

Search history

Search PN=(WO/2016/079529) (Results 1)

1:

Search [SP]: 1. a plasterboard comprising a gypsum matrix having a polymeric additive distributed therein in an amount of at least 1 wt percent relative to the gypsum of the gypsum matrix, the gypsum matrix further having a first group of fibres and a second group of fibres embedded therein, wherein the fibres of the first group of fibres have an average length that is at least three times the average length of the fibres of the second group of fibres. 2. a plasterboard according to claim 1, wherein the fibres of the first group of fibres have an average length of 2-10 mm. 3. a plasterboard according to claim 1, wherein the first and second groups of fibres are present in a total amount that is less than 20 wt percent relative to the gypsum matrix. 4. a plasterboard according to claim 1, wherein the first group of fibres comprises glass fibres. 5. a plasterboard according to claim 1, wherein the second group of fibres comprises cellulose-based fibres. 6. a plasterboard according to claim 5, wherein the cellulose-based fibres have a length of 200 micron to 1.8 mm. 7. a plasterboard according to claim 5, wherein the cellulose-based fibres have a thickness of 20-60 micron. 8. a plasterboard according to claim 1, wherein the polymeric additive is starch. 9. a plasterboard according to claim 1, wherein the polymeric additive is present in an amount of less than 20 wt percent relative to the gypsum matrix. 10. a plasterboard comprising: a gypsum matrix a polymeric additive within the gypsum matrix in an amount of at least 1 wt percent relative to the gypsum of the gypsum matrix cellulose-based fibres within the gypsum matrix and glass fibres within the gypsum matrix, the glass fibres having an average length that is at least three times the average length of the cellulose-based fibres. 11. the plasterboard of claim 10, wherein the glass fibres have an average length of 2-10 mm. 12. the plasterboard of claim 10, wherein the cellulose-based fibres and glass fibres are present in a total amount that is less than 20 wt percent relative to the gypsum matrix. 13. the plasterboard of claim 10, wherein the cellulose-based fibres have a length of 200 micron to 1.8 mm. 14. the plasterboard of claim 10, wherein the polymeric additive is present in an amount of less than 20 wt percent relative to the gypsum matrix. 15. the plasterboard of claim 10, wherein the polymeric additive is starch. 16. the plasterboard of claim 10, wherein the cellulose-based fibres have a thickness of 20-60 micron. 17. the plasterboard of claim 10, wherein: the polymeric additive is starch, the cellulose-based fibres and glass fibres are present in a total amount that is less than 20 wt percent relative to the gypsum matrix. 18. the plasterboard of claim 10, wherein: the polymeric additive is present in an amount of less than 20 wt percent relative to the gypsum matrix the glass fibres have an average length of 2-10 mm and the cellulose-based fibres have an average length of 200 micron to 1.8 mm. (Results 0)

Search SFT=(gypsum and cellulose fiber) (Results 683)

3:

Search SFT=(gypsum and glass fiber) (Results 4374)

4:

Search [SP]: field of the invention0001 the present invention relates to panels for use in building construction. in particular, the present invention relates to panels for providing partitions to which items such as sinks, televisions, or radiators may be affixed.background to the invention0002 light-weight panels such as plasterboard (e.g. gypsum plasterboard), polystyrene board and fibreboard are commonly used to provide partitions within buildings. their advantages for this application include the fact that they are light and quick to install.0003 however, in certain cases, such light-weight panels may have the drawback that they are not strong enough to support fixtures (e.g. sinks, televisions, radiators, fire extinguishers, shelves and any other item that requires attachment to the panel). in such cases, the weight of the fixture may cause the fixing means (e.g. screws) to be pulled out of the panel, such that the fixture falls away from the partition.0004 typically, this problem has been addressed by providing plywood sheets to increase the fixing strength of the panel. in this case, the plywood sheet is provided on the side of the panel opposite to that on which the fixture is to be located. the plywood sheet may provide increased strength for retaining one or more fixing means (e.g. screws) employed to secure the fixture to the panel. typically, the plywood sheet is positioned within the partition framework, and the plasterboard then fixed to the plywood, so that it lies outside the partition framework.0005 as an alternative, metal support means may be provided. these may comprise fixing plates, channels, straps, or metal fasteners. as is the case for plywood sheets, the metal support means are generally positioned on the side of the panel opposite that to which the fixture is to be secured, and act to receive and secure fixing means, e.g. fixing screws, that are used to attach the fixture to the panel.0006 both these arrangements have the disadvantage that they require the panels and the additional supporting components to be affixed to each other on-site. moreover, when metal support means are used, a plurality of such support means may be needed to support the full set of fixing means required to secure the fixture to the panel. thus, the installation process may be time-consuming and expensive.0007 furthermore, the addition of metal support means or plywood sheets increases the weight and thickness of the partition, and/or results in a reduction in cavity wall space. in general, the plywood itself must be cut to size on site, thus increasing the time required for installation and possibly leading to the release of dust and potentially harmful components.0008 therefore, there is a need to provide improved panels that are able to retain fixing means and support fixtures, and that do not require time-consuming installation processes.summary of the invention0009 it has been found that by including a mixture of fibres in the plasterboard, an improvement in the ability of the panel to retain fixing means may be achieved. this may allow stronger plasterboards to be produced, or lighter plasterboards having acceptable strength.0010 it has also been observed that by using a mixture of fibres, the viscosity of stucco slurry may be decreased, thereby allowing for easier manufacture of the plasterboard.0011 therefore in a first aspect, the present invention may provide a plasterboard comprising a gypsum matrix having a polymeric additive distributed therein in an amount of at least 1 wt percent relative to the gypsum, the gypsum matrix further having a first group of fibres and a second group of fibres embedded therein, wherein the fibres of the first group of fibres have an average length that is at least three times the average length of the fibres of the second group of fibres.0012 preferably, the fibres of the first group of fibres have an average length that is at least four times the average length of the fibres of the second group of fibres.0013 by including shorter fibres in addition to longer fibres, it may be possible to increase the strength of the plasterboard, while avoiding increases in the viscosity of the stucco slurry used to produce the board. excessive viscosity of the slurry tends to be linked to the formation of voids and/or the need to reduce line speeds during production in order to avoid this.0014 the first group of fibres may comprise inorganic fibres, such as glass fibres. the glass fibres typically have an average length greater than 1 mm, preferably greater than 2 mm, most preferably greater than 3 mm. in general, the glass fibres have an average length less than 10 mm, preferably less than 8 mm.0015 preferably, the glass fibres are coated with a sizing agent to increase their affinity to gypsum, as is known in the art.0016 the second group of fibres may comprise organic fibres, such as cellulose-based fibres (for example, cellulose fibres or wood fibres). the cellulose-based fibres typically have an average length greater than 100 micro m, preferably greater than 200 micro m. in general, the cellulose-based fibres have an average length less than 1.8 mm, preferably less than 1 mm, most preferably less than 800 micro m. in general, the thickness of the cellulose-based fibres is greater than 10 micro m, preferably greater than 20 micro m. typically, the thickness of the cellulose-based fibres is less than 60 micro m, preferably less than 40 micro m.0017 the apparent density of the cellulose-based fibres before incorporation into the gypsum product is typically less than 250 g/l.0018 in other embodiments, the organic fibres may be e.g. polyethylene, polypropylene, or polyester fibres.0019 typically, the fibres of the first group of fibres have an average length that is greater than 1 mm, preferably greater than 2 mm, most preferably greater than 3 mm. in general, the fibres of the first group of fibres have an average length that is less than 10 mm, preferably less than 8 mm.0020 the fibres of the second group of fibres typically have an average length greater than 100 micro m, preferably greater than 200 micro m. in general, the fibres of the second group of fibres have an average length less than 1.8 mm, preferably less than 1 mm, more preferably less than 800 micro m.0021 in general, the thickness of the fibres of the second group of fibres is greater than 10 micro m, preferably greater than 20 micro m. typically, the thickness of the fibres of the second group of fibres is less than 60 micro m, preferably less than 40 micro m.0022 in general, the first and second groups of fibres are present in a total amount that is less than 20 wt percent relative to the gypsum matrix, preferably less than 15 wt percent, more preferably less than 10 wt percent.0023 preferably, the polymeric additive is distributed in the gypsum matrix in an amount of at least 2 wt percent, most preferably at least 3 wt percent.0024 typically, the polymeric additive is a starch. preferably, the polymeric additive is present in an amount of less than 20 wt percent relative to the gypsum matrix, preferably less than 15 wt percent.0025 in certain embodiments of the first aspect of the invention, the plasterboard has paper facings. these paper facings may comprise both cellulose fibres and glass fibres, as this is thought to improve the fire resistance of the plasterboard. in other cases, the plasterboard may have a mat partially or fully embedded at its surface, for example, a glass mat.0026 in certain embodiments of the first aspect of the invention, the gypsum matrix comprises a hydrophobic additive, such as silicone oil or wax.0027 in certain embodiments of the first aspect of the invention, the gypsum matrix may contain a biocide.0028 in certain embodiments of the first aspect of the invention, the gypsum matrix may contain an anti-shrinkage agent such as unexpanded vermiculite, microsilica, and/or clay, in order to improve the fire-resistance of the product.0029 certain embodiments of the first aspect of the invention may include foam or lightweight aggregate such as perlite. such additives are known in the art to produce lower-density boards having acceptable thickness.detailed description0030 the invention will now be described by way of example only.0031 gypsum plasterboards were prepared using the following general methodology:0032 stucco and other dry additives were weighed into a bag and shaken to mix them. water and wet additives were weighed into a bowl. the fibres were weighed, added to the wet additives in the bowl, and mixed together using an electric mixer for 30 s.0033 the dry powdered additives were added to the wet additives in the bowl and mixed in with the electric mixer for 30 s.0034 the resultant slurry was sandwiched between two

sheets of boardline paper and allowed to hydrate for 25 minutes measured from the time of mixing. the board was then dried in an oven for 50 minutes at 180 degrees centigrade with a relative humidity greater than 80 percent. example 10035 a gypsum plasterboard was prepared from the following ingredients: stuccoethylated starch in an amount of 5 wt percent relative to the amount of stucco (the starch is available from grain processing corporation under the trade name coatmaster k57f) glass fibre in an amount of 5 wt percent relative to the amount of stucco. the glass fibres had an average length of 6 mm cellulose fibre in an amount of 2 wt percent relative to the amount of stucco. the cellulose fibres had an average length of 500 micron and (Results 4)

Search SFT=(gypsum and starch) (Results 7901)
6:

Search SFT=(3 and 4 and 6) (Results 60)
7:

Search (7) AND PD=(2014 OR 2012 OR 2011 OR 2007 OR 2013 OR 2005 OR 2006 OR 2008 OR 2009 OR 2010 OR 2004 OR 2002 OR 2003 OR 1995 OR 1997 OR 1998 OR 2000) (Results 47)

Search (8) AND IPC=(B32 OR C04 OR E04 OR B28) (Results 31)
9:

Search SFT=(3 and fiber length) (Results 69)
10:

Search SFT=(4 and fiber length) (Results 272)
11:

Search SFT=(10 and 11) (Results 26)
12:

1) Family number: 438599 (US3785918A)

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Title: REGENERATED CELLULOSE FIBROUS PRODUCT

Abstract: Source: US3785918A ABSTRACT OF THE DISCLOSURE A fibrous product comprising a large number of regenerated cellulose fibril-like microfibers having a diameter of 0.1 to 5/1, at least a portion of said fibril-like microfibers being mutually entangled. The fibrous product, having a high water-retaining property and a high apparent degree of swelling, is obtained by introducing a viscose spinning dope into a coagulation liquid, wherein a reduced pressure generated by the high speed flow of said coagulation liquid is employed to apply a shear stress to the spinning dope.

Classifications:

International (IPC 8-9): D01D5/00 D01F2/06 D01F2/08 D04H1/04 D04H1/28 D21H13/02 D21H13/08 (Advanced/Invention);

D01D5/00 D01F2/00 D04H1/00 D21H13/00 (Core/Invention)

International (IPC 1-7): B32B5/02 B32B5/16 D01D5/00 D01F2/06

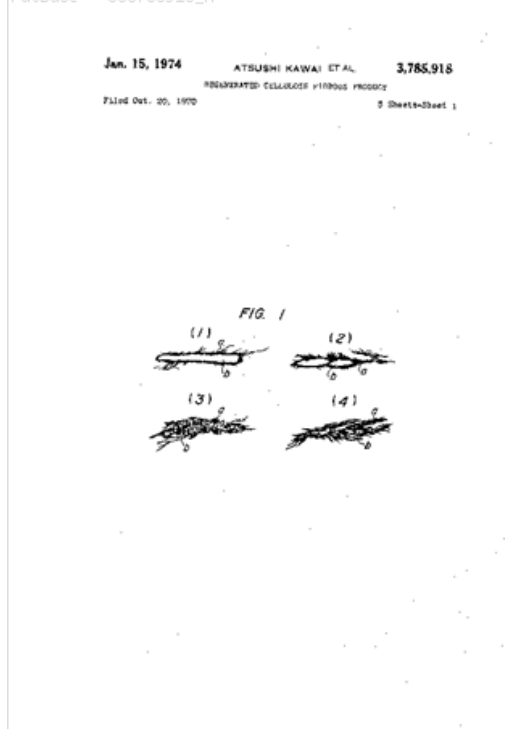
CPC: Y10S428/903 D21H13/08 Y10T428/2927 Y10T428/2965

Y10T428/2978 Y10T428/298

European: D01D5/00 D21H13/08

US: 161/16.9 162/146 162/157.7 264/167 264/188 428/372 428/393 428/400 428/401 428/903

PatBase - US3785918_A



Family:

Publication number	Publication date	Application number	Application date
DE2052224 A1	19710513	DE19702052224	19701023
GB1300820 A	19721220	GB19700049965	19701021
JP49001241 B4	19740112	JP19690085062	19691024
US3785918 A	19740115	US19700082270	19701020

Priority:

JP19690085062 19691024

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Inventor(s): (std): OHTA H ; KAWAI A

Inventor(s): KAWAI A JA ; OHTA H JA

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE2052224 A1	19710513	LSPB	+	published / reissued	
GB1300820 A	19721220	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1300820 A	19730502	LSGT	+PS	PATENT SEALED	
GB1300820 A	19780601	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	
GB1300820 A	19901021	PEXP		Calculated Patent Term Expiry	
JP49001241 B4	19740112	LSPB	+	published / reissued	
US3785918 A	19740115	LSGT	+	granted / extensions (spc, cpc, pte)	

2) Family number: 2879109 (US4351867A)

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Title: THERMAL INSULATION COMPOSITE OF CELLULAR CEMENTITIOUS MATERIAL

Abstract: Source: US4351867A An improved material particularly suited for the thermal insulation of building structures, such as residential housing, and a process for making the same, are disclosed. The thermally insulating composite comprises a low-density, cellular, fiber-containing, cementitious material and at least one structural surface element made of the cellular, fiber-containing, cementitious material, the structural surface element of which has a higher density than the low-density, cellular, fiber-containing, cementitious material from which it is formed therefrom and integral therewith. The thermally insulating composite is made by placing a foam of the low-density, cementitious material having entrapped gas therein, in an enclosure at least part of which is permeable to the gas and the liquid medium of the foam, and applying pressure to a surface of that enclosure to remove the gas and the liquid medium at the permeable enclosure.

Classifications:

International (IPC 8-9): B28B1/50 C04B38/00 (Advanced/Invention); B28B1/50 C04B38/00 (Core/Invention)

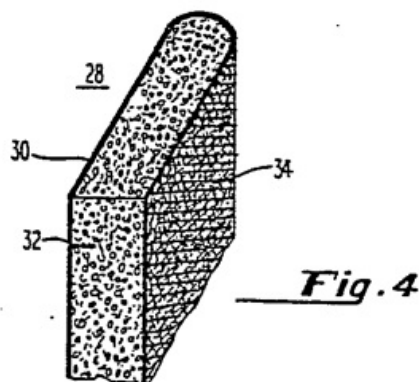
International (IPC 1-7): B28B1/50 B32B13/00 B32B3/00 B32B3/26 C04B21/02 C04B38/00 C04B43/00 E04B1/78 F16L59/02

CPC: Y10T428/232 Y10T428/233 C04B38/007 B28B1/50 Y10T428/249968 Y10T428/249988

European: B28B1/50 C04B38/00K

US: 428/312.4 428/318.6 428/70 428/703 428/71

PatBase - US4351867_H



Family:

Publication number	Publication date	Application number	Application date
DE3266986 D1	19851128	DE19823266986	19820313
DK140082 A	19820927	DK19820001400	19820326
EP0061633 A1	19821006	EP19820102046	19820313
EP0061633 B1	19851023	EP19820102046	19820313
JP57175770 A2	19821028	JP19820048819	19820325
NO158619 B	19880704	NO19820001004	19820325
NO158619 C	19881012	NO19820001004	19820325
NO821004 A	19820927	NO19820001004	19820325
US4351867 A	19820928	US19810247669	19810326

Priority:

US19810247669 19810326

Probable Assignee: GEN ELECTRIC

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Assignee(s): GENERAL ELECTRIC CO ; GENERAL ELECTRIC CO A CORP OF NY ; GENERAL ELECTRIC COMPANY

Inventor(s): (std): CREPEAU CHARLES E ; MULVEY ROBERT F ; ROBAATO FUARERU MARUEI ; ROBAATO FUARERU MARUBUEI ; MULVEY ROBERT FARRELL ; MULVEY R F ; CREPEAU C E ; CHIYAARUZU EDOWAADO KUREPOO ; CHAARUZU EDOWAADO KUREHOO ; MULVEY ROBERT FARREL ; CREPEAU CHARLES EDWARD

Designated states: DE FR SE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE3266986 D1	19861002	LSOP	-8363	OPPOSITION AGAINST THE PATENT	
DE3266986 D1	19880922	LSGT	+8365	FULLY VALID AFTER OPPOSITION	

PROCEEDINGS						
DE3266986 D1	19900308	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE		
DK140082 A	19820927	LSPB	+	published / reissued		
DK140082 A	19891113	LSWD	-AHB	APPLICATION SHELVED DUE TO NON-PAYMENT		
EP0061633 A1	19821006	LSPB	+	published / reissued		
EP0061633 A1	19830601	LSSE	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19830321	
EP0061633 A1	19860827	LSOP	-26	OPPOSITION FILED	OPPONENT NAME : RIGIPS GMBH EFFECTIVE DATE : 19860702	
EP0061633 A1	19880817	LSRE	+270	OPPOSITION REJECTED	EFFECTIVE DATE : 19880318	
EP0061633 A1	19890314	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : SE EFFECTIVE DATE : 19890314	
EP0061633 A1	19890331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : FR EFFECTIVE DATE : 19890331	
EP0061633 A1	19891201	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : DE EFFECTIVE DATE : 19891201	
EP0061633 A1	19910125	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST	
EP0061633 A1	19950131	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	REF DOCUMENT NUMBER : 82102046.8 EFFECTIVE DATE : 19900124 FORMAT OF REF DOCUMENT (F/P) : F	
EP0061633 B1	19851023	LSGT	+	granted / extensions (spc, cpc, pte)		
JP57175770 A2	19821028	LSPB	+	published / reissued		
NO158619 B	19880704	LSPB	+	published / reissued		
NO158619 C	19881012	LSGT	+	granted / extensions (spc, cpc, pte)		
NO158619 C	20020325	PEXP		Calculated Patent Term Expiry		
NO821004 A	19820927	LSPB	+	published / reissued		
US4351867 A	19820928	LSGT	+	granted / extensions (spc, cpc, pte)		
US4351867 A	19810326	LSAS	AS	ASSIGNMENT	OWNER NAME : GENERAL ELECTRIC COMPANY, A CORP. OF N.Y. DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:MULVEY ROBERT F.; CREPEAU CHARLES E.; REEL/FRAME:003874/0836; SIGNING DATES FROM 19810311 TO 19810313	
US4351867 A	19830208	LSLI	PA	PATENT AVAILABLE FOR LICENCE OR SALE		
US4351867 A	19851002	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US4351867 A	19900930	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES		
US4351867 A	19900930	LSLE	-PEX1	Patent Expired Due		

US4351867 A	19901211	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19900930
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3) Family number: 3755564 (US5127158A)

Title: PROCESS FOR PRODUCING A PRINTED CIRCUIT BOARD WITH A SYNDIOTACTIC POLYSTYRENE SUPPORT

Abstract: Source: US5127158 A A process for producing a printed circuit board includes steps, sequentially conducted of dispersing in water or organic solvent: (A) 95 to 20 percent by weight of a styrene polymer having a syndiotactic structure, (B) 5 to 80 percent by weight of a fibrous filler having a **fiber length** of 1 to 50 mm, and (C) 0.1 to 30 parts by weight of at least one of a binder and a binding fiber in proportion to 100 parts by weight of the total amount of the components (A) and (B), to make a slurry having a concentration of 0.5 to 100 g/l; separating the solids from the slurry and drying and molding them. Thereafter the solids are either subjected to melting with heating and pressure forming into the molded article, or they are impregnated with a thermoplastic resin which is then cured. Finally, a metal layer is provided on the molded article.

Classifications:

International (IPC 8-9): B27N1/02 B27N3/08 B29B11/16 B29C70/06 B32B15/08 C08F12/00 C08F12/08 C08J5/04 C08J5/24 C08K7/00 C08K7/02 C08L25/00 C08L25/04 D21H13/00 D21H13/10 D21H13/14 D21H13/36 D21H17/35 H05K1/03 H05K3/00 (Advanced/Invention); B29K25/00 H05K3/02 (Advanced/Non-invention); B29B11/16 B29C70/06 B32B15/08 C08F12/00 C08J5/04 C08J5/24 C08K7/00 C08L25/00 D21H13/00 D21H17/00 H05K1/03 (Core/Invention); H05K3/02 (Core/Non-invention)

International (IPC 1-7): B05D5/12 B27N1/02 B27N3/08 B28B1/16
B29B11/16 B29C70/06 B29K25/00 B32B15/08 B32B31/00
C08F12/08 C08J5/04 C08J5/24 C08K7/02 C08L25/00 C08L25/04
D21H13/00 D21H13/14 D21H17/35 D21H19/02 H05K1/03 H05K3/00

CPC: Y10T29/4916 H05K1/0373 H05K1/0366 H05K3/022
H05K2201/0129 H05K2201/0209 H05K2201/0212 H05K2201/0239
H05K2201/0248 H05K2201/0251 H05K2201/09118

European: H05K1/03C4C H05K1/03C4D T05K201/01A6
T05K201/02A1A T05K201/02A1B T05K201/02A1K T05K201/02A2B
T05K201/02A2C T05K201/09A12 T05K3/02C

US: 156/150 156/233 156/245 156/307.7 162/145 162/146 162/169
264/112 264/122 264/126 264/128 264/129 264/259 264/319
264/330 264/332 264/517 264/571 264/86 264/87 29/849 427/96
427/98 427/98.5 427/99

SPS		纖維状基材材			結合剤	結合纖維	糊塗剤	分散剤	カップリング剤	固形分濃度
高粘度 (g/cm^3)	配合量 (wt%)	繊維	長さ (μm)	直径 (μm)	配合量 (wt%)	重合度 ジエチレン スチレン・ブチ アクリル系 (重量部)	重合度 アクリル・メ タクリル系 (重量部)	重合度 アクリル・メ タクリル系 (g/g)	重合度 γ-アミノプロピ ルトリブチル エーテル系 (g/g)	重合度 (g/g)
実施例 1 比較例 1	0.2 90.0	GF ² GF	6 6	13 13	33.3 10.0	11 11	0.2 0.2	0.02 0.02	0.1 0.1	10.2 10.2
実施例 2 比較例 2	0.2 90.0	GF ² GF	6 6	13 13	50.0 30.0	5 5	0.2 —	0.02 —	0.1 —	10.2 —
実施例 3 比較例 3	0.2 70.0	GF ² GF	30 30	13 13	30.0 30.0	11 11	0.2 0.2	0.02 0.02	0.1 0.1	10.2 10.2
実施例 4 比較例 4	0.4 70.0	GF ² GF	6 6	13 13	30.0 30.0	11 11	0.2 0.2	0.02 0.02	0.1 0.1	10.2 10.2
実施例 5 比較例 5	0.6 98.0	GF ² GF	6 2	13 6	30.0 2.0	11 11	0.2 0.2	0.02 0.02	0.1 0.1	10.2 10.2
比較例 6 比較例 7	0.2 70.0	GF ² GF	70 2	13 6	30.0 30.0	11 —	0.2 —	0.02 —	0.1 —	10.2 —
実施例 6 実施例 7	0.2 5mm ² /10μm ²	GF ² GF	6 6	13 13	30.0 30.0	11 11	0.2 0.2	0.02 0.02	0.1 0.1	10.2 10.2
実施例 8 比較例 8	10mm ² /1μm ² 30mm ² /40μm ²	GF ² GF	6 6	13 13	30.0 30.0	11 11	0.2 0.2	0.02 0.02	0.1 0.1	10.2 10.2
比較例 9 比較例 10	0.03 70.0	GF ² GF	6 6	13 13	30.0 30.0	11 11	0.2 0.2	0.02 0.02	0.1 0.1	10.2 190.2
実施例 9 実施例 10	0.2 66.7	GF ² GF	6 6	13 13	33.3 33.3	11 11	0.2 0.2	0.02 0.02	0.1 0.1	10.2 10.2

※1 密度の代わりに繊維長／繊維径を示す。

***2 ガラス繊維**

Family:

Publication number	Publication date	Application number	Application date
AT131339 E	19951215	AT19900116931T	19900904
CA2024688 AA	19910307	CA19902024688	19900905
DE69023990 D1	19960118	DE19906023990	19900904
DE69023990 T2	19960425	DE19906023990T	19900904
EP0416518 A2	19910313	EP19900116931	19900904
EP0416518 A3	19930127	EP19900116931	19900904
EP0416518 B1	19951206	EP19900116931	19900904
JP2813001 B2	19981022	JP19890229306	19890906
JP2869094 B2	19990310	JP19890229305	19890906
JP3092345 A2	19910417	JP19890229306	19890906
JP3093845 A2	19910418	JP19890229305	19890906
KR970004754 B1	19970403	KR19900014225	19900906
US5127158 A	19920707	US19900575295	19900830

Priority:

CA19902024688 19900905 JP19890229305 19890906 JP19890229306 19890906

Probable Assignee: IDEMITSU KOSAN CO

Assignee(s): (std): IDEMITSU KOSAN CO

Assignee(s): IDEMITSU KOSAN CO LTD ; IDEMITSU KOSAN KK ; IDEMITSU KOSAN COMPANY LIMITED ; IDEMITSU KOSAN CO LTD A CORP OF JAPAN ; IDEMITSU KOSAN CO LTD TOKIO TOKYO JP ; NAKANO AKIKAZU

Inventor(s): (std): NAKANO AKIKAZ ; NAKANO AKIKAZU

Inventor(s): NAKANO AKIKAZU TADAOKA CHO SEMBOKU GUN OSAKA JP

Agent(s): SMART AND BIGGAR
Designated states: AT BE CH DE ES FR GB IT LI NL SE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT131339 E	19951215	LSGT	+	granted / extensions (spc, cpc, pte)	
AT131339 E	19960615	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT131339 E	20100904	PEXP		Calculated Patent Term Expiry	
CA2024688 AA	19910307	LSPB	+	published / reissued	
CA2024688 AA	19960322	LSES	+EEER	EXAMINATION REQUEST	
CA2024688 AA	19990907	LSLE	-FZDE	DEAD	
DE69023990 D1	19970109	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69023990 D1	20040708	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE69023990 T2	19960425	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69023990 T2	20100904	PEXP		Calculated Patent Term Expiry	
EP0416518 A2	19910313	LSPB	+	published / reissued	
EP0416518 A2	19910313	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19901220
EP0416518 A2	19940420	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 19940304
EP0416518 A2	19951206	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : LI EFFECTIVE DATE : 19951206
EP0416518 A2	19951206	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : CH EFFECTIVE DATE : 19951206
EP0416518 A2	19951206	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : BE EFFECTIVE DATE : 19951206
EP0416518 A2	19951206	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : ES DESCRIPTION : THE PATENT HAS BEEN ANNULLED BY A DECISION OF A NATIONAL AUTHORITY EFFECTIVE DATE : 19951206
EP0416518 A2	19951206	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : AT EFFECTIVE DATE : 19951206
EP0416518 A2	19960306	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : SE EFFECTIVE DATE : 19960306
EP0416518 A2	19960614	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0416518 A2	19961127	LSGT	+26N	NO OPPOSITION FILED	
EP0416518 A2	19970826	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 19970826 YEAR OF FEE PAYMENT : 08
EP0416518 A2	19970909	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : FR PAYMENT DATE : 19970909 YEAR OF FEE PAYMENT : 08

EP0416518 A2	19970929	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : NL PAYMENT DATE : 19970929 YEAR OF FEE PAYMENT : 08
EP0416518 A2	19980904	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : GB DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 19980904
EP0416518 A2	19990401	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : NL DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 19990401
EP0416518 A2	19990421	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 19980904
EP0416518 A2	19990531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : FR DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 19990531
EP0416518 A2	19990601	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	EFFECTIVE DATE : 19990401
EP0416518 A2	19990723	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST
EP0416518 A2	20020911	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20020911 YEAR OF FEE PAYMENT : 13
EP0416518 A2	20040401	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : DE DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20040401
EP0416518 A2	20050904	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : IT DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20050904
EP0416518 B1	19951206	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0416518 B1	20100904	PEXP		Calculated Patent Term Expiry	
JP2813001 B2	19981022	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2813001 B2	20050807	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP2813001 B2	20090906	PEXP		Calculated Patent Term Expiry	
JP2869094 B2	19990310	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2869094 B2	20041225	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP2869094 B2	20090906	PEXP		Calculated Patent Term Expiry	
JP3092345 A2	19910417	LSPB	+	published / reissued	
JP3093845 A2	19910418	LSPB	+	published / reissued	
KR970004754 B1	19970403	LSGT	+	granted / extensions (spc, cpc, pte)	
KR970004754 B1	19930326	LSES	A201	REQUEST FOR EXAMINATION	
KR970004754 B1	19970228	LSPB	G160	DECISION TO PUBLISH PATENT APPLICATION	
KR970004754 B1	19970613	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR970004754 B1	19970617	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR970004754 B1	20000404	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR970004754 B1	20120403	PEXP		Calculated Patent Term Expiry	

US5127158 A	19920707	LSGT	+	granted / extensions (spc, cpc, pte)	
US5127158 A	19900830	LSAS	AS	ASSIGNMENT	OWNER NAME : IDEMITSU KOSAN CO., LTD, A CORP OF JAPAN, JAPAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:NAKANO, AKIKAZU; REEL/FRAME:005434/0678 EFFECTIVE DATE : 19900730
US5127158 A	19920624	LSGT	PAT1	Patented Case	
US5127158 A	19940830	LSRE	CC	CERTIFICATE OF CORRECTION	
US5127158 A	19951226	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5127158 A	19991229	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5127158 A	20040707	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5127158 A	20040831	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20040707
US5127158 A	20100830	PEXP		Calculated Patent Term Expiry	

4) Family number: 28672249 (US5480714A)

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Title: CHIPPING-RESISTANT RESIN MOLDED ARTICLE

Abstract: Source: US5480714A A resin molded article comprising a main body of molded material, an intermediate coating layer comprising scaly pieces of matter and a resin constituent composed of one, or a plurality of layers, and a finish coating layer formed on the outermost surface of the intermediate coating layer. The resin molded article of the present invention provides improved resistance to chipping.

Classifications:

International (IPC 8-9): B05D5/00 B05D7/02 B05D7/24 B32B27/00 B32B27/08 B32B27/14 B32B27/18 B32B27/20 B60R3/00 B62D29/04 C08J7/04 C09D123/26 C09D123/28 C09D133/04 C09D133/14 C09D163/00 (Advanced/Invention);

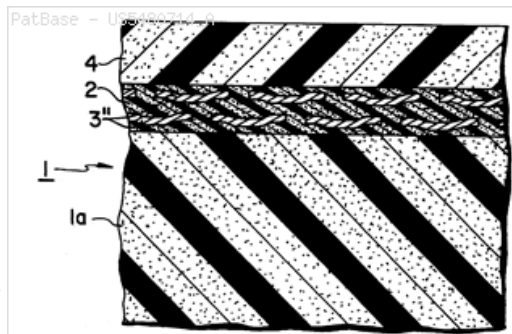
B05D5/00 B05D7/02 B05D7/24 B32B27/00 B32B27/08 B32B27/14 B32B27/18 B32B27/20 B60R3/00 B62D29/00 C08J7/00 C09D123/00 C09D133/04 C09D133/14 C09D163/00 (Core/Invention)

International (IPC 1-7): B05D5/00 B05D7/02 B05D7/24 B32B27/00 B32B27/08 B32B27/14 B32B27/18 B32B27/20 B32B27/38 B32B27/40 B32B5/16 B60R13/04 B62D29/04 C08J7/04 C08K7/00 C08K7/02 C08K7/16 C09D123/28 C09D133/14 C09D163/00

CPC: Y10T428/251 Y10T428/252 Y10T428/256 B60R3/00 B62D29/04 C08J7/04 B32B27/14 B32B5/16 B32B27/20 B32B2605/08 B32B27/08

European: B32B27/08 B60R3/00 B62D29/04 C08J7/04

US: 428/324 428/325 428/328



Family:

Publication number	Publication date	Application number	Application date
DE4311684 A1	19931104	DE19934311684	19930408
DE4311684 C2	20020516	DE19934311684	19930408
JP5301983 A2	19931116	JP19920109488	19920428
JP5302060 A2	19931116	JP19920134438	19920428
JP5302061 A2	19931116	JP19920134439	19920428
JP5305267 A2	19931119	JP19920109487	19920428
JP6015787 A2	19940125	JP19920333277	19921214
US5480714 A	19960102	US19930044507	19930409

Priority:

JP19920109487 19920428	JP19920109488 19920428	JP19920109489 19920428
JP19920134438 19920428	JP19920134439 19920428	JP19920333277 19921214

Probable Assignee: TOYODA GOSEI CO LTD

Assignee(s): (std): KASHIYUU KK ; TOYODA GOSEI KK

Assignee(s): TOYODA GOSEI CO ; TOYODA GOSEI CO LTD ; TOYODA GOSEI CO LTD AICHI JP

Inventor(s): (std): ARAI KENJIRO ; ITO TOSHIYASU ; KAMIMURA TOSHIYA ; NAGAIKE IPPEI ; NOBATA MINORU ; NOGUCHI SHIGERU ; NOHATA MINORU ; OGISU YASUHIKO ; TAKAHASHI NARIYUKI ; TAKAHASHI SHIGEYUKI ; UEMURA TOSHIYA

Inventor(s): UEMURA TOSHIYA INAZAWA AICHI JP ; TAKAHASHI SHIGEYUKI INAZAWA AICHI JP ; OGISU YASUHIKO INAZAWA AICHI JP ; NOHATA MINORU OMIYA SAITAMA JP ; NOGUCHI SHIGERU OMIYA SAITAMA JP ; NAGAIKE IPPEI OMIYA SAITAMA JP ; ITO TOSHIYASU INAZAWA AICHI JP ; ARAI KENJIRO OMIYA SAITAMA JP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
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DE4311684 A1	19931104	LSPB	+	published / reissued	
DE4311684 A1	19931104	LSSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE4311684 A1	20020516	LSGT	+D2	GRANT AFTER EXAMINATION	
DE4311684 A1	20021114	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE4311684 A1	20040212	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE4311684 C2	20020516	LSGT	+	granted / extensions (spc, cpc, pte)	
DE4311684 C2	20130408	PEXP		Calculated Patent Term Expiry	
JP5301983 A2	19931116	LSPB	+	published / reissued	
JP5302060 A2	19931116	LSPB	+	published / reissued	
JP5302061 A2	19931116	LSPB	+	published / reissued	
JP5305267 A2	19931119	LSPB	+	published / reissued	
JP6015787 A2	19940125	LSPB	+	published / reissued	
US5480714 A	19960102	LSGT	+	granted / extensions (spc, cpc, pte)	
US5480714 A	19930712	LSAS	AS	ASSIGNMENT	OWNER NAME : TOYODA GOSEI CO., LTD., JAPAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ITO, TOSHIYASU; OGISU, YASUHIKO; TAKAHASHI, SHIGEYUKI; AND OTHERS; REEL/FRAME:006615/0065; SIGNING DATES FROM 19930604 TO 19930625
US5480714 A	19990621	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5480714 A	20030609	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5480714 A	20080102	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5480714 A	20080128	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5480714 A	20080219	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20080102
US5480714 A	20130409	PEXP		Calculated Patent Term Expiry	

5) Family number: 9088422 (US5401588A)

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Title: GYPSUM MICROFIBER SHEET MATERIAL

Abstract: Source: US5401588A The novel composition of the present invention comprises a paper-like sheet material or a non-woven mat which contains water-insoluble gypsum anhydrite microfibers and a cellulosic binder, such as cellulose fibers, optionally with glass fibers, which has surprising fire-retardant properties. Typical paper processing methods or wet process mat techniques are utilized in preparing this material. The flexible gypsum microfiber sheet or mat of this invention may be

used as microfiber insulation, particularly in a fire retardant barrier.

Classifications:

International (IPC 8-9): C04B14/38 C04B26/28 C04B30/02

D21H11/00 D21H13/36 D21H13/46 (Advanced/Invention)

International (IPC 1-7): B32B9/00 C08K3/40 C08L1/00 D21H11/00 D21H13/36

CPC: Y10S428/92 Y10S428/921 C04B26/285 C04B14/38 C04B30/02 C04B2111/28 D21H13/46 Y10T428/24612 Y10T428/2965

Y10T428/249968 Y10T428/31504 Y10T428/31591 Y10T428/31996 Y10T442/614 Y02W30/97

European: C04B14/38 C04B26/28B C04B30/02 D21H13/46 M04B111/28

US: 428/172 428/195 428/285 428/312.4 428/393 428/411.1 428/425.1 428/537.7 428/703 428/920 428/921 442/340 52/317 52/443

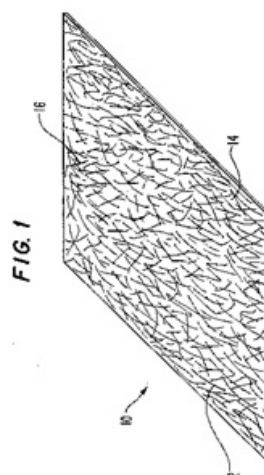
PatBase - US5401588_A

U.S. Patent

Mar. 28, 1995

Sheet 1 of 2

5,401,588



Family:

Publication number	Publication date	Application number	Application date
CA2130271 AA	19940816	CA19932130271	19931222
US5401588 A	19950328	US19930170920	19931221
WO9414885 A1	19940707	WO1993US12505	19931222

Priority:

US19920995389 19921223 US19930170920 19931221 WO1993US12505 19931222

Probable Assignee: GEORGIA PACIFIC RESINS

Assignee(s): (std): GEORGIA PACIFIC RESINS

Assignee(s): GEORGIA PACIFIC RESINS INC ; GEORGIA PACIFIC RESINS INC A OF DELEWARE CORP ; HUTCHINGS DAVID A ; MCVAY TED M ; PENNOCK RICHARD F ; GARVEY CHAD E

Inventor(s): (std): GARVEY CHAD ; GARVEY CHAD E ; HUTCHINGS DAVID A ; MCVAY TED M ; PENNOCK RICHARD F ; PENNOCK RICHARD FRANK ; MCVAY TED MCCARLY ; HUTCHINGS DAVID ALAN

Inventor(s): MCVAY TED MCC

Agent(s): SIM AND MCBURNEY

Designated states: CA

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2130271 AA	19940816	LSPB	+	published / reissued	
CA2130271 AA	19940816	LSNP	+AFNE	NATIONAL PHASE ENTRY	
CA2130271 AA	19960623	LSLE	-FZDE	DEAD	
US5401588 A	19950328	LSGT	+	granted / extensions (spc, cpc, pte)	
US5401588 A	19940222	LSAS	AS	ASSIGNMENT	OWNER NAME : GEORGIA-PACIFIC RESINS, INC. A CORPORATION OF DEL DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GARVEY, CHAD E.; HUTCHINGS, DAVID A.; MCVAY, TED M.; AND OTHERS; REEL/FRAME:006917/0269; SIGNING DATES FROM 19940131 TO 19940203
US5401588 A	19950317	LSGT	PAT1	Patented Case	
US5401588 A	19950808	LSRE	CC	CERTIFICATE OF CORRECTION	
US5401588 A	19980914	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4

US5401588 A	20030328	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5401588 A	20030527	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20030328
US5401588 A	20131221	PEXP		Calculated Patent Term Expiry	
WO9414885 A1	19940707	LSPB	+	published / reissued	
WO9414885 A1	19940816	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : CA REF DOCUMENT NUMBER : 2130271 KIND CODE OF REF DOCUMENT : A FORMAT OF REF DOCUMENT (F/P) : F
WO9414885 A1	19940816	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2130271 COUNTRY OF REF DOCUMENT : CA

6) Family number: 33376309 (WO9420274A1)

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Title: INSULATION BARRIERS HAVING A HYDRAULICALLY SETTABLE MATRIX

Abstract: Insulation barriers having a hydraulically settable component are disclosed. Such insulation barriers include laminate insulation barriers that have a highly insulative layer and a structural layer which has a hydraulically settable matrix. The highly insulative layer may include any known insulating material but is usually an inorganic material such as aerogel, xonotlite, a foamed hydraulically settable product, fiberglass, or rock wool. The structural matrix usually includes the reaction products of a hydraulically settable binder and water in combination with a rheology-modifying agent, an inorganic aggregate material, and fibrous materials to increase the strength of the final product. Finely dispersed voids may be incorporated into the hydraulically settable matrix to decrease the density and thermal conductivity of the insulation barrier. A dispersant may be added to improve the workability of the hydraulically settable mixture.

Classifications:

International (IPC 8-9): B28B1/00 B28B1/52 B28B23/00 B32B13/00 B32B13/04 B32B27/20 B32B37/14 C04B14/06 C04B20/00 C04B22/04 C04B24/14 C04B24/38 C04B26/00 C04B26/02 C04B28/00 C04B28/02 C04B30/00 C04B38/00 C04B40/00 F16L59/00 (Advanced/Invention); B05C5/02 (Advanced/Non-invention); B28B1/00 B28B1/52 B28B23/00 B32B13/00 B32B27/20 B32B37/14 C04B14/02 C04B20/00 C04B22/00 C04B24/00 C04B26/00 C04B28/00 C04B30/00 C04B38/00 C04B40/00 (Core/Invention); B05C5/02 (Core/Non-invention)

International (IPC 1-7): B28B13/00 B28B21/00 B28B23/00 B28B3/26 B32B13/00 F16L59/00

CPC: B32B5/18 B32B2266/0228 B32B2266/0278 B32B2266/0285 B32B2309/105 B32B13/04 B05C5/0245 B28B1/00 B28B1/52 B28B23/0081 B28B23/0087 B29L2024/00 B29L2031/608 B32B13/00 B32B27/20 B32B37/00 B32B37/144 B65D2565/385 C04B14/064 C04B20/002 C04B22/04 C04B24/14 C04B24/38 C04B26/00 C04B26/02 C04B28/00 C04B28/02 C04B30/00 C04B40/00 C04B2111/00068 C04B2111/00612 C04B2111/00948 C04B2201/30
European: B28B1/00 B28B1/52 B28B23/00Z B28B23/00Z1 B32B13/00 B32B13/04 B32B27/20 B32B37/00 B32B37/14B C04B14/06G C04B20/00D2 C04B22/04 C04B24/14 C04B24/38 C04B26/00 C04B26/02 C04B28/00 C04B28/02 C04B30/00 C04B40/00 L05C5/02E L29L24/00 L29L31/60C L65D565/38Y7 M04B111/00M4 M04B111/00T6 M04B111/00T66 M04B201/30

Family:

Publication number	Publication date	Application number	Application date
CA2157765 AA	19950907	CA19942157765	19940308
WO9420274 A1	19940915	WO1994US02448	19940308

Priority:

US19930027404 19930308 US19930027451 19930308 WO1994US02448 19940308

Probable Assignee: KHASHOGGI E IND

Assignee(s): (std): ANDERSEN PER JUST ; HODSON SIMON K ; KHASHOGGI E IND

Assignee(s): E KHASHOGGI IND ; E KHASHOGGI INDUSTRIES

Inventor(s): (std): ANDERSEN PER JUST ; HODSON SIMON K

Agent(s): BARRIGAR AND MOSS

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2157765 AA	19950907	LSPB	+	published / reissued	
CA2157765 AA	19950907	LSNP	+AFNE	NATIONAL PHASE ENTRY	
CA2157765 AA	19950907	LSSES	+EEER	EXAMINATION REQUEST	
CA2157765 AA	19990308	LSLE	-FZDE	DEAD	
WO9420274 A1	19940915	LSPB	+	published / reissued	
WO9420274 A1	19950810	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 263061

					COUNTRY OF REF DOCUMENT : NZ
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WO9420274 A1	19950907	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2157765 COUNTRY OF REF DOCUMENT : CA
WO9420274 A1	19951004	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1994910869 COUNTRY OF REF DOCUMENT : EP
WO9420274 A1	19951227	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1994910869 COUNTRY OF REF DOCUMENT : EP
WO9420274 A1	19980520	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1994910869 COUNTRY OF REF DOCUMENT : EP

7) Family number: 33376303 (KR19960700869A)

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Title: INSULATION BARRIERS HAVING A HYDRAULICALLY SETTABLE MATRIX

Abstract: Source: KR19960700869A Hydraulic component having a heat insulating barrier is disclosed. Such a heat insulating barrier is highly thermal insulation layer comprises a matrix and hydraulic layer of the heat insulating barrier having a layer structure. Highly thermal insulation layer may comprise any known insulating material, typically aerogels, scale notes, foamed products, fiber glass or the hydraulic inorganic materials, such as cancer. Matrix structure is typically hydraulic binder and water and rheological control agents, inorganic binder and to increase the strength of the final product a fibrous material comprises the reaction product of a combination of. And the density of the heat insulating barrier wall in order to reduce the thermal conductivity is not dispersed pores of the hydraulic matrix may be introduced. In order to improve the operability of the hydraulic mixture may be added to the dispersing agent.

Classifications:

International (IPC 8-9): B05C5/02 B28B1/00 B28B1/52 B28B21/00 B28B23/00 B32B13/00 B32B13/04 B32B27/20 B32B37/14 C04B14/06 C04B20/00 C04B22/04 C04B24/14 C04B24/38 C04B26/00 C04B26/02 C04B28/00 C04B28/02 C04B30/00 C04B38/00 C04B40/00 H01B3/14 (Advanced/Invention);
B05C5/02 B28B21/00 C04B38/00 (Advanced/Non-invention);
B28B1/00 B28B1/52 B28B23/00 B32B13/00 B32B27/20 B32B37/14 C04B14/02 C04B20/00 C04B22/00 C04B24/00 C04B26/00 C04B28/00 C04B30/00 C04B38/00 C04B40/00 (Core/Invention);
B05C5/02 (Core/Non-invention)

International (IPC 1-7): B28B13/00 B28B21/00 B28B3/26 C04B28/00 C04B38/00

CPC: B32B5/18 B32B2266/0228 B32B2266/0278 B32B2266/0285 B32B2309/105 B32B13/04 B05C5/0245 B28B1/00 B28B1/52 B28B23/0081 B28B23/0087 B29L2024/00 B29L2031/608 B32B13/00 B32B27/20 B32B37/00 B32B37/144 B65D2565/385 C04B14/064 C04B20/002 C04B22/04 C04B24/14 C04B24/38 C04B26/00 C04B26/02 C04B28/00 C04B28/02 C04B30/00 C04B40/00 C04B2111/00068 C04B2111/00612 C04B2111/00948 C04B2201/30

European: B28B1/00 B28B1/52 B28B23/00Z B28B23/00Z1 B32B13/00 B32B13/04 B32B27/20 B32B37/00 B32B37/14B C04B14/06G C04B20/00D2 C04B22/04 C04B24/14 C04B24/38 C04B26/00 C04B26/02 C04B28/00 C04B28/02 C04B30/00 C04B40/00 L05C5/02E L29L24/00 L29L31/60C L65D565/38Y7 M04B111/00M4 M04B111/00T6 M04B111/00T66 M04B201/30

Family:

Publication number	Publication date	Application number	Application date
AU199463613 A1	19940926	AU19940063613	19940308
BRPI9405770 A	19951219	BR1994PI05770	19940308
EP0688261 A1	19951227	EP19940910869	19940308
EP0688261 A4	19980401	EP19940910869	19940308
JP8509949 T2	19961022	JP19940520241T	19940308
KR19960700869 A	19960224	KR19950703797	19940308
RU95118148 A	19971220	RU19950118148	19951008

Priority:

US19930027404 19930308 US19930027451 19930308 WO1994US02448 19940308

Probable Assignee: KHASHOGGI E IND

Assignee(s): (std): KHASHOGGI E IND

Assignee(s): E KHASHOGGI IND ; E KHASHOGGI IND LLC ; E KHASHOGGI INDUSTRIES

Inventor(s): (std): ANDERSEN PER JUST ; HODSON SIMON K ; PER JUST ANDERSEN ; SIMON K HODSON

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD

Designated states: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

Legal status (INPADOC)

Patent	Date recorded	Event group	Code	Event	Details
BRPI9405770 A	19951219	LSPB	+	published / reissued	
BRPI9405770 A	20030311	LSES	-EG	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF TECHNICAL EXAMINATION (OPINION)	
BRPI9405770 A	20030318	LSRV	+HKEG	APPLICATION REFUSED (DELETED)	
BRPI9405770 A	20030923	LSRV	-FA8	DISMISSAL: DISMISSAL - ARTICLE 36, PAR. 1 OF INDUSTRIAL PROPERTY LAW	
EP0688261 A1	19951227	LSPB	+	published / reissued	
EP0688261 A1	19951227	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19951005
EP0688261 A1	19980401	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 19980212
EP0688261 A1	19990127	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 19980520
JP8509949 T2	19961022	LSPB	+	published / reissued	
KR19960700869 A	19960224	LSPB	+	published / reissued	
RU95118148 A	19971220	LSPB	+	published / reissued	

8) Family number: 31985171 (WO9515849A1)

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Title: HINGES FOR HYDRAULICALLY SETTABLE MATERIALS

Abstract: A hinge (11) for use in hydraulically settable materials is provided. The hinge (11) has a hydraulically settable matrix (10) formed from a reaction product of a hydraulically settable binder and water, with fibrous material dispersed in the matrix. Additional components may be utilized in the matrix (10), such as rheology-modifying agents, aggregate materials and substances to produce air voids. The hinge (11) of the invention allows hydraulically settable materials to be bent along a line without breakage of the material. The hinge (11) is particularly useful in cementitious containers that require bending of various container parts, such as in food containers and boxes made from cementitious materials.

Classifications:

International (IPC 8-9): B05C5/02 B28B1/52 B28B11/00 B28B11/08 B29C43/02 B29C43/22 B29C43/24 B29C67/24 B32B13/02 B65D43/16 C04B26/28 C04B28/00 E05D1/02 (Advanced/Invention); B05C5/02 B29C43/02 B29C43/22 (Advanced/Non-invention); B28B1/52 B28B11/00 B28B11/08 B29C43/02 B29C43/22 B29C43/24 B29C67/24 B32B13/00 B65D43/16 C04B26/00 C04B28/00 E05D1/00 (Core/Invention); B05C5/02 (Core/Non-invention)

International (IPC 1-7): B32B13/00 C04B14/00 E05D5/00

CPC: B29C43/02 B05C5/0245 B28B1/52 B28B11/003 B28B11/0863 B29C43/00 B29C43/222 B29C47/0019 B29C47/0021 B29C47/0033 B29C47/0038 B29C47/004 B29C47/0042 B29C47/0054 B29C47/0059 B29C47/0066 B29C67/242 B29C2043/022 B29C2043/023 B29C2043/142 B29C2043/464 B29K2003/00 B29K2105/04 B29L2031/712 B32B13/02 B65D43/162 B65D2565/385 C04B26/28 C04B28/00 C04B2111/00129 C04B2111/00612 C04B2111/00948 E05D1/02 E05Y2900/602

European: B28B1/52 B28B11/00E B28B11/08E B29C43/02 B29C43/22B B29C43/24 B29C67/24C B32B13/02 B65D43/16B C04B26/28 C04B28/00 E05D1/02 L05C5/02E L29C43/00 L29C43/02B1 L29C43/02B2 L29C43/14A1 L29C43/46A3 L29C47/00J4 L29C47/00J5 L29C47/00L L29C47/00L12 L29C47/00L4 L29C47/00L5 L29C47/00L7 L29C47/00L9 L29K105/04 L29K3/00 L29L31/712 L65D565/38Y7 M04B111/00M14 M04B111/00T6 M04B111/00T66 P05D1/02 P05Y900/602

PatBase - WO9515849_A1

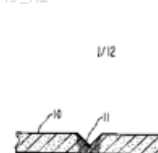


FIG. 1A



FIG. 1B



FIG. 1C

Family:

Publication number	Publication date	Application number	Application date
AU199514329 A1	19950627	AU19950014329	19941206
WO9515849 A1	19950615	WO1994US14171	19941206

Priority:

US19930163681 19931206 WO1994US14171 19941206

Probable Assignee: KHASHOGGI E IND**Assignee(s):** (std): KHASHOGGI E IND**Assignee(s):** E KHASHOGGI IND ; E KHASHOGGI INDUSTRIES**Inventor(s):** (std): ANDERSEN PER J ; HODSON SIMON K

Inventor(s): PER J ANDERSEN ; SIMON K HODSON

Designated states: AM AT AU BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GN GR HU IE IT JP KE KG KP KR KZ LK LR LT LU LV MC MD MG ML MN MR MW NE NL NO NZ PL PT RO RU SD SE SI SK SN SZ TD TG TJ TT UA UZ VN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
WO9515849 A1	19950615	LSPB	+	published / reissued	
WO9515849 A1	19960926	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO9515849 A1	19961006	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : CA

9) Family number: 31985231 (US5631097A) © PatBase

Title: LAMINATE INSULATION BARRIERS HAVING A CEMENTITIOUS STRUCTURAL MATRIX AND METHODS FOR THEIR MANUFACTURE

Abstract: Source: US5631097A Laminate insulation barriers including a highly insulative layer and a structural layer which has a cementitious structural matrix. The laminate insulation barriers are lightweight and more environmentally compatible than those currently used; they may augment, and even take the place of, traditional insulation materials which typically contain nondegradable, environmentally damaging materials.

Classifications:

International (ipc 8-9): B28B1/00 B28B1/52 B28B11/00 B28B13/02 B28B13/06 B28B23/00 B28B3/00 B28B3/02 B28B3/12 B28B3/20 B28B7/42 B28C7/02 B29C43/00 B29C43/02 B29C43/22 B29C43/24 B29C43/36 B29C43/46 B29C51/04 B29C51/10 B29C53/06 B29C55/18 B29C67/24 B29C70/50 B29C71/00 B31B17/00 B32B13/02 B32B13/04 B32B27/04 B32B27/20 B32B37/14 B32B5/02 B65D65/38 B65D65/46 C04B16/02 C04B20/00 C04B26/00 C04B26/02 C04B26/28 C04B28/00 C04B28/02 C04B38/00 C04B40/00 C08L1/28 C08L3/00 C08L3/02 C08L5/02 C08L5/12 C08L5/14 C08L89/06 C08L97/02 (Advanced/Invention); B05C1/08 B05C3/18 B05C5/02 B29C43/08 (Advanced/Non-invention); B28B1/00 B28B1/52 B28B11/00 B28B13/00 B28B23/00 B28B3/00 B28B3/02 B28B3/20 B28B7/40 B28C7/00 B29C43/00 B29C43/02 B29C43/22 B29C43/36 B29C43/44 B29C51/00 B29C51/10 B29C53/00 B29C55/18 B29C67/24 B29C70/04 B29C71/00 B31B17/00 B32B13/00 B32B27/04 B32B27/20 B32B37/14 B32B5/02 B65D65/38 B65D65/46 C04B16/00 C04B20/00 C04B26/00 C04B28/00 C04B38/00 C04B40/00 C08L1/00 C08L3/00 C08L5/00 C08L89/00 C08L97/00 (Core/Invention); B05C1/08 B05C3/00 B05C5/02 B29C43/04 (Core/Non-invention)

International (ipc 1-7): B32B13/00 C04B14/00

CPC: B32B37/144 B05C1/0826 B05C1/0834 B05C3/18 B05C5/0245 B28B1/00 B28B1/52 B28B3/00 B28B3/02 B28B3/126 B28B3/20 B28B7/42 B28B11/00 B28B11/003 B28B11/008 B28B13/021 B28B13/06 B28B23/00 B28B23/0081 B28B23/0087 B28C7/02 B29C43/003 B29C43/02 B29C43/08 B29C43/22 B29C43/222 B29C43/24 B29C43/36 B29C43/46 B29C51/04 B29C51/10 B29C53/063 B29C55/18 B29C67/24 B29C67/242 B29C70/50 B29C71/0009 B29C2043/3621 B29C2043/3623 B29C2043/3689 B29C2795/007 B29K2001/00 B29K2003/00 B29K2005/00 B29K2089/00 B29K2105/12 B29K2105/16 B29L2024/00 B29L2031/608 B29L2031/7132 B31D1/005 B32B5/02 B32B13/02 B32B13/04 B32B27/04 B32B27/20 B32B37/00 B65D65/38 B65D65/466 B65D2301/20 B65D2565/385 C04B16/02 C04B20/0048 C04B26/00 C04B26/02 C04B26/026 C04B26/28 C04B26/285 C04B28/00 C04B28/02 C04B38/0006 C04B40/00 C04B40/006 C04B2111/00474 C04B2111/00948 C08L1/28 C08L1/286 C08L3/00 C08L3/02 C08L5/02 C08L5/12 C08L5/14 C08L89/06 C08L97/02 Y10T428/232 Y10T428/249968 Y10T428/24999 Y10T442/647 Y10T442/665 B31B50/32 B31B2105/0022

European: B28B1/00 B28B1/52 B28B11/00 B28B11/00E B28B11/00E3 B28B13/02C B28B13/06 B28B23/00 B28B23/00Z B28B23/00Z1 B28B3/00 B28B3/02 B28B3/12C B28B3/20 B28B7/42 B28C7/02 B29C43/00B B29C43/02 B29C43/22 B29C43/22B B29C43/24 B29C43/36 B29C43/46 B29C51/04 B29C51/10 B29C53/06B B29C55/18 B29C67/24 B29C67/24C B29C70/50 B29C71/00C B31B1/32 B31B17/00 B31D1/00H1 B32B13/02 B32B13/04 B32B27/04 B32B27/20 B32B31/00B B32B31/00J B32B37/00 B32B37/14B B32B5/02 B65D65/38 B65D65/46C C04B16/02 C04B20/00F C04B26/00 C04B26/02 C04B26/02B C04B26/28 C04B26/28B C04B28/00 C04B28/02 C04B38/00B C04B40/00 C04B40/00D7 C08L1/28 C08L1/28F C08L3/00 C08L3/02 C08L5/02 C08L5/12 C08L5/14 C08L89/06 C08L97/02 L05C1/08P L05C1/08P2 L05C3/18 L05C5/02E L29C43/08 L29C43/36C2B L29C43/36C2B1 L29C43/36H2 L29C795/00D L29K1/00 L29K105/12 L29K105/16 L29K3/00 L29K5/00 L29K89/00 L29L24/00 L29L31/60C L29L31/7132 L31B201/26A1A L31B217/08A L65D301/20 L65D565/38Y7 M04B111/00T M04B111/00T66

US: 428/220 428/292 428/312.4 428/319.1 428/70 428/703 442/370 442/386 52/309.15 52/309.17

Family:

Publication number	Publication date	Application number	Application date
US5631097 A	19970520	US19950427684	19950424

Priority:

US19920929898 19920811 US19920982383 19921125 US19930027451 19930308
US19950427684 19950424

Probable Assignee: E KHASHOGGI IND LLC

Assignee(s): (std): KHASHOGGI E IND

Assignee(s): E KHASHOGGI IND ; E KHASHOGGI IND LLC ; E KHASHOGGI INDUSTRIES

Inventor(s): (std): ANDERSEN PER J ; HODSON SIMON K

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US5631097 A	19970520	LSGT	+	granted / extensions (spc,	

cpc, pte)					
US5631097 A	19970508	LSGT	PAT1	Patented Case	
US5631097 A	19971029	LSAS	AS	ASSIGNMENT	OWNER NAME : E. KHASHOGGI INDUSTRIES, LLC., CALIFORNIA DESCRIPTION : MERGER; ASSIGNOR:E. KHASHOGGI INDUSTRIES; REEL/FRAME:008761/0333 EFFECTIVE DATE : 19971003
US5631097 A	19980113	LSRE	CC	CERTIFICATE OF CORRECTION	
US5631097 A	20010520	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5631097 A	20010724	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20010520
US5631097 A	20150424	PEXP		Calculated Patent Term Expiry	

10) Family number: 31985228 (US5641584A)

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Title: HIGHLY INSULATIVE CEMENTITIOUS MATRICES AND METHODS FOR THEIR MANUFACTURE

Abstract: Source: US5641584A Insulation barriers incorporating a cementitious structural matrix formed from a cementitious mixture including a hydraulic cement and water. The insulation barriers are manufactured from cementitious materials in order to be lightweight, insulative, less expensive, and more environmentally compatible than those currently used; they may augment, and even take the place of, traditional insulation materials including insulations made of glass fibers, polyurethane foam, urea-formaldehyde foam, polystyrene, wood fiber, cellulose fiber, rock-wool, etc. The cementitious structural matrix of the insulation barriers usually includes a hydraulic cement paste (formed from the reaction of water with, e.g., a portland-type cement) in combination with a rheology-modifying agent, such as methylhydroxyethylcellulose, and a lightweight aggregate material, which lowers the density of the insulation barrier and increases its insulation ability. Fibrous materials may be incorporated into the cementitious mixture to increase the strength of the final product, while a discontinuous phase of nonagglomerated voids may be incorporated into the cementitious structural matrix to decrease the density and increase the insulation ability of the final product.

Classifications:

International (IPC 8-9): B28B1/00 B28B1/52 B28B11/00 B28B13/02 B28B13/06 B28B23/00 B28B3/00 B28B3/02 B28B3/12 B28B3/20 B28B7/42 B28C7/02 B29C43/00 B29C43/02 B29C43/22 B29C43/24 B29C43/36 B29C43/46 B29C51/04 B29C51/10 B29C53/06 B29C55/18 B29C67/24 B29C70/50 B29C71/00 B31B17/00 B32B13/02 B32B27/04 B32B27/20 B32B37/14 B32B5/02 B65D65/38 B65D65/46 C04B14/06 C04B16/02 C04B20/00 C04B22/04 C04B24/14 C04B24/38 C04B26/00 C04B26/02 C04B26/28 C04B28/00 C04B28/02 C04B38/00 C04B40/00 C08L1/28 C08L3/00 C08L3/02 C08L5/02 C08L5/12 C08L5/14 C08L89/06 C08L97/02 E05D1/02 (Advanced/Invention); B05C1/08 B05C3/18 B05C5/02 B29C43/08 (Advanced/Non-invention); B28B1/00 B28B1/52 B28B11/00 B28B13/00 B28B23/00 B28B3/00 B28B3/02 B28B3/20 B28B7/40 B28C7/00 B29C43/00 B29C43/02 B29C43/22 B29C43/24 B29C43/36 B29C43/44 B29C51/00 B29C51/10 B29C53/00 B29C55/18 B29C67/24 B29C70/04 B29C71/00 B31B17/00 B32B13/00 B32B27/04 B32B27/20 B32B37/14 B32B5/02 B65D65/38 B65D65/46 C04B14/02 C04B16/00 C04B20/00 C04B22/00 C04B24/00 C04B26/00 C04B28/00 C04B38/00 C04B40/00 C08L1/00 C08L3/00 C08L5/00 C08L89/00 C08L97/00 E05D1/00 (Core/Invention); B05C1/08 B05C3/00 B05C5/02 B29C43/04 (Core/Non-invention)

International (IPC 1-7): B32B13/00 C04B14/00

CPC: B32B37/144 B05C1/0826 B05C1/0834 B05C3/18 B05C5/0245 B28B1/00 B28B1/52 B28B3/00 B28B3/02 B28B3/126 B28B3/20 B28B7/42 B28B11/00 B28B11/003 B28B11/008 B28B13/021 B28B13/06 B28B23/00 B28B23/0081 B28B23/0087 B28C7/02 B29C43/003 B29C43/02 B29C43/08 B29C43/22 B29C43/222 B29C43/24 B29C43/36 B29C43/46 B29C51/04 B29C51/10 B29C53/063 B29C55/18 B29C67/24 B29C67/242 B29C70/50 B29C71/0009 B29C2043/3621 B29C2043/3623 B29C2043/3689 B29C2795/007 B29C2005/00 B29L2031/7132 B31D1/005 B32B5/02 B32B13/02 B32B27/04 B32B27/20 B32B37/00 B65D65/38 B65D65/466 B65D2301/20 B65D2565/385 C04B14/064 C04B16/02 C04B20/002 C04B20/0048 C04B22/04 C04B24/14 C04B24/38 C04B26/00 C04B26/02 C04B26/026 C04B26/28 C04B26/285 C04B28/00 C04B28/02 C04B38/0006 C04B40/00 C04B40/006 C04B2111/00612 C04B2111/00663 C04B2111/00948 C04B2111/56 C08L1/28 C08L1/286 C08L3/00 C08L3/02 C08L5/02 C08L5/12 C08L5/14 C08L89/06 C08L97/02 E05D1/02 E05Y2900/602 Y10T428/232 Y10T428/249932 Y10T428/249968 Y02W90/11 B31B50/32 B31B2105/0022

European: B28B1/00 B28B1/52 B28B11/00 B28B11/00E B28B11/00E3 B28B13/02C B28B13/06 B28B23/00 B28B23/00Z B28B23/00Z1 B28B3/00 B28B3/02 B28B3/12C B28B3/20 B28B7/42 B28C7/02 B29C43/00B B29C43/02 B29C43/22 B29C43/22B B29C43/24 B29C43/36 B29C43/46 B29C51/10 B29C53/06B B29C55/18 B29C67/24 B29C67/24C B29C70/50 B29C71/00C B31B1/32 B31B17/00 B31D1/00H1 B32B13/02 B32B27/04 B32B27/20 B32B31/00B B32B31/00J B32B37/00 B32B37/14B B32B5/02 B65D65/38 B65D65/46C C04B14/06G C04B16/02 C04B20/00D2 C04B20/00F C04B22/04 C04B24/14 C04B24/38 C04B26/00 C04B26/02 C04B26/02B C04B26/28 C04B26/28B C04B28/00 C04B28/02 C04B38/00B C04B40/00 C04B40/00D7 C08L1/28 C08L1/28F C08L3/00 C08L3/02 C08L5/02 C08L5/12 C08L5/14 C08L89/06 C08L97/02 E05D1/02 L05C1/08P L05C1/08P2 L05C3/18 L05C5/02E L29C43/08 L29C43/36C2B L29C43/36H2 L29C75/00D L29K5/00 L29L31/7132 L31B201/26A1A L31B217/08A L65D301/20 L65D565/38Y7 M04B111/00T10 M04B111/00T6 M04B111/00T66 M04B111/56 P05D1/02 P05Y900/602

US: 106/675 106/698 106/713 106/805 428/220 428/294.7 428/312.4 428/70 428/703 52/309.15 52/309.17

Family:

Publication number	Publication date	Application number	Application date
US5641584 A	19970624	US19950411391	19950328

Priority:

US19920929898 19920811 US19920982383 19921125 US19930027404 19930308
US19950411391 19950328

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Assignee(s): (std): KHASHOGGI E IND

Assignee(s): E KHASHOGGI IND ; E KHASHOGGI IND LLC ; E KHASHOGGI INDUSTRIES

Inventor(s): (std): ANDERSEN PER JUST ; HODSON SIMON K

Legal status (INPADOC)

Patent	Date recorded	Event group	Code	Event	Details
US5641584 A	19970624	LSGT	+	granted / extensions (spc, cpc, pte)	
US5641584 A	19970612	LSGT	PAT1	Patented Case	
US5641584 A	19971029	LSAS	AS	ASSIGNMENT	OWNER NAME : E. KHASHOGGI INDUSTRIES, LLC., CALIFORNIA DESCRIPTION : MERGER; ASSIGNOR:E. KHASHOGGI INDUSTRIES; REEL/FRAME:008761/0333 EFFECTIVE DATE : 19971003
US5641584 A	19980331	LSRE	CC	CERTIFICATE OF CORRECTION	
US5641584 A	20010624	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5641584 A	20010828	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20010624
US5641584 A	20150328	PEXP		Calculated Patent Term Expiry	

11) Family number: 30268601 (US2003008119A)

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Title: FIRE-RESISTANT SHEETLIKE MOLDING, FIRE-RESISTANT LAMINATE FOR COVERING STEEL, FIRE-RESISTANT STRUCTURE FOR WALL, AND METHOD FOR CONSTRUCTING FIRE-RESISTANT STEEL AND FIRE-RESISTANT WALL

Abstract: Source: US2003008119A A fire-resistant sheet-like molded article comprising a resin composition and having the relationship between the initial thickness t (mm) and temperature difference DELTAT(degrees centigrade) between one side and the reverse side after heating of said one side at 500 degrees centigrade for 1 hour as represented by: DELTAT greater than or equal to $0.015t^4 - 0.298t^3 + 1.566t^2 + 30.151t$, and having the initial bulk density at 25 degrees centigrade of 0.8 to 8.0 grams per cubic centimetre and the bulk density after 1 hour of heating at 500 degrees centigrade of 0.05 to 0.5 grams per cubic centimetre is provided along with a method of fabricating a fire-resistant structural steel and fire-resistant wall.

Classifications:

International (IPC 8-9): B32B13/14 C08J5/18 C08K3/04 C08K3/32 C08K5/49 C08L101/00 C08L21/00 C09K21/14 E04B1/94 (Advanced/Invention);

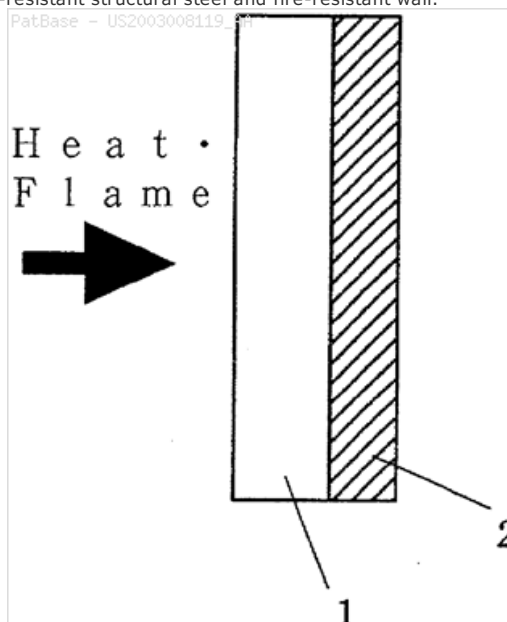
B32B13/00 C08J5/18 C08K3/00 C08K5/00 C08L101/00 C08L21/00 C09K21/00 E04B1/94 (Core/Invention)

International (IPC 1-7): B32B13/00 B32B27/36 B32B5/16 B32B7/02 C08J5/18 C08K3/04 C08K3/32 C08K5/49 C08L101/00 C08L21/00 C08L71/02 E04B1/94

CPC: Y10T428/24942 Y10T428/254 Y10T428/2495 B32B13/14 E04B1/94 E04B1/944 Y10T428/31507 B32B25/10 B32B27/20 B32B2038/0076 B32B2262/0253 B32B2262/0261 B32B2262/0276 B32B2262/062 B32B2307/3065 C09K21/14

European: B32B13/14 C09K21/14 E04B1/94 E04B1/94B2A

US: 428/212 428/212P 428/213 428/219 428/327 428/327S 428/412 428/703 524/401 525/187

**Family:**

Publication number	Publication date	Application number	Application date
CA2277991 AA	19990715	CA19972277991	19970630
CA2277991 C	20060425	CA19972277991	19970630
DE69722822 D1	20030717	DE19976022822	19970630
DE69722822 T2	20040506	DE19976022822T	19970630
DK0976780 T3	20030929	DK19970928519T	19970630
EP0976780 A1	20000202	EP19970928519	19970630
EP0976780 A4	20000920	EP19970928519	19970630
EP0976780 B1	20030611	EP19970928519	19970630
JP3363156 B1	20030108	JP19980534093T	19970630
JP3363156 B2	20030108	JP19980534093T	19970630
US2003008119 AA	20030109	US20020113939	20020402
US6410122 BA	20020625	US19990341474	19990902
US6958184 BB	20051025	US20020113939	20020402
WO9831730 A1	19980723	WO1997JP02258	19970630

Priority:

JP19970005509 19970116 JP19970005510 19970116 US20020113939 20020402
US19990341474 19990902 WO1997JP02258 19970630

Probable Assignee: SEKISUI CHEMICAL CO LTD

Assignee(s): (std): MURAOKA HITOMI ; NUMATA NORIO ; SEKISUI CHEMICAL CO LTD ; TONO MASAKI ; YAHARA KAZUYUKI ; YAMAGUCHI BUNJI

Assignee(s): SEKISUI CHEMICAL CO

Inventor(s): (std): MURAOKA HITOMI ; NUMATA NORIO ; TONO MASAKI ; YAMAGUCHI BUNJI ; YAHARA KAZUYUKI

Agent(s): RICHES MCKENZIE AND HERBERT LLP; CONNOLLY BOVE LODGE AND HUTZ LLP

Designated states: AT BE CA CH DE DK ES FI FR GB GR IE IT JP LU MC NL PT SE US

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2277991 AA	19990715	LSPB	+	published / reissued	
CA2277991 AA	19990715	LSNP	+AFNE	NATIONAL PHASE ENTRY	
CA2277991 AA	20001121	LSES	+EEER	EXAMINATION REQUEST	
CA2277991 AA	20130814	LSLE	-MKLA	LAPSED	EFFECTIVE DATE : 20130703
CA2277991 C	20060425	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2277991 C	20170630	PEXP		Calculated Patent Term Expiry	
DE69722822 D1	20040708	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69722822 T2	20040506	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69722822 T2	20170630	PEXP		Calculated Patent Term Expiry	
DK0976780 T3	20030929	LSGT	+	granted / extensions (spc, cpc, pte)	
DK0976780 T3	20170630	PEXP		Calculated Patent Term Expiry	
EP0976780 A1	20000202	LSPB	+	published / reissued	
EP0976780 A1	20000202	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19990810
EP0976780 A1	20000920	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20000803
EP0976780 A1	20010620	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20010507
EP0976780 A1	20030611	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP0976780 A1	20040602	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20040312
EP0976780 A1	20080731	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20080612 YEAR OF FEE PAYMENT : 12
EP0976780 A1	20080930	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20080626 YEAR OF FEE PAYMENT : 12
EP0976780 A1	20081031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20080603 YEAR OF FEE PAYMENT : 12
EP0976780 A1	20081031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20080609 YEAR OF FEE PAYMENT : 12
EP0976780 A1	20090227	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20080813

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EP0976780 A1	20091231	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : *SEKISUI CHEMICAL CO. LTD EFFECTIVE DATE : 20090630
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EP0976780 A1	20100301	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20100101
EP0976780 A1	20100316	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	REF COUNTRY CODE : EP
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EP0976780 A1	20160516	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 20
EP0976780 A1	20160729	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160629 YEAR OF FEE PAYMENT : 20
EP0976780 A1	20160729	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160622 YEAR OF FEE PAYMENT : 20
EP0976780 A1	20160831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160516 YEAR OF FEE PAYMENT : 20
EP0976780 A1	20170630	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R071 REF DOCUMENT NUMBER : 69722822 COUNTRY OF REF DOCUMENT : DE
EP0976780 A1	20170719	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : PE20 EXPIRY DATE : 20170629
EP0976780 A1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF EXPIRATION OF PROTECTION LAPSED DATE : 20170629
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				cpc, pte)	
EP0976780 B1	20170629	PEXP		Calculated Patent Term Expiry	
EP0976780 B1	20170630	PEXP		Calculated Patent Term Expiry	
JP3363156 B1	20030108	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3363156 B1	20170630	PEXP		Calculated Patent Term Expiry	
JP3363156 B2	20030108	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3363156 B2	20070918	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 6
JP3363156 B2	20080911	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 6
JP3363156 B2	20080916	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 7
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JP3363156 B2	20090915	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 8
JP3363156 B2	20100921	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 9
JP3363156 B2	20110920	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 10
JP3363156 B2	20120920	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 10
JP3363156 B2	20120925	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 11
JP3363156 B2	20170630	LSLE	-EXPY	CANCELLATION BECAUSE OF COMPLETION OF TERM	
JP3363156 B2	20170630	PEXP		Calculated Patent Term Expiry	
US2003008119 AA	20030109	LSPB	+	published / reissued	
US6410122 BA	20020625	LSGT	+	granted / extensions (spc, cpc, pte)	
US6410122 BA	19990902	LSAS	AS	ASSIGNMENT	OWNER NAME : SEKISUI CHEMICAL CO., LTD., JAPAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: TONO, MASAKI; YAMAGUCHI, BUNJI; YAHARA, KAZUYUKI; AND OTHERS; REEL/FRAME: 010297/0841 EFFECTIVE DATE : 19990823
US6410122 BA	20020606	LSGT	PAT1	Patented Case	
US6410122 BA	20050802	LSRE	CC	CERTIFICATE OF CORRECTION	
US6410122 BA	20051202	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6410122 BA	20091125	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8

US6410122 BA	20131127	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6410122 BA	20190902	PEXP		Calculated Patent Term Expiry	
US6958184 BB	20051025	LSGT	+	granted / extensions (spc, cpc, pte)	
US6958184 BB	20020715	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SEKISUI CHEMICAL CO., LTD., JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TONO, MASAKI; YAMAGUCHI, BUNJI; YAHARA, KAZUYUKI; AND OTHERS; REEL/FRAME:013096/0029 EFFECTIVE DATE : 20020521
US6958184 BB	20051005	LSGT	PAT1	Patented Case	
US6958184 BB	20060131	LSRE	CC	CERTIFICATE OF CORRECTION	
US6958184 BB	20090325	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6958184 BB	20130306	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6958184 BB	20170413	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6958184 BB	20221211	PEXP		Calculated Patent Term Expiry (PTA 253 days)	
WO9831730 A1	19980723	LSPB	+	published / reissued	
WO9831730 A1	19990715	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : CA REF DOCUMENT NUMBER : 2277991 KIND CODE OF REF DOCUMENT : A FORMAT OF REF DOCUMENT (F/P) : F
WO9831730 A1	19990715	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2277991 COUNTRY OF REF DOCUMENT : CA
WO9831730 A1	19990810	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1997928519 COUNTRY OF REF DOCUMENT : EP
WO9831730 A1	19990902	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 09341474 COUNTRY OF REF DOCUMENT : US
WO9831730 A1	20000202	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1997928519 COUNTRY OF REF DOCUMENT : EP
WO9831730 A1	20030611	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1997928519 COUNTRY OF REF DOCUMENT : EP

12) Family number: 15973215 (EP1180505A1)

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Title: SET ACCELERATING AGENT, SPRAYING MATERIAL AND SPRAYING METHOD EMPLOYING IT

Abstract: Source: EP1180505A1 An accelerating agent which comprises a calcium aluminate, aluminum sulfate and an alkali metal sulfate.

Classifications:

International (IPC 8-9): C04B28/02 C04B40/00 (Advanced/Invention);

C04B28/00 C04B40/00 (Core/Invention)

International (IPC 1-7): C04B103/10 C04B22/00 C04B22/14 C04B28/02

CPC: C04B28/02 C04B40/0042 C04B2103/10

European: C04B28/02 C04B40/00D4B M04B103/10

Family:

Publication number	Publication date	Application number	Application date
AT265401 E	20040515	AT20000117022T	20000808
DE60010252 D1	20040603	DE20006010252	20000808

DE60010252 T2	20040826	DE20006010252T	20000808
EP1180505 A1	20020220	EP20000117022	20000808
EP1180505 B1	20040428	EP20000117022	20000808

Priority:

EP20000117022 20000808

Probable Assignee: DENKI KAGAKU KOGYO KK

Assignee(s): (std): DENKI KAGAKU KOGYO KK

Assignee(s): DENKI KAGAKU KOGYO K K ; DENKI KAGAKU KOGYO K K TOKIO TOKYO ; DENKI KAGAKU KOGYO KABUSHIKI KAISHA

Inventor(s): (std): ISHIDA ATSUMU ; IWASAKI MASAHIRO ; TERASHIMA ISAO ; USUI EIICHI ; WATANABE AKIRA

Designated states: AT CH DE FR IT LI

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT265401 E	20040515	LSGT	+	granted / extensions (spc, cpc, pte)	
AT265401 E	20050315	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	REF DOCUMENT NUMBER : 1180505 COUNTRY OF REF DOCUMENT : EP
AT265401 E	20200808	PEXP		Calculated Patent Term Expiry	
DE60010252 D1	20050525	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60010252 T2	20040826	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60010252 T2	20200808	PEXP		Calculated Patent Term Expiry	
EP1180505 A1	20020220	LSPB	+	published / reissued	
EP1180505 A1	20020612	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20020411
EP1180505 A1	20020807	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20020621
EP1180505 A1	20021106	LSFE	+AKX	PAYMENT OF DESIGNATION FEES	TEXT : AT CH DE FR IT LI
EP1180505 A1	20161031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160802 YEAR OF FEE PAYMENT : 17
EP1180505 A1	20161031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160822 YEAR OF FEE PAYMENT : 17
EP1180505 A1	20161031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20160812 YEAR OF FEE PAYMENT : 17
EP1180505 A1	20161130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160712 YEAR OF FEE PAYMENT : 17
EP1180505 B1	20040428	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1180505 B1	20040430	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1180505 B1	20040602	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1180505 B1	20050420	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20050131

EP1180505 B1	20050504	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1180505 B1	20080625	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : CH OWNER : DENKI KAGAKU KOGYO KABUSHIKI KAISHA REF LEGAL EVENT CODE : PFA OLDPARTY : DENKI KAGAKU KOGYO KABUSHIKI KAISHA#4-1, YURAKU-CHO 1-CHOME#CHIYODA-KU TOKYO (JP) - TRANSFER TO- DENKI KAGAKU KOGYO KABUSHIKI KAISHA#4-1, YURAKU-CHO 1-CHOME#CHIYODA-KU TOKYO (JP)
EP1180505 B1	20160712	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 17
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EP1180505 B1	20170714	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 18
EP1180505 B1	20171031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170714 YEAR OF FEE PAYMENT : 18
EP1180505 B1	20171031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20170824 YEAR OF FEE PAYMENT : 18
EP1180505 B1	20171031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170801 YEAR OF FEE PAYMENT : 18
EP1180505 B1	20171031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20170814 YEAR OF FEE PAYMENT : 18
EP1180505 B1	20171130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20170725 YEAR OF FEE PAYMENT : 18
EP1180505 B1	20200808	PEXP		Calculated Patent Term Expiry	

13) Family number: 29171842 (US2003188667A)

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Title: COMPOSITE MATERIALS USING NOVEL REINFORCEMENTS

Abstract: Source: US2003188667A The present invention relates to materials used for building products, construction projects, structural objects, mechanical devices and other materials applications. Specifically, the invention concerns composite materials made with reinforcing elements in a binder matrix material. A method of strengthening materials is described that uses high volumes of reinforcing elements, which can be easily dispersed and uniformly distributed, consisting of large diameter fibers, miniature rods or other similar geometric shapes with a diameter or thickness between 0.05 mm and 20 mm where the reinforcements are incorporated either as short, randomly distributed elements or long, continuous aligned arrays.

Classifications:

International (IPC 8-9): B29C39/10 B32B13/02 B32B5/16 C04B14/10 C04B14/38 C04B14/48 C04B20/00 C04B26/02 C04B28/02 C08K3/08 E04C5/07 (Advanced/Invention)

International (IPC 1-7): C04B14/38 C04B14/42 C04B14/48

CPC: Y10T428/268 C04B20/0048 C04B26/02 C04B28/02 E04C5/073 Y10T428/249924 Y10T428/249932

European: C04B20/00F C04B26/02 C04B28/02 E04C5/07A

US: 106/643 106/643S 106/644 106/644S 106/711 106/711S 106/713 106/73 106/730 106/730S 106/731 106/731S 106/811 106/811S 264/279 264/279S 428/292.1 428/292.100S 428/294.7 428/294.700P 428/338 428/338S 523/442 523/442S

Family:

Publication number	Publication date	Application number	Application date
US2003188667 AA	20031009	US20030404031	20030402
US2012208003 AA	20120816	US20120453207	20120423
US8163081 BB	20120424	US20030404031	20030402
US8551239 BB	20131008	US20120453207	20120423

Priority:

US20020370077P 20020404 US20030404031 20030402 US20120453207 20120423

Probable Assignee: KIRBY WAYNE BEARD
Assignee(s): (std): BEARD DREW FRANKLIN ; BEARD KIRBY WAYNE
Assignee(s): KIRBY WAYNE BEARD
Inventor(s): (std): BEARD DREW FRANKLIN ; BEARD KIRBY WAYNE
Agent(s): BAY STATE IP LLC ; ADAM J; JANINE D

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2003188667 AA	20031009	LSPB	+	published / reissued	
US2003188667 AA	20041027	LSAS	AS	ASSIGNMENT	OWNER NAME : KIRBY WAYNE BEARD, PENNSYLVANIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BEARD, DREW FRANKLIN; REEL/FRAME:015928/0876 EFFECTIVE DATE : 20040817
US2012208003 AA	20120816	LSPB	+	published / reissued	
US8163081 BB	20120424	LSGT	+	granted / extensions (spc, cpc, pte)	
US8163081 BB	20041027	LSAS	AS	ASSIGNMENT	OWNER NAME : KIRBY WAYNE BEARD, PENNSYLVANIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BEARD, DREW FRANKLIN; REEL/FRAME:015928/0876 EFFECTIVE DATE : 20040817
US8163081 BB	20120404	LSGT	PAT1	Patented Case	
US8163081 BB	20151021	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8163081 BB	20230915	PEXP		Calculated Patent Term Expiry (PTA 166 days)	
US8551239 BB	20131008	LSGT	+	granted / extensions (spc, cpc, pte)	
US8551239 BB	20130918	LSGT	PAT1	Patented Case	
US8551239 BB	20170406	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8551239 BB	20320423	PEXP		Calculated Patent Term Expiry	

14) Family number: 30260648 (WO04005215A1)

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Title: CALCIUM SILICATE HARDENED ARTICLE

Abstract: A calcium silicate hardened article which has a flexural strength of 0.05 MPa or more, a heat conductivity of 0.02 to 0.1 Wm<-1>K<-1>, and an air permeability of 5 X 10<-4> to 1 m<2>h<-1>Pa<-1> or less, and exhibits dynamic insulating property.

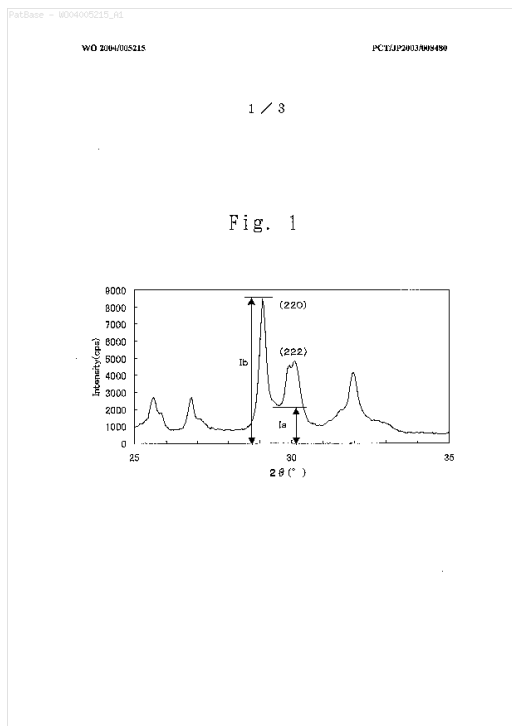
Classifications:

International (ipc 8-9): C01B33/24 C04B22/04 C04B22/14 C04B24/32 C04B24/38 C04B24/42 C04B28/04 C04B28/18 C04B38/00 C04B40/00 C09K21/02 E04B1/76 E04B1/80 (Advanced/Invention); C04B111/40 C04B22/04 C04B22/14 C04B24/00 C04B24/02 C04B24/08 C04B24/16 C04B24/26 C04B24/32 C04B24/38 C04B24/42 (Advanced/Non-invention); C04B28/00 C04B38/00 C04B40/00 C09K21/00 E04B1/76 (Core/Invention)

International (ipc 1-7): C01B33/24 C04B28/04 C04B28/18 C04B38/00 C09K21/02 E04B1/76

CPC: Y02W30/94 C04B28/18 C04B2111/00189 C04B2111/00267 C04B2201/00 C04B2201/32

European: C04B28/18 M04B111/00M20 M04B111/00P10 M04B201/00 M04B201/32



Family:

Publication number	Publication date	Application number	Application date
AU2003246260 AA	20040123	AU20030246260	20030703
CN100352786 C	20071205	CN20038015685	20030703
CN1780800 A	20060531	CN20038015685	20030703
DE10392839 B4	20080207	DE20031092839	20030703
DE10392839 T5	20050707	DE20031092839T	20030703
GB200427475 A0	20050119	GB20040027475	20030703
GB2405402 A1	20050302	GB20040027475	20030703
GB2405402 B2	20060104	GB20040027475	20030703
JP2004005215 A1	20051104	JP20040519255T	20030703
JP4343108 B1	20091014	JP20040519255T	20030703
JP4343108 B2	20091014	JP20040519255T	20030703
TW200402395 A	20040216	TW20030118237	20030703
TWI227702 B	20050211	TW20030118237	20030703
WO04005215 A1	20040115	WO2003JP08480	20030703

Priority:

JP20020194991 20020703 WO2003JP08480 20030703

Probable Assignee: ASAHI KASEI CONSTRUCTION MATERIALS CORP

Assignee(s): (std): ASAHI CHEMICAL CORP ; ASAHI CHEMICAL IND ; ASAHI KASEI CORP ; ASAHI KASEI HOMES KK ; OGAWA AKIHIRO ; MATSUYAMA HIROYOSHI

Assignee(s): ASAHI KASEI OSAKA KK ; ASAHI KASEI KK ; ASAHI KASEI HOMES CORP ; ASAHI KASEI CONSTRUCTION MATERIALS CORP

Inventor(s): (std): HIROYOSHI MATSUYAMA ; HIROYOSHI OGAWA AKIHIRO MATSUY ; MATSUYAMA HIROYOSHI ; OGAWA AKIHIRO ; AKIHIRO OGAWA

Inventor(s): OGAWA AKIHIRO MATSUYAMA HIROYOSHI

Agent(s): SAKAI MASAMI; KAGAMI NORIO; KOMATSU JUN; KOMATSU HIDEOKA

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 LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2003246260 AA	20050407	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
CN100352786 C	20071205	LSGT	+	granted / extensions (spc, cpc, pte)	
CN100352786 C	20230703	PEXP		Calculated Patent Term Expiry	
CN1780800 A	20060531	LSPB	+	published / reissued	
CN1780800 A	20060531	LSPB	+C06	PUBLICATION	
CN1780800 A	20071205	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	

DE10392839 B4	20080207	LSGT	+	granted / extensions (spc, cpc, pte)	
DE10392839 B4	20080731	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
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DE10392839 T5	20050707	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	REF DOCUMENT NUMBER : 10392839 COUNTRY OF REF DOCUMENT : DE DATE OF REF DOCUMENT : 20050707 KIND CODE OF REF DOCUMENT : P
GB2405402 A1	20050302	LSPB	+	published / reissued	
GB2405402 A1	20150325	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 20140703
GB2405402 B2	20060104	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2405402 B2	20230703	PEXP		Calculated Patent Term Expiry	
JP2004005215 A1	20051104	LSPB	+	published / reissued	
JP4343108 B1	20091014	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4343108 B1	20230703	PEXP		Calculated Patent Term Expiry	
JP4343108 B2	20091014	LSGT	+	granted / extensions (spc, cpc, pte)	
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JP4343108 B2	20061125	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A711 EFFECTIVE DATE : 20061124
JP4343108 B2	20061223	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20061127
JP4343108 B2	20090428	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20090427
JP4343108 B2	20090616	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20090615
JP4343108 B2	20090703	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP4343108 B2	20090708	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20090707
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JP4343108 B2	20090716	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20090708

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JP4343108 B2	20110512	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R350
JP4343108 B2	20120529	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20130717 YEAR OF FEE PAYMENT : 4
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TW200402395 A	20040216	LSPB	+	published / reissued	
TWI227702 B	20050211	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI227702 B	20230703	PEXP		Calculated Patent Term Expiry	
WO04005215 A1	20040115	LSPB	+	published / reissued	
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WO04005215 A1	20041215	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 0427475 COUNTRY OF REF DOCUMENT : GB KIND CODE OF REF DOCUMENT : A DESCRIPTION : PCT FILING DATE = 20030703
WO04005215 A1	20041231	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 20038156857 COUNTRY OF REF DOCUMENT : CN

15) Family number: 34194207 (US2010160505A)

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Title: RESIN COMPOSITION AND MOLDED ARTICLE MADE THEREOF

Abstract: Source: US2010160505A The present invention provides a resin composition excellent in strength, impact resistance, heat resistance and moldability and further, of low environmental load capable of decreasing CO2 exhaustion in its production. The present invention is a resin composition comprising a styrene-based resin (A), an aliphatic polyester (B) and at least one species selected from a compatibilizer (C) and a dicarboxylic anhydride (D), and the compatibilizer is preferably at least one species described below. (C-1) methyl methacrylate polymer (C-2) a vinyl-based polymer to which epoxy unit or acid anhydride unit is copolymerized (C-3) a graft polymer in which methyl methacrylate unit is grafted to a rubbery polymer (C-4) a block copolymer in which polylactide segment and a vinyl-based polymer segment

Classifications:

International (IPC 8-9): A47G27/02 B29C47/10 B32B5/02 B60N3/06 C08F279/02 C08F279/06 C08J5/00 C08K5/00 C08K5/09 C08K5/092 C08K5/1539 C08L101/16 C08L23/00 C08L23/02 C08L23/06 C08L23/12 C08L25/00 C08L25/04 C08L25/06 C08L25/08 C08L27/06 C08L33/00 C08L33/02 C08L33/04 C08L33/12 C08L51/00 C08L51/04 C08L53/00 C08L67/00 C08L67/02 C08L67/04 C08L69/00 D01D5/30 D01F6/44 D01F6/46 D01F6/92 D01F8/06 (Advanced/Invention); C08J5/00 C08L101/16 C08L25/04 C08L51/04 C08L67/00 D01D5/30 D01F8/06 (Advanced/Non-invention); A47G27/00 C08F279/00 C08J5/00 C08K5/00 C08L23/00 C08L25/00 C08L33/00 C08L51/00 C08L53/00 C08L67/00 D01F6/46 D01F6/92 (Core/Invention); B60N3/06 C08L101/00 C08L23/00 C08L33/02 C08L67/00 D01F8/06 (Core/Non-invention)

International (IPC 1-7): C08L101/16 C08L23/00 C08L25/00

CPC: C08L51/006 C08K5/092 C08L23/0853 C08L25/12 C08L33/06

C08L33/12 C08L53/00 C08L55/02 Y10T428/23993 C08L35/06

C08L23/02 C08L33/08 C08L43/04 C08L67/04 D01F1/02 D01F6/46 D01F6/92 D01F8/14 C08L51/04 C08L25/04 D01F8/06

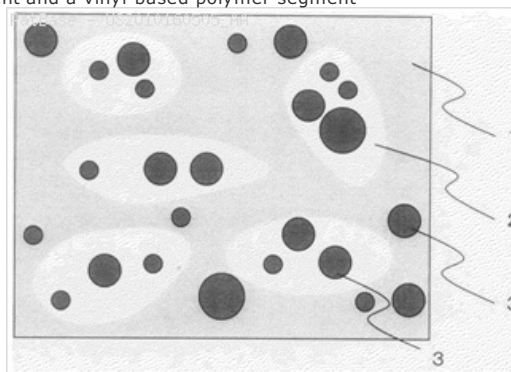
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D01F1/02 D01F6/46 D01F6/92 D01F8/06 D01F8/14 M08K5/092 M08L23/02 M08L23/08C1 M08L25/04 M08L25/12 M08L33/06

M08L33/08 M08L33/12 M08L35/06 M08L43/04 M08L51/04 M08L53/00 M08L55/02

US: 264/13 264/13S 428/97 428/97P 524/112 525/148 525/148S 525/166 525/190 525/190S 525/241 525/241S 525/64

525/64P 525/64S 525/90 525/90S



Family:

Publication number	Publication date	Application number	Application date
CN101238177 A	20080806	CN200680028747	20060731
CN101238177 B	20121226	CN200680028747	20060731
CN101838425 A	20100922	CN201010170407	20060731
CN101838425 B	20120718	CN201010170407	20060731
CN102325931 A	20120118	CN200980157276	20091221
DE602006044691 D1	20150416	DE200660044691T	20060731
EP1911807 A1	20080416	EP20060781996	20060731
EP1911807 A4	20100818	EP20060781996	20060731
EP1911807 B1	20150304	EP20060781996	20060731
EP2617766 A1	20130724	EP20130163939	20060731
JP2007063540 A2	20070315	JP20060209348	20060801
JP2007191688 A2	20070802	JP20060290423	20061025
JP2010150721 A2	20100708	JP20080332097	20081226
JP2012233200 A2	20121129	JP20120171741	20120802
JP2012237005 A2	20121206	JP20120175521	20120808
JP5140988 B2	20130213	JP20060290423	20061025
JP5228297 B2	20130703	JP20060209348	20060801
JP5229417 B2	20130703	JP20120171741	20120802
JP5494757 B2	20140521	JP20120175521	20120808
KR20080039890 A	20080507	KR20087002521	20060731
KR20110098970 A	20110902	KR20117017423	20091221
MY146562 A	20120830	MY20060003780	20060804
MY159858 A	20170215	MY20120000524	20060804
TH115435 A	20120731	TH20091005818	20091223
TW200710146 A	20070316	TW20060128278	20060802
TW201031700 A	20100901	TW20090144642	20091224
TWI396712 B	20130521	TW20060128278	20060802
US2010160505 AA	20100624	US20060989836	20060731
US2011262683 AA	20111027	US20090142161	20091221
US2011269907 AA	20111103	US20110180031	20110711
US7999021 BB	20110816	US20060989836	20060731
US8664334 BB	20140304	US20110180031	20110711
WO07015448 A1	20070208	WO2006JP315118	20060731
WO10074015 A1	20100701	WO2009JP71209	20091221

Priority:

EP20060781996	20060731	JP20050226072	20050804	JP20080332097	20081226
JP20050369377	20051222	JP20060290423	20061025	JP20060209348	20060801
WO2006JP15118	20060731	WO2006JP315118	20060731	US20080989836	20080201
US20110180031	20110711	JP20120171741	20120802	JP20120175521	20120808
WO2009JP71209	20091221				

Probable Assignee: TORAY IND INC

Assignee(s):	(std):	AIR TONY CO LTD ; KANOMATA AKINORI ; KATO YASUTAKA ; KOBAYASHI SADAYUKI ; KUMAZAWA SADANORI ; MOCHIZUKI KATSUHIKO ; OHME HIROYUKI ; TORAY INDUSTRIES ; TAMAI AKIYOSHI ; YAMAUCHI KOJI ; ONOUE YOSUKE ; TORAY IND
Assignee(s):		TORAY INDUSTRIES INC ; TORAY INDUSTRIES INC JP ; TORAY IND INC
Inventor(s):	(std):	YOSUKE ONOUE ; YASUTAKA KATO ; SADAYUKI KOBAYASHI ; SADANORI KUMAZAWA ; ONOUE YOSUKE ; MOCHIZUKI KATSUHIKO ; KOJI YAMAUCHI ; KATSUHIKO MOCHIZUKI ; KATO YASUTAKA ; HIROYUKI OHME ; AKIYOSHI TAMAI ; AKINORI KANOMATA ; KOBAYASHI SADAYUKI ; KUMAZAWA SADANORI ; OHME HIROYUKI ; TAMAI AKIYOSHI ; YAMAUCHI KOJI ; ONOE YOSUKE ; OOME HIROKAZU ; KANOMATA AKINORI ; OME HIROCHI
Inventor(s):		KANOMATA AKINORI AND ; KANOMATA AKINORI NAGOYA SHI ; OHME HIROYUKI MIDORI KU NAGOYA SHI ; KUMAZAWA SADANORI NAGOYA SHI ; KOBAYASHI SADAYUKI NAGOYA SHI ; YAMAUCHI KOJI NAGOYA SHI ; TAMAI AKIYOSHI NAGOYA SHI
Agent(s):		LEINWEBER AND ZIMMERMANN; WEBSTER JEREMY MARK ET AL; WEBSTER JEREMY MARK; BIRCH STEWART KOLASCH AND BIRCH; BIRCH STEWART KOLASCH AND BIRCH 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 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 TZ 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN101238177 A	20080806	LSPB	+	published / reissued	
CN101238177 A	20080806	LSPB	+C06	PUBLICATION	
CN101238177 A	20121226	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101238177 B	20121226	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101238177 B	20260731	PEXP		Calculated Patent Term Expiry	
CN101838425 A	20100922	LSPB	+	published / reissued	

CN101838425 A	20100922	LSPB	+C06	PUBLICATION	
CN101838425 A	20120718	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101838425 A	20170915	LSLE	-CF01	TERMINATION OF PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
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CN101838425 B	20260731	PEXP		Calculated Patent Term Expiry	
CN102325931 A	20120118	LSPB	+	published / reissued	
CN102325931 A	20120118	LSPB	+C06	PUBLICATION	
CN102325931 A	20130710	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
EP1911807 A1	20080416	LSPB	+	published / reissued	
EP1911807 A1	20080416	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20080222
EP1911807 A1	20160831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160525 YEAR OF FEE PAYMENT : 11
EP1911807 A1	20161031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160525 YEAR OF FEE PAYMENT : 11
EP1911807 A4	20100818	LSSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20100715
EP1911807 A4	20110511	LSSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20110407
EP1911807 A4	20141112	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20141015
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EP1911807 B1	20260731	PEXP		Calculated Patent Term Expiry	
EP2617766 A1	20130724	LSPB	+	published / reissued	
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EP2617766 A1	20140423	LSSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20140320
EP2617766 A1	20150624	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20150601
EP2617766 A1	20150701	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20150608
EP2617766 A1	20160413	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20151020
JP2007063540 A2	20070315	LSPB	+	published / reissued	
JP2007063540 A2	20090708	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20090707
JP2007063540 A2	20110830	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110830
JP2007063540 A2	20111028	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111027
JP2007063540 A2	20120117	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120117
JP2007063540 A2	20120508	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20120508
JP2007063540 A2	20120803	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120802
JP2007063540 A2	20120813	LSAL	A911	TRANSFER OF RECONSIDERATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A911

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JP2007063540 A2	20120918	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120918
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JP2007063540 A2	20130219	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130219
JP2007063540 A2	20130325	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130304
JP2007063540 A2	20130329	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20160329 YEAR OF FEE PAYMENT : 3
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JP2007191688 A2	20091015	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20091014
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JP2007191688 A2	20111026	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111025
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JP2007191688 A2	20120413	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120412
JP2007191688 A2	20120426	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20120425
JP2007191688 A2	20120619	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120619
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JP2010150721 A2	20140304	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20140304
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JP2012233200 A2	20130206	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012233200 A2	20130219	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130219
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JP2012237005 A2	20140129	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012237005 A2	20140204	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20140204
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JP5140988 B2	20091015	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20091014
JP5140988 B2	20110830	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110830
JP5140988 B2	20111026	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111025
JP5140988 B2	20120124	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20120124
JP5140988 B2	20120413	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120412
JP5140988 B2	20120426	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20120425
JP5140988 B2	20120619	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120619
JP5140988 B2	20120809	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120808
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JP5140988 B2	20121025	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01
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JP5228297 B2	20090708	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20090707
JP5228297 B2	20110830	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110830
JP5228297 B2	20111028	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111027
JP5228297 B2	20120117	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120117
JP5228297 B2	20120508	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20120508
JP5228297 B2	20120803	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120802
JP5228297 B2	20120813	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20120810
JP5228297 B2	20120918	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120918
JP5228297 B2	20130206	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP5228297 B2	20130219	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130219
JP5228297 B2	20130325	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130304
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JP5229417 B2	20130703	LSGT	+	granted / extensions (spc, cpc, pte)	
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JP5229417 B2	20130219	LSGT	+A01	REJECTION WRITTEN WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130219
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JP5494757 B2	20140521	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5494757 B2	20320808	PEXP		Calculated Patent Term Expiry	
KR20080039890 A	20080507	LSPB	+	published / reissued	
KR20080039890 A	20110517	LSES	A201	REQUEST FOR EXAMINATION	
KR20080039890 A	20130328	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20080039890 A	20130925	LSRV	-E90F	NOTIFICATION OF REASON FOR FINAL REFUSAL	
KR20080039890 A	20140325	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20080039890 A	20140619	LSRE	AMND	AMENDMENT	
KR20080039890 A	20140811	LSGT	+B701	DECISION TO GRANT	
KR20110098970 A	20110902	LSPB	+	published / reissued	
KR20110098970 A	20150122	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
MY146562 A	20120830	LSGT	+	granted / extensions (spc, cpc, pte)	
MY146562 A	20260804	PEXP		Calculated Patent Term Expiry	
MY159858 A	20170215	LSGT	+	granted / extensions (spc, cpc, pte)	
MY159858 A	20260804	PEXP		Calculated Patent Term Expiry	
TH115435 A	20120731	LSPB	+	published / reissued	
TW200710146 A	20070316	LSPB	+	published / reissued	
TW201031700 A	20100901	LSPB	+	published / reissued	
TWI396712 B	20130521	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI396712 B	20160221	LSLE	-MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES	
TWI396712 B	20260802	PEXP		Calculated Patent Term Expiry	
US2010160505 AA	20100624	LSPB	+	published / reissued	
US2010160505 AA	20080201	LSAS	AS	ASSIGNMENT	OWNER NAME : TORAY INDUSTRIES, INC.,JAPAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KUMAZAWA, SADANORI; TAMAI, AKIYOSHI; OHME, HIROYUKI AND OTHERS; SIGNED BETWEEN 20080129 AND 20080130; REEL/FRAME:20521/57

US2010160505 AA	20080201	LSAS	AS	ASSIGNMENT	OWNER NAME : TORAY INDUSTRIES, INC., JAPAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: KUMAZAWA, SADANORI; TAMAI, AKIYOSHI; OHME, HIROYUKI; AND OTHERS; SIGNING DATES FROM 20080129 TO 20080130; REEL/FRA:020521/0057	
US2011262683 AA	20111027	LSPB	+	published / reissued		
US2011262683 AA	20110711	LSAS	AS	ASSIGNMENT	OWNER NAME : TORAY INDUSTRIES, INC., JAPAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: MOCHIZUKI, KATSUHIKO; KATO, YASUTAKA; KUMAZAWA, SADANORI; AND OTHERS; SIGNING DATES FROM 20110613 TO 20110623; REEL/FRA:026570/0132	
US2011262683 AA	20130404	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action		
US2011269907 AA	20111103	LSPB	+	published / reissued		
US7999021 BB	20110816	LSGT	+	granted / extensions (spc, cpc, pte)		
US7999021 BB	20080201	LSAS	AS	ASSIGNMENT	OWNER NAME : TORAY INDUSTRIES, INC., JAPAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: KUMAZAWA, SADANORI; TAMAI, AKIYOSHI; OHME, HIROYUKI; AND OTHERS; SIGNING DATES FROM 20080129 TO 20080130; REEL/FRA:020521/0057	
US7999021 BB	20080201	LSAS	AS	ASSIGNMENT	OWNER NAME : TORAY INDUSTRIES, INC., JAPAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: KUMAZAWA, SADANORI; TAMAI, AKIYOSHI; OHME, HIROYUKI; AND OTHERS; SIGNING DATES FROM 20080129 TO 20080130; REEL/FRA:020521/0057	
US7999021 BB	20110727	LSGT	PAT1	Patented Case		
US7999021 BB	20150204	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US7999021 BB	20260731	PEXP		Calculated Patent Term Expiry		
US8664334 BB	20140304	LSGT	+	granted / extensions (spc, cpc, pte)		
US8664334 BB	20140212	LSGT	PAT1	Patented Case		
US8664334 BB	20170824	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US8664334 BB	20320216	PEXP		Calculated Patent Term Expiry (PTA 220 days)		
WO07015448 A1	20070208	LSPB	+	published / reissued		
WO07015448 A1	20080201	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 11989836 COUNTRY OF REF DOCUMENT : US	
WO07015448 A1	20080205	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE	
WO10074015 A1	20100701	LSPB	+	published / reissued		
WO10074015 A1	20110627	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE	
WO10074015 A1	20110711	LSNP	+WWE	WIPO INFORMATION:	REF DOCUMENT NUMBER : 13142161	

				ENTRY INTO NATIONAL PHASE	COUNTRY OF REF DOCUMENT : US
WO10074015 A1	20110725	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20117017423 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A
WO10074015 A1	20120118	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 09834816 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1

16) Family number: 47030039 (US2010251632A)

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Title: CEMENTITIOUS ARTICLES, FORMULATIONS, METHODS OF MAKING AND USES

Abstract: Source: US2010251632A Described herein is a monolithic cementitious article with one or more pre-formed shaped regions. The shaped regions are generally channels that extend through a portion of the article or span the full article. The article includes one or more openings at least one of its ends. The article has a low apparent density with a high strength as well as high performance characteristics. The article when manufactured is suitable for use as a building product, such as siding, panel, trim, fascia, roofing, crown moulding, decking, and fencing.

Classifications:

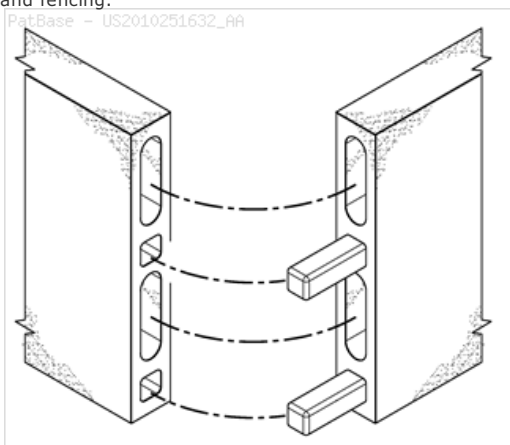
International (IPC 8-9): B28B11/04 B28B11/08 B28B11/24 B28B3/20 B28B3/26 B32B1/00 B32B13/02 B32B3/06 B32B3/26 B32B3/30 B32B5/00 B32B5/02 C04B14/02 C04B14/06 C04B14/38 C04B16/02 C04B16/06 C04B20/02 C04B28/02 C04B38/00 C04B7/00 E04B1/20 E04B1/38 E04B1/70 E04D13/152 E04F13/14 E04F15/08 E04F19/02 E04F19/04 F16B5/00 (Advanced/Invention); B28B11/08 B28B11/12 C04B103/10 C04B103/48 C04B111/40 E04F19/04 (Advanced/Non-invention)

CPC: C04B2103/54 C04B2103/67 C04B18/24 C04B22/04 C04B18/146 C04B2103/44 C04B7/345 C04B22/106 C04B2103/65 C04B16/06 C04B22/085 C04B18/141 C04B14/06 C04B14/10 C04B22/124 C04B24/122 C04B38/08 C04B18/08 C04B24/383 B28B3/26 B28B11/08 B28B11/125 C04B20/02 C04B28/02 C04B2103/10 C04B2103/48 C04B2111/40 C04B2201/20 E04D13/152 E04F13/141 E04F15/08 E04F19/04 E04F2019/0418 E04F2201/0505 F16B5/0024 Y10T428/131 Y10T428/24008 Y10T428/24479 Y10T428/26 Y10T428/24999 Y10T442/10 Y02W30/92 Y02W30/94 Y02W30/97 Y10T428/249921

European: B28B3/26 C04B20/02 C04B28/02 E04D13/152 E04F13/14B E04F15/08 E04F19/04 F16B5/00A1D L28B11/08 L28B11/12B M04B103/10 M04B103/48 M04B111/40 M04B201/20 P04F19/04A6 P04F201/05A

US: 106/638 106/638S 264/133 264/133S 264/145 264/145S 264/211.12 264/211.120S 428/156 428/156S 428/220 428/220S 428/221 428/221S 428/319.1 428/319.100S 428/332 428/332S 428/34.4 428/34.400S 428/99 428/99S 442/1 442/1S 52/287.1 52/716.1 52/717.01 52/745.21 52/745.210S 52/848 52/95 52/95P

PatBase - US2010251632_A1



Family:

Publication number	Publication date	Application number	Application date
AU2010232366 AA	20101007	AU20100232366	20100405
AU2010232366 BB	20150716	AU20100232366	20100405
CA2757467 AA	20101007	CA20102757467	20100405
CA2757467 C	20170328	CA20102757467	20100405
DE602010029020 D1	20151224	DE201060029020T	20100405
EP2414301 A1	20120208	EP20100759554	20100405
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KR101705388 B1	20170209	KR20117026177	20100405
KR20120004507 A	20120112	KR20117026177	20100405
NZ595137 A	20140926	NZ20100595137	20100405
US2010251632 AA	20101007	US20100754567	20100405
US8904732 BB	20141209	US20100754567	20100405
WO10115212 A1	20101007	WO2010US30016	20100405

Priority:

EP20100759554 20100405 US20090166427P 20090403 US20100754567 20100405
WO2010US30016 20100405

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Assignee(s): (std): CHEN HONG ; HARDIE JAMES TECHNOLOGY LTD ; JAMES HARDIE TECH LTD ; JIANG CHONGJUN ; REN SHAN ; SUASNABAR DANIEL JOSE ; WALTERS BRYAN LOUIS ; LUO CAIDIAN ; KEUM JONG MIN

Assignee(s): JAMES HARDIE TECHNOLOGY LIMITED ; JAMES HARDIE TECHNOLOGY LTD

Inventor(s): (std): CAIDIAN LUO ; CHEN HONG ; CHONGJUN JIANG ; HONG CHEN ; JIANG CHONGJUN ; JOSE SUASNABAR DANIEL ; KEUM JONG MIN ; LOUIS WALTERS BRYAN ; LUO CAIDIAN ; MIN KEUM JONG ; REN SHAN ; SHAN REN ; SUASNABAR DANIEL JOSE ; WALTERS BRYAN LOUIS

Agent(s): SHELSTON IP; SHELSTON IP PTY LTD; BLAKE CASSELS AND GRAYDON LLP; GARDERE JHTL GARDERE WYNNE SEWELL LLP; KNOBBE MARTENS OLSON AND BEAR LLP; VANDER MOLEN MONIQUE 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 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

Legal status (INPADOC)
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Patent	Date recorded	Event group	Code	Event	Details
AU2010232366 AA	20151112	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2010232366 BB	20300405	PEXP		Calculated Patent Term Expiry	
CA2757467 AA	20101007	LSPB	+	published / reissued	
CA2757467 AA	20141211	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20141126
CA2757467 C	20170328	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2757467 C	20300405	PEXP		Calculated Patent Term Expiry	
EP2414301 A1	20120208	LSPB	+	published / reissued	
EP2414301 A1	20120208	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20111102
EP2414301 A1	20131225	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20131127
EP2414301 A1	20131225	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C04B 14/02 20060101AFI20131121BHEP
EP2414301 A1	20140806	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20140703
EP2414301 A1	20150916	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : E04F 19/04 20060101ALI20150807BHEP
EP2414301 A1	20150916	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : E04F 15/08 20060101ALI20150807BHEP
EP2414301 A1	20150916	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C04B 20/02 20060101ALI20150807BHEP
EP2414301 A1	20150916	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : B28B 3/26 20060101AFI20150807BHEP
EP2414301 A1	20150916	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : E04D 13/152 20060101ALI20150807BHEP
EP2414301 A1	20150916	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C04B 28/02 20060101ALI20150807BHEP
EP2414301 A1	20150923	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20150825
EP2414301 A1	20151111	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2414301 A1	20151113	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2414301 A1	20151202	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2414301 A1	20151215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 760218 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20151215

EP2414301 A1	20151224	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602010029020 COUNTRY OF REF DOCUMENT : DE
EP2414301 A1	20160309	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 7
EP2414301 A1	20160310	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2414301 A1	20160415	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 760218 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20151111
EP2414301 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : HR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : NO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160211
EP2414301 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IS NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160311
EP2414301 A1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LV NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160531	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT : PT

				CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160311
EP2414301 A1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : PL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160212
EP2414301 A1	20160531	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160330 YEAR OF FEE PAYMENT : 7
EP2414301 A1	20160531	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160309 YEAR OF FEE PAYMENT : 7
EP2414301 A1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160729	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160330 YEAR OF FEE PAYMENT : 7
EP2414301 A1	20160810	LSOP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R026 REF DOCUMENT NUMBER : 602010029020 COUNTRY OF REF DOCUMENT : DE
EP2414301 A1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : EE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : SM NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION

				POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160430
EP2414301 A1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : RO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20160914	LSOP	-26	OPPOSITION FILED	PARTYTYPE : OPPONENT OPPONENT : REDCO N.V. EFFECTIVE DATE : 20160810
EP2414301 A1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20161130	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2414301 A1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151111
EP2414301 A1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160405
EP2414301 A1	20170125	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2414301 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160430
EP2414301 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160430
EP2414301 A1	20170313	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 8
EP2414301 A1	20170428	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170313 YEAR OF FEE PAYMENT : 8
EP2414301 A1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160405
EP2414301 A1	20170731	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170405 YEAR OF FEE PAYMENT : 8

EP2414301 A1	20170731	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170329 YEAR OF FEE PAYMENT : 8
EP2414301 B1	20151111	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2414301 B1	20300405	PEXP		Calculated Patent Term Expiry	
JP2012522916 T2	20120927	LSPB	+	published / reissued	
KR101705388 B1	20170209	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101705388 B1	20300405	PEXP		Calculated Patent Term Expiry	
KR20120004507 A	20120112	LSPB	+	published / reissued	
KR20120004507 A	20141210	LSES	A201	REQUEST FOR EXAMINATION	
KR20120004507 A	20160523	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20120004507 A	20161227	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20120004507 A	20170203	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
NZ595137 A	20140926	LSPB	+	published / reissued	
NZ595137 A	20150130	LSGT	+PSEA	PATENT SEALED	
NZ595137 A	20150327	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 3 YEARS UNTIL 05 APR 2017 BY CPA GLOBAL EFFECTIVE DATE : 20150320
NZ595137 A	20170331	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 05 APR 2018 BY CPA GLOBAL EFFECTIVE DATE : 20170303
US2010251632 AA	20101007	LSPB	+	published / reissued	
US2010251632 AA	20100716	LSAS	AS	ASSIGNMENT	OWNER NAME : JAMES HARDIE TECHNOLOGY LIMITED, IRELAND DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CHEN, HONG; JIANG, CHONGJUN; KEUM, JONG MIN; AND OTHERS; SIGNING DATES FROM 20100407 TO 20100417; REEL/FRAME:024701/0124
US8904732 BB	20141209	LSGT	+	granted / extensions (spc, cpc, pte)	
US8904732 BB	20141119	LSGT	PAT1	Patented Case	
US8904732 BB	20311229	PEXP		Calculated Patent Term Expiry (PTA 633 days)	
WO10115212 A1	20101007	LSPB	+	published / reissued	
WO10115212 A1	20110912	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010232366 COUNTRY OF REF DOCUMENT : AU
WO10115212 A1	20110912	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 595137 COUNTRY OF REF DOCUMENT : NZ
WO10115212 A1	20110930	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012503775 COUNTRY OF REF DOCUMENT : JP

WO10115212 A1	20110930	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2757467 COUNTRY OF REF DOCUMENT : CA
WO10115212 A1	20111004	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO10115212 A1	20111006	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2010232366 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20100405 KIND CODE OF REF DOCUMENT : A
WO10115212 A1	20111102	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20117026177 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A

17) Family number: 48740967 (US2012196081A)

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Title: NEW BINDER COMPOSITION

Abstract: Source: US2012196081A The invention relates to a new binder composition which is particularly suitable for the manufacture of composite materials utilizing such new binder composition in the required nonwoven materials. Composite materials using such new binder composition in their nonwoven part are suitable, in particular, for composites materials for interior construction, for linings, floor coverings, and for the manufacture of furniture and similar products.

Classifications:

International (IPC 8-9): B05D3/02 B32B17/02 B32B18/00 B32B19/00 B32B21/06 B32B27/02 B32B29/00 B32B29/02 B32B3/12 B32B5/02 B44C3/02 C08L23/00 C08L23/04 C08L23/06 C08L23/10 C08L23/12 C08L61/28 C08L75/04 C09J161/00 C09J161/06 C09J161/28 D04H1/64 (Advanced/Invention); C08L23/00 C08L75/04 (Advanced/Non-invention)

CPC: C08L23/04 C08L23/06 C08L23/10 C08L23/12 C08L2666/06 C08L23/00 C08L75/04 C09J161/06 C09J161/28 C08L2666/20 Y10T428/24149 Y10T428/31993 Y10T442/20 Y10T442/2762 Y10T442/2861 Y10T442/2975 Y10T442/2992 C09J161/00

European: C09J161/00 C09J161/06 C09J161/28 M08L23/00 M08L75/04

US: 156/324 156/324S 156/63 156/63S 427/389.9 427/389.900S 428/116 428/116P 428/537.5 428/537.500S 442/152 442/152S 442/164 442/164S 442/178 442/178S 442/180 442/180S 442/59 442/59S 525/164 525/164S

Family:

Publication number	Publication date	Application number	Application date
CA2774624 AA	20120319	CA20102774624	20100924
CA2774624 C	20140708	CA20102774624	20100924
EP2486104 A1	20120815	EP20100763259	20100924
US2012196081 AA	20120802	US20100496271	20100924
US2017335153 AA	20171123	US20170666160	20170801
US9803116 BB	20171031	US20100496271	20100924
WO11043937 A1	20110414	WO2010US50166	20100924

Priority:

US20090249916P 20091008 US20100496271 20100924 WO2010US50166 20100924
US20170666160 20170801 US20120496271 20120406

Probable Assignee: JOHNS MANVILLE

Assignee(s): (std): GLEICH KLAUS FRIEDRICH ; JOHNS MANVILLE ; MIELE PHILIP FRANCIS ; KETZER MICHAEL

Assignee(s): JOHNS MANVILLE717 SEVENTEENTH STREETDENVERCO80202US

Inventor(s): (std): MIELE PHILIP FRANCIS ; KETZER MICHAEL ; GLEICH KLAUS FRIEDRICH

Inventor(s): GLEICH KLAUS FRIEDRICHUS ; KETZER MICHAELDE ; MIELE PHILIP FRANCISUS

Agent(s): MACRAE AND CO; MAI DOERR BESIER; ROBERT D; TOUSLEE ROBERT D 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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
CA2774624 AA	20120319	LSPB	+	published / reissued	
CA2774624 AA	20120319	LSSES	+EEER	EXAMINATION REQUEST	
CA2774624 AA	20120504	LSSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20120319
CA2774624 C	20140708	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2774624 C	20300924	PEXP		Calculated	

					Patent Term Expiry
EP2486104 A1	20120815	LSPB	+	published / reissued	
EP2486104 A1	20120815	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20120322
EP2486104 A1	20140806	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20140703
US2012196081 AA	20120802	LSPB	+	published / reissued	
US2012196081 AA	20120406	LSAS	AS	ASSIGNMENT	OWNER NAME : JOHNS MANVILLE, COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GLEICH, KLAUS FRIEDRICH; MIELE, PHILIP FRANCIS; KETZER, MICHAEL; SIGNING DATES FROM 20120316 TO 20120406; REEL/FRAME:028003/0426
US2012196081 AA	20170221	LSES	NFA1	Non Final Action Mailed	
US2012196081 AA	20170706	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2012196081 AA	20170926	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017335153 AA	20171123	LSPB	+	published / reissued	
US9803116 BB	20171031	LSGT	+	granted / extensions (spc, cpc, pte)	
US9803116 BB	20171011	LSGT	PAT1	Patented Case	
US9803116 BB	20331127	PEXP		Calculated Patent Term Expiry (PTA 1160 days)	
WO11043937 A1	20110414	LSPB	+	published / reissued	
WO11043937 A1	20120319	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2774624 COUNTRY OF REF DOCUMENT : CA
WO11043937 A1	20120319	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2774624 COUNTRY OF REF DOCUMENT : CA
WO11043937 A1	20120406	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 13496271 COUNTRY OF REF DOCUMENT : US
WO11043937 A1	20120410	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

18) Family number: 51144724 (US8187423B)

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Title: FIBER REINFORCED COMPOSITES

Abstract: Source: US8187423B In one aspect, the invention is directed to an efficient and economical process for dispersing fiber in water and clay. In another aspect, the process for dispersing fiber in water and clay is used in methods of making fiber reinforced composite products. In another aspect, the dispersed fiber/clay material is formulated to make products which include, but which are not limited to, fiber reinforced thermoplastic composites, paperboard products, kitty litter, and/or lightweight building materials comprising fiber.

Classifications:

International (IPC 8-9): D21H11/00 (Advanced/Invention)

CPC: D21H17/67 B29C70/443 D21H13/00 D21H17/20 E04C2/22

European: B29C70/44A D21H13/00 D21H17/20 D21H17/67 E04C2/22

US: 162/141 162/145 162/181.8 264/316 264/320 264/322 264/328.1 264/333 264/544

Family:

Publication number	Publication date	Application number	Application date
US8187423 BA	20120529	US20060431496	20060509

Priority:

US20060431496 20060509

Probable Assignee: US AGRICULTURE

Assignee(s): (std): GLENN GREGORY M ; LUDVIK CHARLES N ; US AGRICULTURE

Assignee(s): THE UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY OF AGRICULTURE ; SECRETARY OF AGRICULTURE US GOV AS ; SECRETARY OF AGRICULTURE AS US GOV ; AGRICULTURE US GOV SECRETARY OF AS

Inventor(s): (std): GLENN GREGORY M ; LUDVIK CHARLES N

Agent(s): LESLIE; ELIZABETH R; JOHN D

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US8187423 BA	20120529	LSGT	+	granted / extensions (spc, cpc, pte)	
US8187423 BA	20060714	LSAS	AS	ASSIGNMENT	OWNER NAME : AGRICULTURE, UNITED STATES OF AMERICA, AS REPRESENTED BY THE SECRETARY OF AGRICULTURE; DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GLENN, GREGORY M.; LUDVIK, CHARLES N.; REEL/FRAME:017949/0416 EFFECTIVE DATE : 20060712
US8187423 BA	20120509	LSGT	PAT1	Patented Case	
US8187423 BA	20151130	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8187423 BA	20280913	PEXP		Calculated Patent Term Expiry (PTA 858 days)	

19) Family number: 52076185 (US2014031494A)

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Title: POLYCARBONATE RESIN COMPOSITION AND MOLDED ARTICLE THEREOF

Abstract: Source: US2014031494A The present invention relates to a polycarbonate resin composition, comprising: a polycarbonate resin containing a structural unit derived from a dihydroxy compound having a moiety represented by the following formula (1) [provided that a case where the moiety represented by formula (1) is a moiety constituting -CH₂-O-H is excluded]; and an elastomer composed of a core-shell structure, wherein a core layer of the elastomer is at least one member selected from the group consisting of an alkyl (meth)acrylate and a (meth)acrylic acid, and a polycarbonate resin molded article obtained by molding the polycarbonate resin composition: ?CH₂-O?(1)

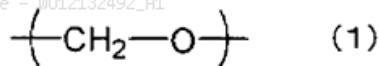
Classifications:

International (IPC 8-9): B29C45/00 C08G63/48 C08G64/02 C08G64/20 C08J5/00 C08L33/06 C08L51/00 C08L51/04 C08L51/06 C08L69/00 (Advanced/Invention); B29K69/00 C08G63/91 C08G64/02 (Advanced/Non-invention)

CPC: C08L51/04 C08L51/06 C08L69/00

US: 525/67 528/370 528/371

PatBase - W012132492_A1



Family:

Publication number	Publication date	Application number	Application date
CN103476868 A	20131225	CN201280016261	20120112
CN103476868 B	20151125	CN201280016261	20120112
EP2692798 A1	20140205	EP20120764334	20120112
EP2692798 A4	20140910	EP20120764334	20120112
EP3196252 A1	20170726	EP20170155431	20120112
JP2012214692 A2	20121108	JP20120005148	20120113
JP5970822 B2	20160817	JP20120005148	20120113
KR20140014207 A	20140205	KR20137025793	20120112
TW201241085 A	20121016	TW20120101508	20120113
TW201704289 A	20170201	TW20160127547	20120113
TWI554569 B	20161021	TW20120101508	20120113
US2014031494 AA	20140130	US20130041883	20130930
US8895663 BB	20141125	US20130041883	20130930
WO12132492 A1	20121004	WO2012JP50494	20120112

Priority:

EP20120764334 20120112 JP20110079415 20110331 JP20120005148 20120113
WO2012JP50494 20120112

Probable Assignee: MITSUBISHI CHEMICAL CORP

Assignee(s): (std): MITSUBISHI CHEM CORP ; SASAKI HARUO ; TANAKA TOMOHIKO

Assignee(s): MITSUBISHI CHEMICAL CORP ; MITSUBISHI CHEMICALS CORP ; MITSUBISHI RAYON CO LTD

Inventor(s): (std): TANAKA TOMOHIKO ; SASAKI HARUO ; SASAKI KAZUO

Agent(s): VOSSIUS AND PARTNER; VOSSIUS AND PARTNER PATENTANWAELTE RECHTSANWAELTE MBB; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP; HAMADA YURIKO 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 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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
CN103476868 A	20131225	LSPB	+	published / reissued	
CN103476868 A	20131225	LSPB	+C06	PUBLICATION	
CN103476868 B	20151125	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103476868 B	20151125	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103476868 B	20171017	LSAS	CP01	CHANGE IN THE NAME OR TITLE OF A PATENT HOLDER	
CN103476868 B	20171017	LSAS	TR01	TRANSFER OF PATENT RIGHT	
CN103476868 B	20320112	PEXP		Calculated Patent Term Expiry	
EP2692798 A1	20140205	LSPB	+	published / reissued	
EP2692798 A1	20140205	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20131023
EP2692798 A1	20140910	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20140808
EP2692798 A1	20140910	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C08G 64/02 20060101ALI20140804BHEP
EP2692798 A1	20140910	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C08L 69/00 20060101AFI20140804BHEP
EP2692798 A1	20140910	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C08L 51/00 20060101ALI20140804BHEP
EP2692798 A1	20151230	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20151125
EP2692798 A1	20170830	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	PARTYTYPE : OWNER OWNER : MITSUBISHI CHEMICAL CORPORATION
EP3196252 A1	20170726	LSPB	+	published / reissued	
EP3196252 A1	20170726	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20170309
EP3196252 A1	20170830	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	PARTYTYPE : OWNER OWNER : MITSUBISHI CHEMICAL CORPORATION
JP2012214692 A2	20121108	LSPB	+	published / reissued	
JP5970822 B2	20160817	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5970822 B2	20141018	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20141017
JP5970822 B2	20141018	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20141017
JP5970822 B2	20150610	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150609
JP5970822 B2	20150806	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150806
JP5970822 B2	20151021	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20151020

JP5970822 B2	20151211	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20151211
JP5970822 B2	20160322	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20160322
JP5970822 B2	20160331	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160331
JP5970822 B2	20160606	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP5970822 B2	20160614	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20160614
JP5970822 B2	20160721	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20160627
JP5970822 B2	20160722	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5970822 COUNTRY OF REF DOCUMENT : JP
JP5970822 B2	20170905	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	TEXT : JAPANESE INTERMEDIATE CODE: R313111
JP5970822 B2	20170913	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	TEXT : JAPANESE INTERMEDIATE CODE: R350
JP5970822 B2	20320113	PEXP		Calculated Patent Term Expiry	
KR20140014207 A	20140205	LSPB	+	published / reissued	
KR20140014207 A	20170104	LSSES	A201	REQUEST FOR EXAMINATION	
TW201241085 A	20121016	LSPB	+	published / reissued	
TW201704289 A	20170201	LSPB	+	published / reissued	
TWI554569 B	20161021	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI554569 B	20320113	PEXP		Calculated Patent Term Expiry	
US2014031494 AA	20140130	LSPB	+	published / reissued	
US8895663 BB	20141125	LSGT	+	granted / extensions (spc, cpc, pte)	
US8895663 BB	20131009	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MITSUBISHI CHEMICAL CORPORATION, JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SASAKI, HARUO; TANAKA, TOMOHIKO; REEL/FRAME:031369/0573 EFFECTIVE DATE : 20130918
US8895663 BB	20141105	LSGT	PAT1	Patented Case	
US8895663 BB	20170904	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MITSUBISHI RAYON CO., LTD., JAPAN OLDPARTY : MERGER; ASSIGNOR:MITSUBISHI CHEMICAL CORPORATION; REEL/FRAME:043750/0207 EFFECTIVE DATE : 20170401
US8895663 BB	20170905	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MITSUBISHI CHEMICAL CORPORATION, JAPAN OLDPARTY : CHANGE OF NAME; ASSIGNOR:MITSUBISHI RAYON CO., LTD.; REEL/FRAME:043750/0834 EFFECTIVE DATE : 20170401

US8895663 BB	20330930	PEXP		Calculated Patent Term Expiry	
WO12132492 A1	20121004	LSPB	+	published / reissued	
WO12132492 A1	20130930	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20137025793 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A
WO12132492 A1	20130930	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

20) Family number: 52076194 (US2014031493A)

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Title: POLYCARBONATE RESIN COMPOSITION AND MOLDED ARTICLE THEREOF

Abstract: Source: US2014031493A The present invention relates to a polycarbonate resin composition, comprising: a polycarbonate resin containing a structural unit derived from a dihydroxy compound having a moiety represented by the following formula (1) [provided that a case where the moiety represented by formula (1) is a moiety constituting -CH₂-O-H is excluded]; and an elastomer composed of a core-shell structure, wherein a core layer of the elastomer is composed of a butadiene-styrene copolymer, and a polycarbonate resin molded article obtained by molding the polycarbonate resin composition: ?CH₂-O?(1)

Classifications:

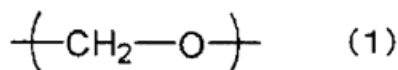
International (IPC 8-9): C08G64/00 C08G64/02 C08J5/00 C08J7/00 C08L25/10 C08L51/00 C08L51/06 C08L53/02 C08L69/00 (Advanced/Invention); C08G18/70 C08G64/02 C08L51/04 C08L55/02 (Advanced/Non-invention)

CPC: C08L51/04 C08L55/02 C08L69/00

European: C08L69/00 M08L51/04 M08L55/02

US: 525/67 528/370 528/371 528/67

PatBase - WO12132493_A1



Family:

Publication number	Publication date	Application number	Application date
CN103459499 A	20131218	CN201280016308	20120112
CN103459499 B	20151125	CN201280016308	20120112
EP2692797 A1	20140205	EP20120763864	20120112
EP2692797 A4	20140910	EP20120763864	20120112
EP3196253 A1	20170726	EP20170155456	20120112
JP2012214693 A2	20121108	JP20120005149	20120113
JP5853712 B2	20160209	JP20120005149	20120113
KR20140014206 A	20140205	KR20137025792	20120112
TW201241041 A	20121016	TW20120101509	20120113
TW201639899 A	20161116	TW20160125975	20120113
TWI554545 B	20161021	TW20120101509	20120113
US2014031493 AA	20140130	US20130041482	20130930
US8889790 BB	20141118	US20130041482	20130930
WO12132493 A1	20121004	WO2012JP50495	20120112

Priority:

EP20120763864 20120112 JP20110079416 20110331 JP20120005149 20120113
WO2012JP50495 20120112

Probable Assignee: MITSUBISHI CHEMICAL CORP

Assignee(s): (std): MITSUBISHI CHEM CORP ; SASAKI HARUO ; TANAKA TOMOHIKO

Assignee(s): MITSUBISHI CHEMICAL CORP ; MITSUBISHI CHEMICALS CORP ; MITSUBISHI RAYON CO LTD

Inventor(s): (std): SASAKI HARUO ; TANAKA TOMOHIKO ; SASAKI KAZUO

Agent(s): VOSSIUS AND PARTNER; VOSSIUS AND PARTNER PATENTANWALTE RECHTSANWALTE MBB; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP; HAMADA YURIKO 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 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

21) Family number: 53990365 (US2014356606A)

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Title: LIGHTWEIGHT EXTRUDED CEMENTITIOUS MATERIAL AND METHOD OF MAKING THE SAME

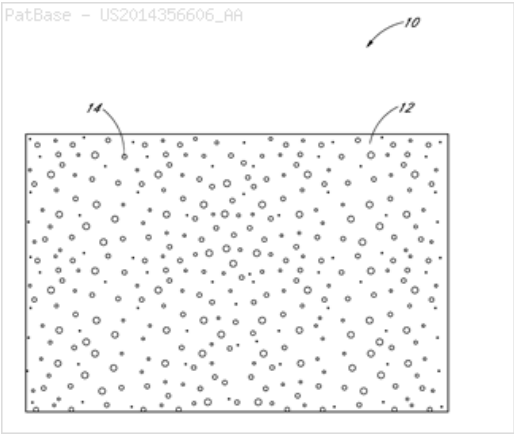
Abstract: Source: US2014356606A Embodiments of the present disclosure are directed to a low density monolithic fiber cement article that incorporates controlled air entrainment evenly distributed throughout the article to improve various physical properties of the article. In some implementations, air entrainment agents are used to create voids in the article, thereby lowering the density and weight of the boards while maintaining adequate strength. In some implementations, the air entrainment agents can be added in solution to create a foam, or can be used to generate a pre-foam, which can be added to a cementitious paste. The cementitious paste incorporating the air entrainment agent can proceed through an extrusion process, experiencing high pressures, where the voids remain in the final monolithic fiber cement board.

Classifications:

International (IPC 8-9): B28B1/50 B28B1/52 B28B23/02 B28B3/00 B28B3/20 B32B13/02 C04B16/02 C04B16/06 C04B28/00 C04B28/02 C04B28/04 C04B38/00 C04B7/00 C4B28/00 (Advanced/Invention); C04B11/00 C04B11/40 (Advanced/Non-invention)

CPC: C04B16/0633 B28B23/02 C04B7/00 C04B16/02 B28B1/50

B28B1/52 B28B3/20 C04B28/02 C04B2111/00129 C04B2111/40
Y02W30/97 C04B14/06 C04B18/24 C04B38/0051 C04B38/0061
C04B38/0067 C04B38/10 C04B2103/304 C04B2103/44 C04B38/02
US: 1/1 106/122 264/42 428/220 524/8



Family:

Publication number	Publication date	Application number	Application date
CA2854366 AA	20140501	CA20122854366	20121130
EP2785502 A1	20141008	EP20120853221	20121130
EP2785502 A4	20151125	EP20120853221	20121130
US2014356606 AA	20141204	US20120361666	20121130
US9382156 BB	20160705	US20120361666	20121130
WO13082524 A1	20130606	WO2012US67440	20121130

Priority:

US20110565453P 20111130 US20120361666 20121130 WO2012US67440 20121130

Probable Assignee: JAMES HARDIE TECHNOLOGY LTD

Assignee(s): (std): HARDIE JAMES TECHNOLOGY LTD

Assignee(s): JAMES HARDIE TECHNOLOGY LIMITED ; JAMES HARDIE TECHNOLOGY LTD ; JAMES HARDIE TECHNOLOGY LTDEUROPA HOUSE, SECOND FLOORHARCOURT CENTRE, 2DUBLINIE ; MEHTA BHAVIN ; KEUM JONGMIN ; REN SHAN ; BATTLES EOIN

Inventor(s): (std): BATTLES EOIN ; KEUM JONGMIN ; MEHTA BHAVIN ; REN SHAN

Inventor(s): REN SHANUS ; MEHTA BHAVINUS ; KEUM JONGMINUS ; BATTLES EOINUS

Agent(s): BLAKE CASSELS AND GRAYDON LLP; WALSH TRIONA MARY; KNOBBE MARTENS OLSON AND BEAR LLP; ALTMAN DANIEL E

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
CA2854366 AA	20140501	LSPB	+	published / reissued	
EP2785502 A1	20141008	LSPB	+	published / reissued	
EP2785502 A1	20141008	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140328
EP2785502 A1	20151125	LSSES	+RA4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20151023
EP2785502 A1	20151125	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : B28B 3/00 20060101AFI20151019BHEP
EP2785502 A1	20151125	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C04B 16/06 20060101ALI20151019BHEP
EP2785502 A1	20151125	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : B28B 1/50 20060101ALI20151019BHEP
EP2785502 A1	20151125	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C04B 28/00 20060101ALI20151019BHEP
EP2785502 A1	20151125	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C04B 7/00 20060101ALI20151019BHEP
EP2785502 A1	20151125	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : B28B

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EP2785502 A1	20170412	LSSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20170309	
US2014356606 AA	20141204	LSPB	+	published / reissued		
US2014356606 AA	20140708	LSAS	AS	ASSIGNMENT	OWNER NAME : JAMES HARDIE TECHNOLOGY LIMITED, IRELAND DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:REN, SHAN; KEUM, JONGMIN; MEHTA, BHAVIN; AND OTHERS; SIGNINGDATES FROM 20121205 TO 20121213; REEL/FRAME:033266/0967	
US9382156 BB	20160705	LSGT	+	granted / extensions (spc, cpc, pte)		
US9382156 BB	20160615	LSGT	PAT1	Patented Case		
US9382156 BB	20321130	PEXP		Calculated Patent Term Expiry		
WO13082524 A1	20130606	LSPB	+	published / reissued		
WO13082524 A1	20140501	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2854366 COUNTRY OF REF DOCUMENT : CA	
WO13082524 A1	20140530	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE	

22) Family number: 58802617 (US2016230827A)

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Title: FRICTION MATERIAL

Abstract: Source: US2016230827A The present invention addresses the problem of providing a friction material for a disc brake pad, which is able to secure effective braking performance and wear resistance during the high speed and high load braking while satisfying laws and regulations relating to copper content. The solution to this problem is using a non-asbestos organic (NAO) friction material for a disc brake pad, which is formed by molding a friction material composition comprising a fiber base material, a binder, and a friction modifier, and specially comprising, as an inorganic friction modifier, 1-10 weight percent of one or any combination of two or more of aluminum particles, aluminum fibers, alloy particles mainly containing aluminum, and alloy fibers mainly containing aluminum relative to the total amount of the friction material composition, 5-20 weight percent of hard inorganic particles with an average particle diameter of 1-20 micro m and a Mohs hardness of 4.5 or more, and copper content of less than 0.5 weight percent.

Classifications:

International (IPC 8-9): C08L101/06 C09K3/14 F16D69/02 (Advanced/Invention);
F16D69/02 (Core/Invention)

CPC: F16D2200/0086 C08L101/06 F16D2200/0026 F16D2200/003 F16D69/026 F16D2200/0069

US: 523/153

Family:

Publication number	Publication date	Application number	Application date
CN105531496 A	20160427	CN201480050717	20140909
EP3048325 A1	20160727	EP20140845270	20140909
EP3048325 A4	20170419	EP20140845270	20140909
IN201627008264 A	20160715	IN201627008264	20160309
JP2015059125 A2	20150330	JP20130191473	20130917
JP5753561 B2	20150722	JP20130191473	20130917
KR20160058102 A	20160524	KR20167006431	20140909
TH165875 A	20170810	TH20161001487	20140909
US2016230827 AA	20160811	US20140022564	20140909

Priority:

JP20130191473 20130917 WO2014JP73779 20140909

Probable Assignee: NISSHINBO BRAKE INC

Assignee(s): (std): NISSHINBO BRAKE INC

Inventor(s): (std): IWAI TOMOMI ; KAJI SHINYA ; YAMAGAMI RYO ; YAMAGAMI RYOSUKE ; KAJIMA YA

Agent(s): ISARPATENT; FUNAKOSHI KOKO 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 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

Legal status (INPADOC)
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Patent	Date recorded	Event group	Code	Event	Details
CN105531496 A	20160427	LSPB	+	published / reissued	
CN105531496 A	20160427	LSPB	+C06	PUBLICATION	
EP3048325 A1	20160727	LSPB	+	published / reissued	
EP3048325 A1	20160727	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20160316
EP3048325 A1	20170419	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20170320
EP3048325 A1	20170419	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : F16D 69/02 20060101AFI20170314BHEP
IN201627008264 A	20160715	LSPB	+	published / reissued	
JP2015059125 A2	20150330	LSPB	+	published / reissued	
JP2015059125 A2	20150317	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150317
JP2015059125 A2	20150317	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20150317
JP2015059125 A2	20150421	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2015059125 A2	20150519	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20150519
JP2015059125 A2	20150528	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20150522
JP5753561 B2	20150722	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5753561 B2	20330917	PEXP		Calculated Patent Term Expiry	
KR20160058102 A	20160524	LSPB	+	published / reissued	
TH165875 A	20170810	LSPB	+	published / reissued	
US2016230827 AA	20160811	LSPB	+	published / reissued	
US2016230827 AA	20160317	LSAS	AS	ASSIGNMENT	OWNER NAME : NISSHINBO BRAKE INC., JAPAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KAJI, SHINYA; YAMAGAMI, RYO; IWAI, TOMOMI; SIGNING DATES FROM 20160315 TO 20160316; REEL/FRAME:038005/0853

US2016230827 AA	20170221	LSES	NFA1	Non Final Action Mailed	
WO15041098 A1	20150326	LSPB	+	published / reissued	
WO15041098 A1	20160310	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20167006431 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO15041098 A1	20160317	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15041098 A1	20160317	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 15022564 COUNTRY OF REF DOCUMENT : US

23) Family number: 60056561 (US2016347662A)

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Title: LIGHTWEIGHT THERMAL INSULATING CEMENT BASED MATERIALS

Abstract: Source: US2016347662A A lightweight thermal insulating cement-based material is formed from a mixture that includes cement, water and a foaming agent. The foaming agent can be an aluminum powder or a surfactant. The insulating material has a maximum use temperature of about 900 degrees Celsius or more.

Classifications:

International (IPC 8-9): B28B1/50 B28B11/04 B28B11/08 B28B11/12 C04B14/04 C04B20/00 C04B22/04 C04B24/24 C04B24/38 C04B28/00 C04B28/04 C04B28/06 C04B28/18 C04B28/32 C04B28/34 E04B1/80 (Advanced/Invention); C04B11/00 (Advanced/Non-invention)

CPC: C04B2111/28 C04B2201/32 Y02P40/165 Y02W30/97 C04B28/065 C04B22/04 C04B20/0048 C04B24/24 C04B24/38 C04B24/383 B28B1/50 B28B11/08 B28B11/048 B28B11/12 E04B1/80 C04B2111/40 C04B28/04 C04B28/006 C04B28/06 C04B28/32 C04B28/34 C04B2201/30

US: 252/62

Family:

Publication number	Publication date	Application number	Application date
AU2015214356 AA	20150813	AU20150214356	20150204
CA2938670 AA	20160803	CA20152938670	20150204
CN106573839 A	20170419	CN201580011503	20150204
EP3102551 A1	20161214	EP20150746011	20150204
EP3102551 A4	20171101	EP20150746011	20150204
US2016347662 AA	20161201	US20150116763	20150204
WO15119987 A1	20150813	WO2015US14360	20150204

Priority:

US20140001753P 20140522 US20140935393P 20140204 WO2015US14360 20150204
US20150116763 20150204

Probable Assignee: INTELLECTUAL GORILLA GMBH

Assignee(s): (std): DANIELS EVAN R ; INTELLECTUAL GORILLA BV ; INTELLECTUAL GORILLA GMBH

Assignee(s): ANDERSEN PER JUST

Inventor(s): (std): DANIELS EVAN R ; ANDERSEN PER JUST

Agent(s): PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; SHAPIRO COHEN LLP; MUELLER BORE AND PARTNER PATENTANWALTE PARTG MBB; CHALKER DANIEL 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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2938670 AA	20160803	LSPB	+	published / reissued	
CA2938670 AA	20160817	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20160803
CN106573839 A	20170419	LSPB	+	published / reissued	
CN106573839 A	20170419	LSPB	PB01	PUBLICATION	
EP3102551 A1	20161214	LSPB	+	published / reissued	
EP3102551 A1	20161214	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20160811
EP3102551 A4	20171101	LSES	+A4	DESPATCH OF	EFFECTIVE DATE : 20171004

					SUPPLEMENTARY SEARCH REPORT
EP3102551 A4	20171101	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C04B 28/06 20060101ALI20170926BHEP
EP3102551 A4	20171101	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C04B 14/04 20060101ALI20170926BHEP
EP3102551 A4	20171101	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C04B 111/00 20060101ALI20170926BHEP
EP3102551 A4	20171101	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C04B 22/04 20060101AFI20170926BHEP
EP3102551 A4	20171101	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C04B 28/04 20060101ALI20170926BHEP
EP3102551 A4	20171101	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C04B 28/18 20060101ALI20170926BHEP
US2016347662 AA	20161201	LSPB	+	published / reissued	
US2016347662 AA	20170202	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THE INTELLECTUAL GORILLA GMBH, SWITZERLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INTELLECTUAL GORILLA B.V.; REEL/FRAME:041152/0693 EFFECTIVE DATE : 20150709
US2016347662 AA	20170202	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTELLECTUAL GORILLA B.V., NETHERLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ANDERSEN, PER JUST; DANIELS, EVAN R.; SIGNING DATES FROM 20140516 TO 20140520; REEL/FRAME:041152/0630
WO15119987 A1	20150813	LSPB	+	published / reissued	
WO15119987 A1	20160803	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2938670 COUNTRY OF REF DOCUMENT : CA
WO15119987 A1	20160804	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15119987 A1	20160804	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 15116763 COUNTRY OF REF DOCUMENT : US
WO15119987 A1	20160901	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2015214356 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20150204 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :

24) Family number: 61062955 (US2017113971A)

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Title: EXTRUDED CEMENT BASED MATERIALS

Abstract: Source: US2017113971A An extrudable cement-based material formed from a mixture that includes cement, water, gypsum, secondary materials, reinforcement fibers and rheology modifying agent. The extrudable cement-based material is a lightweight material that has a density in the range of about 1.4 to 2.4 grams per cubic centimetre, a compressive strength in the range of about 5 to 100 MPa, and a flexural strength in the range of about 5 to 35 MPa. Note that the cement may contain gypsum such that the gypsum is not added to the mixture.

Classifications:

International (IPC 8-9): B28B11/16 B28B11/24 C04B14/10 C04B14/36 C04B16/02 C04B16/06 C04B18/08 C04B18/14 C04B20/00 C04B28/14 (Advanced/Invention)

CPC: C04B28/02 C04B28/04 C04B2103/20 Y02W30/92 Y02W30/94 Y02W30/97 C04B20/0048 B28B11/243 B28B11/16 C04B2103/0079 C04B28/14 C04B2103/22 C04B2111/00129 C04B2111/40

US: 156/244.18

Family:

Publication number	Publication date	Application number	Application date
AU2015269315 AA	20151210	AU20150269315	20150605
CA2985505 AA	20171108	CA20152985505	20150605
CN106715356 A	20170524	CN201580033711	20150605
EP3157884 A1	20170426	EP20150803724	20150605
US2017113971 AA	20170427	US20150315536	20150605
WO15188054 A1	20151210	WO2015US34397	20150605

Priority:

US20140007984P 20140605 US20150315536 20150605 WO2015US34397 20150605

Probable Assignee: INTELLECTUAL GORILLA GMBH

Assignee(s): (std): DANIELS EVAN ; DANIELS EVAN R ; INTELLECTUAL GORILLA BV ; INTELLECTUAL GORILLA GMBH

Assignee(s): ANDERSEN PER JUST

Inventor(s): (std): ANDERSEN PER JUST ; DANIELS EVAN R

Agent(s): PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; SHAPIRO COHEN LLP; MUELLER BORE AND PARTNER PATENTANWALTE PARTG MBB; CHALKER DANIEL 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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2015269315 AA	20170202	LSAS	HB	ALTERATION OF NAME IN REGISTER	PARTYTYPE : OWNER OWNER : THE INTELLECTUAL GORILLA GMBH OLDPARTY : FORMER NAME(S): THE INTELLECTUAL GORILLA GMBH; DANIELS, EVAN
CA2985505 AA	20171108	LSPB	+	published / reissued	
CA2985505 AA	20171123	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20171108
CN106715356 A	20170524	LSPB	+	published / reissued	
CN106715356 A	20170524	LSPB	PB01	PUBLICATION	
EP3157884 A1	20170426	LSPB	+	published / reissued	
EP3157884 A1	20170426	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20161229
US2017113971 AA	20170427	LSPB	+	published / reissued	
US2017113971 AA	20170201	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THE INTELLECTUAL GORILLA GMBH, SWITZERLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INTELLECTUAL GORILLA B.V.; REEL/FRAME:041147/0396 EFFECTIVE DATE : 20150709
US2017113971 AA	20170201	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTELLECTUAL GORILLA B.V., NETHERLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ANDERSEN, PER JUST; DANIELS, EVAN R.; REEL/FRAME:041147/0330 EFFECTIVE DATE : 20140729
WO15188054 A1	20151210	LSPB	+	published / reissued	
WO15188054 A1	20161201	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 15315536 COUNTRY OF REF DOCUMENT : US
WO15188054 A1	20161205	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15188054 A1	20170119	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2015269315 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20150605 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :

25) Family number: 61322304 (WO16002603A1)

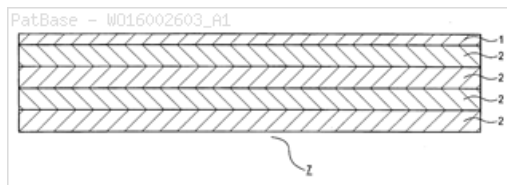
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Title: DECORATIVE BOARD

Abstract: A decorative board provided with a decorative layer and a core material. The decorative layer is provided with decorative paper, a resin layer in contact with the decorative paper, and a photoluminescent substance contained in the resin layer. The photoluminescent substance contains: (a) a photoluminescent substance (A) in which at least a center part comprises a non-translucent substance; and (b) a photoluminescent substance (B) having a center part comprising a translucent substance and a coating layer coating the center part.

Classifications:

International (IPC 8-9): B32B27/00 B32B27/04 B32B27/10 B32B27/20 B32B27/42 B32B33/00 B32B5/28 D21H17/51 D21H17/67 D21H19/38 D21H19/52 D21H27/30 (Advanced/Invention); B32B27/04 (Core/Invention)
CPC: B32B5/28 B32B27/04 B32B27/20 B32B27/42 B32B33/00 D21H17/51 D21H17/67 D21H27/30



Family:

Publication number	Publication date	Application number	Application date
CN106660335 A	20170510	CN201580035543	20150624
IN201737000675 A	20170505	IN201737000675	20170106
JP2016026925 A2	20160218	JP20150126735	20150624
JP5931252 B2	20160608	JP20150126735	20150624
TH167394 A	20170907	TH20161007789	20150624
TW201604015 A	20160201	TW20150120285	20150624
WO16002603 A1	20160107	WO2015JP68229	20150624

Priority:

JP20140138739 20140704 JP20140141843 20140710 JP20150126735 20150624
WO2015JP68229 20150624

Probable Assignee: AICA KOGYO CO LTD

Assignee(s): (std): AICA KOGYO CO LTD

Assignee(s): AICA KOGYO CO

Inventor(s): (std): ISHIDA KAZUHIRO ; KAWAGITA EIKI ; KAWAKITA HIDEO ; KURASAWA MASAKI ; NAGAO TAKANORI

Agent(s): NAGOYA 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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN106660335 A	20170510	LSPB	+	published / reissued	
CN106660335 A	20170510	LSPB	PB01	PUBLICATION	
IN201737000675 A	20170505	LSPB	+	published / reissued	
JP2016026925 A2	20160218	LSPB	+	published / reissued	
JP2016026925 A2	20151126	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20151126
JP2016026925 A2	20160210	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20160209
JP2016026925 A2	20160310	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160310
JP2016026925 A2	20160407	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2016026925 A2	20160412	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A	DESCRIPTION : JAPANESE

				REGISTRATION (UTILITY MODEL)	INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20160412
JP2016026925 A2	20160506	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20160426
JP5931252 B2	20160608	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5931252 B2	20350624	PEXP		Calculated Patent Term Expiry	
TH167394 A	20170907	LSPB	+	published / reissued	
TW201604015 A	20160201	LSPB	+	published / reissued	
WO16002603 A1	20160107	LSPB	+	published / reissued	
WO16002603 A1	20170104	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO16002603 A1	20170802	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 15814278 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

26) Family number: 67231849 (US2017296707A)

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Title: MOLDED PARTS WITH THERMOPLASTIC CELLULOSE BIOPOLYMER COMPOSITIONS HAVING ORIENTED FIBERS FOR MEDICAL DEVICES AND IMPLANTS

Abstract: Source: US2017296707A A longitudinal extending body with oriented fibers comprised of an organic compound, preferably cellulose fibers, with a hydrophilic and hydrophobic polymer having absorbable and non resorbable qualities in the body, with an internal construction to promote cell growth. The longitudinal body has at least one wall having oriented fiber to include cellulose fiber extending the length of said body. This extending body has a surface that is smooth to the touch for additional processing methods such as machining, compression molding and 3 D printing.

Classifications:

International (IPC 8-9): A61L31/04 A61L31/06 C08L23/02 C08L77/00 (Advanced/Invention)

CPC: A61L31/06 C08L77/00 A61L31/042 A61L31/048 C08L23/02

Family:

Publication number	Publication date	Application number	Application date
US2017296707 AA	20171019	US20160330961	20160111

Priority:

US20150125113P 20150114 US20160330961 20160111

Probable Assignee: JOYCE ROBERT CURT

Assignee(s): (std): JOYCE ROBERT CURT

Inventor(s): (std): JOYCE ROBERT CURT

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2017296707 AA	20171019	LSPB	+	published / reissued	