

Search history

Search SFT=((method or process) and (protect* 3d layer) and laminat* and (clean* or wash*)) (Results 0)
1:

Search SFT=((method or process) and (protect* 3w layer) and laminat* and (clean* or wash*)) (Results 29567)
2:

Search 2 and alcohol (Results 15316)
3:

Search PN=(WO/2016/070171) (Results 1)
4:

Search [SP]: 1. a mirror apparatus comprising: a reflective substrate and an anti-fog complex coupled to the reflective substrate, the anti-fog complex comprising: a thermally activated adhesive layer atop the reflective substrate a first polymeric layer comprising a thermoplastic polymer, the first polymeric layer being atop the thermally activated adhesive layer and a second polymeric layer atop the first polymeric layer wherein the thickness ratio between the thermally activated adhesive layer and the first polymeric layer is from about 1.25:1 to about 2.75:1. 2. (canceled) 3. the mirror apparatus according to claim 1, wherein the anti-fog complex has a thickness of from about 250 micro m to about 300 micro m. 4. the mirror apparatus according to claim 1, wherein the thermally activated adhesive layer is substantially free of a uv additive. 5. the mirror apparatus according to claim 1, wherein the anti-fog complex is substantially free of a uv additive. 6. the mirror apparatus according to claim 1, wherein the first polymeric layer has a thickness of from about 75 micro m to about 125 micro m. 7. the mirror apparatus according to claim 1, further comprising a protective layer atop the second polymeric layer. 8. the mirror apparatus according to claim 1, wherein the second polymeric layer comprises a polyurethane and a hydrophilic polymer. 9.-11. (canceled) 12. the mirror apparatus according to claim 1, wherein the anti-fog complex is optically clear. 13. (canceled) 14. a mirror apparatus comprising: a reflective substrate and an anti-fog complex comprising: a pressure sensitive adhesive layer atop the substrate a first polymeric layer comprising a thermoplastic polymer, the first polymeric layer atop the pressure sensitive adhesive layer and a second polymeric layer atop the first polymeric layer wherein the thickness ratio between the pressure sensitive adhesive layer and the first polymeric layer ranges from about 0.25:1 to about 1.25:1. 15. the mirror apparatus according to claim 14, wherein the pressure sensitive adhesive layer has a thickness ranging from about 10 micro m to about 40 micro m. 16. the mirror apparatus according to claim 14, wherein the second polymeric layer comprises a polyurethane. 17. a method of preparing a mirror apparatus comprising: a) providing a reflective substrate b) providing a multi-layer film comprising: a protective layer and an anti-fog complex comprising: a first polymeric layer an adhesive layer and a second polymeric layer c) laminating the multi-layer film and the reflective substrate together to form a laminated composite d) maintaining the laminated composite in an ambient environment for a time sufficient to permit solidification of the multi-layer film e) removing the protective layer from the laminated composite to expose the anti-fog complex and f) performing a post-lamination cleaning phase. 18. the method according to claim 17, wherein the post-lamination cleaning phase comprises a first cleaning step and a second cleaning step. 19.-20. (canceled) 21. the method according to claim 18, wherein the first cleaning step comprises applying an alcohol based composition to the anti-fog complex and removing the alcohol based composition from the anti-fog complex. 22. (canceled) 23. the method according to claim 21, wherein the first cleaning step further comprises applying an alkaline solution to the anti-fog complex and removing the alkaline solution from the anti-fog complex. 24. (canceled) 25. the method according to claim 18, wherein the second cleaning step comprises applying an alcohol based composition to the anti-fog complex and removing the alcohol based composition from the anti-fog complex. 26. (canceled) 27. the method according to claim 25, wherein the second cleaning step further comprises applying an alkaline solution to the anti-fog complex and removing the alkaline solution from the anti-fog complex. 28.-29. (canceled) 30. the method according to claim 17, wherein the reflective substrate and the multi-layer film are laminated together using a hot roll laminator having a run speed of from about 1 foot/minute to about 10 feet/minute. 31.-35. (canceled) 36. the method according to claim 17, wherein the multi-layer film and the reflective substrate are laminated together to form the laminated composite at a pressure of from about 10 psi to about 40 psi. 37.-40. (canceled) 41. the method according to claim 30, wherein the hot roll laminator is maintained at a temperature of from about 105 degrees centigrade to about 130 degrees centigrade during the laminating step. 42. (canceled) (Results 0)

Search [SP]: cross-reference to related applications[0001] this application is a pct international application of u.s. patent application ser. no. 14/530,420 filed on oct. 31, 2014. the disclosure of the above application is incorporated herein by reference. field of the disclosure[0002] the present disclosure relates to aesthetically pleasing reflective surface coverings having anti-fog properties. background[0003] compositions and coatings which provide anti-fog and scratch-resistant surfaces are known. however, when these compositions and coatings are applied to a surface, they can adversely impact the aesthetics and/or functionality of the surface to which they are applied. for example, the application of certain anti-fog compositions and coatings result in surfaces with imperfections and/or discoloration. surface imperfections and discoloration may not be an issue for some surfaces, e.g. containers or refrigerator doors however, surface coverings that require a certain level of reflectivity have little tolerance for surface imperfections or discoloration. thus, there remains a need for reflective surface coverings which avoid discoloration and surface imperfections. embodiments of the present invention are designed to meet these needs. summary[0004] in some embodiments, the present invention provides a mirror apparatus comprising: a reflective substrate and an anti-fog complex coupled to the reflective substrate, the anti-fog complex comprising: a thermally activated adhesive layer atop the reflective substrate a first polymeric layer atop the thermally activated adhesive layer and a second polymeric layer atop the first polymeric layer wherein the thickness ratio between the thermally activated adhesive layer and the first thermoplastic polymeric layer is from about 1.25:1 to about 2.75:1. [0005] other embodiments of the present invention provide a mirror apparatus comprising: a reflective substrate and an anti-fog complex comprising: a pressure sensitive adhesive layer atop the substrate a first polymeric layer comprising a thermoplastic polymer, the first polymeric layer atop the pressure sensitive adhesive layer and a second polymeric layer atop the first polymeric layer wherein the thickness ratio between the pressure sensitive adhesive layer and the first polymeric layer ranges from about 0.25:1 to about 1.25:1. [0006] further embodiments provide a method of preparing a mirror apparatus comprising: a) providing a reflective substrate b) providing a multi-layer film comprising: a protective layer and an anti-fog complex comprising: a first polymeric layer an adhesive layer and a second thermoplastic polymeric layer c) laminating the multi-layer film and the reflective substrate together to form a laminated composite d) maintaining the laminated composite in an ambient environment for a time sufficient to permit solidification of the multi-layer film e) removing the protective layer from the laminated composite to expose the anti-fog complex and f) performing a post-lamination cleaning phase. brief description of the drawings[0007] the present invention will become more fully understood from the detailed description and the accompanying drawings, wherein: [0008] fig. 1 is a front perspective view of a mirror apparatus 1 comprising a minor according to the present invention [0009] fig. 1a is a cross-sectional view of a portion of the minor according to the present invention, the portion being identified by the dotted lines in fig. 1 and the cross-sectional view is taken along the ii line set forth in fig. 1 - fig. 1a is not drawn to scale [0010] fig. 2 is a cross-sectional view of a portion of the mirror according to embodiments of the present invention, the portion being identified by the dotted lines in fig. 1 and the cross-sectional view is taken along the ii line set forth in fig. 1 - fig. 2 is not drawn to scale [0011] fig. 3 is a side view of an multi-layered film according to the present invention- fig. 3 is not drawn to scale and [0012] fig. 4 is a cross-sectional view of a portion of the mirror according to other embodiments of the present invention, the portion being identified by the dotted lines in fig. 1 and the cross-sectional view is taken along the ii line set forth in fig. 1 - fig. 4 is not drawn to scale. detailed description[0013] as used herein, the term "complex" refers to a plurality of components that are connected. according to the present invention, the terms "substantially" and "about" refers to +1-5 percent of the referenced value. according to the present invention, the term "substantially free" refers to less than 0.05 weight percent based on total weight of the referenced composition. [0014] referring to figs. 1 and 1a concurrently, a mirror apparatus 1 according to the present invention is disclosed. the mirror apparatus 1 generally comprises an annular frame 30 defining a central opening 40 and a minor 80. the mirror 80 is supported within the annular frame 30 and is a laminate structure that generally comprises a first major surface 82 opposite a second major surface 83, the laminate structure comprising a reflective substrate 100 and an anti-fog complex 300. [0015] the reflective substrate 100 may comprise an upper surface 102 opposite a lower surface 103. the reflective substrate 100 may have a thickness t1 as measured from the upper surface 102 to the lower surface 103 of the reflective substrate 100. the reflective substrate 100 may have a thickness t1 ranging from about 2 mm to about 6 mm-including all values and sub-ranges there-between. the reflective substrate 100 may have a thickness t1 ranging from about 2.5 mm to about 3.5 mm-including all values and sub-ranges there-between. the reflective substrate 100 may have a thickness t1 ranging from about 2.75 mm to about 3.25 mm-including all values and sub-ranges there-between. in some embodiments, the reflective substrate 100 may have a thickness t1 of about 3 mm. [0016] the reflective substrate 100 may further comprise a transparent base layer 110 having an upper surface 112 opposite a lower surface 113 and a back coating 120 having an upper surface 122 opposite a lower surface 123. the upper surface 102 of the reflective substrate 100 may comprise the upper surface 112 of the transparent base layer 110 and the lower surface 103 of the reflective substrate 100 may comprise the lower surface 123 of the back coating 120. the upper surface 122 of the reflective back coating 120 may directly contact the lower surface 113 of the transparent base layer 110. [0017] the back coating 120 may comprise a reflective material. the transparent base layer 110 may be substantially clear and made of glass or a plastic material. for the purposes of this application, the phrases "substantially clear" or "optically clear" refers to materials having an optical transmission of at least about 90 percent, or even

higher, and a haze value of below about 5 percent, or even lower. the transparent base layer 110 should be substantially clear such that the underlying back coating 120 forms a reflective surface on the lower surface 113 of the transparent base layer 110 when viewed in a direction extending from at least the upper surface 112 towards the lower surface 113 of the reflective substrate 100. the transparent base layer 110 should be substantially clear such that the underlying back coating 120 forms a reflective surface when viewed from the first major surface 82 of the minor 80. stated otherwise, a viewer should see their reflection in the reflective surface when viewing the minor 80 in the direction of the upper surface 102 towards the lower surface 103 of the reflective substrate 100.[0018] the anti-fog complex 300 of the present invention is optically clear and comprises an upper surface 302 opposite a lower surface 303. the anti-fog complex 300 may have a thickness t2 as measured from the upper surface 302 to the lower surface 303 of the anti-fog complex 300. the anti-fog complex 300 may comprise an adhesive layer 220, a first polymeric layer 240, and a second polymeric layer 260. the second polymeric layer 260 may be atop the first polymeric layer 240. the first polymeric layer 240 may be atop the adhesive layer 220. the adhesive layer 200 may be atop the reflective substrate 100.[0019] the adhesive layer 220 may comprise an upper surface 222 opposite a lower surface 223. the adhesive layer 220 may have a thickness t3 as measured from the upper surface 222 to the lower surface 223 of the adhesive layer 223. the lower surface 303 of the anti-fog complex 300 may comprise the lower surface 223 of the adhesive layer 220. the adhesive layer 220 is optically clear. [0020] the first polymeric layer 240 may comprise an upper surface 242 opposite a lower surface 243. the first polymeric layer 240 may have a thickness t4 as measured from the upper surface 242 to the lower surface 243 of the polymeric layer 240. the first polymeric lay (Results 45)

Search 6 and (protect* near layer*) (Results 14)

7:

Search 7 and (wash* or clean*) (Results 7)

8:

Title: OPTICAL SECURITY ARTICLES AND METHODS FOR MAKING SAME

Abstract: Optical security articles and methods of making same are described comprising a first layer substantially transparent to visible light and having a first refractive index, the first layer having a relief pattern on a first surface thereof and a substantially smooth second surface, and an adhesive layer coterminating with the first layer. The adhesive layer substantially completely fills and makes contact with a first portion of the plurality of geometric concavities, the adhesive layer having a second refractive index which is substantially similar to the first refractive index of the first layer. A second portion of the plurality of geometric concavities are precluded from contact with the adhesive layer by a corresponding plurality of separation layers, each separation layer having a separation layer refractive index which is different from the refractive index of the first layer.

Classifications:

International (IPC 8-9): B32B7/02 B42D15/00 B42D15/10 B42D25/29 B42D25/328 C09J123/00 C09J201/00 C09J7/02 G02B5/124 (Advanced/Invention); B32B7/02 B42D15/10 C09J123/00 C09J201/00 C09J7/02 (Advanced/Non-invention); B32B7/02 B42D15/00 B42D15/10 C09J123/00 C09J201/00 C09J7/02 G02B5/12 (Core/Invention)

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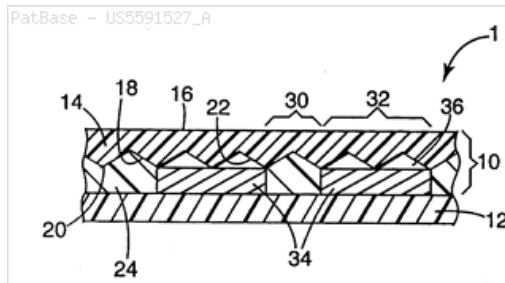
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European: B42D15/00C L42D35/22 S03H1/02H1

US: 156/182 156/275.5 156/290 156/292 156/298 283/72 428/174 428/187 428/195 428/195.1 428/198 428/201 428/304.4 428/411.1 428/913 428/916

JP F-Term: 2C005/2C005/HA01 2C005/HB01 2C005/HB03 2C005/HB09 2C005/HB10 2C005/JA19 2C005/JB09 2C005/JC10 2C005/KA01 2C005/KA06 2C005/KA07 2C005/KA37 2C005/KA38 2C005/KA40 2C005/KA48 2C005/KA49 2C005/KA70 2C005/LA14 2C005/LA20 2H042/2H042/EA01 2H042/EA11 2H042/EA12 2H042/EA14 2H042/EA15 4F100/4F100/AB16 4F100/AK02 4F100/AK07 4F100/AK25 4F100/AK26 4F100/AK42 4F100/AK51 4F100/AL05 4F100/AR00 4F100/BA02 4F100/BA03 4F100/BA07 4F100/BA10 4F100/BA26 4F100/BA44 4F100/DB16 4F100/DC25 4F100/EJ38 4F100/GB43 4F100/HB00 4F100/HB21 4F100/JB16 4F100/JL00 4F100/JL11 4F100/JL12 4F100/JL13 4F100/JN00 4F100/JN01 4F100/JN06 4F100/JN18 4F100/YY00 4J004/4J004/AA04 4J004/AA05 4J004/AA06 4J004/AA07 4J004/AA08 4J004/AA09 4J004/AA10 4J004/AA12 4J004/AA16 4J004/AA17 4J004/AB01 4J004/AB03 4J004/CA01 4J004/CA02 4J004/CA03 4J004/CA05 4J004/CA06 4J004/CC02 4J004/CC03 4J004/CC04 4J004/CC05 4J004/CE03 4J004/FA01 4J004/FA10 4J040/4J040/BA20 4J040/CA01 4J040/DA02 4J040/DA05 4J040/DA10 4J040/DA13 4J040/DD05 4J040/DF04 4J040/DK01 4J040/ED00 4J040/ED04 4J040/ED05 4J040/ED09 4J040/EG01 4J040/EG02 4J040/EG03 4J040/GA07 4J040/JB01 4J040/JB09 4J040/LA06 4J040/LA10 4J040/MA02 4J040/MA04 4J040/MA08 4J040/MA09 4J040/MA10 4J040/MB03 4J040/NA17 4J040/PA19 4J040/PA21

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Family:

Publication number	Publication date	Application number	Application date
AU199536373 A1	19960531	AU19950036373	19950921
AU689327 B2	19980326	AU19950036373	19950921
BRPI9509569 A	19970916	BR1995PI09569	19950921
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DE69508607 T2	19990729	DE19956008607T	19950921
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JP10508549 T2	19980825	JP19950515288T	19950921
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KR19977006972 A	19971201	KR19977002864	19950921
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US5743981 A	19980428	US19960719814	19960925
WO9614215 A1	19960517	WO1995US12005	19950921

Priority:

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Title: Diffusely reflecting polarizing element including a first birefringent phase and a second phase

Abstract: An optical film with a disperse phase of polymeric particles disposed within a continuous birefringent matrix. The film is oriented, typically by stretching, in one or more directions. The size and shape of the disperse phase particles, the volume fraction of the disperse phase, the film thickness, and the amount of orientation are chosen to attain a desired degree of diffuse reflection and total transmission of electromagnetic radiation of a desired wavelength in the resulting film.

Classifications:

International (IPC 8-9): B29C55/02 C08J5/00 C08J5/18 C08L25/00 C08L67/02 F21V8/00 F21V9/14 G02B1/04 G02B27/28 G02B5/02 G02B5/04 G02B5/08 G02B5/30 G02B6/00 G02B6/12 G02B6/126 G02F1/1335 G02F1/13357 (Advanced/Invention);

B29C55/02 B29K25/00 B29K67/00 B29L11/00 B29L7/00 C08J5/00 C08J5/18 C08L25/00 F21V8/00 G02B5/02 G02B5/04 G02B5/08 G02B5/30 G02B6/00 G02B6/12 (Advanced/Non-invention); B29C55/02 C08J5/00 C08J5/18 C08L25/00 C08L67/00 F21V8/00 G02B1/04 G02B5/02 G02B5/08 G02B5/30 G02B6/00 G02B6/126 (Core/Invention)

International (IPC 1-7): B29C55/02 B29K25/00 B29K67/00 B29L11/00 B29L7/00 C08J5/00 C08J5/18 C08L25/00 C08L67/02 F21V8/00 F21V9/14 G02B1/04 G02B27/28 G02B5/02 G02B5/04 G02B5/08 G02B5/30 G02B6/00 G02B6/12 G02B6/126 G02F1/1335 G02F1/335

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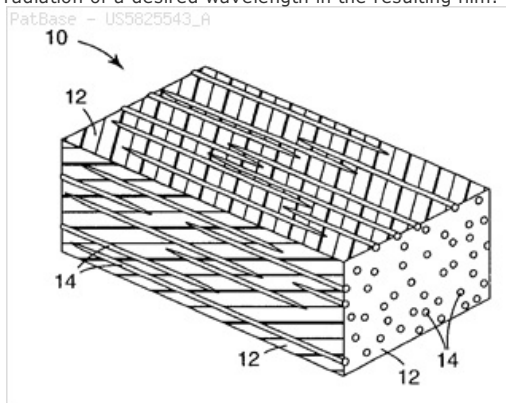
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359/489.08 359/489.09 359/489.11 359/489.12 359/489.13 359/489.15 359/489.16 359/492 359/493.01 359/494 359/494.01 359/495 359/496 359/500 359/529 359/530 359/599 362/257 427/163.1

JP F-Term: 2H049 2H149 2H149/AA02 2H149/BA02 2H149/BA04 2H149/BA28 2H149/BB28 2H149/FA01/W 2H149/FA06/W 2H149/FA08/W 2H149/FA12/W 2H149/FD03 2H149/FD04 2H149/FD09 2H149/FD10 2H149/FD12 2H149/FD13 2H149/FD25 4F071 4F071/AA02 4F071/AA22 4F071/AA22/X 4F071/AA33 4F071/AA45 4F071/AA81 4F071/AA89 4F071/AC14 4F071/AC19 4F071/AE09 4F071/AF05 4F071/AF11 4F071/AF29 4F071/AF29/Y 4F071/AF30/Y 4F071/AF31/Y 4F071/AF35 4F071/AF45 4F071/AF53 4F071/AH19 4F071/BB06 4F071/BB07 4F071/BB08 4F071/BC01 4F071/BC10 4F071/BC17 4F210 4F210/AA13/D 4F210/AA21 4F210/AA26 4F210/AG01 4F210/AH73 4F210/AR12 4F210/AR14 4F210/QA02 4F210/QC03 4F210/QG01 4F210/QG18 4J002 4J002/BC01/2 4J002/BC03/2 4J002/BC04/2 4J002/BC05/2 4J002/BC06/2 4J002/BC07/2 4J002/BC08/2 4J002/BC11/2 4J002/BC12/2 4J002/BG05/2 4J002/BP01/2 4J002/CF08/1 4J002/GP00 2H042 2H042/BA02 2H042/BA08 2H042/BA13 2H042/BA18 2H042/BA20 2H149/AB03 2H149/FD02 4F071/AA01 4F071/AF02 4F071/AF15 4F071/AF23 4F071/AF26 4F071/AF47 4F071/AF57 4F071/AH03 4J002/BC03/X 4J002/BC04/X 4J002/BC08/X 4J002/BC11/X 4J002/BG06/X 4J002/CF08/W 2H038 2H038/AA51 2H038/BA01 2H038/BA42 2H149/AA24 2H149/FC02 3K044 4F210/AR15 2H042/BA01 2H042/BA04 2H042/BA14 2H049/BA01 2H049/BA04 2H049/BA05 2H049/BA07 2H049/BA22 2H049/BA24 2H049/BA25 2H049/BA26 2H049/BA42 2H049/BA43 2H049/BA44 2H049/BB02 2H049/BB11 2H049/BB12 2H049/BB16 2H049/BB42 2H049/BB43 2H049/BB44 2H049/BB45 2H049/BB51 2H049/BB52 2H049/BB61 2H049/BB62 2H049/BB65 2H049/BB67 2H049/BB68 2H049/BC03 2H049/BC22 2H091 2H091/FA01 2H091/FA08 2H091/FA14 2H091/FA16 2H091/FA19 2H091/FA21 2H091/FA23 2H091/FA24 2H091/FA26 2H091/FA27 2H091/FA37 2H091/FA41 2H091/FA42 2H091/FA44 2H091/FB02 2H091/FB06 2H091/FB08 2H091/FB12 2H091/FB13 2H091/FC01 2H091/FC02 2H091/FC03 2H091/FC05 2H091/FC08 2H091/FC09 2H091/FC12 2H091/FC13 2H091/FC14 2H091/FC22 2H091/FC25 2H091/FC26 2H091/FC27 2H091/FD03 2H091/FD04 2H091/FD14 2H091/GA17 2H091/LA02 2H091/LA03 2H091/LA07 2H091/LA16 2H091/LA20 2H091/MA03 2H149/FA08 2H149/FA12 2H191 2H191/FA01 2H191/FA22 2H191/FA31 2H191/FA34 2H191/FA40 2H191/FA48 2H191/FA52 2H191/FA56 2H191/FA57 2H191/FA71 2H191/FA72 2H191/FA81 2H191/FA82 2H191/FA84 2H191/FB02 2H191/FB12 2H191/FB14 2H191/FB22 2H191/FC01 2H191/FC02 2H191/FC03 2H191/FC05 2H191/FC08 2H191/FC09 2H191/FC13 2H191/FC14 2H191/FC21 2H191/FC22 2H191/FC32 2H191/FC35 2H191/FC36 2H191/FC37 2H191/FD03 2H191/FD04 2H191/FD34 2H191/GA23 2H191/LA02 2H191/LA03 2H191/LA07 2H191/LA21 2H191/LA27 2H191/MA03 2H291 2H291/FA01 2H291/FA22 2H291/FA31 2H291/FA34 2H291/FA40 2H291/FA48 2H291/FA52 2H291/FA56 2H291/FA57 2H291/FA71 2H291/FA72 2H291/FA81 2H291/FA82 2H291/FA84 2H291/FB02 2H291/FB12 2H291/FB14 2H291/FB22 2H291/FB23 2H291/FC01 2H291/FC02 2H291/FC03 2H291/FC05 2H291/FC08 2H291/FC09 2H291/FC13 2H291/FC14 2H291/FC21 2H291/FC32 2H291/FC35 2H291/FC36 2H291/FC37 2H291/FD03 2H291/FD04 2H291/FD34 2H291/GA23 2H291/LA02 2H291/LA03 2H291/LA07 2H291/LA27 2H291/MA03 2H149/BA29 2H149/BB12 2H191/FA24 2H191/FA54 2H191/FD33 2H191/LA33 2H291/FA24 2H291/FA54 2H291/FD33 2H291/LA33 2H391 2H391/AB03 2H391/AB40 2H391/AC23 2H391/AC26

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Family:

Publication number	Publication date	Application number	Application date
AU199717523 A1	19970916	AU19970017523	19970117
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CN1121622 C	20030917	CN19971093770	19970228
CN1212762 A	19990331	CN19971092652	19970228
CN1212763 A	19990331	CN19971092660	19970117
CN1212764 A	19990331	CN19971092655	19970228
CN1216114 A	19990505	CN19971093770	19970228

CN1217068 A	19990519	CN19971094162	19970228
DE69709546 D1	20020214	DE19976009546	19970228
DE69709546 T2	20020905	DE19976009546T	19970228
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DE69722186 D1	20030626	DE19976022186	19970228
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DE69722386 D1	20030703	DE19976022386	19970117
DE69722386 T2	20040401	DE19976022386T	19970117
EP0883821 A1	19981216	EP19970904835	19970117
EP0883821 B1	20030528	EP19970904835	19970117
EP0883822 A1	19981216	EP19970907875	19970228
EP0883822 B1	20030521	EP19970907875	19970228
EP0883823 A1	19981216	EP19970915054	19970228
EP0883824 A1	19981216	EP19970916742	19970228
EP0883824 B1	20030502	EP19970916742	19970228
EP0883826 A1	19981216	EP19970907932	19970228
EP0883826 B1	20020109	EP19970907932	19970228
IN01327MA1997 A	20071228	IN1997MA01327	19970618
IN226105 B	20090109	IN1997MA01327	19970618
JP2000506990 T2	20000606	JP19970530942T	19970117
JP2000506992 T2	20000606	JP19970531076T	19970228
JP2000506993 T2	20000606	JP19970531138T	19970228
JP2000506994 T2	20000606	JP19970531225T	19970228
JP2002502503 T2	20020122	JP19970531224T	19970228
JP2011053705 A2	20110317	JP20100237580	20101022
JP4336840 B2	20090930	JP19970530942T	19970117
JP4870248 B2	20120208	JP19970531224T	19970228
KR100409062 B1	20040609	KR19980706718	19970228
KR100424519 B1	20040727	KR19980706722	19970228
KR100455987 B1	20050601	KR19980706720	19980827
KR100457447 B1	20050617	KR19980706717	19980827
KR19990087309 A	19991227	KR19980706717	19970228
KR19990087310 A	19991227	KR19980706718	19970228
KR19990087312 A	19991227	KR19980706720	19970117
KR19990087314 A	19991227	KR19980706722	19970228
KR19990087367 A	19991227	KR19980706777	19970228
MY133809 A	20071130	MY19970000710	19970225
US5825543 A	19981020	US19960610092	19960229
US6057961 A	20000502	US19970807930	19970228
US6111696 A	20000829	US19970807262	19970228
US6297906 BA	20011002	US19970807270	19970228
US6760157 BA	20040706	US20000624947	20000725
WO9732224 A1	19970904	WO1997US00981	19970117
WO9732225 A1	19970904	WO1997US02995	19970228
WO9732226 A1	19970904	WO1997US03871	19970228
WO9732227 A1	19970904	WO1997US03955	19970228
WO9732230 A1	19970904	WO1997US03130	19970228

Priority:

US19960610092	19960229	WO1997US00981	19970117	JP19970531224	19970228
JP19970531224T	19970228	US19970807270	19970228	US19970807930	19970228
US19970807262	19970228	WO1997US02995	19970228	WO1997US03955	19970228
WO1997US03871	19970228	WO1997US03130	19970228	KR19980706717	19980827
KR19980706720	19980827	US20000624947	20000725		

Probable Assignee: 3M CO

Assignee(s): (std): 3M INNOVATIVE PROPERTIES CO ; MINNESOTA MINING AND MFG CO ; MINNESOTA MINING AND MANUFACTURING CO ; MINNESOTA MINGING AND MFG CO ; MINNESOTA MINING AND MFG

Assignee(s): MINNESOTA MINING AND MANUFACTURING COMPANY ST PAUL ; 3M CO ; MINNESOTA MINING AND MANUFACTURING COMPANY ; OUDERKIRK ANDREW J ; STOVER CARL A ; NEVITT TIMOTHY J ; WEBER MICHAEL F ; WHEATLEY JOHN A ; 3M INNOVATIVE PROPERTIES COMPANY ; ALLEN RICHARD C ; CARLSON LOCKWOOD W ; FREIER DAVID G ; KOTZ ARTHUR L ; MAJUMDAR BISWAROOP ; MINNESOTA MINGING AND MANUFACTURING CO

Inventor(s): (std): ALLEN R C ; ALLEN RICHARD C ; CARLSON L W ; CARLSON LOCKWOOD W ; FREIER D G ; FREIER DAVID G ; KOTZ A L ; KOTZ ARTHUR L ; KOTZ ATHUR L ; MAJUMDAR BISWAROOP ; NEVITT T J ; NEVITT TIMOTHY J ; OUDERKIRK ANDREW J ; OUDERKIRK A J ; OUDERKIRK ANDREW J ; STOVER CARL A ; WEBER MICHAEL F ; WEBER MICHEL F ; WHEATLEY A ; WHEATLEY J A ; WHEATLEY JOHN A ; WEBER MICHAEL FRANCIS ; TIMOTHY J NEVITT ; T J NEVITT ; STOVER CARL ARTHUR ; RICHARD C ALLEN ; RC ALLEN ; R C ALLEN ; OUDERKIRK ANDREW JOHN ; NEVITT TIMOTHY JOSEPH ; NEVITT J ; LOCKWOOD W CARLSON ; L W CARLSON ; KOTZ L ; KOTZ ARTHUR LEWIS ; JOHN A WHEATLEY ; J A WHEATLEY ; FREIER G ; DAVID G FREIER ; D G FREIER ; CARLSON LOCKWOOD WILLIAM ; CARL A STOVER ; BISWAROOP MAJUMDAR ; MICHAEL F WEBER ; LW CARLSON ; ARTHUR L KOTZ ; ALLEN RICHARD CHARLES ; ALLEN C ; AL KOTZ ; AJ OUDERKIRK ET AL ; AJ OUDERKIRK ; A L KOTZ ; A J OUDERKIRK ; WEBER F ; STOVER A ; OUDERKIRK J ; CARLSON W ; ANDREW J OUDERKIRK ; AL A J OUDERKIRK ET

Inventor(s): ANDREW J OUDERKIRK ; A J OUDERKIRK ET AL ; ARTHUR L KOLTZ ; ANDREW JOHN OUDERKIRK ; LOCKWOOD WILLIAM CARLSON ; BISWAROOP MAJMDAR ; ATHUR L KOTZ ; ARTHUR LEWIS KOTZ ; CARL ARTHUR STOVER ; MICHAEL FRANCIS WEBER ; RICHARD CHARLES ALLEN ; TIMOTHY JOSEPH NEVITT

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; SMART AND BIGGAR; AOKI ATSUSHI; ISHIDA TAKASHI; KOGA TETSUJI

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CN CU CZ DE DK EE ES FI FR GB GE GH GR HU IE IL IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MC MD MG MK MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK SZ TJ TM TR TT UA UG UZ VN YU

Title: ANTI-FOG DEVICE AND OUTSIDE MIRROR

Abstract: An anti-fog device (10) making use of photocatalysis is disclosed which comprises a transparent substrate (102), a transparent layer (104) which is formed on the transparent substrate (102) as a film and has a higher refractive index than the transparent substrate (102), a photocatalyst material layer (106) which is formed as a TiO₂ film on the transparent layer (104) and has a higher refractive index than the transparent layer (104), and a hydrophilic layer (108) which is formed on the photocatalyst material layer (106) and composed of a hydrophilic material. The transparent layer (104) mainly contains indium oxide and also contains not less than 40 percent of tin oxide in the atomic composition ratio.

Classifications:

International (IPC 8-9): B01J35/02 B32B9/00 B60R1/06 B60S1/60 C03C17/34 C03C17/36 C03C17/38 G02B1/10 G02B1/18 G02B5/08 G02F1/15 (Advanced/Invention);

G02B1/10 G02B5/08 G02F1/01 (Core/Invention)

International (IPC 1-7): G02B1/10 G02B5/08 G02F1/15

CPC: G02B1/18 B60R1/08 G02B27/0006 G02F1/1533

European: B60R1/08 G02B27/00C G02F1/153B

JP F-Term: 2H042 2H042/DA08 2H042/DA12 2H042/DB10

2H042/DB11 2H042/DE01 2K001 2K001/AA10 2K001/BB01

2K001/BB09 2K001/BB16 2K009 2K009/CC03 2K009/DD03

2K009/EE02 2K101 2K101/DB31 2K101/EA23 2K101/EB01

2K101/EK07 3D025 3D025/AA02 3D025/AB01 3D025/AC00

3D025/AC20 3D025/AD13 3D053 3D053/FF19 3D053/GG06

3D053/HH38 4F100 4F100/AA17 4F100/AA20 4F100/AA21

4F100/AA28 4F100/AA33 4F100/AG00 4F100/AK01 4F100/AK25

4F100/AT00 4F100/BA07 4F100/BA10 4F100/DC11 4F100/GB32

4F100/JB05 4F100/JM02 4F100/JN01 4F100/JN06 4F100/JN18

4F100/JN28 4F100/YY00 4G059 4G059/AA01 4G059/AC05

4G059/AC21 4G059/DA01 4G059/DA05 4G059/DA07 4G059/EA02

4G059/EA03 4G059/EA04 4G059/EA05 4G059/FA01 4G059/FA29

4G169 4G169/AA03 4G169/BA02 4G169/BA04 4G169/BA48

4G169/CD10 4G169/DA05 4G169/EA11 4G169/ED02 4G169/FA03

4G169/HA03 4G169/HA20 4G169/HB01 4G169/HC16 4G169/HD05

4G169/HE08 4G169/HF10

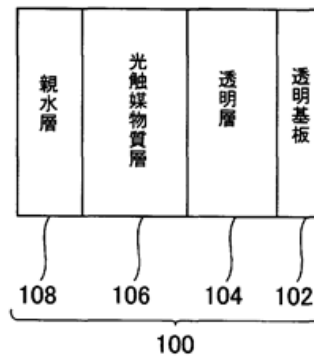
JP F-Index: B01J35/02/J B32B9/00/A B60R1/06/M B60S1/60/Z

C03C17/34/Z C03C17/36 C03C17/38 G02B1/10/Z G02B1/18

G02B5/08/F G02F1/15

PatBase - WO06051604_A1

10



108 - HYDROPHILIC LAYER

106 - PHOTOCATALYST MATERIAL LAYER

104 - TRANSPARENT LAYER

102 - TRANSPARENT SUBSTRATE

Family:

Publication number	Publication date	Application number	Application date
CN100420962 C	20080924	CN200480044221	20041112
CN101044419 A	20070926	CN200480044221	20041112
DE602004031056 D1	20110224	DE200460031056T	20041112
EP1811318 A1	20070725	EP20040799669	20041112
EP1811318 A4	20100127	EP20040799669	20041112
EP1811318 B1	20110112	EP20040799669	20041112
JP2006051604 A1	20080529	JP20060544709T	20041112
JP4408438 B1	20100203	JP20060544709T	20041112
JP4408438 B2	20100203	JP20060544709T	20041112
WO06051604 A1	20060518	WO2004JP16882	20041112

Priority:

EP20040799669 20041112 WO2004JP16882 20041112

Probable Assignee: MURAKAMI CORP

Assignee(s): (std): KIKUCHI HIDEYUKI ; KOBAYASHI MASAKI ; MURAKAMI CORP

Inventor(s): (std): KIKUCHI HIDEYUKI ; KOBAYASHI MASAKI ; MASAKI KOBAYASHI ; MASAKI KIKUCHI HIDEYUKI KOBAYA ; HIDEYUKI KIKUCHI

Inventor(s): KIKUCHI HIDEYUKI KOBAYASHI MASAKI ; KOBAYASHI MASAKI MURAKAMI CORPORATION ; KIKUCHI HIDEYUKI MURAKAMI CORPORATION

Agent(s): VON KREISLER SELTING WERNER

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

Title: FRONT FILTER FOR PLASMA DISPLAY AND PLASMA DISPLAY

Abstract: A front filter for a plasma display that is mainly used as a TV display. The front filter has an anti-glare function which is capable of effectively preventing reflection concurrently with achieving black color reproduction, and a functional layer for imparting a function required of an image display device such as a light absorbing function and/or an adhesion function. This front filter has an anti-glare layer having a concavo-convex shape on an outermost surface thereof, a polyester film and a functional layer. The anti-glare layer is disposed on the observer-side surface of the front filter; at least one functional layer is disposed on the display device side.

Classifications:

International (IPC 8-9): B32B27/36 B32B33/00 G02B1/10 G02B1/11 G02B1/111 G02B1/14 G02B1/16 G02B1/18 G02B5/02 G09F9/00

H01J17/49 H05K9/00 (Advanced/Invention)

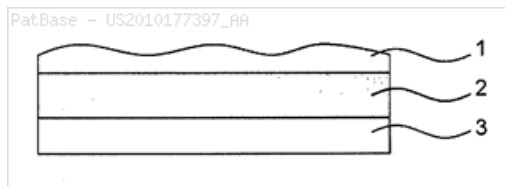
CPC: G02B5/02 G02B2207/121 H01J11/12 H01J11/44 H01J2211/442 H01J2211/444 H05K9/0096

European: G02B5/02 H01J11/12 H01J11/44 H05K9/00M5B S02B207/121 T01J211/44B T01J211/44D

US: 313/111 313/116 359/601 359/609 359/609P

JP F-Term: 2H042 2H042/BA02 2H042/BA03 2H042/BA12 2H042/BA13 2H042/BA20 2K009 2K009/AA03 2K009/BB24 2K009/CC09 2K009/CC24 2K009/DD02 5E321 5E321/AA04 5E321/BB23 5E321/BB41 5E321/CC16 5E321/GG05 5E321/GH01 5E321/GH10 5G435 5G435/AA02 5G435/BB06 5G435/DD12 5G435/FF14 5G435/GG32 5G435/GG33 5G435/HH03 5G435/HH08

JP F-Index: G02B1/10/A G02B1/111 G02B1/14 G02B1/16 G02B1/18 G02B5/02/B G09F9/00/313 H05K9/00/V



Family:

Publication number	Publication date	Application number	Application date
JP2008020578 A1	20100107	JP20080501096T	20070810
JP5035236 B1	20120926	JP20080501096T	20070810
JP5035236 B2	20120926	JP20080501096	20070810
US2010177397 AA	20100715	US20070377153	20070810
US7982380 BB	20110719	US20070377153	20070810
WO08020578 A1	20080221	WO2007JP65762	20070810

Priority:

JP20060223308 20060818 JP20060223309 20060818 JP20070151845 20070607
JP20070172071 20070629 WO2007JP65762 20070810 JP20080501096 20070810

Probable Assignee: DAINIPPON PRINTING CO LTD

Assignee(s): (std): DAINIPPON PRINTING CO LTD ; GOTOU AKIKO ; IWATA YUKIMITSU ; KAMIYAMA HIRONORI ; KATOU SHINNICHI ; NISHIMURA YOSHIHIRO ; NAITOU NOBUO

Assignee(s): DAI NIPPON PRINTING CO ; DAI NIPPON PRINTING CO LTD

Inventor(s): (std): NISHIMURA YOSHIHIRO ; NAITOU NOBUO ; KATOU SHINNICHI ; KAMIYAMA HIRONORI ; IWATA YUKIMITSU ; GOTOU AKIKO

Agent(s): LADAS AND PARRY LLP; KISHIMOTO TATSUHIITO ET AL

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 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

Title: OPTICAL ELEMENT WITH AN ANTI-FOG LAYER AND METHOD FOR ITS PRODUCTION

Abstract: An optical element is provided with a fog reducing polymer layer. A reflection reducing nanostructure is formed on the surface of the fog reducing polymer layer.

Classifications:

International (IPC 8-9): B29D11/00 B44C1/22 C09K3/18 G02B1/00 G02B1/04 G02B1/10 G02B1/11 (Advanced/Invention);

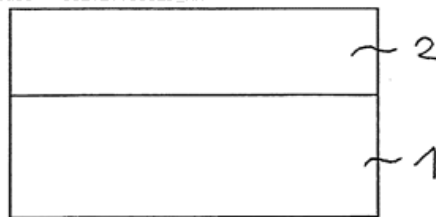
B29D11/00 B44C1/22 C09K3/18 G02B1/04 G02B1/10 (Core/Invention)

CPC: G02B1/14 G02B1/18 G02B1/118 G02B1/105

European: G02B1/10B G02B1/11M

US: 216/24 216/24S 359/507 359/507P 977/834 977/834S 977/888 977/888S

PatBase - US2010033819_AA



Family:

Publication number	Publication date	Application number	Application date
DE102007009512 A1	20080828	DE200710009512	20070227
EP2118691 A1	20091118	EP20080715491	20080211
EP2118691 B1	20161116	EP20080715491	20080211
US2010033819 AA	20100211	US20090548194	20090826
US7914158 BB	20110329	US20090548194	20090826
WO08104150 A1	20080904	WO2008DE000267	20080211

Priority:

DE200710009512 20070227 WO2008DE000267 20080211

Probable Assignee: FRAUNHOFER GES ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E V

Assignee(s): (std): FRAUNHOFER GES FORSCHUNG ; FRAUNHOFER GES ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E V ; UNIV SCHILLER JENA ; MUNZERT PETER ; WENDLING IRMINA ; SCHULZ ULRIKE ; KAISER NORBERT ; FRIEDRICH SCHILLER UNIV JENA

Assignee(s): FRIEDRICH SCHILLER UNIVERSITAET JENA ; FRAUNHOFER GES ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG EV ; FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E V ; FRAUNHOFER GES ZUR FOERDERUNG DER ANGEWANDTEN FORS

Inventor(s): (std): KAISER NORBERT ; MUNZERT PETER ; SCHULZ ULRIKE ; WENDLING IRMINA

Agent(s): EPPING HERMANN FISCHER; SLATER AND MATSIL LLP; EPPING HERMANN FISCHER PATENTANWALTSGESELLSCHAFT MBH

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

Title: COMPOSITION FOR FORMING HYDROPHIC FIRM, SPRAY COMPOSITION AND HYDROPHILIC MEMBER USING THE SAME

Abstract: A composition for forming a hydrophilic film, comprising (A) a hydrophilic polymer having a silane coupling group at the terminal or on the side chain of the polymer, the polymer having a specific structure, and (B) a metal complex catalyst; a spray composition; and a hydrophilic member provided with the composition by spray coating. A composition for the formation of a hydrophilic film, ensuring that a hydrophilic coating excellent in durability, antifouling property, water resistance and the like can be easily formed while keeping hydrophilicity and the coating workability is excellent, and a hydrophilic member using the composition are provided.

Classifications:

International (IPC 8-9): B32B9/04 C08K3/36 C08K5/05 C08K5/057 C08K5/06 C08L101/02 C08L101/10 C08L83/00 C08L83/06 C09D143/04 C09D183/00 C09D201/00 C09D7/12 F28F19/04 (Advanced/Invention); B32B9/04 C08K3/00 C08K5/00 C08L101/00 C08L83/00 C09D143/00 C09D183/00 C09D201/00 C09D7/12 F28F19/00 (Core/Invention)
CPC: Y10T428/31663 C09D143/04 C08K5/0091 C08K5/057 C08L101/10 C09D5/1637 C09D5/1662 C09D5/1675 C09D183/04
European: C08L101/10 C09D143/04 C09D183/04 C09D5/16C7 C09D5/16H3 C09D5/16H3K M08K5/00S M08K5/057
US: 428/447 428/447P 524/261 524/261S 524/381 524/381S 524/382 524/382S 524/588 524/588S 525/474 525/474S
JP F-Term: 4J002 4J002/AA00/1 4J002/BG01/W 4J002/BG01/X 4J002/BG04/W 4J002/BG04/X 4J002/BG05/W 4J002/BG05/X 4J002/BG13/W 4J002/BG13/X 4J002/BJ00/W 4J002/BJ00/X 4J002/DJ01/8 4J002/EC07/7 4J002/EE03/6 4J002/EE04/6 4J002/EG03/6 4J002/EG04/6 4J002/EH02/6 4J002/GH00
JP F-Index: C08K3/36 C08K5/05 C08L101/02

Family:

Publication number	Publication date	Application number	Application date
EP2180024 A1	20100428	EP20080792503	20080815
EP2180024 A4	20101222	EP20080792503	20080815
JP2009256568 A2	20091105	JP20080208689	20080813
US2010159256 AA	20100624	US20080733183	20080815
WO09025247 A1	20090226	WO2008JP64657	20080815

Priority:

JP20070212695 20070817 JP20080079322 20080325 JP20080208689 20080813
WO2008JP64657 20080815 JP20080079322 20080924

Probable Assignee: FUJIFILM HOLDINGS CORP

Assignee(s): (std): FUJIFILM CORP ; FUJIFILM HOLDINGS CORP ; KONDO YOSHIAKI ; MURAYAMA YUICHIRO ; TANAKA SATOSHI ; YAMAZAKI SUMIAKI ; YAMASAKI SUMIAKI

Inventor(s): (std): KONDO YOSHIAKI ; MURAYAMA YUICHIRO ; TANAKA SATOSHI ; TANAKA TOMOHITO ; YAMASAKI SUMIAKI ; YAMAZAKI SUMIAKI

Agent(s): HOFFMANN EITLE; BIRCH STEWART KOLASCH AND BIRCH; TAKAMATSU TAKESHI 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 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

Title: REFLECTIVE SURFACE COVERINGS

Abstract: Described herein are reflective surface coverings comprising: a reflective substrate; and a multi-layer film comprising: a first thermoplastic polymeric resin layer; a thermally activated adhesive layer; and a second thermoplastic polymeric resin layer; wherein the thickness ratio between the thermally activated adhesive layer and the first thermoplastic polymeric resin layer is from about 1.25:1 to about 275:1. Methods of making and using the reflective surface coverings are also described.

Classifications:

International (IPC 8-9): A47G1/02 B32B27/00 B32B27/06 B32B27/08 B32B27/36 B32B27/40 B32B37/02 B32B37/06 B32B37/10 B32B37/18 B32B38/10 B32B38/16 B32B7/00 B32B7/02 B32B7/10 B32B7/12 G02B1/10 G02B1/18 G02B5/08 (Advanced/Invention); B32B37/02 B32B38/00 B32B38/10 B32B38/16 (Advanced/Non-invention)

CPC: B32B2250/04 B32B37/02 B32B38/10 B32B7/00 B32B27/00 B32B27/36 B32B38/1875 B32B2307/40 B32B2307/7145 B32B2309/02 B32B2571/00 Y10T428/2495 Y10T428/24967 B32B7/10 B32B7/02 B32B7/12 B32B27/06 B32B27/40 B32B38/162 B32B2307/416 B32B2307/584 B32B2307/71 B32B2309/65 B32B17/00 B32B27/08 B32B27/18 B32B27/302 B32B27/304 B32B27/308 B32B27/32 B32B27/322 B32B27/34 B32B2250/03 B32B2250/24 B32B2255/10 B32B2307/412 B32B2307/728 B32B2307/73 B32B2307/732 B32B2551/08

US: 1/1 156/247 428/213 428/215

JP F-Term: 2H042 2H042/DA01 2H042/DA11 2H042/DA12 2H042/DA16 2H042/DA21 2H042/DB11 2H042/DE08 2K009 2K009/CC21 2K009/CC35 2K009/DD02 2K009/EE02

JP F-Index: G02B1/10 G02B5/08/A

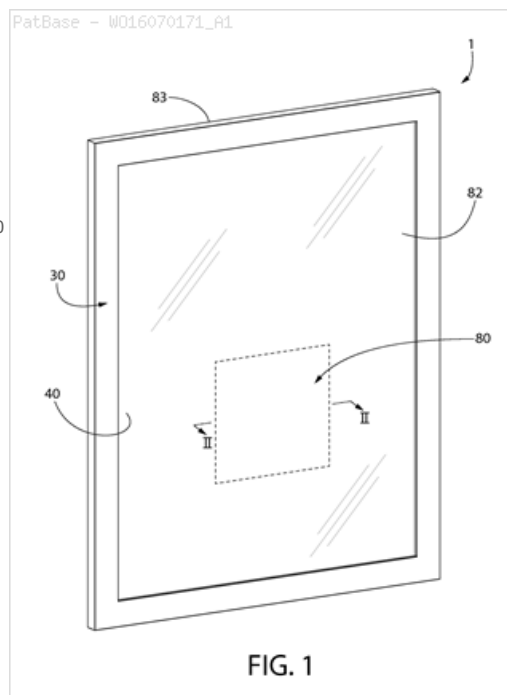


FIG. 1

Family:

Publication number	Publication date	Application number	Application date
BR212017009041 U2	20180619	BR20172109041U	20151102
CA2910947 AA	20160430	CA20152910947	20151102
CL2017001034 U1	20171222	CL20170001034U	20170426
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US20140530420 20141031 US20150522912 20151102 WO2015US58582 20151102

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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