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Results: 30

Search history

Search pn=(US20120186633) (Results 1)

1:

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1) Family number: 3142040 (US4860509A)

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Title: PHOTOVOLTAIC CELLS IN COMBINATION WITH SINGLE PLY ROOFING MEMBRANES

Abstract: A combination form of flexible roofing material including a reinforced single-ply membrane base for being adhered to the roof substrate. On the base is laminated a structurally flexible layer of solar cells encapsulated and sealed in a flexible intermediate layer of solar radiation transparent plastic protected by a cover layer of weather-proof solar transparent plastic. The roofing is constructed for being manufactured in elongate sheets, rolled up for transport to the site and installed by conventional methods including sealing to adjacent sheets of similar single-ply membrane material which may or may not incorporate solar cells. This is continued until the roof covering is complete. Examples are given for reinforced plastic sheet, modified bituminous sheet, and elastomeric sheet roofing materials as well as for a wide variety of solar cells materials together with methods for fabricating these materials into the roofing system disclosed.

Classifications:

International (IPC 8-9): E04D13/18 H01L31/0392

H01L31/048 (Advanced/Invention);

E04D13/18 H01L31/036 H01L31/048 (Core/Invention)

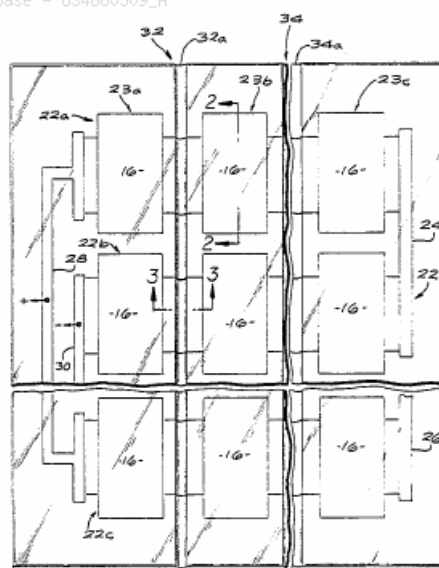
International (IPC 1-7): E04D13/18

CPC: Y10S136/291 H01L31/03926 Y02B10/12 Y02E10/50 H02S20/23 H01L31/048

European: H01L31/0392 H01L31/0392E H01L31/048 H01L31/048B Y02B10/12 Y02E10/50

US: 136/245 136/251 136/291 257/E31.041 52/173.3 52/173R

PatBase - US4860509_A



Family:

Publication number	Publication date	Application number	Application date
US4860509 A	19890829	US19870050966	19870518

Priority:

US19870050966 19870518

Probable Assignee: SOLAR ROOFING SYSTEMS INC

Assignee(s): (std): LAALY HESHMAT O ; STEVENSON EDWARD J

Assignee(s): SOLAR ROOFING SYSTEMS INC

Inventor(s): (std): LAALY HESHMAT O ; STEVENSON EDWARD J

2) Family number: 13380334 (GB2322827A)

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Title: MANUFACTURING AN INSULATING PANEL

Abstract: A backing sheet 12 (2 in figure 3) is led from one of two top sheet coil stations (13,14). An outer sheet 15 (3 in figure 3) is led from one of two top sheet coil stations (16,17) or from the second backing tray coil station (14). A joint between the end of a backing sheet or of a outer sheet from one coil and a backing sheet or outer sheet from the start of another coil is made to provide a continuous course of backing and outer sheet. The sheets (12,15) are then profiled prior to preheating. A release material may be applied after profiling and before preheating. Liquid foam reactants are laid down on the sheet 15 with tapes applied to side edges to prevent spillage. The sheet 12 is then applied and the reactants are

expanded in an oven to form a composite panel. An edge seal is applied to one longitudinal side edge of the panel.

Classifications:

International (ipc 8-9): B29C44/12 B29C44/32

E04C2/292 (Advanced/Invention);

B29C44/00 B29C44/02 E04C2/26 (Core/Invention)

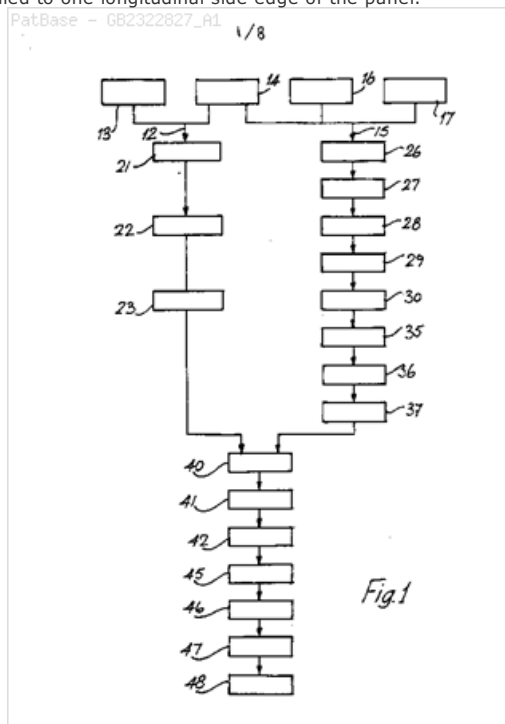
International (ipc 1-7): B29C44/32 B32B3/04 B32B5/20 E04B1/62 E04C2/292 E04C2/38

CPC: B29C44/326 B29C44/329 B32B5/20 B29C44/12 B32B7/04

B32B15/046 B32B38/0004 B32B2266/0278 B32B2307/304

B32B2607/00 B32B3/06 B32B2311/30 E04C2/292

European: B29C44/12 B29C44/32 E04C2/292



Family:

Publication number	Publication date	Application number	Application date
GB2309412 A1	19970730	GB19960001458	19960125
GB2309412 B2	19981216	GB19960001458	19960125
GB2322827 A1	19980909	GB19980009811	19960125
GB2322827 B2	19981216	GB19980009811	19960125
GB9601458 A0	19960327	GB19960001458	19960125
GB9809811 A0	19980708	GB19980009811	19960125
IE67786 B3	19960417	IE19960000060	19960122
IE960060 A2	19960417	IE19960000060	19960122

Priority:

IE19960000060 19960122 GB19960001458 19960125 GB19980009811 19960125

Probable Assignee: KINGSPAN RES AND DEV LTD

Assignee(s): (std): KINGSPAN RES AND DEV LTD

Assignee(s): KINGSPAN RESEARCH AND DEVELOPMENTS LIMITED ; KINGSPAN RESEARCH AND DEVELOPMENTS LTD

Inventor(s): (std): MCCARTHY EOIN T ; MCDONALD PATRICK

Inventor(s): PATRICK MCDONALD ; EOIN T MCCARTHY

3) Family number: 28619057 (US6215060B)

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Title: METHOD FOR MANUFACTURING A SOLAR CELL MODULE

Abstract: In order to ensure long-term reliability when a photovoltaic element is bent or curved to be deformed: (1) In a method for manufacturing a solar cell module having a photovoltaic element encapsulated with a resin on a support member, the step is adopted which forms a bent portion in the photovoltaic element and in the support member, wherein the formation of the bent portion is performed while reducing a working pressure in the normal direction to a surface of the photovoltaic element; and (2) In a solar cell module comprising a photovoltaic element comprising at least one photoactive semiconductor layer on a flexible substrate, at least a part of the flexible substrate is subjected to tensile deformation in the direction parallel to a surface of the substrate with a strain less than a critical strain to lower the fill factor of the photovoltaic element, whereby the photovoltaic element is deformed.

Classifications:

International (ipc 8-9): B29D99/00 E04D13/18 H01L31/0352

H01L31/04 H01L31/042 H01L31/048 H01L31/18 (Advanced/Invention);

B29K105/32 H01L31/04 (Advanced/Non-invention);

B29D99/00 E04D13/18 H01L31/0248 H01L31/04 H01L31/042

H01L31/18 (Core/Invention)

International (ipc 1-7): B29D31/00 B29K105/32 E04D13/18

H01L25/00 H01L31/02 H01L31/0203 H01L31/0216 H01L31/0352

H01L31/04 H01L31/042 H01L31/048 H01L31/048 H01L31/18

CPC: B32B17/10788 B32B17/04 Y02E10/548 Y10T156/1002

Y10T156/1028 Y10T156/1041 Y10T156/1048 Y10T156/1049

H01L31/18 B32B27/08 B32B27/308 B32B2262/101 Y02B10/12

Y02E10/50 Y02P70/521 H01L31/048

European: B32B17/04 B32B17/10G36 B32B27/08 B32B27/30D

H01L31/048 H01L31/18 L32B262/10A Y02B10/12 Y02E10/50

Y02E10/54N

US: 136/244 136/251 136/259 156/196 156/212 156/220 156/224

156/226 438/64 438/66

FIG. 1A

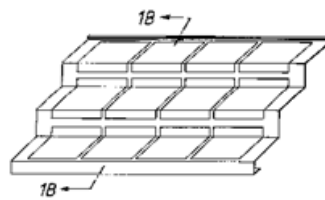


FIG. 1B

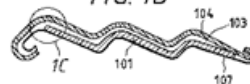
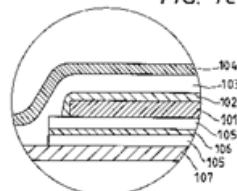


FIG. 1C

**Family:**

Publication number	Publication date	Application number	Application date
AU199862817 A1	19981022	AU19980062817	19980420
AU200179474 A1	20020103	AU20010079474	20011017
AU200179474 A5	20020103	AU20010079474D	20011017
AU741432 B2	20011129	AU19980062817	19980420
AU768216 B2	20031204	AU20010079474	20011017
CN1197297 A	19981028	CN19981006389	19980421
CN1205676 C	20050608	CN19981006389	19980421
DE69824786 D1	20040805	DE19986024786	19980420
DE69824786 T2	20050714	DE19986024786T	19980420
EP0874404 A2	19981028	EP19980107132	19980420
EP0874404 A3	19990203	EP19980107132	19980420
EP0874404 B1	20040630	EP19980107132	19980420
ES2221694 T3	20050101	ES19980107132T	19980420
JP10294486 A2	19981104	JP19970103225	19970421
JP11097727 A2	19990409	JP19970258532	19970924
JP3679548 B2	20050803	JP19970103225	19970421
JP3754806 B2	20060315	JP19970258532	19970924
KR19980081593 A	19981125	KR19980014218	19980421
US6215060 BA	20010410	US19980062642	19980420
US6288324 BA	20010911	US20000706878	20001107

Priority:

JP19970103225 19970421	JP19970258532 19970924	AU19980062817 19980420
US19980062642 19980420	US20000706878 20001107	AU20010079474 20011017

Probable Assignee: CANON INC**Assignee(s):** (std): CANON K K ; CANON KABUSHIKI KAISHA ; CANON KK**Assignee(s):** CANON INC**Inventor(s):** (std): AKIHARU TAKABAYASHI ; AYAKO KOMORI ; FUKAE KIMITOSHI ; KIMITOSHI FUKAE ; KOMORI AYAKO ; MASAHIRO MORI ; MIMURA TOSHIHIKO ; MORI MASAHIRO ; SHIOZUKA AYAKO ; TAKABAYASHI AKIHARU ; TAKABAYASHI MEIJI ; TAKADA KENJI ; TAKADA TAKESHI ; TAKESHI TAKADA ; TOSHIHIKO MIMURA**Agent(s):** SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD**Designated states:** AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE**4) Family number: 11264759 (US6311436B)**

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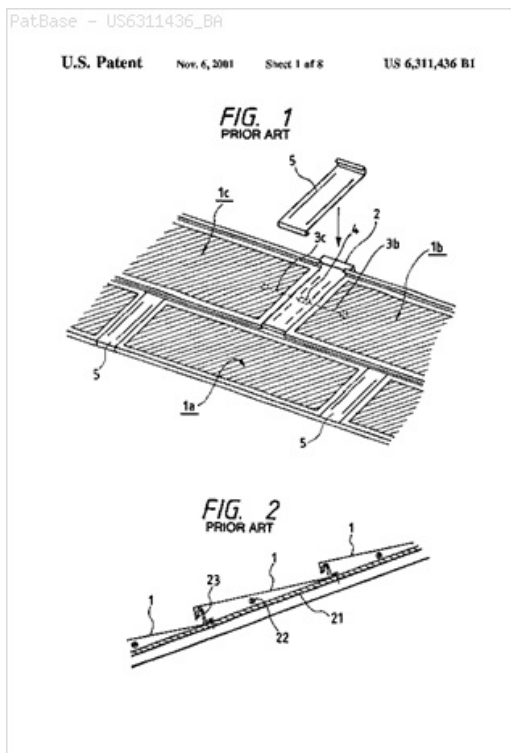
Title: SOLAR ROOF MEMBER

Abstract: In a solar roof member comprising a photovoltaic device encapsulated with an insulating material onto a reinforcing member, the reinforcing member has a joining portion at which an adjoining solar roof member is joined, and a curved portion which is so provided in the reinforcing member as to extend over at least part of the joining portion and through which a lead wire is led out. The solar roof member enables simple roofing without causing wiring mistakes.

Classifications:

International (IPC 8-9): E04D1/04 E04D1/06 E04D1/18 E04D1/30
E04D13/18 E04D3/40 H01L31/042 H01L31/048 (Advanced/Invention);
E04D1/30 E04D13/18 E04D3/40 H01L31/042 (Advanced/Non-invention);
E04D1/02 E04D1/12 E04D1/30 E04D13/18 E04D3/40 H01L31/042
H01L31/048 (Core/Invention)

International (IPC 1-7): E04D1/04 E04D1/06 E04D1/18 E04D1/30 E04D13/18 E04D3/40 H01L31/042 H01L31/048 H01L31/18
CPC: H02S20/23 E04D1/36S Y02B10/12 Y02E10/50 H01L31/048
European: E04D1/36S H01L31/048 H01L31/048B Y02B10/12 Y02E10/50
US: 136/251 52/173.3 52/748.1



Family:

Publication number	Publication date	Application number	Application date
AU199870059 A1	19981217	AU19980070059	19980610
AU750265 B2	20020711	AU19980070059	19980610
CN1144297 C	20040331	CN19981009800	19980611
CN1202561 A	19981223	CN19981009800	19980611
DE69828921 D1	20050317	DE19986028921	19980610
DE69828921 T2	20060413	DE19986028921T	19980610
EP0884432 A2	19981216	EP19980110679	19980610
EP0884432 A3	19991208	EP19980110679	19980610
EP0884432 B1	20050209	EP19980110679	19980610
IN198712 B	20070223	IN1998MA01255	19980610
JP11001998 A2	19990106	JP19970153169	19970611
JP3397637 B2	20030421	JP19970153169	19970611
KR100276195 B1	20001215	KR19980021653	19980611
KR19990006875 A	19990125	KR19980021653	19980611
US6311436 BA	20011106	US19980092872	19980608

Priority:

JP19970153169 19970611

Probable Assignee: CANON INC

Assignee(s): (std): CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s): (std): MIMURA TOSHIKO ; SHIOZUKA AYAKO ; TAKABAYASHI MEIJI ; TAKABAYASHI AKIHARU ; TAKADA KENJI ; TAKADA TAKESI ; TAKADA TAKESHI ; TAKABAYASHI AKIHARU ; MORI MASAHIRO ; MIMURA TOSHIKO ; KOMORI AYAKO

Inventor(s): TAKESHI TAKADA ; TOSHIKO MIMURA ; AKIHARU TAKABAYASHI ; AYAKO KOMORI ; MASAHIRO MORI

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD

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

5) Family number: 11389627 (US6072115A)

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Title: SOLAR CELL MODULE AND SOLAR CELL INTEGRATED CLADDING ASSEMBLY

Abstract: A jacket material of electrical conductive leads for electrically connecting solar cell modules to each other is comprised of a polyvinyl chloride type resin containing either one of a polyester type plasticizer, a phosphoric acid ester type plasticizer, a fatty acid ester type plasticizer, and an epoxy type plasticizer, whereby the solar cell modules have excellent performance stability with less deterioration of the electrical conductive leads even when the electrical conductive leads are kept in contact with a base member such as an organic waterproof sheet over a long period.

Classifications:

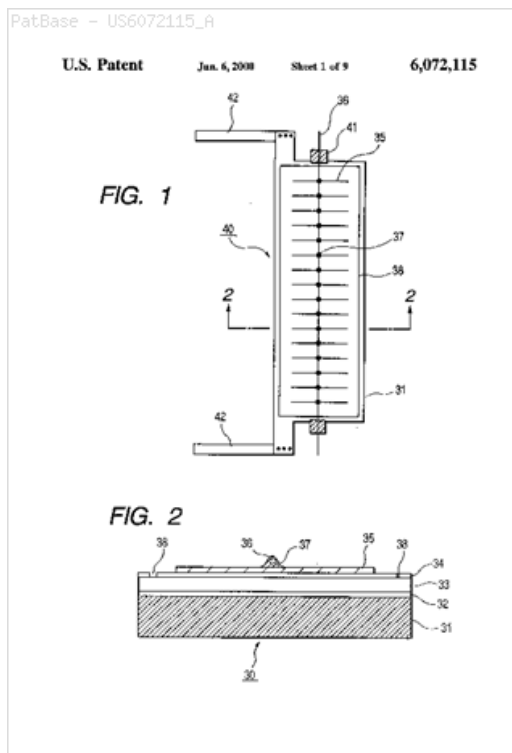
International (IPC 8-9): C09K3/10 E04D13/18 E04D3/40 H01B3/30 H01B3/44 H01L31/042 H01L31/048 H01L31/05 (Advanced/Invention); E04D13/18 E04D3/40 H01B3/44 H01L31/04

H01L31/042 (Advanced/Non-invention); C09K3/10 E04D13/18 E04D3/40 H01B3/30 H01B3/44 H01L31/042 H01L31/048 H01L31/05 (Core/Invention)

International (IPC 1-7): C09K3/10 E04D13/18 E04D3/40 H01B3/30 H01B3/44 H01L31/04 H01L31/042 H01L31/048 H01L31/05

CPC: Y10S136/291 Y02B10/12 Y02E10/50 H02S20/23 H02S40/34 H01L31/048

European: H01L31/048 H01L31/048B H01L31/048C Y02B10/12 Y02E10/50
US: 136/244 136/251 136/256 136/259 136/291 257/433 257/443 257/448 257/457 257/459



Family:

Publication number	Publication date	Application number	Application date
AU199910022 A1	19990729	AU19990010022	19990105
AU748083 B2	20020530	AU19990010022	19990105
CN1225513 A	19990811	CN19991000895	19990106
CN1264227 C	20060712	CN19991000895	19990106
EP0929106 A2	19990714	EP19990100084	19990105
EP0929106 A3	20061011	EP19990100084	19990105
JP11193613 A2	19990721	JP19980000752	19980106
KR100287089 B1	20010416	KR19990000132	19990106
KR19990067755 A	19990825	KR19990000132	19990106
US6072115 A	20000606	US19980221874	19981229

Priority:

JP19980000752 19980106 KR19990000132 19990106

Probable Assignee: CANON INC

Assignee(s): (std): CANON KK

Assignee(s): CANON INC ; CANON K K ; CANON KABUSHIKI KAISHA

Inventor(s): (std): INOUE YUJI ; KATAOKA ICHIRO ; SASAOKA MAKOTO ; SHIOMI SATORU ; TOYOMURA FUMITAKA ; TOYOMURA YUJI INOUE ICHIRO KAT

Inventor(s): YUJI INOUE ICHIRO KATAOKA FUMITAKA TOYOMURA ; YUJI INOUE ; ICHIRO KATAOKA ; FUMITAKA TOYOMURA ; SATORU SHIOMI ; MAKOTO SASAOKA

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD

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

6) Family number: 28138603 (US2001045228A)

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Title: SOLAR CELL MODULE AND PROCESS FOR ITS PRODUCTION, AND SOLAR CELL MODULE INSTALLING METHOD AND SOLAR ELECTRICITY GENERATION SYSTEM

Abstract: A solar cell module comprises a photovoltaic device having a flexible substrate. The photovoltaic device has a strain at least partly in the planar direction of the flexible substrate, and the strain is set not more than a critical value at which the photovoltaic device cracks. The solar cell module may further comprise a strain holding means for holding the strain. A deformable region where the photovoltaic device can be deformed when a region embracing the photovoltaic device is worked is defined so that a great variety of solar cell modules having a high reliability, also taking account of manufacture, can be designed in a good efficiency.

Classifications:

International (IPC 8-9): E04D13/18 H01L31/04 H01L31/042

H01L31/048 (Advanced/Invention);

E04D13/18 H01L31/04 H01L31/042 H01L31/048 (Core/Invention)

International (IPC 1-7): E04D13/18 H01L21/00 H01L25/00

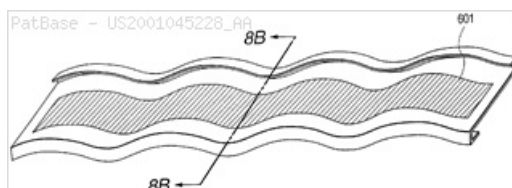
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European: H01L31/042 H01L31/048 R24J2/04B12 Y02B10/12 Y02B10/20 Y02E10/50

US: 126/621 126/622 126/623 126/624 136/244 136/245 136/251 136/251S 136/252 136/256 136/258 136/259 136/290 136/291 438/57 438/57S 438/64 438/64S 438/96 438/96S 52/173.3 60/641.8



Family:

Publication number	Publication date	Application number	Application date
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JP11214724 A2	19990806	JP19980009418	19980121
US2001045228 AA	20011129	US19990232701	19990119
US6541693 BB	20030401	US19990232701	19990119

Priority:

JP19980009418 19980121

Probable Assignee: CANON INC

Assignee(s): (std): CANON KK ; TAKADA TAKESHI ; TAKABAYASHI AKIHARU

Assignee(s): MORI MASAHIRO ; KOMORI AYAKO ; MATSUSHITA MASAOKI ; CANON INC ; CANON KABUSHIKI KAISHA

Inventor(s): (std): TAKADA TAKESHI ; TAKABAYASHI AKIHARU ; MORI MASAHIRO ; MATSUSHITA MASAOKI ; KOMORI AYAKO ; TAKADA KENJI ; TAKABAYASHI MEIJI ; SHIOZUKA AYAKO

7) Family number: 11746293 (US5968287A)

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Title: POWER GENERATING BUILDING PANELS AND METHODS FOR THEIR MANUFACTURE

Abstract: A photovoltaic building structure comprises a number of interlockable building panels having photovoltaic generator devices supported thereupon. The photovoltaic devices may be attached to the panels by a vacuum lamination process in which a flexible, air impermeable membrane covers a stack of layers being laminated to the panel. Evacuation of air from between the membrane and panel causes the lamination stack to be compressed against the panel, and a pressure and/or heat activatable adhesive is employed to adhere the various layers to the panel. Installation of the panels is in accord with standard building techniques, and the presence of the photovoltaic generators does not change the mechanical characteristics of the panels.

Classifications:

International (IPC 8-9): E04D13/18 H01L31/048 (Advanced/Invention); E04D13/18 H01L31/048 (Core/Invention)

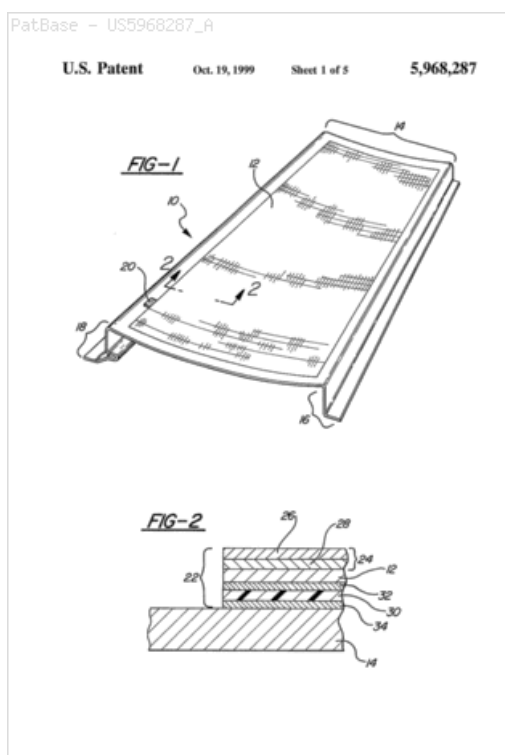
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CPC: Y02B10/12 Y02B10/22 Y02E10/50 H02S20/23 H01L31/048

European: H01L31/048 H01L31/048B Y02B10/12 Y02B10/22

Y02E10/50

US: 136/251 52/173.3 52/506.01



Family:

Publication number	Publication date	Application number	Application date
US5968287 A	19991019	US19970858033	19970516

Priority:

US19970858033 19970516

Probable Assignee: 3M CO

Assignee(s): (std): UNITED SOLAR SYSTEMS CORP

Assignee(s): 3M CO ; 3M INNOVATIVE PROPERTIES CO ; UNITED SOLAR OVONIC LLC

Inventor(s): (std): NATH PREM

8) Family number: 12914314 (EP0981167A2)

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Title: INTEGRATED PHOTOVOLTAIC COMPOSITE PANEL

Abstract: The invention provides an integrated PV composite panel and methods for providing the same, the panel comprising a core structure (1) and an outer skin (6), the core structure including an insulated corrugated or castellated metallic-coated steel sheet (2), and the outer skin comprising a layer of amorphous or crystalline PV cells (11), a channel (10) being formed between the core structure and the outer skin to provide ventilation and/or cooling for the PV cells.

Classifications:

International (IPC 8-9): H01L31/048

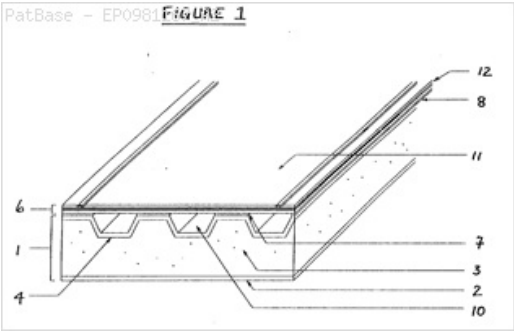
H01L31/052 (Advanced/Invention);

H01L31/048 H01L31/052 (Core/Invention)

International (IPC 1-7): H01L31/048 H01L31/052

CPC: H01L31/0521 E04D3/352 E04D3/357 Y02B10/12 Y02E10/50

H01L31/048 F24S25/40
European: E04D3/35A1 E04D3/35B H01L31/048 H01L31/052
R24J2/52A6 Y02B10/12 Y02E10/50



Family:

Publication number	Publication date	Application number	Application date
EP0981167 A2	20000223	EP19990306553	19990819
EP0981167 A3	20000614	EP19990306553	19990819
GB2340993 A1	20000301	GB19980017967	19980819
GB2340993 B2	20031029	GB19980017967	19980819
GB9817967 A0	19981014	GB19980017967	19980819

Priority:

GB19980017967 19980819

Probable Assignee: CORUS UK LIMITED

Assignee(s): (std): BRITISH STEEL LTD ; BRITISH STEEL PLC ; CORUS UK LTD

Assignee(s): BRITISH STEEL LIMITED ; CORUS UK LIMITED

Inventor(s): (std): UNIACKE HENRY GEORGE MARTIN ; SPRATT MARK ROBERT ; MARSHALL RICHARD HAMNETT ; JOHN VERNON

Inventor(s): HENRY GEORGE MARTIN UNIACKE ; VERNON JOHN ; MARK ROBERT SPRATT ; RICHARD HAMNETT MARSHALL

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

9) Family number: 15297965 (WO0114660A1) © PatBase

Title: SOLAR PANEL

Abstract: A solar panel including a structural assembly including a layer of structural material and a layer of thermal-insulation material on the underside thereof and a solar cell assembly adhered to the upper side of the structural assembly and including a photovoltaic core formed of amorphous silicon and upper and lower layers of thermoplastic material between which the photovoltaic core is laminated.

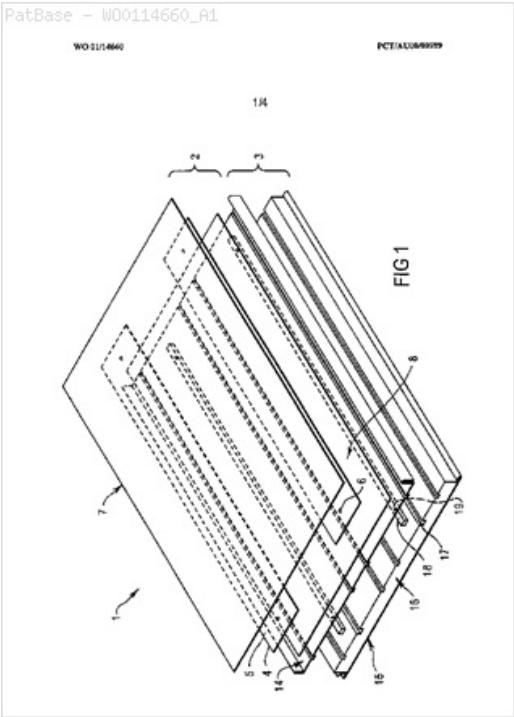
Classifications:

International (ipc 8-9): E04D13/18 H01L31/048
H02S20/23 (Advanced/Invention);
E04D13/18 H01L31/048 (Core/Invention)

International (ipc 1-7): E04D13/18 H01L31/048

CPC: Y02B10/12 Y02E10/50 Y02B10/20 H02S20/23 H01L31/048

European: H01L31/048 H01L31/048B Y02B10/12 Y02B10/20
Y02E10/50



Family:

Publication number	Publication date	Application number	Application date
AU200065493 A1	20010319	AU20000065493	20000818
AU200065493 A5	20010319	AU20000065493D	20000818
AU236199 A0	19990916	AU1999PQ02361	19990820
AU765696 B2	20030925	AU20000065493	20000818
WO0114660 A1	20010301	WO2000AU00989	20000818

Priority:

Probable Assignee: MELBOURNE EQUITIES PTY LTD

Assignee(s): (std): AUSTRAL INSULATION PANEL PTY L ; MELBOURNE EQUITIES PTY LTD ; PETCHELL ROBERT OWEN ; SMART LESLIE PHILIP

Assignee(s): AUSTRAL INSULATION PANEL PTY LTD ; EPSYLON MANAGEMENT PTY LTD

Inventor(s): (std): LESLIE PHILIP SMART ; PETCHELL ROBERT OWEN ; ROBERT OWEN PETCHELL ; SMART LESLIE PHILIP

Agent(s): PHILLIPS ORMONDE FITZPATRICK

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 CR CU CY CZ DE DK DM DZ EE ES FI FR GA GB GD GE GH GM GN 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 NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

10) Family number: 28232574 (US2002112419A)
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Title: THERMAL INSULATING SHEET METAL PANEL WITH PHOTOVOLTAIC ELEMENT FOR A ROOF COVERING OR WALL CLADDING

Abstract: The invention relates to a sheet metal panel for a roof covering or wall cladding, having two cover sheets (1, 2) and an intermediate layer (11) of thermal insulating material. Applied to the cover plate (2) of the panels forming the outside is a plane photovoltaic element (17, 18) which has electric connecting cables (21, 22) and which takes the form of a flexible laminate having a cold-bonding adhesive (19, 20) on its rear side and whose electric connecting cables (21, 22) extend through bores (23) in the sheet metal panel, which are sealed with respect to physical constructional demands.

Classifications:

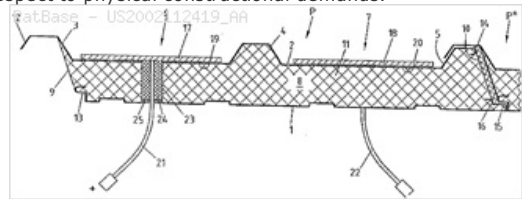
International (IPC 8-9): E04D13/18 E04D3/35
H02S20/23 (Advanced/Invention);
E04D13/18 E04D3/35 (Core/Invention)

International (IPC 1-7): E04D13/18 E04D3/35 H01L31/048

CPC: H02S20/23 E04D3/358 E04D3/352 Y02B10/12 Y02B10/20

European: E04D3/35 E04D3/35A1 E04D3/35F H01L31/048B Y02B10/12 Y02B10/20 Y02E10/50

US: 136/244 136/244S 136/251 136/251S 52/173.3 52/173.300P



Family:

Publication number	Publication date	Application number	Application date
EP1234926 A1	20020828	EP20010104104	20010221
US2002112419 AA	20020822	US20010000283	20011115

Priority:

EP20010104104 20010221

Probable Assignee: THYSSEN BAUSYSTEME GMBH

Assignee(s): (std): THYSSEN BAUSYSTEME GMBH

Assignee(s): DORR KARL WERNER ; FINGER ULLRICH

Inventor(s): (std): DOERR KARL WERNER DIPL ING ; DORR KARL WERNER ; FINGER ULLRICH ; FINGER ULLRICH DIPL KFM

Inventor(s): FINGER ULLRICH DIPL

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

11) Family number: 27900456 (DE10131234A1)
© PatBase

Title: CONNECTOR UNIT FOR FLEXIBLE ROOF SEALING SHEETS FOR SEALING ROOFS AND USES SOLAR ENERGY WITH NONRIGID PHOTOVOLTAIC AREAL CELLS COMPRISES AT LEAST ONE ELECTRIC CABLE JOINED TO A CONTACT SURFACE OF A PHOTOVOLTAIC CELL BY SOLDERING OR WELDING

Abstract: The connector unit for flexible roof sealing sheets with nonrigid photovoltaic areal cells comprises at least one electric cable which is accommodated in a cutout in the sheet, is joined to an external contact surface of a photovoltaic cell by soldering or welding, and is covered by a casting compound filling the cutout. Independent claims are also included for a combined roof sealing and solar module installation, and a method for producing such an installation.

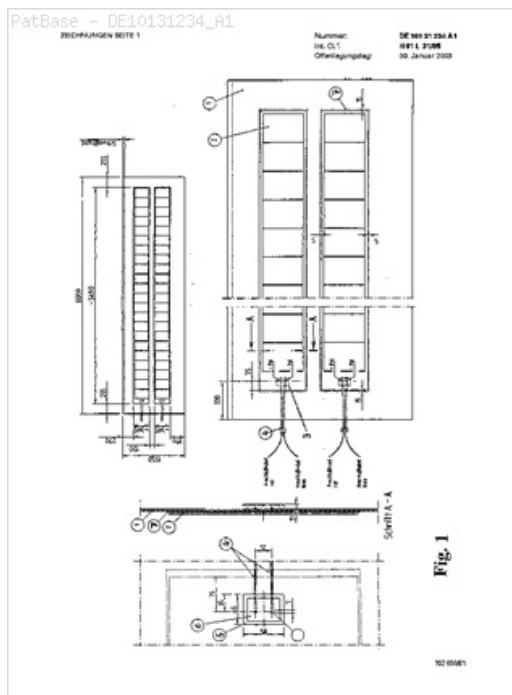
Classifications:

International (IPC 8-9): E04D13/18 H01L31/042 H01L31/048
H01L31/05 H02N6/00 (Advanced/Invention);
E04D13/18 H01L31/042 H01L31/048 H01L31/05
H02N6/00 (Core/Invention)

International (IPC 1-7): E04D13/18 H01L31/042 H01L31/048
H01L31/05 H02N6/00

CPC: H01L31/05 E04D5/06 H01L31/02008 H02S20/23 H02S40/34 Y02B10/12 Y02E10/50 H01L31/048

European: E04D5/06 H01L31/02E2B H01L31/048 H01L31/048B H01L31/048C H01L31/05 Y02B10/12 Y02E10/50



Family:

Publication number	Publication date	Application number	Application date
DE10131234 A1	20030130	DE20011031234	20010628
DE10131234 B4	20100107	DE20011031234	20010628
DE20122344 U1	20050428	DE20012022344U	20010628
DE20122344 U1	20050602	DE20012022344U	20010628

Priority:

DE20011031234 20010628 DE20012022344U 20010628

Probable Assignee: ALWITRA GMBH AND CO KLAUS GOEBEL

Assignee(s): (std): ALWITRA GMBH AND CO KLAUS GOEBEL

Inventor(s): (std): REMMELS HELMUT ; SKUJIN KLAUS

12) Family number: 31046913 (W003062553A1)

© PatBase

Title: A ROOF PANEL

Abstract: A roof tile panel comprises a substantially flat backing sheet 5, a profiled external roof sheet 6, and a body of insulating foam 7 between the sheets 5, 6. The external sheet 6 has a transversely extending front lip 10, a transversely extending rear portion 11 and number of transversely extending step sections 15 which are spaced apart longitudinally between the front lip 10 and the rear portion 11. The front lip portion 11 projects forwardly of the backing sheet 5 and the insulating foam 7 for mounting to a support structure. The backing sheet 5 and foam 7 terminate substantially in-line with a free edge of the rear portion. For over lapping adjacent sheets the external roof sheet 6 extends transversely beyond a side edge of the backing sheet and the insulating foam to define an overlapping portion 20 which is overlapped, an assembly, with an opposite side of an adjacent roof tile panel. The external roof sheet 6 is profiled to define a number of longitudinally extending peaks 30 and valleys 31 across the width of the external sheet. These are interrupted transversely by the step sections 15 to provide a panel with the appearance of comprising a plurality of separate roof tiles.

Classifications:

International (IPC 8-9): E04C2/32 E04D1/26 E04D1/28 E04D1/30
 E04D3/32 E04D3/35 E04D3/365 (Advanced/Invention);
 E04D1/28 E04D1/30 (Core/Invention)

International (IPC 1-7): E04C2/34 E04D1/26 E04D1/28 E04D1/30
 E04D3/32 E04D3/35

CPC: E04C2/326 E04D1/265 E04D3/32 E04D3/351 E04D3/358
 E04D3/365

European: E04C2/32C E04D1/26A E04D3/32 E04D3/35 E04D3/35A
 E04D3/35F E04D3/365

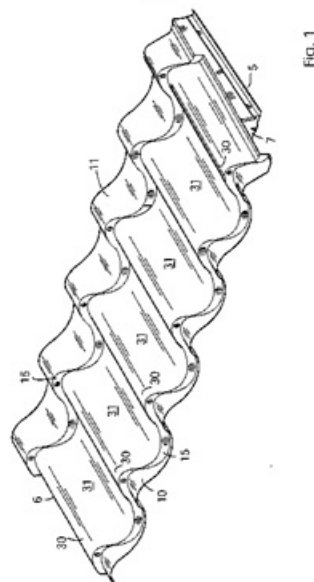


Fig. 1

Family:

Publication number	Publication date	Application number	Application date
AU2003202126 AA	20030902	AU20030202126	20030123
EP1468149 A1	20041020	EP20030700984	20030123
GB200301673 A0	20030226	GB20030001673	20030123
GB2384500 A1	20030730	GB20030001673	20030123
GB2384500 B2	20061101	GB20030001673	20030123
IE20030035 A1	20030723	IE20030000035	20030123
PL204698 B1	20100226	PL20030369622	20030123
PL369622 A1	20050502	PL20030369622	20030123
WO03062553 A1	20030731	WO2003IE00009	20030123

Priority:

IE20020000037 20020123 IE20030000035 20030123 WO2003IE00009 20030123

Probable Assignee: KINGSPAN HOLDINGS IRL LTD

Assignee(s): (std): KINGSPAN HOLDINGS ; KINGSPAN HOLDINGS IRL LTD ; STEVENS MARK

Assignee(s): KINGSPAN HOLDINGS LTD

Inventor(s): (std): STEVENS MARK

Inventor(s): MARK STEVENS

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

13) Family number: 29094357 (DE20308205U1)

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Title: MODULAR ROOF FOR HALLS AND DWELLINGS HAS FOAMED PLASTIC PANEL WITH METAL SUPPORT PROFILES HAVING PIPE GUIDE FOR HEAT EXCHANGE FLUID

Abstract: The modular roof for halls and dwellings has a modular base panel (4) made of a foamed plastic. The outer weather facing surface (6) of the panel has longitudinal support profiles (12) with raised metal sections (5). The inner side of the panel has a pipe guide (14) made of thermally conductive material in direct contact with the inner side of the support profiles (8).

Classifications:

International (IPC 8-9): E04D13/18 E04D3/35 E04D3/366 F24J2/04 F24J2/26 F24J2/48 (Advanced/Invention);

E04D13/18 E04D3/35 E04D3/36 F24J2/00 F24J2/04 (Core/Invention)

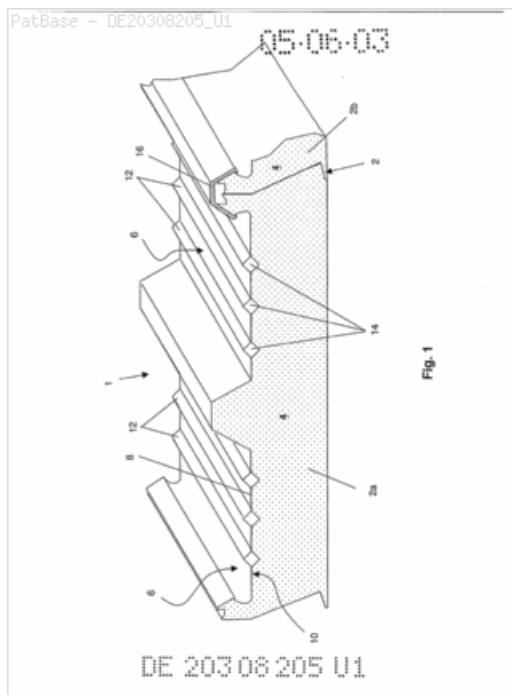
International (IPC 1-7): E04B7/22 E04D13/18 F24J2/42

CPC: Y02A30/62 E04D3/355 E04D3/357 E04D3/366 Y02B10/20

Y02E10/44 E04D3/351 F24S10/753 F24S20/67 F24S70/12

European: E04D3/35 E04D3/35A E04D3/35A3 E04D3/35B

E04D3/366 F24J2/04B12 F24J2/26B F24J2/48B Y02B10/20 Y02E10/44



Family:

Publication number	Publication date	Application number	Application date
DE20308205 U1	20030911	DE20032008205U	20030522
DE20308205 U1	20031016	DE20032008205U	20030522

Priority:

DE20032008205U 20030522

Probable Assignee:

HELMSTAEDTER WERNER

Assignee(s): (std):

HELMSTAEDTER WERNER

14) Family number: 32026003 (US2005144903A)

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Title: INSULATING PANEL FOR BUILDING PURPOSES

Abstract: A prefabricated insulating panel (5) for the construction of external surfaces of buildings comprises two sheets of metal material (6, 7'), between which an insulating material (8') is set, where at least one of the two sheets (6', 7') defines a plurality of substantially parallel longitudinal ribbings (10 A', 10 B'). According to the invention, at least a first (10 B') and a second (10 A') of said ribbings are operative for supporting between them at least a photovoltaic module (14) in a plane of lie raised with respect to a general plane of the panel (5); between the two sheets (6', 7') there is moreover present at least one pipe (13) for the passage of cables (18) for electrical connection of the photovoltaic module (14).

Classifications:

International (IPC 8-9): E04B7/00 E04B7/12 E04D13/18 E04D3/35 H01L31/048 (Advanced/Invention);

E04B7/12 E04D13/18 E04D3/35 H01L31/048 (Core/Invention)

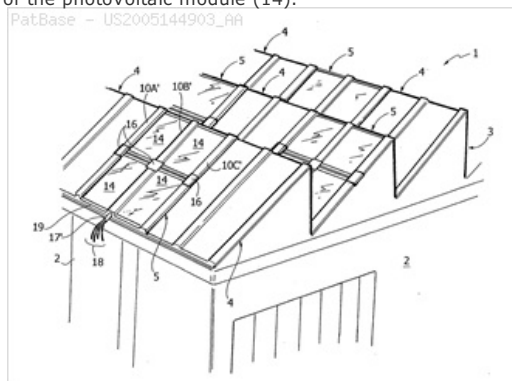
International (IPC 1-7): E04B7/00 E04C2/00 E04D3/35

CPC: E04B7/12 E04D3/352 E04D3/358 Y02B10/12 Y02B10/20 Y02E10/47 F24S25/40 H02S20/23

European: E04B7/12 E04D3/35A1 E04D3/35F F24J2/52A6

H01L31/048B Y02B10/12 Y02B10/20 Y02E10/47 Y02E10/50

US: 136/244 52/173.3 52/782.1 52/782.100P



Family:

Publication number	Publication date	Application number	Application date
DE602004038886 D1	20121011	DE200460038886T	20040910
EP1548202 A2	20050629	EP20040021538	20040910
EP1548202 A3	20060419	EP20040021538	20040910
EP1548202 B1	20120815	EP20040021538	20040910
ITTO20031035 A1	20050624	IT2003TO01035	20031223
US2005144903 AA	20050707	US20040953540	20040930
US7469508 BB	20081230	US20040953540	20040930

Priority:

IT2003TO01035 20031223

EP20040021538 20040910

IT2003TO01035 20051223

Probable Assignee: ISOLPACK SPA

Assignee(s): (std): ISOLPACK S P A

Assignee(s): ISOLPACK SPA

Inventor(s): (std): CERIA ESTERINO
Agent(s): GALLAROTTI FRANCO; SUGHRUE MION PLLC
Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

15) Family number: 32273786 (US2007012353A)

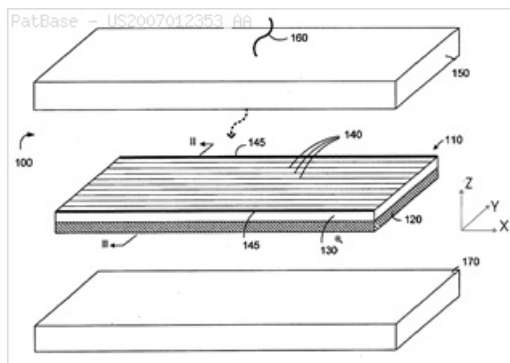
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Title: ELECTRIC ENERGY GENERATING MODULES WITH A TWO-DIMENSIONAL PROFILE AND METHOD OF FABRICATING THE SAME

Abstract: An electric energy generating module is shaped to take on a desired two dimensional profile to match a non-flat surface or architectural element such as corrugated roofing. The module includes an electric energy generating film sealed between a top layer of encapsulant material and a bottom layer of encapsulant material. The type and quantity of the encapsulant materials are such that the shape of the encapsulant materials can be altered when a high temperature and/or pressure is applied to the module, but where the encapsulant materials provide a rigid structure around the electric energy generating film under ordinary (i.e., naturally occurring) temperature and pressure conditions. The module can therefore be shaped by applying a suitable pressure and/or a high temperature but, once placed under ordinary temperature and pressure conditions, the module has a rigid structure.

Classifications:

International (IPC 8-9): E04D1/30 E04D13/18 E04D3/40
H01L31/0392 H01L31/04 H01L31/042 H01L31/048
H02N6/00 (Advanced/Invention);
E04D1/30 E04D13/18 E04D3/40 H01L31/00 H01L31/036 H01L31/04
H01L31/042 H01L31/048 H02N6/00 (Core/Invention);
H01L (Subclass/Invention)
International (IPC 1-7): H01L31/00 H01L31/042 H01L31/048
CPC: Y02B10/12 Y02E10/50 H02S20/25 H02S20/23 H01L31/046
H01L31/03926 H02S20/26 H01L31/0465 H01L31/048
European: H01L27/142R2 H01L31/0392 H01L31/0392B H01L31/042
H01L31/048 H01L31/048B Y02B10/12 Y02E10/50
US: 136/251 257/E27.125 257/E27.125S 257/E31.042 257/E31.042S



Family:

Publication number	Publication date	Application number	Application date
AT365381 E	20070715	AT20050733587T	20050316
AU2005224794 AA	20050929	AU20050224794	20050316
AU2005224794 BB	20091217	AU20050224794	20050316
CN1934716 A	20070321	CN200580008621	20050316
DE602005001449 D1	20070802	DE200560001449T	20050316
DE602005001449 T2	20080221	DE200560001449T	20050316
EP1726046 A2	20061129	EP20050733587	20050316
EP1726046 B1	20070620	EP20050733587	20050316
ES2286805 T3	20071201	ES20050733587T	20050316
IN05204DN2006 A	20070803	IN2006DN05204	20060911
JP2007529889 T2	20071025	JP20070503349T	20050316
PT1726046 T	20071001	PT20050733587T	20050316
SI1726046 T1	20071031	SI20050030038T	20050316
US2007012353 AA	20070118	US20060521874	20060915
WO05091379 A2	20050929	WO2005EP51214	20050316
WO05091379 A3	20051027	WO2005EP51214	20050316
ZA200607745 A	20080528	ZA20060007745	20050316

Priority:

US20040553380 20040316 US20040553380P 20040316 EP20050733587 20050316
WO2005EP51214 20050316 US20060521874 20060915

Probable Assignee: VHF TECHNOLOGIES SA

Assignee(s): (std): CLOSSET ALEXANDRE ; FISCHER DIEGO ; VHF TECHNOLOGIES S A ; VHF TECHNOLOGIES SA ; ZIEGLER YVAN

Inventor(s): (std): YVAN FISCHER DIEGO CLOSSET ALE ; ZIEGLER YVAN ; YVAN ZIEGLER ; CLOSSET ALEXANDRE ; FISCHER DIEGO ; DIEGO FISCHER ; ALEXANDRE CLOSSET

Inventor(s): FISCHER DIEGO CLOSSET ALEXANDRE ZIEGLER YVAN ; FISHER DIEGO

Agent(s): PHILLIPS ORMONDE FITZPATRICK; TSUCHIYA MASARU; PEARNE AND GORDON LLP

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

16) Family number: 35076274 (US2009236074A)

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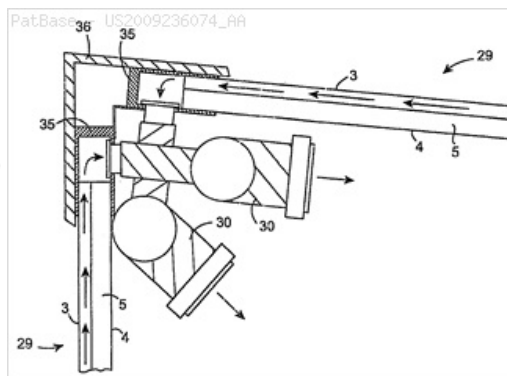
Title: COMPOSITE INSULATING PANEL

Abstract: A composite insulating panel (17) comprises a profiled external sheet (2) having a plurality of raised crowns (3) of generally trapezoidal form, an inner liner sheet (4) and a body of insulating foam (5) between the sheets (2, 4). The panel (1) has an integral heat collecting means for transfer of heat from one source to another. In one case there are inner conduit (21) through which a heat transfer medium is circulated to extract heat from inside a building and outer conduits (8) for collection of solar heat (9). The panel (17) may be used as part of a heating/cooling/ventilation system.

Classifications:

International (IPC 8-9): E04C2/26 E04C2/292 E04C2/32 E04C2/52
E04D3/35 F24D3/16 F24D5/10 F24H9/06 F28D7/00

F28F3/12 (Advanced/Invention);
E04C2/26 E04C2/32 E04C2/52 E04D3/35 F24D3/12 F24D5/00
F24H9/06 F28D7/00 F28F3/00 (Core/Invention)
CPC: E04C2/292 E04C2/322 E04C2/525 E04D3/352 E04D3/358
Y02B10/20 Y02E10/44 Y02A30/62 F24S20/66 F24S20/67 F24S70/60
F24S80/60
European: E04C2/292 E04C2/32A E04C2/52A3 E04D3/35A1
E04D3/35F F24D3/16 F24J2/04B10 F24J2/04B12 F24J2/51 Y02B10/20
Y02E10/44
US: 165/165 165/165S 165/168 165/168S 165/53 165/53P



Family:

Publication number	Publication date	Application number	Application date
AU2007258786 AA	20071221	AU20070258786	20070612
CA2654373 AA	20081204	CA20072654373	20070612
EP2027350 A1	20090225	EP20070736113	20070612
GB200711248 A0	20070718	GB20070011248	20070612
GB2439191 A1	20071219	GB20070011248	20070612
GB2439191 B2	20110427	GB20070011248	20070612
IE20070416 A1	20080206	IE20070000416	20070612
US2009236074 AA	20090924	US20070227855	20070612
WO07144863 A1	20071221	WO20071E00057	20070612

Priority:

IE20060000443 20060613 IE20070000145 20070306 IE20070000416 20070612
WO20071E00057 20070612

Probable Assignee: KINGSPAN RESEARCH AND DEVELOPMENT LTD

Assignee(s): (std): CAROLAN JAMES ; FLYNN GREGORY ; KINGSPAN RES AND DEV LTD

Assignee(s): KINGSPAN RESEARCH AND DEVELOPMENT LTD ; KINGSPAN RESEARCH AND DEVELOPMENTS LIMITED ; KINGSPAN RESEARCH AND DEVELOPMENTS LTD

Inventor(s): (std): FLYNN GREGORY ; CAROLAN JAMES

Inventor(s): JAMES CAROLAN ; GREGORY FLYNN

Agent(s): PHILLIPS ORMONDE FITZPATRICK; SHELSTON IP; SHELSTON IP PTY LTD; MOFFAT AND CO; OBRIEN JOHN AUGUSTINE ET AL; JACOBSON HOLMAN PLLC

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

17) Family number: 40995795 (US2007295385A)

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Title: INDIVIDUALLY ENCAPSULATED SOLAR CELLS AND SOLAR CELL STRINGS HAVING A SUBSTANTIALLY INORGANIC PROTECTIVE LAYER

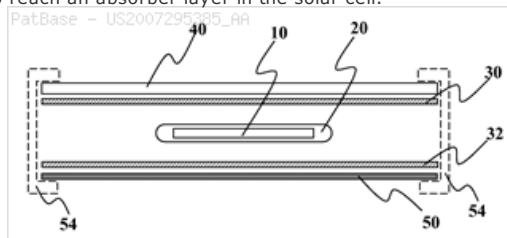
Abstract: Methods and devices are provided for improved environmental protection for photovoltaic devices and assemblies. In one embodiment, the device comprises of an individually encapsulated solar cell, wherein the encapsulated solar cell includes at least one protective layer coupled to at least one surface of the solar cell and the protective layer may be formed from a substantially inorganic material. The protective layer has a chemical composition that prevents moisture from entering the solar cell and wherein light passes through the protective layer to reach an absorber layer in the solar cell.

Classifications:

International (IPC 8-9): H01L21/00 H01L25/00 H01L31/00
H01L31/0203 H01L31/042 H01L31/048 H01L31/052 H01L31/18
H02N6/00 (Advanced/Invention);
H01L25/00 H01L31/00 H01L31/042 H02N6/00 (Core/Invention)
CPC: Y02E10/541 Y02E10/549 H01L31/0392 H01L27/301 H01L51/424
B32B2307/73 B32B2307/754 B32B2457/12 H01L31/02245
H01L31/0322 H01L31/03928 H01L31/0516 H01L31/0504
H01L31/0521 H02S40/36 H02S30/20 H01L31/02167 Y02P70/521
B32B17/10678 B32B17/1077 B32B17/10788 Y02B10/12 Y02E10/50
H01L31/03925 H01L31/049 H02S20/23 H01L31/0481 H01L31/048
H01L51/448

European: B32B17/10G10 B32B17/10G30 B32B17/10G36 H01L31/0216B3 H01L31/0224B2C2 H01L31/032C H01L31/0392
H01L31/0392E2 H01L31/048 H01L31/048A H01L31/048B H01L31/05 H01L31/052A H01L31/05B4 H01L51/44P L32B307/730
L32B307/754 L32B457/12 T01L27/30B T01L51/42F Y02B10/12 Y02E10/50

US: 136/246 136/251 136/251S 136/252 136/259 257/E31.041 257/E31.041S 257/E31.117 257/E31.117S 438/57 438/64
438/64P 438/66 438/80



Family:

Publication number	Publication date	Application number	Application date
EP2095421 A2	20090902	EP20070813500	20070727
US2007295385 AA	20071227	US20060460617	20060727
US2007295386 AA	20071227	US20060460618	20060727
US2007295387 AA	20071227	US20060460620	20060727
US2007295388 AA	20071227	US20060462360	20060803
US2007295389 AA	20071227	US20060462361	20060803
US2007295390 AA	20071227	US20060462363	20060803
US2010297798 AA	20101125	US20070375382	20070727

US2012090661 AA	20120419	US20110274567	20111017
US2012291856 AA	20121122	US20120442771	20120409
US8039739 BA	20111018	US20060462359	20060803
US8158450 BA	20120417	US20070746799	20070510
WO08014492 A2	20080131	WO2007US74659	20070727
WO08014492 A3	20081204	WO2007US74659	20070727

Priority:

US20060746626P	20060505	US20060746629P	20060505	US20060746961P	20060510
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US20070746799	20070510	WO2007US74659	20070727	US20070375382	20070727
US20110274567	20111017	US20120442771	20120409		

Probable Assignee: AERIS CAPITAL SUSTAINABLE IP LTD

Assignee(s): (std): ADRIANI PAUL ; ADRIANI PAUL M ; NANOSOLAR INC ; CAPPS PHILIP ; SHEATS JAMES R ; ROSCHEISEN MARTIN R ; SAGER BRIAN M

Assignee(s): AERIS CAPITAL SUSTAINABLE IP LTD ; AERIS CAPITAL SUSTAINABLE IMPACT PRIVATE INVESTMEN ; AERIS CAPITAL SUSTAINABLE IMPACT PRIVATE INVESTMENT FUND CAYMAN LP

Inventor(s): (std): ADRIANI PAUL ; ADRIANI PAUL M ; CAPPS PHILIP ; SHEATS JAMES R ; SAGER BRIAN M ; ROSCHEISEN MARTIN R

Inventor(s): SHEATS JAMES

Agent(s): BOYCE CONOR; NANOSOLAR INC; DIRECTOR OF IP; MUELLER LAW OFFICE PC; TUNG HAO Y

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

18) Family number: 43505780 (US2009178350A)

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Title: ROOFING AND SIDING PRODUCTS HAVING RECEPTOR ZONES AND PHOTOVOLTAIC ROOFING AND SIDING ELEMENTS AND SYSTEMS USING THEM

Abstract: The present invention relates generally to roofing or siding products. The present invention relates more particularly to roofing or siding products for use with photovoltaic elements, and to photovoltaic systems that include one or more photovoltaic elements joined to a roofing or siding substrate. In one embodiment, a roofing product includes a rigid roofing or siding substrate having a top surface, the top surface having one or more receptor zones thereon, each receptor zone being adapted to receive one or more photovoltaic elements, each receptor zone having a different surfacing than the area of the top surface adjacent to it.

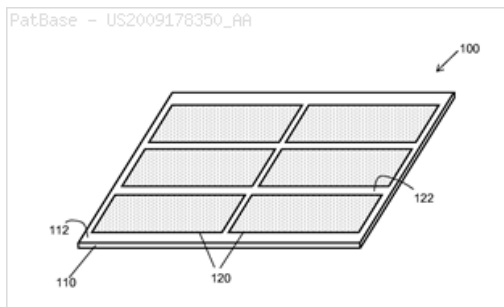
Classifications:

International (IPC 8-9): E04C2/00 E04C2/26 E04D13/18 E04F13/08 F24J2/52 H01L31/048 (Advanced/Invention); E04C2/00 E04C2/26 E04F13/08 (Core/Invention)

CPC: Y02E10/47 H01L31/05 Y02B10/12 Y02B10/20 Y02E10/50 E04F13/0864 H02S20/23 H02S20/25 H02S40/36 F24S25/61 F24S2025/601

European: E04F13/08D F24J2/52A20B H01L31/048B H01L31/048B2 H01L31/05 R24J2/46P34 Y02B10/12 Y02B10/20 Y02E10/50

US: 136/244 136/246 52/173.3 52/173.300P 52/745.05 52/745.050S 52/748.1



Family:

Publication number	Publication date	Application number	Application date
CA2711627 AA	20090716	CA20092711627	20090109
EP2255044 A2	20101201	EP20090700742	20090109
US2009178350 AA	20090716	US20090351653	20090109
US2013269288 AA	20131017	US20130910148	20130605
US8458967 BB	20130611	US20090351653	20090109
US8733038 BB	20140527	US20130910148	20130605
WO09089484 A2	20090716	WO2009US30649	20090109
WO09089484 A3	20111110	WO2009US30649	20090109

Priority:

US20080020376	20080110	US20080020376P	20080110	US20090351653	20090109
WO2009US30649	20090109	US20130910148	20130605		

Probable Assignee: CERTAINTED CORP

Assignee(s): (std): CHIHLAS PETER ; JACOBS GREGORY F ; KALKANOGLU HUSNU M ; SHAW WAYNE E ; CERTAIN TEED CORP

Assignee(s): CERTAINTED CORP

Inventor(s): (std): CHIHLAS PETER ; JACOBS GREGORY F ; KALKANOGLU HUSNU M ; SHAW WAYNE E

Agent(s): THIELMANN ANDREAS; MCDONNELL BOEHNNEN HULBERT AND BERGHOFF LLP; SUGGS JAMES V

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

Title: STRUCTURED PHOTOVOLTAIC ROOFING ELEMENTS, SYSTEMS AND KITS

Abstract: The present invention relates generally to the photovoltaic generation of electrical energy. The present invention relates more particularly to photovoltaic roofing elements having a structured profile. For example, one aspect of the invention is a structured photovoltaic roofing element including: a structured roofing substrate presenting on its top-facing surface a plurality of differently-shadowable zones; and a plurality of bypassable photovoltaic elements, each of the bypassable photovoltaic elements comprising a bypass diode connected in parallel with a photovoltaic element, each of the bypassable photovoltaic elements being disposed in a differently-shadowable zone; wherein one or more of the bypassable photovoltaic elements is disposed in a different differently-shadowable zone than one or more of the other bypassable photovoltaic elements.

Classifications:

International (IPC 8-9): E04D13/18 H01L31/044 H01L31/048

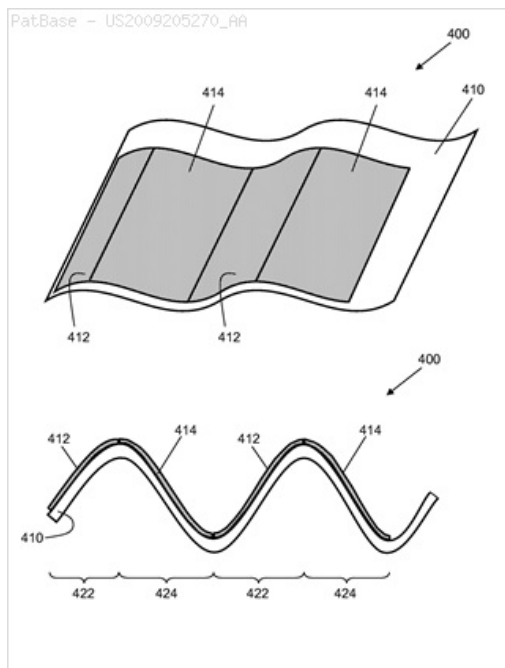
H02S20/25 (Advanced/Invention);

E04D13/18 H01L31/048 (Core/Invention)

CPC: H02S20/25 H02S20/23 Y02B10/12

European: H01L31/048B H01L31/048B2 Y02B10/12 Y02E10/50

US: 136/251 136/251S 52/173.3 52/173.300P



Family:

Publication number	Publication date	Application number	Application date
CA2719114 AA	20100806	CA20092719114	20090219
EP2248186 A2	20101110	EP20090712528	20090219
US2009205270 AA	20090820	US20090389321	20090219
WO09105582 A2	20090827	WO2009US34575	20090219
WO09105582 A3	20091230	WO2009US34575	20090219

Priority:

US20080029836 20080219 US20080029836P 20080219 US20090389321 20090219
WO2009US34575 20090219

Probable Assignee: CERTAINTED CORP

Assignee(s): (std): CERTAIN TEED CORP ; JACOBS GREGORY F ; SHAW WAYNE E

Assignee(s): CERTAINTED CORP

Inventor(s): (std): JACOBS GREGORY F ; SHAW WAYNE E

Agent(s): GOWLING LAFLEUR HENDERSON LLP; THIELMANN ANDREAS; MCDONNELL BOEHNEN HULBERT AND BERGHOFF LLP; SUGGS JAMES V

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

Title: AN INSULATING PANEL

Abstract: An insulating panel (1) comprises a profiled translucent first sheet (2), a second sheet (4) with an insulating body, in this case an insulating foam (5) therebetween. The foam may be a polyisocyanurate foam or a phenolic foam. The sheet (2) is of a polycarbonate material which is relatively strong and durable. A solar collector (10) in the form of a flexible photovoltaic material is provided between upper sheet (2) and the insulation body. The solar collector may extend into the upper sheet profiles (3) or may be laid in strips (20) along and/or across the sheet (2). The solar collector is protected by the top sheet.

Classifications:

International (IPC 8-9): B32B3/30 E04B7/20 E04C2/284 E04D13/16

E04D13/18 E04D3/35 F24J2/00 F24J2/04

H01L31/048 (Advanced/Invention);

B32B3/30 E04B7/00 E04C2/26 E04D13/16 E04D13/18 E04D3/35

F24J2/00 F24J2/04 H01L31/048 (Core/Invention)

CPC: H02S20/23 E04B7/20 E04C2/284 E04D13/1606 E04D3/352

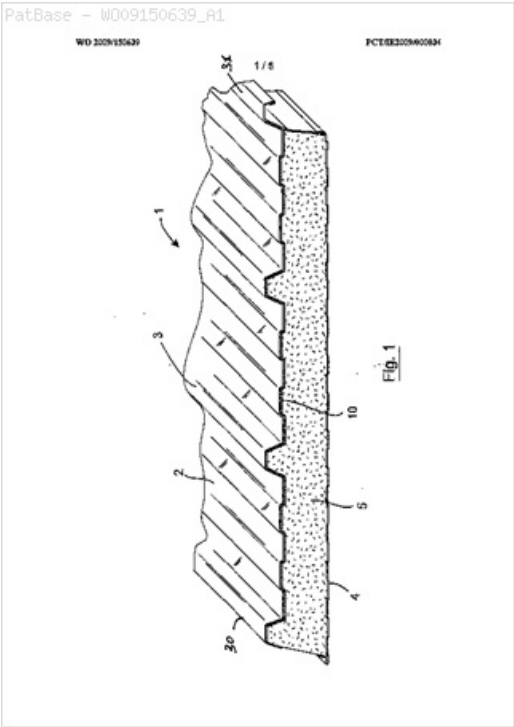
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European: E04B7/20 E04C2/284 E04D13/16A E04D3/35A1

E04D3/35A3 E04D3/35F F24J2/04B14 H01L31/048B H01L31/048B2

R24J2/04B12 R24J2/46P34 R24J2/51 Y02B10/12 Y02B10/20



Family:

Publication number	Publication date	Application number	Application date
GB200910023 A0	20090722	GB20090010023	20090610
GB2460762 A1	20091216	GB20090010023	20090610
GB2460762 B2	20130102	GB20090010023	20090610
IE20090454 A1	20091223	IE20090000454	20090610
WO09150639 A1	20091217	WO20091E00034	20090610

Priority:

IE20080000481 20080611 IE20090000454 20090610

Probable Assignee: KINGSPAN RES AND DEV LTD

Assignee(s): (std): CAROLAN JAMES ; FLYNN GREGORY ; KINGSPAN RES AND DEV LTD

Assignee(s): KINGSPAN RESEARCH AND DEVELOPMENTS LTD ; KINGSPAN RESEARCH AND DEVELOPMENTS LIMITED

Inventor(s): (std): CAROLAN JAMES ; FLYNN GREGORY

Inventor(s): JAMES CAROLAN ; GREGORY FLYNN

Agent(s): O BRIEN JOHN 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 LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

21) Family number: 50959984 (US2014053485A)

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Title: COMPOSITE INSULATION PANEL

Abstract: A manufactured composite insulating panel comprises an external sheet having an outer face and an inner face, an internal sheet having an outer face and an inner face, and an insulating body between the inner face of the external sheet and the inner face of the internal sheet. The external sheet has a portion that extends beyond the internal sheet and the insulating body to define an overlap part for overlapping with part of an adjacent panel, on assembly and a seal is applied to the inner face of the overlap part of the external sheet. The panel has a side overlap part to which a side seal is factory applied. An end seal is also factory applied to an end overlap part of the panel.

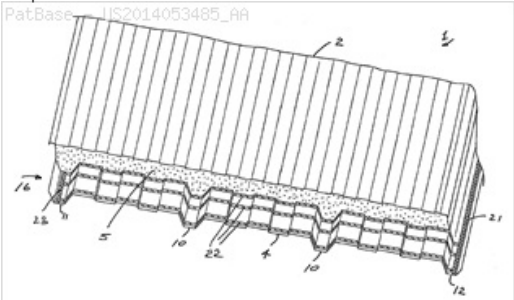
Classifications:

International (IPC 8-9): E04C2/20 E04C2/24 E04C2/292 E04C2/32 E04C2/38 E04D3/35 E04D3/365 E04D3/369 F16J15/14 (Advanced/Invention)

CPC: E04C2/322 E04C2/243 E04C2/205 E04C2/292 E04D3/352 E04D3/358 F16J15/14

European: E04C2/292 E04D3/35A1 E04D3/35F F16J15/14

US: 1/1 427/207.1 52/309.4 52/794.1



Family:

Publication number	Publication date	Application number	Application date
AU2012215017 AA	20120816	AU20120215017	20120209
AU2012215017 BB	20160505	AU20120215017	20120209

CA2825421 AA	20130723	CA20122825421	20120209
CA2825421 C	20160426	CA20122825421	20120209
EP2673427 A1	20131218	EP20120704553	20120209
GB201202282 A0	20120328	GB20120002282	20120209
GB2488040 A1	20120815	GB20120002282	20120209
GB2488040 B2	20160706	GB20120002282	20120209
NZ613475 A	20150626	NZ20120613475	20120209
US2014053485 AA	20140227	US20120984301	20120209
US9145680 BB	20150929	US20120984301	20120209
WO12107917 A1	20120816	WO2012IE00004	20120209

Priority:

IE20110000057 20110209 WO2012IE00004 20120209

Probable Assignee: KINGSPAN RESEARCH AND DEVELOPMENTS LTD

Assignee(s): (std): CAROLAN JAMES ; FLYNN GREGORY ; KINGSPAN RES AND DEV LTD

Assignee(s): KINGSPAN RESEARCH AND DEVELOPMENTS LIMITED ; KINGSPAN RESEARCH AND DEVELOPMENTS LTD

Inventor(s): (std): JAMES CAROLAN ; GREGORY FLYNN ; FLYNN GREGORY ; CAROLAN JAMES

Agent(s): PHILLIPS ORMONDE FITZPATRICK; SHELSTON IP; SHELSTON IP PTY LTD; MOFFAT AND CO; LANE CATHAL MICHAEL; HARNESS DICKEY AND PIERCE PLC; O BRIEN JOHN A 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 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

22) Family number: 51105595 (US2014041715A)

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Title: COMPOSITE INSULATING PANEL

Abstract: A composite insulating panel comprises an external sheet, an internal sheet, and an insulating body between the sheets. The external sheet has a first longitudinally extending raised side underlap projection at one side and a side overlap projection on the opposite side of the panel with a substantially flat portion extending between the projections. A photovoltaic solar collector is mounted to the flat portion of external sheet. The solar collector comprises a photovoltaic sheet and a protective translucent cover for the photovoltaic sheet. A first adhesive layer is provided between the photovoltaic sheet and the translucent cover. A second adhesive layer is provided between the underside of the photovoltaic sheet and the external surface of the composite panel upper or external sheet.

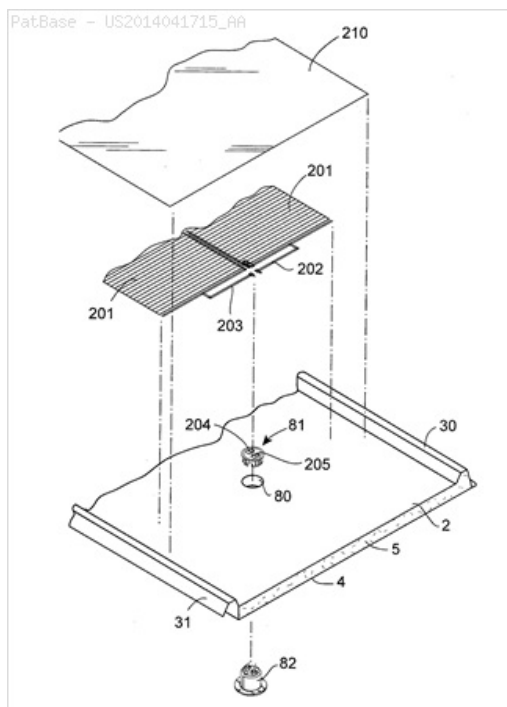
Classifications:

International (IPC 8-9): B32B B32B15/04 B32B3/30 B32B5/18 B32B7/12 E04C2/292 E04C2/296 E04C2/34 E04C2/52 E04D E04D13/18 E04D3/35 H01L H01L27/142 H01L31/02 H01L31/042 H01L31/048 H01L31/05 H01L31/18 H02S20/23 H02S30/10 H02S40/36 (Advanced/Invention); B32B15/04 B32B7/12 (Advanced/Non-invention); E04C2/00 H01L31/00 (Core/Invention)

CPC: E04C2/52 H01L31/02008 H01L31/05 E04C2/296 E04C2/34 Y02E10/50 E04C2/292 E04D3/352 E04D3/358 H01L31/02013 Y02B10/12 B32B15/046 H02S20/23 H02S40/34 Y10T156/10 H01L31/049 H01L31/18 H02S20/00

European: B32B15/04F E04C2/292 E04D3/35A1 E04D3/35F H01L31/02E2B3 H01L31/048C H01L31/048D Y02B10/12

US: 136/251 136/259 156/60 156/69



Family:

Publication number	Publication date	Application number	Application date
AU2012226388 AA	20120913	AU20120226388	20120308
AU2012226388 BB	20151126	AU20120226388	20120308
AU2012317218 AA	20130404	AU20120317218	20121001
CA2827238 AA	20130813	CA20122827238	20120308
CA2850180 AA	20140326	CA20122850180	20121001
EP2684219 A1	20140115	EP20120714858	20120308
EP2748859 A1	20140702	EP20120779166	20121001
GB201204098 A0	20120418	GB20120004098	20120308
GB201217536 A0	20121114	GB20120017536	20121001
GB201412550 A0	20140827	GB20140012550	20120308
GB2488902 A1	20120912	GB20120004098	20120308
GB2488902 B2	20140910	GB20120004098	20120308
GB2496944 A1	20130529	GB20120017536	20121001

GB2515916 A1	20150107	GB20140012550	20120308
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NZ614320 A	20150731	NZ20120614320	20120308
US2014041715 AA	20140213	US20120985966	20120308
US2014246078 AA	20140904	US20120348687	20121001
WO12120489 A1	20120913	WO2012IE00010	20120308
WO13046195 A1	20130404	WO2012IE00044	20121001
ZA201402587 A	20151125	ZA20140002587	20121001

Priority:

IE20110000110 20110308 IE20110000444 20110930 GB20120004098 20120308
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WO2012IE00044 20121001

Probable Assignee: KINGSPAN RESEARCH AND DEVELOPMENTS LTD

Assignee(s): (std): CAROLAN JAMES ; FLYNN GREGORY ; KINGSPAN HOLDINGS IRL LTD ; KINGSPAN RES AND DEV LTD

Assignee(s): KINGSPAN RESEARCH AND DEVELOPMENTS LIMITED ; KINGSPAN RESEARCH AND DEVELOPMENTS LTD ; KINGSPAN HOLDINGS (IRL) LTD ; KINGSPAN HOLDINGS IRL LIMITED

Inventor(s): (std): CAROLAN JAMES ; FLYNN GREGORY

Inventor(s): JAMES CAROLAN ; GREGORY FLYNN

Agent(s): PHILLIPS ORMONDE FITZPATRICK; SHELSTON IP; SHELSTON IP PTY LTD; MOFFAT AND CO; LANE CATHAL MICHAEL; O BRIEN JOHN A ET AL; TOMKINS AND CO

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

23) Family number: 52078513 (US2014150843A)

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Title: SHINGLE-LIKE PHOTOVOLTAIC MODULES

Abstract: A photovoltaic system comprises one or more shingle-like photovoltaic (PV) modules, each having a layer of optically transparent material adjacent to a layer of photoactive material configured to generate electricity upon exposure to light from the layer of optically transparent material. In some cases the layer of optically transparent material of each of the one or more shingle-like PV modules has a pattern of depressions in a shingle-like configuration.

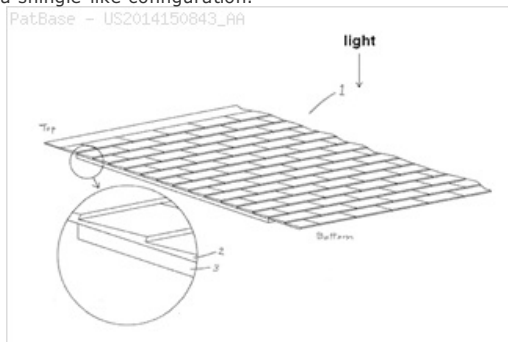
Classifications:

International (IPC 8-9): E04D13/18 H01L31/02 H01L31/0203 H01L31/042 H01L31/048 H02S20/23 H02S20/25 (Advanced/Invention)

CPC: Y02B10/12 H01L31/0203 H01L31/02 H02S20/23 H02S20/25

European: H01L31/048B H01L31/048B2

US: 136/244 438/80



Family:

Publication number	Publication date	Application number	Application date
BR112013025364 A2	20161213	BR20131125364	20120330
CN103563246 A	20140205	CN201280026143	20120330
EP2695199 A2	20140212	EP20120764623	20120330
EP2695199 A4	20141112	EP20120764623	20120330
JP2014514758 T2	20140619	JP20140502880T	20120330
US2014150843 AA	20140605	US20120008909	20120330
WO12135769 A2	20121004	WO2012US31702	20120330
WO12135769 A3	20130221	WO2012US31702	20120330

Priority:

US20110516274P 20110401 US20120008909 20120330 WO2012US31702 20120330

Probable Assignee: NUVOSUN INC

Assignee(s): (std): CLEEREMAN ROBERT J ; HOLLARS DENNIS R ; NUVOSUN INC ; PEARCE DAVID B

Inventor(s): (std): PEARCE DAVID B ; HOLLARS DENNIS R ; CLEEREMAN ROBERT J

Inventor(s): DAVID B PEARCE ; DENNIS R HOLLARS ; ROBERT J CLEEREMAN

Agent(s): RAYNOR JOHN; AOKI ATSUSHI; SHIMADA TETSURO; ALEMOZAFAR ALI R 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 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

24) Family number: 52368821 (US2014083028A)

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Title: ROOF SOLAR PANEL FOR CONVENTIONAL SLOPING ROOF AND SHINGLE INTEGRATION

Abstract: There is provided an improved roof solar panel, embodying an array of photovoltaic cells mounted on conventional modular roof sheathing, that can be readily and easily installed onto a conventional sloped roof and integrated into conventional roof shingles. Such panel includes a shingle mounting surface on a perimeter area of the sheathing, a flash strip mounted inside such shingle mounting surface and, when installed on the roof, a retainer trim for securing shingles mounted on said shingle mounting surface, while mounting to the flash strip and sealing to a perimeter of a rigid transparent protective sheet over the array. The retainer trim also serves to provide means for securing the panel onto roof trusses. Integration with the conventional roof shingling provides, inter alia, an attractive low profile with improved water shedding and wind resistance properties. There is also an intermediate roof solar panel, for installation on a roof so as to provide the aforementioned improved roof solar panel. The invention also relates to a kit comprising, inter alia, said intermediate roof solar panel, and to a method of installing said intermediate roof solar panel.

Classifications:

International (IPC 8-9): E04B7/00 E04D13/14 E04D13/18 F16B5/00 F24J2/04 F24J2/46 F24J2/52 H01L31/048

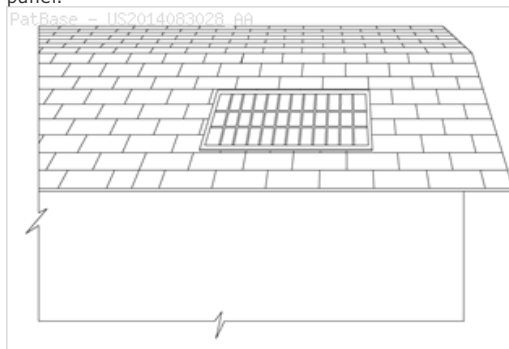
H02S20/23 (Advanced/Invention);

F16B11/00 F16B5/06 (Advanced/Non-invention)

CPC: H02S20/23 H01L31/0482 Y02E10/50 F16B5/0635 F16B11/006 Y02B10/12 Y02B10/20 Y02E10/44 Y02E10/47 F24S25/61 F24S20/67 F24S40/10 F24S2025/014 F24S2025/6005 F24S2025/601

European: F24J2/04B12 F24J2/46B6 F24J2/52A20B R24J2/46P14 R24J2/46P34 R24J2/52P10

US: 52/173.3 52/302.6 52/58 52/745.21



Family:

Publication number	Publication date	Application number	Application date
CA2739766 AA	20121110	CA20112739766	20110510
CA2739766 C	20160823	CA20112739766	20110510
US2014083028 AA	20140327	US20120116637	20120510
US8991116 BB	20150331	US20120116637	20120510
WO12151700 A1	20121115	WO2012CA50305	20120510

Priority:

CA20112739766 20110510 WO2012CA50305 20120510

Probable Assignee: RICHARDSON ROBERT

Assignee(s): (std): RICHARDSON ROBERT

Inventor(s): (std): RICHARDSON ROBERT

Agent(s): CASSAN MACLEAN; CASSAN MACLEAN IP AGENCY INC; VICTOR A; HESLIN ROTHENBERG FARLEY AND MESITI PC

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 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

25) Family number: 53174492 (EP2565340A1)

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Title: ROOF COVERING SYSTEM

Abstract: A roof covering element (100) is described, comprising: an insulating body (110); a water-tight cover plate (150) attached to an upper face of the insulating body (110); a flexible solar foil (160) arranged on the cover plate (150). In its front face (112), the insulating body has a groove-shaped recess (115), and has a recess (125) in a corner area between its rear face (113) and its lower face (111), in such a manner that a rear end of the roof covering element fits in the groove-shaped recess (115) of a roof covering element laying above. At a first end of the roof covering element, the solar foil (160) is provided with two electrical connections (161, 162) at the upper side of the foil. At the opposite end, the cover plate (150) extends to beyond the body (110) and may overlap with the electrical connections (161, 162) of a neighboring roof covering element.

Classifications:

International (IPC 8-9): E04D13/18 E04D3/24 E04D3/35 E04D3/361

H01L31/02 H01L31/048 (Advanced/Invention)

CPC: E04D3/358 E04D3/351 Y02B10/12

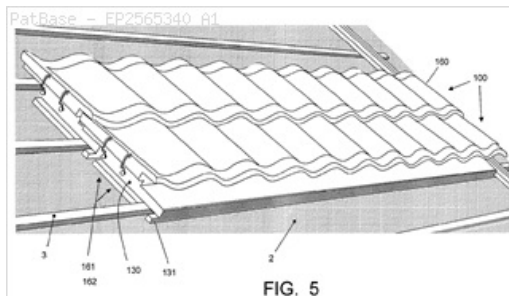


FIG. 5

Family:

Publication number	Publication date	Application number	Application date
EP2565340 A1	20130306	EP20120006204	20120831
NL1039783 A	20130304	NL20121039783	20120831
NL1039783 C	20131112	NL20121039783	20120831

Priority:

NL20111039016 20110831 NL20121039783 20120831

Probable Assignee: VEENSTRA

Assignee(s): (std): PADMOS JAN CORNELIS WILLEM ; VEENSTRA LUCAS JAN

Assignee(s): VEENSTRA ; PADMOS

Inventor(s): (std): PADMOS JAN CORNELIS WILLEM ; VEENSTRA LUCAS JAN
Agent(s): GRIEBLING ONNO
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

26) Family number: 54361627 (WO13110380A1) © PatBase

Title: ORGANIC PHOTOVOLTAICS ON FREE-FORM SURFACES

Abstract: The present invention relates to a method for producing a formed component having at least one organic photovoltaic module. In order to provide dimensionally stable photovoltaic modules for surfaces of any shape, the method comprises the following method steps: a) producing an organic photovoltaic module on a planar substrate; b) forming the substrate provided with the at least one organic photovoltaic module in such a way that at least one curved surface section is formed, which has at least one organic photovoltaic module; and c) securing the form produced in method step b). The present invention also relates to formed components on which at least one curved surface section has at least one organic photovoltaic module.

Classifications:

International (IPC 8-9): B29C69/00 B60Q1/00 B62D25/00 B62D29/00 H01L31/042 H01L31/048 H01L51/00 H01L51/44 H01L51/48 (Advanced/Invention); H01L51/42 (Advanced/Non-invention)

CPC: B29C69/00 H01L51/0097 H01L51/42 B29C53/04 B29K2995/0026 B29L2031/3005 B29C45/14639 B29C45/14811 Y02E10/549 Y02P70/521

Family:

Publication number	Publication date	Application number	Application date
DE102012200864 A1	20130725	DE201210200864	20120123
WO13110380 A1	20130801	WO2012EP74243	20121203

Priority:

DE201210200864 20120123

Probable Assignee: BOSCH GMBH ROBERT

Assignee(s): (std): BOSCH GMBH ROBERT ; KNIPRATH ROLF ; POLSTER STEFFEN ; VOLZ WOLFGANG

Assignee(s): ROBERT BOSCH GMBH

Inventor(s): (std): KNIPRATH ROLF ; POLSTER STEFFEN ; VOLZ WOLFGANG

Agent(s): ROBERT BOSCH GMBH

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

27) Family number: 56585501 (US2014150357A) © PatBase

Title: COMPOSITE INSULATING PANEL

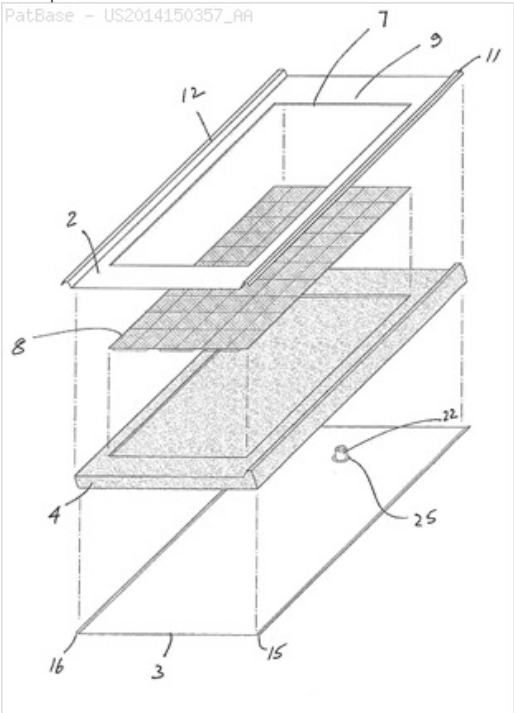
Abstract: A method for manufacturing a composite insulated panel (1) comprising the steps of: providing a first sheet (2); cutting a hole (7) in the first sheet (2) to accommodate a photovoltaic solar collector module (8); inserting the solar collector module (8) into the cut-out hole; sealing the solar collector module to the first sheet (2); providing a second sheet (3), the second sheet having an opening therein to receive a connector housing (22); leading electrical connections from the solar collector module through the connector housing; and providing a body (4) of insulating material between the inner face of the second sheet and the inner face of the first sheet and the inner face of the photovoltaic solar collector module.

Classifications:

International (IPC 8-9): B32B27/06 B32B3/08 B32B3/24 B32B33/00 B32B37/00 E04C2/284 E04C2/292 E04D13/18 E04D3/35 E04D3/40 H01L27/142 H01L31/048 H01L31/18 H02S20/23 H02S30/10 H02S40/34 (Advanced/Invention); F24J2/51 F24J2/52 (Advanced/Non-invention)

CPC: H02S20/22 H02S20/25 E04D3/352 H02S20/23 H02S40/34 Y02B10/12 Y02E10/50 Y10T29/49355 Y02B10/20 H01L31/048 F24S25/40 F24S80/60

US: 1/1 136/251 29/890.033 52/173.3



Family:

Publication number	Publication date	Application number	Application date
AU2013257435 AA	20140619	AU20130257435	20131113
AU2013257435 BB	20170316	AU20130257435	20131113
AU2013354388 AA	20140612	AU20130354388	20131108
AU2013354388 BB	20160414	AU20130354388	20131108
CA2834039 AA	20140603	CA20132834039	20131125
CA2834039 C	20170307	CA20132834039	20131125
DE602013022922 D1	20170810	DE201360022922T	20131108
EP2738318 A1	20140604	EP20120195237	20121203
EP2925940 A1	20151007	EP20130788780	20131108
EP2925940 B1	20170628	EP20130788780	20131108
NZ617635 A	20150626	NZ20130617635	20131112
US2014150357 AA	20140605	US20130095161	20131203
US9281430 BB	20160308	US20130095161	20131203
WO14086552 A1	20140612	WO2013EP73431	20131108

Priority:

EP20120195237 20121203 IE20120000521 20121203 EP20130788780 20131108
WO2013EP73431 20131108

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Assignee(s): (std): KINGSPAN HOLDINGS IRL LTD

Assignee(s): KINGSPAN HOLDINGS IRL LTD KINGSCOURT ; CAROLAN JAMES ; FLYNN GREGORY

Inventor(s): (std): CAROLAN JAMES ; FLYNN GREGORY ; JAMES CAROLAN ; GREGORY FLYNN

Agent(s): SHELSTON IP; SHELSTON IP PTY LTD; MOFFAT AND CO; LANE CATHAL MICHAEL; SKRBA SINEAD;
TOMKINS AND CO; HARNESS DICKEY AND PIERCE PLC; SKRBA SINEAD 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

28) Family number: 56884860 (US2014190105A)

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Title: METHOD OF FRAMING AND CONSTRUCTING A BUILDING STRUCTURE AND WALLS AND PANELS FOR USE IN SUCH CONSTRUCTION

Abstract: The invention is a building wall and a method of framing and constructing a building structure such as a dwelling or commercial building, and more particularly a method utilizing engineered, prefabricated panels having insulating qualities and having grooves and channels therein to aid in the framing of the walls, ceiling and floor of the building. The present invention also relates to a building wall assembled according to the method of the present invention. The present invention also relates to a novel insulated panel for use in framing and constructing a building wall for a commercial or residential structure.

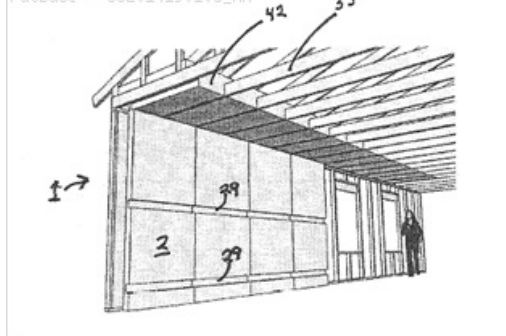
Classifications:

International (IPC 8-9): E04B1/18 E04B1/26 E04B2/02 E04B5/02
E04B5/12 E04B9/04 E04C2/20 E04C2/24 (Advanced/Invention);
E04B2/70 E04C2/38 (Advanced/Non-invention)

CPC: E04B5/02 E04C2/243 E04B1/26 E04B2/707 E04B5/12
E04C2/384 E04C2/386 E04C2/388

US: 52/309.1 52/483.1 52/745.1 52/794.1

PatBase - US2014190105_AA

**Family:**

Publication number	Publication date	Application number	Application date
US2014190105 AA	20140710	US20140147543	20140105
US9702147 BB	20170711	US20140147543	20140105

Priority:

US20130749867P 20130107 US20140147543 20140105

Probable Assignee: BABSON CLIFFORD EUGENE

Assignee(s): (std): BABSON CLIFFORD EUGENE

Inventor(s): (std): BABSON CLIFFORD EUGENE ; BEBEE GLYNN MORGAN

29) Family number: 58628639 (US2015059277A)

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Title: VIP ROOFING INSULATION

Abstract: An insulating composite panel (ICP) 100, has an initial thermal resistance (R value) greater than about 50 ft²·degrees Fahrenheit ·h/Btu (8.8 K·m²/W) at a thickness less than 2.0 in (51 mm). The ICP is preassembled with a vacuum insulation panel (VIP) 102 protected by a lower rigid cover board 104 adhered to a lower surface of the VIP by a lower grid of adhesive ribbons 108, and by an upper rigid cover board 106 adhered to an upper surface of the VIP by an upper grid of adhesive ribbons 110. Each of the adhesive grids 108, 110 is augmented by a respective continuous ribbon of adhesive 112, 114 along the entire perimeter of each respective interface between the VIP 102 and each respective cover board 104, 106.

The ICP has high resistance to wind uplift, mold, and fire, and low mass per unit area.

Classifications:

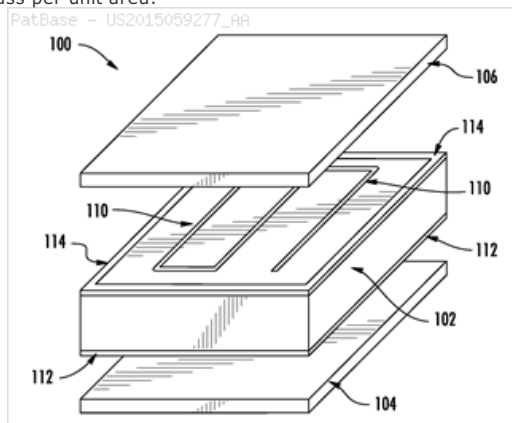
International (IPC 8-9): E04D13/16 E04D3/32

E04D3/35 (Advanced/Invention);

E04B1/80 E04D3/32 (Advanced/Non-invention)

CPC: E04D13/1606 E04B1/803 E04D3/32 E04D3/351 E04D3/357
Y10T428/231

US: 1/1 428/69 52/411



Family:

Publication number	Publication date	Application number	Application date
US2015059277 AA	20150305	US20140476947	20140904
US9297164 BB	20160329	US20140476947	20140904

Priority:

US20130873832P 20130904 US20140476947 20140904

Probable Assignee: JROC HOLDINGS LLC

Assignee(s): (std): ARESKOG KENNETH C ; COLLINS RICHARD O ; JROC HOLDINGS LLC ; MUSGRAVE DWIGHT S

Inventor(s): (std): ARESKOG KENNETH C ; COLLINS RICHARD O ; MUSGRAVE DWIGHT S

Agent(s): STAUFFER PATENT SERVICES LLC; MORIS

30) Family number: 59224374 (US2015129016A)

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Title: MODULAR ROOF SOLAR PANEL FOR CONVENTIONAL ROOF AND ROOFING INTEGRATION

Abstract: There is provided an improved roof solar panel, embodying a photovoltaic panel mounted on a frame for easy installation onto a conventional sloped roof and integration with conventional roof coverings. Such panel includes a roof covering mounting surface on an outside support of the frame, a photovoltaic panel mounting surface on an inside support of the frame, and when installed on the roof, a retainer trim for securing the roof covering and photovoltaic panel mounted on said supports while mounting to the frame. The frame also serves to provide means for securing the panel onto roof trusses. Integration with the conventional roof covering provides, inter alia, an attractive low profile with improved water shedding, wind resistance, and thermal regulation properties. The invention also relates to a kit comprising, inter alia, said roof solar panel, and to a method of installing said roof solar panel.

Classifications:

International (IPC 8-9): F24J2/04 H01L31/042 H01L31/18

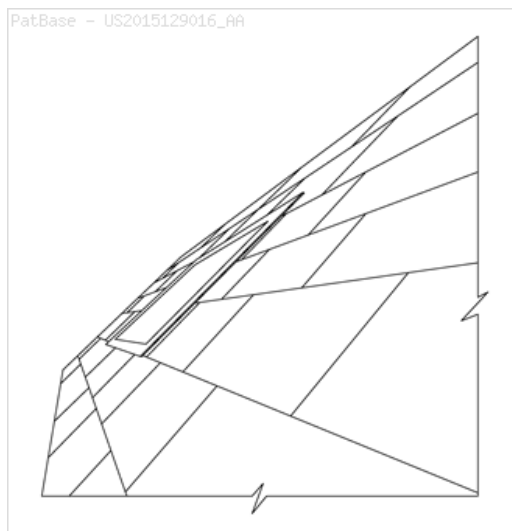
H02S20/23 (Advanced/Invention);

F24J2/46 (Advanced/Non-invention)

CPC: H02S20/23 Y02B10/12 Y02B10/20 Y10T29/49355 F24S20/67

F24S80/40

US: 1/1 136/251 29/890.033



Family:

Publication number	Publication date	Application number	Application date
US2015129016 AA	20150514	US20130075774	20131108
US9294032 BB	20160322	US20130075774	20131108

Priority:

US20130075774 20131108

Probable Assignee: RICHARDSON ROBERT

Assignee(s): (std): RICHARDSON ROBERT

Inventor(s): (std): RICHARDSON ROBERT

Agent(s): HESLIN ROTHENBERG FARLEY AND MESITI PC; VICTOR A