class: H01L51/52B2M H01L51/52B4M

US class: 174/257 204/192.12 257/40

[Classification Explorer](#)

Cited documents: WO10094775 A1, WO09083693 A2, WO08059185 A2, WO03061348 A1, US6645645 BA, US6171457 BA, US2015243445 AA, US2014213133 AA, US2008278067 AA, US2007114920 AA, US2005225863 AA, US2005061681 AA, US2004113547 AA, US2003214230 AA, US2002064053 AA, JP2012518261 T2, JP2010510618 T2, JP2010272271 A2, CN1620841 A, CN101960638 A, CN101841001 A, CN101682001 A, CN101536608 A,

Forward Citations: US2017240463, US10167225, CN106848104,

Abstract:

A substrate carrying an OLED electrode, with a sheet resistance of less than 25 O/square, includes an electrically conducting coating, an essentially inorganic thin electrically conducting layer which is a work-function-matching layer and which exhibits a sheet resistance at least 20 times greater than the sheet resistance of the electrically conducting coating, with a thickness of at most 60 nm, and, between the electrically conducting coating and the work-function-matching layer, a thin buffer layer, which is essentially inorganic and which has a surface resistivity within a range from 10-6 to 1 O-cm2.

3) Family number: 43772382 (US2011070417A)

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Title: SUBSTRATE PROVIDED WITH A STACK HAVING THERMAL PROPERTIES

Priority: FR20080051731 20080318 WO2009FR50444 20090317

Family:	Publication number	Publication date	Application number	Application date
	BRPI0908713 A2	20150728	BR2009PI08713	20090317
	CA2717921 AA	20091008	CA20092717921	20090317
	CN102036930 A	20110427	CN200980117939	20090317

CN102036930 B	20140618	CN200980117939	20090317
EA021052 B1	20150331	EA20100071085	20090317
EA201071085 A1	20110429	EA20100071085	20090317
EP2268588 A2	20110105	EP20090726740	20090317
FR2928913 A1	20090925	FR20080051731	20080318
FR2928913 B1	20110520	FR20080051731	20080318
IN03417KN2010 A	20111125	IN2010KN03417	20100916
JP2011518096 T2	20110623	JP20110500271T	20090317
KR20100123875 A	20101125	KR20107020797	20090317
MX2010010100 A1	20101004	MX20100010100	20090317
US2011070417 AA	20110324	US20090933240	20090317
WO09122090 A2	20091008	WO2009FR50444	20090317
WO09122090 A3	20091210	WO2009FR50444	20090317
ZA201006614 A	20110525	ZA20100006614	20100915

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s):(std): SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE ; GERARDIN HADIA ; REUTLER PASCAL ; SAINT GOBAIN SA

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

Inventor(s):(std): GERARDIN HADIA ; HADIA GERARDIN ; PASCAL REUTLER ; REUTLER PASCAL

Agent(s): JAMET VINCENT; SAINT GOBAIN RECHERCHE; AOKI ATSUSHI; ISHIDA TAKASHI; KOGA TETSUJI

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): B05D5/06 B32B17/00 B32B17/06 B32B37/00 B32B7/02 C03C C03C17/34 C03C17/36 G02B1/11 (Advanced/Invention); B32B17/06 C03C17/34 C03C17/36 G02B1/11 (Advanced/Non-invention); B32B17/06 C03C17/36 (Core/Invention)

CPC: Y10T428/2495 C03C17/3618 C03C17/3626 C03C17/3644 C03C17/3652 C03C17/366 C03C17/36

European class: C03C17/36 C03C17/36B320 C03C17/36B332 C03C17/36B342 C03C17/36B346 C03C17/36B352L

US class: 156/278 156/278S 427/160 427/160S 428/213 428/213P

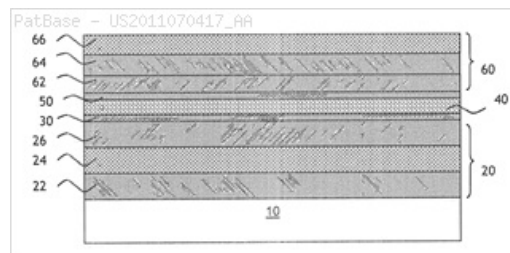
[Classification Explorer](#)

Cited documents: WO08115329 A1, WO08060453 A2, WO07101964 A1, WO07054656 A1, WO06122900 A1, WO02092529 A1, US2007009746 AA, JP2006159580 A2, EP1394130 A1, EP0963960 A1, CN1173428,

Forward Citations: WO16088688, WO16051068, WO16051066, WO13127563, US9802860, US9771301, US9751801, US9708215, US9630875, US9598311, US9126862, US8987697, US8969129, US8906736, US8859328, US8735217, US2014374240, US2014357046, US2014224645, US2014217348, US2013136921, US2012263885, US10214447, US10167225, US10138160, US10017416, KR101890968, JP6113794, JP5996561, JP2016110224, JP2016041651, JP2014508093, JP2014017448, FR3026404, FR3026403, EP3388400, EP3004980, CN106966607, CN105254187, CN103946174, CN103946174,

Abstract:

The invention relates to a glass substrate (10) provided on a main face with a stack of thin layers comprising a metallic functional layer (40) with reflective properties in the infrared and/or in solar radiation, based notably on silver or a metal alloy containing silver, and two antireflective coatings (20, 60), each of said coatings having at least one dielectric layer (22, 64) based on silicon nitride, optionally doped with at least one other element, such as aluminum, said functional layer (40) being disposed between the two antireflective coatings (20, 60), characterized in that the optical thickness e_{60} in nm of the overlying antireflective coating (60) is: $e_{60}=5 \times e_{40}+a$, where e_{40} is the geometric thickness in nm of the functional layer (40) such that $13 \leq e_{40} \leq 25$, and preferably $14 \leq e_{40} \leq 18$, and where a is a number ± 25 plus or minus 15.



4) Family number: 55315515 (US2015083468A)

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Title: TEXTURED GLASS SUBSTRATE HAVING ENHANCED OPTICAL PROPERTIES FOR AN OPTOELECTRONIC DEVICE

Priority: BE20120000359 20120529 WO2013EP61109 20130529

Family:

Publication number	Publication date	Application number	Application date
BE1020735 AD	20140401	BE20120000359	20120529
CN104350628 A	20150211	CN201380028138	20130529
EA201492275 A1	20150529	EA20140092275	20130529
EP2856532 A1	20150408	EP20130726757	20130529
JP2015527954 T2	20150924	JP20150514495T	20130529
US2015083468 AA	20150326	US20130398826	20130529
WO13178702 A1	20131205	WO2013EP61109	20130529

Probable Assignee: AGC GLASS EUROPE

Assignee(s):(std): AGC FLAT GLASS EUROPE S A ; AGC FLAT GLASS EUROPE SA ; AGC GLASS EUROPE

Inventor(s):(std): DOMERCQ BENOIT ; SINAPI FABRICE

Agent(s): LARANGE FRANCOISE

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): C03C15/00 C03C17/36 G02B5/02 H01B5/14 H01L31/0224 H01L31/0236 H01L51/50 H01L51/52 H05B33/02 H05B33/10 H05B33/26 H05B33/28 H05K1/02 H05K1/03 H05K3/00 H05K3/46 (Advanced/Invention)

International class (IPC 1-7): C03C15/00 G02B5/02 H01L51/52

CPC: H05K1/0274 H05K1/0306 H05K3/002 H05K3/467 H05K2201/0326 G02B5/0215 G02B5/0278 H01L51/5215 H01L51/5268

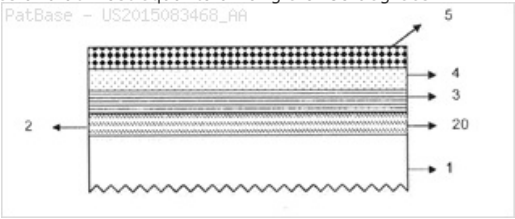
US class: 174/255 216/24

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Cited documents: WO11046190 A1, WO11046156 A1, WO10112788 A2, WO10112786 A2, WO10094775 A1, WO10084925 A1, WO10084922 A1, WO09116531 A1, WO09017035 A1, WO06109222 A1, US2011297988 AA, US2010142185 AA, JP2012518261 T2, JP2011074358, JP2009211934 A2, JP2008537291 T2, JP2008010245 A2, JP2004342523 A2, JP2002352956 A2, JP2000231985 A2, EP1449017 B1, CN102326274 A, CN100576587 C,

Forward Citations: US9825243, US2017240463, US2016049617, US10167225, CN104829144,

Abstract:
The invention relates to a glass substrate having enhanced optical properties for optoelectronic devices, wherein said substrate is totally or partially textured, by means of a chemical attack, on at least one of the surfaces thereof with a set of geometric patterns such that the arctangent of the ratio of the mean height of the patterns, Rz, to half the mean distance between the peaks of two contiguous patterns, RSm, is at least equal to an angle of 35 degrees and at most equal to an angle of 80 degrees.



5) Family number: 62008583 (US2017240463A) © PatBase

Title:	SUBSTRATE PROVIDED WITH A STACK HAVING THERMAL PROPERTIES AND A SUBSTOICHIOMETRIC INTERMEDIATE LAYER			
Priority:	FR20140059256 20140930 WO2015FR52589 20150929			
Family:	Publication number	Publication date	Application number	Application date
	BR112017006212 A2	20180306	BR20171106212	20150929
	CN107074636 A	20170818	CN201580053011	20150929
	CO20170004365 A2	20170929	CO20170004365	20170428
	EA201790760 A1	20170831	EA20170090760	20150929
	EP32011150 A1	20170809	EP20150781126	20150929
	FR3026404 A1	20160401	FR20140059256	20140930
	FR3026404 B1	20161125	FR20140059256	20140930
	IN201717011414 A	20170915	IN201717011414	20170330
	JP2017536315 T2	20171207	JP20170517091T	20150929
	KR20170061690 A	20170605	KR20177010454	20150929
	MX2017004160 A1	20170530	MX20170004160	20150929
	US2017240463 AA	20170824	US20150515453	20150929
	US10167225 BB	20190101	US20150515453	20150929
	WO16051068 A1	20160407	WO2015FR52589	20150929

Probable Assignee: SAINT GOBAIN GLASS FRANCE

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

Inventor(s):(std): MERCADIER NICOLAS ; NICOLAS MERCADIER

Agent(s): MARGARITA CASTELLANOS ABONDANO; SAINT GOBAIN RECHERCHE; OBLON MCCLELLAND MAIER AND NEUSTADT LLP

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 B32B3/08 C03C17/36 C03C27/06 E06B3/66 E06B3/677 G02B1/115 G02B5/08 (Advanced/Invention)

CPC: B32B17/06 B32B3/08 C03C17/3618 C03C17/3639 C03C17/3642 C03C17/3649 C03C17/3681 G02B5/0808 G02B1/115 B32B2255/205 B32B2255/28 B32B2307/412 B32B2419/00 C03C2217/281 C03C2217/73 C03C2218/15 C03C17/366 C03C17/3626 C03C17/3644 C03C17/36 C03C17/3652 C03C17/3673 C03C2218/322

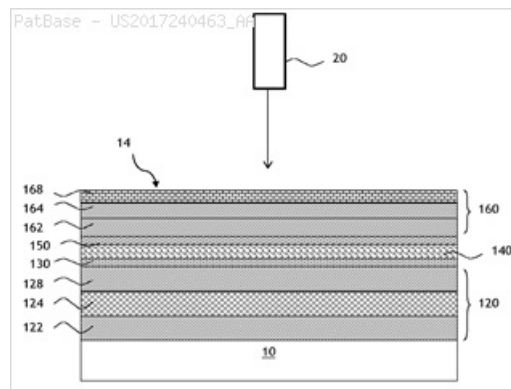
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Cited documents: WO14080141 A1, WO14044984 A1, WO10142926 A1, WO10103224 A1, WO09122090 A2, WO07101964 A1, US9708215 BB, US9656346 BB, US2015321951 AA, US2015247961 AA, US2015083468 AA, US2014191212 AA, US2012028009 AA, US2011070417 AA, US2009197077 AA,

Forward Citations: WO18055310,

Abstract:
A substrate is coated on one face with a thin-films stack having reflection properties in the infrared and/or in solar radiation including a single metallic functional layer, based on silver or on a metal alloy containing silver, and two antireflection coatings. The coatings each include at least one dielectric layer. The functional layer is positioned between the two antireflection coatings.

At least one of the antireflection coatings includes an intermediate layer including zinc tin oxide $\text{Sn}_x\text{Zn}_y\text{O}_z$ with a ratio of $0.1 \leq x/y \leq 2.4$, with $0.75(2x+y) \leq z \leq 0.95(2x+y)$ and having a physical thickness of between 2 nm and 25 nm, or even between 2 nm and 12 nm.



6) Family number: 56087624 (US2015247961A)

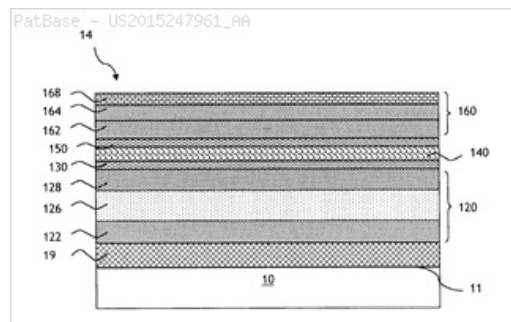
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Title: SUBSTRATE HAVING A MULTILAYER WITH THERMAL PROPERTIES AND AN ABSORBING LAYER
Priority: FR20120058867 20120921 WO2013FR52175 20130920
Family:

Publication number	Publication date	Application number	Application date
BR112015004925 A2	20170704	BR20151104925	20130920
CA2883716 AA	20150226	CA20132883716	20130920
CN104619668 A	20150513	CN201380047792	20130920
CN104619668 B	20181109	CN201380047792	20130920
EA029163 B1	20180228	EA20150090612	20130920
EA201590612 A1	20150730	EA20150090612	20130920
EP2897918 A1	20150729	EP20130779271	20130920
FR2995888 A1	20140328	FR20120058867	20120921
FR2995888 B1	20161202	FR20120058867	20120921
ID201702502 A	20170317	ID2015P0002330	20130920
IN01730DN2015 A	20150529	IN2015DN01730	20150303
JP2015529188 T2	20151005	JP20150532484T	20130920
JP6320389 B2	20180509	JP20150532484T	20130920
KR20150058385 A	20150528	KR20157009811	20130920
MX2015003532 A1	20150714	MX20150003532	20130920
US2015247961 AA	20150903	US20130429892	20130920
US9977162 BB	20180522	US20130429892	20130920
WO14044984 A1	20140327	WO2013FR52175	20130920

Probable Assignee: SAINT GOBAIN GLASS FRANCE
Assignee(s):(std): SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE ; SAINT GOBAIN SA
Assignee(s): SAINT GOBAIN GLASS FRANCE SA ; JRIBI RAMZI ; LORENZZI JEAN CARLOS
Inventor(s):(std): RAMZI JRIBI ; LORENZZI JEAN CARLOS ; JRIBI RAMZI ; JEAN CARLOS LORENZZI
Agent(s): GOUDREAU GAGE DUBUC; LAVERY DE BILLY LLP; JAMET VINCENT; SAINT GOBAIN RECHERCHE; IR MIGNI MYRIASANDRA SH MIP MSEL; OBLON MCCLELLAND MAIER AND NEUSTADT LLP
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 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): C03C17/36 C03C27/06 E06B3/67 G02B5/08 G02B5/28 (Advanced/Invention)
International class (IPC 1-7): C03C17/36
CPC: G02B5/282 G02B5/085 Y02B80/22 C03C17/36 C03C17/361 C03C17/3626 C03C17/3644 C03C17/3652 C03C17/366 C03C17/3681
US class: 359/360
[Classification Explorer](#)
Cited documents: WO10072974 A1, WO0248065 A1, US6592996 BA, US2013088773 AA, US2011305853 AA, US2011261442 AA, US2005123772 AA, JP6345491 A2, JP6345491, JP2012513323 T2, JP2012513323, JP2012506021 T2, JP2012506021, JP2004522677 T2, JP2004522677, JP2000302486 A2, JP2000302486, JP11228185, JP11228185, EP1044934 A2,
Forward Citations: WO16193577, WO16051069, WO16051068, US10167225, FR3036701, FR3026405, FR3026404, CN106338787, CN104973800,

Abstract:
The invention relates to a substrate (10) coated on one face (11) with a multilayer of thin films (14) with reflective properties in the infrared and/or in the solar radiation band comprising a single functional metal layer (140), in particular of silver or of a metal alloy containing silver, and two dielectric coatings (120, 160), said coatings each comprising at least one dielectric layer (122, 164), said functional layer (140) being disposed between the two dielectric coatings (120, 160), said multilayer furthermore comprising a single absorbing layer (19), characterized in that said absorbing layer (19) is a metal layer having a physical thickness in the range between 0.5 nm and 1.5 nm, or even between 0.6 nm and 1.2 nm and is situated directly on said face (11) and directly under a dielectric layer of nitride not comprising any oxygen.



7) Family number: 36060634 (US2009197077A)

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Title: SUBSTRATE COMPRISING A STACK HAVING THERMAL PROPERTIES

Priority: FR20060050771 20060306 EP20070731699 20070306 WO2007FR50882 20070306
US20070281480 20070306 US20090281480 20090102 US20180873098 20180117

Family:	Publication number	Publication date	Application number	Application date
	BRPI0708389 A2	20110524	BR2007PI08389	20070306
	BRPI0708389 B1	20171226	BR2007PI08389	20070306
	CA2644888 AA	20080904	CA20072644888	20070306
	CA2644888 C	20150616	CA20072644888	20070306
	CN101395096 A	20090325	CN200780008049	20070306
	CN101395096 B	20140723	CN200780008049	20070306
	DK1993965 T3	20180827	DK20070731699T	20070306
	EA017695 B1	20130228	EA20080070318	20070306
	EA200870318 A1	20090227	EA20080070318	20070306
	EP1993965 A1	20081126	EP20070731699	20070306
	EP1993965 B1	20180516	EP20070731699	20070306
	ES2683020 T3	20180924	ES20070731699T	20070306
	FR2898123 A1	20070907	FR20060050771	20060306
	FR2898123 B1	20081205	FR20060050771	20060306
	IN03548KN2008 A	20090220	IN2008KN03548	20080901
	IN263878 B	20141128	IN2008KN03548	20080901
	JP2009528932 T2	20090813	JP20080557807T	20070306
	JP5129759 B2	20130130	JP20080557807T	20070306
	KR101400417 B1	20140526	KR20087020748	20070306
	KR20080101935 A	20081121	KR20087020748	20070306
	MX2008011390 A1	20080918	MX20080011390	20070306
	PL1993965 T3	20181031	PL20070731699T	20070306
	TR201810727 T4	20180827	TR20180010727T	20070306
	US2009197077 AA	20090806	US20070281480	20070306
	US2018141314 AA	20180524	US20180873098	20180117
	US9919497 BB	20180320	US20070281480	20070306
	WO07101964 A1	20070913	WO2007FR50882	20070306

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s):(std): GILLET PIERRE ALAIN ; MATTMANN ERIC ; PETITJEAN ERIC ; REUTLER PASCAL ; SAINT GOBAIN ; SAINT GOBAIN SA

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

Inventor(s):(std): ERIC MATTMANN ; ERIC PETITJEAN ; PASCAL REUTLER ; PIERRE ALAIN GILLET ; REUTLER PASCAL ; PETITJEAN ERIC ; MATTMANN ERIC ; GILLET PIERRE ALAIN

Agent(s): GOUDREAU GAGE DUBUC; LAVERY DE BILLY LLP; JAMET VINCENT ET AL; SAINT GOBAIN RECHERCHE; ELZABURU SLP ELZABURU SLP; OSAKI KATSUMASA; TSUBOKURA MICHIAKI; KANAYAMA MASATAKA; KAWAGUCHI YOSHIO; ONO MAKOTO; FULYA SUEMERALP; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC; OBLON 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 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 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): B32B15/04 B32B17/00 B32B17/06 B32B17/10 B32B9/00 C03C17/36 C23C14/34 C23C14/35 (Advanced/Invention); B32B15/04 B32B17/00 B32B17/06 B32B9/00 C03C17/36 C23C14/34 C23C14/35 (Core/Invention)

International class (IPC 1-7): B32B17/06 C03C17/36 C23C14/34

CPC: C03C17/3618 B32B17/10174 B32B17/10229 C03C17/36 C03C17/3626 C03C17/3644 C03C17/3652 C03C17/366 Y10T428/265

European class: B32B17/10E10 C03C17/36 C03C17/36B332 C03C17/36B342 C03C17/36B346 C03C17/36B352L

US class: 204/192.26 204/192.260S 428/336 428/336P 428/434 428/434S

[Classification Explorer](#)

Cited documents: WO07080428 A1, WO0181262 A1, WO0181262, US6579427 BA, US5268208 A, US2009169846 AA, US2006240266 AA, US2006141265 AA, US2006083934 AA, US2005106397 AA, US2003049464 AA, US2003049464 AA, US2002034641 AA, US2002034641 AA, JP9174751 A2, JP9174751, JP8238710 A2, JP8238710, JP2007527328 T2, JP2007527328, JP2003531094 T2, JP2003531094, JP2002528372 T2, JP2002528372, JP2000233947 A2, JP2000233947, JP2000229377 A2, JP2000229377, JP2000129464 A2, JP2000129464, FR2856627 A1, FR2856627 A1, EP0877005 A1, EP0877005, EP0803481, EP0718250 A2,

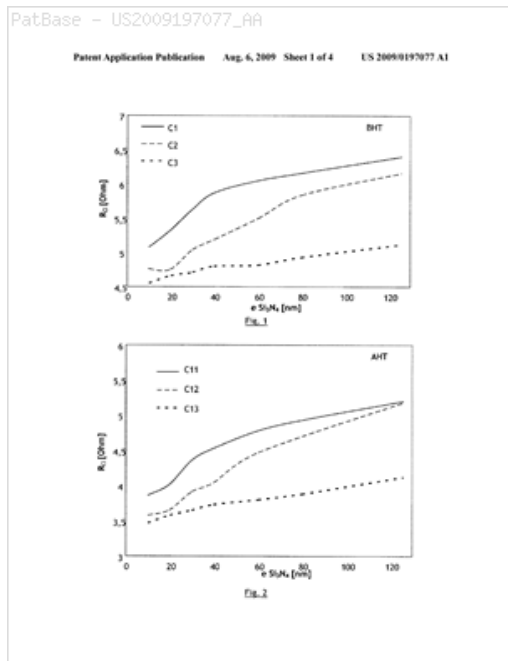
EP0718250 A2, EP0389354, EP0132198, EP0131523,

Forward Citations:

WO17207192, WO17042463, WO16091648, WO16091647, WO16091646, WO16051068, WO15197491, WO14198431, WO14198429, WO14005755, WO12143704, WO12110823, WO11020974, WO11004852, WO10072974, WO10072973, WO09112780, WO09112780, WO09071810, WO09071810, WO09071809, WO09071809, WO09001143, WO08096089, USD778461, USD777345, US9919959, US9752799, US9739085, US9708215, US9688572, US9656346, US9630875, US9598311, US9561981, US9359807, US9322575, US9315414, US9215760, US9045363, US8840982, US8497014, US2016207826, US2016031751, US2015232378, US2013164561, US2012028009, US2011070417, US2011017202, US10207951, US10190359, US10167665, US10167225, RU2666808, RU2608858, KR20110128285, KR101677572, JP5786217, JP2016125191, JP2015509866, JP2014516455, JP2013502366, JP2012513323, JP2011004852, JP2010534930, JP2010534929, JP2010534928, FR3026404, FR2928147, FR2924232, FR2924231, EP3230544, EP3203809, EP3093423, EP3008269, EP2792651, EP2792650, EP2379463, DE202008018514, DE202008018513, CN105683117, CN104884404, CN104884404, CN104025704, CN104025704, CN101959821,

Abstract:

The invention relates to a substrate (10), especially a transparent glass substrate, provided with a thin-film multilayer comprising a functional layer (40) having reflection properties in the infrared and/or in solar radiation, especially a metallic functional layer based on silver or on a metal alloy containing silver, and two coatings (20, 60), said coatings being composed of a plurality of dielectric layers (24, 26; 64), so that the functional layer (40) is placed between the two coatings (20, 60), the functional layer (40) being deposited on a wetting layer (30) itself deposited directly onto a subjacent coating (20), characterized in that the subjacent coating (20) comprises at least one dielectric layer (24) based on nitride, especially on silicon nitride and/or aluminum nitride, and at least one noncrystalline smoothing layer (26) made from a mixed oxide, said smoothing layer (26) being in contact with said superjacent wetting layer (30).



8) Family number: 56547785 (US2015321951A)

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Title: SUBSTRATE WITH A PARTIAL METAL MULTILAYER, GLAZING UNIT AND PROCESS

Priority: FR20120061191 20121123 WO2013FR52830 20131122

Family:

Publication number	Publication date	Application number	Application date
BR112015010165 A2	20170711	BR20151110165	20131122
CA2889908 AA	20150428	CA20132889908	20131122
CN105307995 A	20160203	CN201380061163	20131122
CN105307995 B	20181123	CN201380061163	20131122
EA029118 B1	20180228	EA20150091009	20131122
EA201591009 A1	20150831	EA20150091009	20131122
EP2922799 A1	20150930	EP20130808097	20131122
FR2998564 A1	20140530	FR20120061191	20121123
FR2998564 B1	20161223	FR20120061191	20121123
ID201604062 A	20160617	ID2015P0003798	20131122
IN03924DN2015 A	20151002	IN2015DN03924	20150508
JP2016503385 T2	20160204	JP20150543501T	20131122
JP6456295 B2	20190123	JP20150543501T	20131122
KR20150087358 A	20150729	KR20157016248	20131122
MX2015006428 A1	20151116	MX20150006428	20131122
US2015321951 AA	20151112	US20130646908	20131122
US9809492 BB	20171107	US20130646908	20131122
WO14080141 A1	20140530	WO2013FR52830	20131122

Probable Assignee: CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

Assignee(s):(std): CENTRE NAT DE LA RECH SCIENT C N R S ; CENTRE NAT RECH SCIENT ; SAINT GOBAIN GLASS FRANCE ; SAINT GOBAIN ; SAINT GOBAIN SA

Assignee(s): SAINT GOBAIN GLASS FRANCE S A ; NICOLAS DAVID ; GEORGES BENOIT ; DALMAS DAVY ; CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE ; CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS ; CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS ; CNRS ; ALZATE LINA ; BARTHEL ETIENNE ; C N R S

Inventor(s):(std): ALZATE LINA ; BARTHEL ETIENNE ; BENOIT GEORGES ; DALMAS DAVY ; DAVID NICOLAS ; DAVY

DALMAS ; ETIENNE BARTHEL ; GEORGES BENOIT ; LINA ALZATE ; NICOLAS DAVID

Agent(s): GOUDREAU GAGE DUBUC; LAVERY DE BILLY LLP; JAMET VINCENT; SAINT GOBAIN RECHERCHE; IR MIGNI MYRIASANDRA SH MIP MSEL; OBLON MCCLELLAND MAIER AND NEUSTADT LLP

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): B32B15/08 C03C17/36 C03C27/06 E06B3/36 E06B3/66 (Advanced/Invention)

CPC: E06B3/66 C03C17/3613 C03C17/3639 C03C17/3644 C03C17/3681 Y10T428/24851 C03C17/36 C03C17/366 C03C2217/40 Y10T428/24868

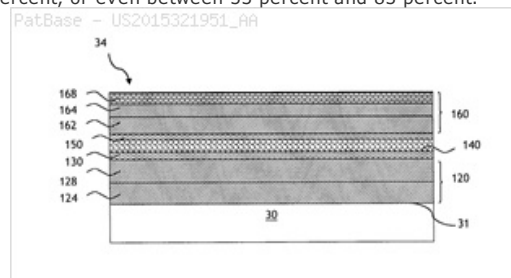
US class: 427/165 428/203 428/34

[Classification Explorer](#)

Cited documents: WO14126135 A1, WO14126135, WO11123402 A1, WO07064450 A2, WO0029346 A1, US2012028009 AA, US2011236715 AA, US2007128449 AA, US2003148115 AA, JP2014034486 A2, JP2014034486, JP2004317563 A2, JP2004317563, JP11038892, JP11038892, FR2942794 A1, EP0718250 A2, CN102421720 A,

Forward Citations: WO16051068, WO15177481, WO15177480, WO15177479, US9297938, US2014168759, US10209414, US10202305, US10196852, US10167225, FR3026404, FR3021312, FR3021311, FR3021310, EP3109211,

Abstract:
The invention relates to a substrate (30) coated on one face (31) with a multilayer of thin films (34) comprising at least one metal functional layer (140) based on silver or made of silver and two antireflective coatings (120, 160), the said antireflective coatings each comprising at least one antireflective layer (124, 164), the said functional layer (140) being disposed between the two antireflective coatings (120, 160), characterized in that the said metal functional layer (140) is a discontinuous layer having a surface area occupation factor in the range between 50 percent and 98 percent, or even between 53 percent and 83 percent.



9) Family number: 46819868 (US2012028009A)

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Title: SUBSTRATE PROVIDED WITH A MULTILAYER COATING HAVING THERMAL PROPERTIES, WHICH INCLUDES HIGH-REFRACTIVE-INDEX LAYERS

Priority: FR20090051458 20090309 EP20100714927 20100308 WO2010FR50391 20100308

Family:

Publication number	Publication date	Application number	Application date
CA2753842 AA	20100916	CA20102753842	20100308
CA2753842 C	20170815	CA20102753842	20100308
CN102421720 A	20120418	CN201080020382	20100308
CN102421720 B	20140903	CN201080020382	20100308
DK2406197 T3	20180813	DK20100714927T	20100308
EA021230 B1	20150529	EA20110071111	20100308
EA201171111 A1	20120430	EA20110071111	20100308
EG26958 A	20150201	EG20110081433	20110828
EP2406197 A1	20120118	EP20100714927	20100308
EP2406197 B1	20180516	EP20100714927	20100308
ES2683900 T3	20180928	ES20100714927T	20100308
FR2942794 A1	20100910	FR20090051458	20090309
FR2942794 B1	20110218	FR20090051458	20090309
IN03582KN2011 A	20120420	IN2011KNO3582	20110829
JP2012519648 T2	20120830	JP20110553491T	20100308
JP5711158 B2	20150430	JP20110553491T	20100308
KR101677572 B1	20161118	KR20117020546	20100308
KR20110128285 A	20111129	KR20117020546	20100308
PL2406197 T3	20181130	PL20100714927T	20100308
TR201811072 T4	20180921	TR20180011072T	20100308
US2012028009 AA	20120202	US20100254513	20100308
US9708215 BB	20170718	US20100254513	20100308
WO10103224 A1	20100916	WO2010FR50391	20100308

Probable Assignee: SAINT GOBAIN GLASS FRANCE

Assignee(s):(std): REYMOND VINCENT ; SAINT GOBAIN ; SAINT GOBAIN GLASS FRANCE ; SAINT GOBAIN SA ; GERARDIN HADIA

Assignee(s): HADIA GERARDIN ; VINCENT REYMOND

Inventor(s):(std): GERARDIN HADIA ; HADIA GERARDIN ; REYMOND VINCENT ; VINCENT REYMOND

Agent(s): GOUDREAU GAGE DUBUC; LAVERY DE BILLY LLP; JAMET VINCENT; SAINT GOBAIN RECHERCHE; ELZABURU SLP ELZABURU SLP; FULYA SUEMERALP; OBLON 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 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 B32B17/06 B32B17/10 B32B7/02 C03C17/36 G02B1/11 G02B5/26 G02B5/28 (Advanced/Invention);
(IPC 8-9): G02B5/28 (Advanced/Non-invention);
B32B17/06 C03C17/36 (Core/Invention)

CPC: B32B17/06 B32B7/02 B32B17/10229 G02B5/282 C03C17/36 C03C17/3626 C03C17/3644 C03C17/366
C03C2217/73 Y10T428/24942

European class: C03C17/36 C03C17/36B332 C03C17/36B342 C03C17/36B352L M03C217/730

US class: 428/212 428/212P

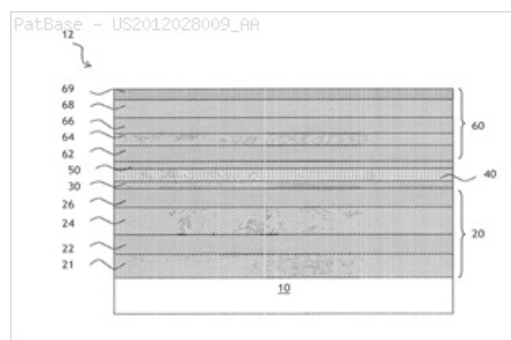
[Classification Explorer](#)

Cited documents: WO07101964 A1, WO07101964, US7087309 BB, US6589658 BA, US6589658, US6040939 A, US5837361 A, US5837361 A, US3901997 A, US3901997 A, US2011070417 AA, US2009197077 AA, US2006246301 AA, US2006246301 AA, US2006099428 AA, JP2009514770 T2, JP2009514770, EP1656328 A2, EP0678484, DE19751711 A1, DE19751711 A1, CN1447133 A,

Forward Citations: WO16051069, WO16051068, WO16051066, WO15071610, WO15056752, WO14199872, WO14080141, WO12143648, WO12127162, US9809492, US9688572, US9599752, US9494717, US9312444, US9059425, US9048459, US8987697, US8969129, US8906736, US8859328, US8735217, US2017240463, US2016207826, US2014374240, US2014357046, US2014224645, US2014217348, US2014117330, US2014061660, US10207952, US10167225, US10081570, KR20170109089, KR20160005748, KR101941718, KR101781768, KR101768257, KR101739563, KR101642672, JP6196980, JP6066929, JP2016536462, JP2015508372, JP2015056752, JP2014508711, JP2014508091, JP2014199872, FR3026405, FR3026404, FR3026403, FR2998564, FR2973946, EP3228604, EP3089869, EP2688852, EA029118, EA027124, EA025947, CN106435497, CN106435496, CN106381465, CN105518080, CN105307995, CN105307995, CN104203856, CN103563119, CN103429549, CN103429549,

Abstract:

A transparent glass substrate including on a main face a thin-film multilayer coating including a metallic functional layer having reflection properties in the infrared and/or in solar radiation, for example based on silver or a metal alloy containing silver, and two antireflection films. The films each include at least two dielectric layers, the functional layer being placed between the two antireflection films. Each antireflection film includes at least one high-refractive-index dielectric layer located in contact with or close to the functional layer.



10) Family number: 55523956 (US2015290740A)

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Title: DEVICE AND METHOD FOR LASER PROCESSING OF LARGE-AREA SUBSTRATES USING AT LEAST TWO BRIDGES

Priority: EP20120174902 20120704 EP20130723777 20130517 WO2013EP60247 20130517

Family:	Publication number	Publication date	Application number	Application date
	CN104395033 A	20150304	CN201380035611	20130517
	CN104395033 B	20170623	CN201380035611	20130517
	DE502013004782 D1	20161110	DE201350004782T	20130517
	EP2869963 A1	20150513	EP20130723777	20130517
	EP2869963 B1	20160928	EP20130723777	20130517
	ES2609481 T3	20170420	ES20130723777T	20130517
	JP2015528781 A2	20151001	JP20150518924	20130517
	JP2015528781 T2	20151001	JP20150518924T	20130517
	JP6058131 B2	20170111	JP20150518924T	20130517
	KR101851111 B1	20180420	KR20177018312	20130517
	KR20150028339 A	20150313	KR20157002683	20130517
	KR20170082646 A	20170714	KR20177018312	20130517
	PL2869963 T3	20170531	PL20130723777T	20130517
	PT2869963 T	20170103	PT20130723777T	20130517
	TR201618122 T4	20170123	TR20160018122T	20130517
	US2015290740 AA	20151015	US20130408564	20130517
	US9656346 BB	20170523	US20130408564	20130517
	WO14005755 A1	20140109	WO2013EP60247	20130517

Probable Assignee: SAINT GOBAIN GLASS FRANCE

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

Inventor(s):(std): LI YA YEH ; YEH LI YA

Agent(s): GEBAUER DIETER DIPL PHYSUNIV DRRERNAT; GEBAUER DIETER EDMUND; DE ELZABURU ALBERTO; ELISAVET YAKOVIDIS CINLEMEZ; STEINFL AND BRUNO LLP; 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 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 B23K26/00 B23K26/064 B23K26/067 B23K26/073 B23K26/08 B23K26/082 B23K26/70 B23K37/02
(IPC 8-9): C03B32/00 C03C17/34 C03C17/36 C23C14/58 H01S3/00 H01S3/10 (Advanced/Invention);
B23K101/40 (Advanced/Non-invention)

CPC: C23C14/5813 B23K26/0838 B23K2101/40 B23K26/352 B23K26/0673 B23K26/0738 B23K26/082 B23K26/0846 B23K37/0235

US class: 219/121.76 427/554

[Classification Explorer](#)

Cited documents: WO9748649 A1, WO10105382 A1, WO08096089 A2, WO07101964 A1, US7858193 BB, US6884699 BA, US6365870 BA, US6281470 BA, US4987286 A, US4889140 A, US2013161510 AA, US2012145229 AA, US2011139755 AA, US2010314367 AA, US2010252543 AA, US2010071810 AA, US2009212033 AA, US2009197077 AA, US2008132041 AA, US2008088900 AA, US2007211323 AA, US2007138151 AA, US2006252261 AA, US2005139830 AA, US2004065643 AA, US2003196995 AA, US2002192473 AA, US2002132402 AA, KR20110032992, KR20030041156, KR20000022088, KR100698344 B1, JP3138092 A2, JP2011512259 T2, JP2011512259 A2, JP2011512259, JP2010514666 T2, JP2010514666 A2, JP2010514666, JP2010214421 A2, JP2010214421, JP2004146823 A2, JP2004146823, EP1917222 B1, EP1917222 A1, EP1218307 B1, EP1218307 A1, EP0912455 B1, EP0912455 A1, DE4314601 A1, DE19927683 C1, DE19620391 A1, DE19620391,

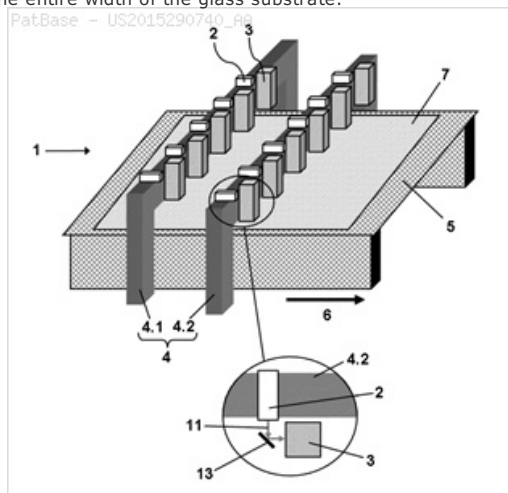
DE102009006062 A1

CN1921069 A, CN1610061 A, CN102105256 A,

Forward Citations: WO15036426, US2017240463, US10167225,

Abstract:

Laser device for tempering metal-containing or metal-oxide-containing coatings on large-area glass substrates having at least: a) at least one laser source, b) at least two bridges spanning a conveyor belt with the glass substrate, wherein each bridge contains a plurality of optical arrangements, which are alternately arranged on the bridges, each optical arrangement (3) generates a laser line, and the laser lines of all optical arrangements together cover the entire width of the glass substrate.



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Title: THIN FILM DEPOSITION METHOD AND RESULTING PRODUCT

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JP20120514521 20100611 JP20120514521T 20100611 JP20150094850 20150507

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US class: 359/360 359/360P 427/554 427/554S

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Abstract:
A process for producing a substrate coated on a face with a low-E thin film multilayer, the process including: depositing a thin-film multilayer containing a thin silver film between at least two thin dielectric films and an absorbent film on a face a substrate; and heat treating the coated face with laser radiation between 500 and 2000 nm to reduce at least one selected from the group of the emissivity and the sheet resistance of the multilayer by at least 5 percent, wherein the absorbent film at least partially absorbs the laser radiation so that the absorption of the multilayer the wavelength of the laser radiation is such that the absorption of a clear glass substrate 4 mm in thickness coated with the multilayer at the wavelength of the laser radiation is greater than or equal to 10 percent.