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Wall lining panel

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ABSTRACT

A wall lining panel comprising a panel body of mineral fibre material such as MgO and a layer of material within the lining body to improve insulation; whereby the layer of material is a matted synthetic fibrous material such as polystyrene or fibreglass. At least one surface of the panel preferably has a surface effect including one of:

1. a texture surface;
2. a decorative surface; and
3. an insulation surface.

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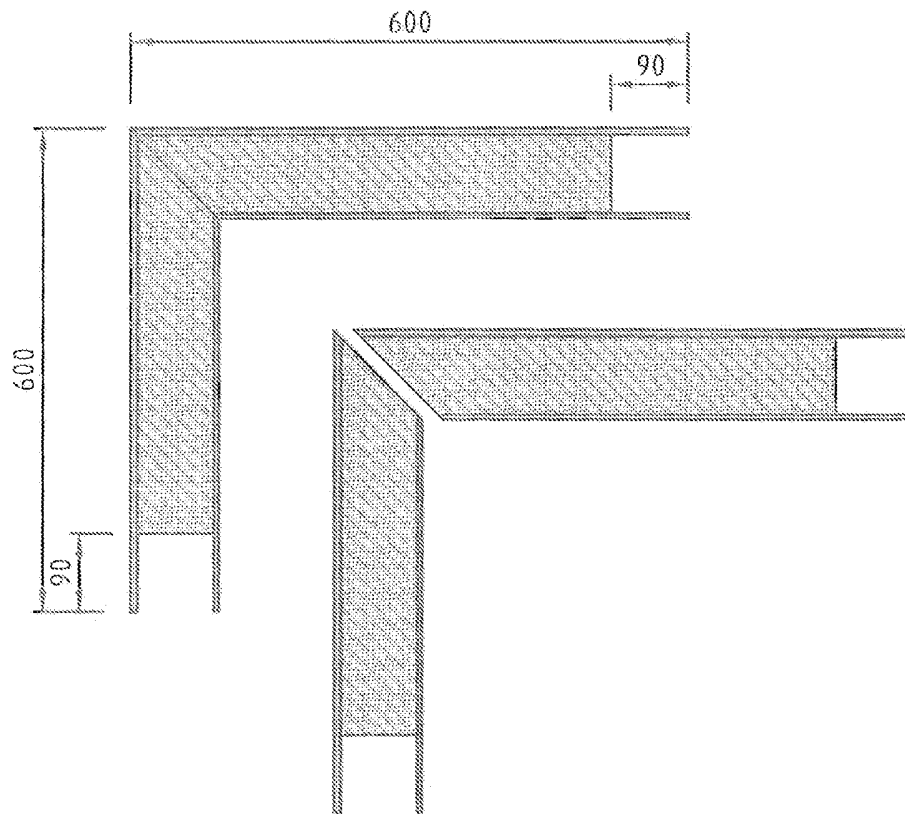


Figure 5

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Regulation 3.2

AUSTRALIA

Patents Act 1990

**COMPLETE SPECIFICATION
INNOVATION PATENT**

APPLICANT: Adnan A. Dennaoui
INVENTION TITLE: WALL LINING PANEL

The following statement is a full description of this invention, including the best method of performing it known to me: -

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WALL LINING PANEL

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Field of the Invention

This invention relates to a wall lining panel and in particular to a wall lining system that uses boards or panels.

10

Background to the Invention

Wall lining panels can be used internally or externally. They are means of creating a continuous wall with continuous planar effect as well as providing angled walls with no gaps.

15

However wall structures are generally a single layer material. Insulation or the like is applied in batt form in between the joists before construction of internal walls. External walls are considered too difficult to include other material and therefore the single layer is the only layer. Therefore the current building methods does not allow a system for ready consolidation of features resulting in inferior wall structures.

20

Rendering of walls is a usual practice for internal and external walls including fences and other structures.

25

Renders are traditionally applied to give protection to walls built of poor quality or porous brick or to walls in exposed locations facing driving winds. They help by acting like a sponge, absorbing rainfall then allowing it to evaporate rather than soak into the wall. Most houses built of rubble stone would have been rendered originally and they tend to suffer from penetrating damp if the lime render is removed or replaced with a cement rich render.

30

There is a very wide range of types of rendering. Walls of many buildings were often treated with just a single coat of render, amounting to not much more than a very full, flush pointing. Such a render is thicker in the hollows and very thin over the brick or stone faces. There was no attempt to create a flat surface so the undulations of the wall and even some of the stones themselves were not concealed. For a smarter finish or on more prestigious buildings the aim would be for a more uniform render achieved by applying a scratch coat to fill the hollows and take up some of the unevenness followed by one or two more coats which are worked to a flatter surface.

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5 For masonry, it is necessary to thoroughly wet the wall with clean water using a hose-pipe or sprayer. The more porous the background the more water will be required. Allow the water to soak in a bit then spray again, and repeat until the surface layers of the wall are thoroughly damp. When the render is applied the wall should be damp but without water glistening on the surface.

There are many different ways to apply render depending on the type of finish required, the type of render used and the preference and experience of the person applying it.

10 Wet renders must be applied using as much pressure as possible to force the mortar into the surface crevices to form a close contact between mortar and backing. For masonry walls, whilst it is possible to apply render using a plasterer's trowel the best result is achieved by throwing the mortar on from a trowel. This technique ensures the best bond between the mortar and the wall, expels any air in the mix and ensures that the mortar is well compacted. It doesn't matter if the first coat goes on rather unevenly as you can remove any excess mortar by running the edge of a trowel over the surface to cut off the rough bits.

20 There are two schools of thought regarding when to apply the second coat. Some practitioners advocate applying the second and subsequent coats whilst the previous coat is still 'green' or 'leather hard', that is after it has firmed up sufficiently to resist indentation with a thumb but is still soft enough to scratch with a finger nail and is still damp. This varies according to drying conditions. For internal plaster it may be anything up to a week or so between coats. This method requires less dampening of the surface before application of the second coat and may achieve a better bond between coats. However, there is a risk that there might be further shrinkage in the base coat after the second coat has been applied, and it will take a lot longer for the undercoats to fully carbonate and achieve full strength. The alternative approach is to allow the base coat to dry out slowly. The work should be protected from drying out too quickly. Always ensure that the previous coat is damp before applying the next one. The final appearance depends on the type of mortar used for the top coat and the tools used to finish it.

35 It can therefore be seen that the art of rendering is complicated and can result in uneven results. Further there is clearly a large level of workload in applying multiple layers of material to form a rendered surface. Still further is that each layer can have different and faulty adhesion effectiveness to the layer below dependent on material, technique and timing. It is therefore beneficial to have an improved system.

Dry lining is a generic term applied to the use of plasterboard or cementious sheeting or the like on timber or metal frames as a replacement to conventional wet building practices where rendering of brick or block by plaster or other render would be specified. The term
5 dry lining strictly applies to the use of plasterboard to replace a sand and cement or wet plaster finish to internal or external blockwork.

The main advantages of dry lining relate to the speed of installation and lower imposed
10 water loadings on a building. Other advantages include the fact that the use of lightweight partitions will result in a lighter building with consequent benefits in the specification of the foundations, together with greater flexibility in designing and changing the internal shape of the house as a family's needs change. Because of the pre-finished nature of most board systems, drylining can often be undertaken by do-it-yourself builders, thus offering potential
15 savings in the overall cost of the build. However generally drylining results in a flat product that might still require two layers of rendering if a rough textured look is required.

Accordingly, it is an object of the present invention to overcome or substantially ameliorate one or more of the disadvantages of the prior art.

20

Summary of the Invention

In accordance with the invention there is provided a wall lining panel comprising a panel body of mineral fibre material such as MgO and a layer of material within the lining body to improve insulation; whereby the layer of material is a matted synthetic fibrous material such
25 as polystyrene or fibreglass.

At least one surface of the panel preferably has a surface effect including one of:

- a. a texture surface;
- b. a decorative surface; and
- 30 c. an insulation surface.

In one form, on at least one outer surface an embedded cross linked member forming a membrane with a weave spacing; whereby the moulding of the wall lining body forms at least a partial extrusion of material between the weave to provide a consistently rough outer
35 surface such that the wall lining provides at least a partially pre-rendered outer surface, with on at least one outer surface an embedded cross linked member forming a membrane with a weave spacing whereby the moulding of the wall lining body forms at least a partial

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- 5 extrusion of material between the weave to provide a consistently rough outer surface such that the wall lining provides at least a partially pre-rendered outer surface wherein the cross linked is a cross weave having substantially between 3 to 12 millimetre weave gap with the extrusion through the weave being greater than the thickness of the cross linked member and less than 50% of the spacing of the weave.

The wall lining panel can have the panel body includes one of more of:

- 10 a. a shaping of the panel body to encompass or sandwich the insulation within at least two planar body sections;
b. an edging of the panel body to allow abutment of adjacent panels in respective angular configurations; and
c. a complementary edging of the panel body to allow interfitting engagement of adjacent panels.

- 15 The invention also provides a wall lining comprising: a lining body; with on at least one outer surface an embedded cross linked member forming a membrane with a weave spacing; whereby the moulding of the wall lining body forms at least a partial extrusion of material between the weave to provide a consistently rough outer surface such that the wall lining provides at least a partially pre-rendered outer surface.

20 The cross linked member can be a cross weave having substantially between 3 to 12 millimetre weave gap with the extrusion through the weave being greater than the thickness of the cross linked member and less than 50% of the spacing of the weave.

- 25 In a particularly preferred form the invention provides a wall lining formed in substantially planar sheets, panels or tiles for mounting to a structure to form a textured wall surface comprising:

- a. a lining body formed of MgO, glass material or cementitious material;
b. with on at least one outer surface an embedded weather and fire resistant cross
30 linked member forming a membrane with a weave spacing of about 5 millimetres in two orthogonal directions;
c. an outer surface formed of the smooth substantially planar cross linked member and a partial extrusion of material between the membrane weave of the cross linked member to provide a consistently rough surface;

- 35 whereby the wall lining provides at least a partially pre-rendered surface.

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It can be seen that the present invention provides a wall lining is to provide an internal or external wall lining board or panel that is applied to form walls and ceilings.

5 The board is preferably formed of MgO board, or other cement sheeting material with a pre-render finish, other MgO boards do not.

The board includes a fibre mesh integrated in the board.

10 The invention therefore provides a unique / novel product with a rough textured- render finish. All other MgO boards have a much smoother finish. This allows trades person (plasterers etc) to need to apply only one coat render application to form a rendered surface. This provides a cost effective solution to rendering applications for homes/commercial building.

15 The wall lining can be an 8mm Ezy-Lite Board has a Fire Rating of 1hr and 40 min.
(The full scale fire test was conducted by Exova Warrington Fire P/L, where a 3.0 x 3.0 timber framed wall was built and cladded with Ezy-Lite Board. The test ran for 1 hr and 40min at temperature exceeding 1200 Deg Cel. Ezy-Lite Boards has been rated by the Building Commission as a BAL 40 which makes Ezy-Lite Board a cladding board that can
20 be used in the highest and extreme fire zone. Ezy-Lite Board has no limit of use whether Bush Fire Zone or freezing temperatures, our product delivers where others fail, without swelling, shrinking, delaminating and reduced to ashes.

25 Some ideal use can be, external or internal lining, tile underlay, feature walls, eave lining, fire rated walls, acoustic walls.

Brief Description of the Drawings

In order that the invention is more readily understood embodiments will be described by way of example only with reference to the drawings wherein:

30 Figure 1 is a photographic view of a pre-rendered wall lining in accordance with a first embodiment of the invention;

Figure 2 is a planar overhead diagrammatic view of the wall lining of Figure 1;

Figure 3 is a cross sectional diagrammatic view of the wall lining of Figure 1;

35 Figure 4 is a diagrammatic side view of various pieces of the wall lining of Figure 1 in different thicknesses with top and bottom coverings and showing a linear interengagement to form a continuous outer treated surface;

Figure 5 is a diagrammatic side view of various pieces of the wall lining of Figure 1 in different thicknesses with top and bottom coverings and showing a rectilinear interengagement to form a continuous outer treated surface by use of diagonal interengagement surfaces;

Figure 6 is a diagrammatic side view of various pieces of the wall lining of Figure 1 in different thicknesses with top and bottom coverings and showing a rectilinear interengagement to form a continuous outer treated surface by protruding outer surfaces;

Figure 7 is a photographic view of a wall lining with a modified polystyrene inner U-shaped body but pre-rendered outer surface in accordance with a second embodiment;

Figure 8 is a photographic view of a wall lining with a modified polystyrene body but pre-rendered single outer surface in accordance with a third embodiment;

Figures 9 and 10 show diagrammatic joining and mounting of embodiments of the invention; and

Figures 11 and 12 are details of the panel edging and joining systems.

Description of a Preferred Embodiment of the Invention

Referring to the drawings there is shown in Figures 1 to 4 a particularly preferred form of the invention provides a wall lining 21 formed in substantially planar sheets, panels or tiles for mounting to a structure to form a textured wall surface. The wall lining 21 includes a lining body 22 formed of MgO, glass material or cementitious material. on at least one outer surface an embedded weather and fire resistant cross linked member 23 forming a membrane with a weave spacing of about 5 millimetres in two orthogonal directions. An outer surface 24 is formed of the smooth substantially planar cross linked member and a partial extrusion of material from the lining body 22 between the membrane weave of the cross linked member 23 to provide a consistently rough surface whereby the wall lining provides at least a partially pre-rendered surface.

In this preferred embodiment, the invention provides a range of wall lining products and sizes including:

Product	Size: W x L x T	Description	Use
Ezy-Lite™ panel	1220 x 2440 50 -	Ezy-Lite™ board	Internal partition wall
	150mm	outer lining	Exterior Lining
	1220 x 2700	Inner core	Feature landscape
	1220 x 3000	Polystyrene	wall
	Made to order		

Ezy-Lite™ Board	1220 x 2440 6 - 8mm 1220 x 2700 1220 x 3000	Thickness from 4 - 25mm Standard lining board 8mm	Use internal, external wall lining, tile underlay, eave lining, and flooring board.
Ezy-Lite™ Wood Grain Board	1220 x 2440 8mm	Ezy-Lite™ board with wood grain surface finish	External wall lining, fencing and gable fill
Ezy-Lite™ Pre-Render	1220 x 2440 8 - 10mm 1220 x 2700 1220 x 3000	Ezy-Lite™ Board with render finish	External wall, fence, and feature wall lining board
Ezy-Lite™ Roof	950 x length from 2 - 6m Thickness 50 - 100mm	Color roof sheet top inner Polystyrene and Ezy- Lite board finish lining or color zinc	Full span lining of roof insulated and lined see span table
Ezy-Lite™ SingleSide Panel	1220 x 2400 1220 x 2700 1220 x 3000 60- 150mm	8mm Ezy-Lite™ Board outer with Polystyrene	Ideal for external cladding, feature fence.
Ezy-Lite™ Ceiling Tiles	600 x 600 x 6 - 8mm special size available	Ezy-Lite™ Board with different type patterns	Ceiling for office, restaurant, schools, hotels, apartments, theaters, and much more

Ezy-Lite™ Board

- Ezy-Lite™ Board is a unique material with many use whether internally or externally without any special surface treatment. Ezy-Lite™ Board can be used as internal wall cladding, tile underlay, exterior wall lining, eave lining board, and decorative features. Architects can now
- 5 implicate into designs a unique board with great flexibility and strength where special design

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features are required without the use of heavy construction panels for strength and fragile boards for flexibility.

5 Ezy-Lite™ Board meets all Australian Standards for Fire, Water, Insect, Impact and Mold resistant with the flexibility of plaster and the strength of Ply sheeting.

10 Ezy-Lite™ Board used as replacement of particle boards flooring with the advantage of being water proof, acoustic, insulated, fire proof, anti mould, termite resistant and easy to cut and lay. The use of e as flooring eliminates the use if different types of materials for tiling, insulating and protecting from fire and termites.

15 Water proofing requires special type of cement board with expensive surface treatment applied to protect, using a 14mm Ezy-Lite™ Board provides all the needs to protect against rot, fire, mould and termite without any surface treatment. The use of Ezy-Lite™ Board as a flooring saves on labour and additional material cost providing a lifetime protection against any conditions where other materials had failed.

Ezy-Lite™ Panel.

20 Ezy-Lite™ panel is made from two layers of Ezy-Lite™ Boards, one on each face with Polystyrene inner which can be of any thickness ranging from 50 - 200mm depending on the customers request. The Panel can also be made with one E board on face with Polystyrene backing, this panel is ideal for external wall cladding or fence wall with timber frame. The pictures below shows different types of wall panels and boards available at any thickness requested.

25

Ezy-Lite™ Grain Board

Ezy-Lite™ Grain Board is the only board available on today's market, the board can now be used for different facade of buildings, houses or any project with the look of timber reality is required but without the regular maintenance of timber from decay.

30

Ezy-Lite™ Pre Rendered Board

35 The Ezy-Lite™ Pre Rendered Board is a unique board which has a rendered surface moulded into the board rather than applied to, this method provides a strength in the render coating and a strong base for any applications. The Board can be used as a tile underlay, rendered wall, feature fence, culture stone base, or any base board for any applications. Ezy-Lite™ Pre Rendered Board can be painted on direct or rendered with one coat of

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Acrylic render, for painting apply an undercoat before painting. Render can be applied direct without any base coat, and for tiling use standard tile adhesive.

Ezy-Lite™ Ceiling Tiles

- 5 Ezy-Lite™ Ceiling Tiles are the new product on the market for commercial use, the tiles are light weight with the advantages of Fire resistant, water proof, Acoustic, thermal rating, dose not mould, or swell. The tile is available in many designs and finish, i.e. matt, shine or gloss finish, which gives provide looks as well as safety.
- 10 The uses of the wall lining of the invention include use on exterior of house which can be cladded with Ezy-Lite panels and eaves with Ezy-Lite boards. Also the fence can use the pre-rendered wall lining. Further tiles can be laid on Ezy-Lite Board with standard tile adhesive.
- 15 Panels, no matter what type of design of building or construction, the panels make the construction stage easier. Different projects using Ezy-Lite™ panels and Boards, include a wall lined with stacking stones the under lay used was Ezy-Lite™ Board with the use of external tile adhesive. A wall lined with Ezy-Lite™ Panel and a window sill created by cutting the panel on a slight angle.
- 20 Eaves can be lined with Ezy-Lite™ Boards and the wall lined with Ezy-Lite™ Panel, the Panels consist of 8mm Ezy-Lite™ Board glued to 50mm Polystyrene board.
The panel was fixed with approved adhesive spaced at 200 - 300mm centers and fixed with galvanised bugale screws @ 300mm, cts this provides a very strong fixing to timber frame.
- 25 After the installation of the Ezy-Lite™ Boards or Panels, the joints are taped with fiber Glass tape and the corners are protected with Stainless Steel external angles before any render is applied to the walls. Ezy-Lite™ Boards or Panels can be finished using one coat of Acrylic texture Render or Two coats depending the surface finish.

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Installation

Ezy-Lite™ Boards are a unique formulated material, when the board or panel is installed their would be no physical movements in compression or expansion at the joints, the contraction and expansion in hot or cold climates is 0.08%. Therefor no tapes or filler required at joints. The Ezy-Lite™ Board and Panels are Pre-rendered on one face where the render is not applied on but molded into the board this method gives a solid and strong surface finish without cracking or flaking alike normal render procedures, this method saves time spent on site and huge amount of cost for rendering on small or large projects.

- 5
- 10 Ezy-Lite™ board is a very easy product to handle, despite its strength and rigidity. It must be installed in a professional "tradesman-like" manner to get the desired durability with perfect finish

- Installing Ezy-Lite™ board may be fixed to either light or heavy gauge domestic type steel, timber frames or battens over masonry. All the framing and substrate used must comply with relevant building regulations and standards.
- 15

It is also important to ensure that the frame is square and straight to provide the flush face to receive the sheeting.

- 20 Timber frame must comply with the requirements of AS1680 and Building Codes of Australia Studs must be provided at 450mm centres maximum, and noggins at 1200 mm centres Studs must be 90 x 45 for board joint on stud.

- Boards should be installed individually. They should be lifted off the floor and kept away from the ceiling by approximately 6mm to allow for any frame movement / shrinking / expansion. Ezy-Lite™ board may be screwed or nailed to the frame as appropriately. Use Ezy-Lite™ fasteners suitable for the frame in place, ensuring that the screws have enough length to provide a good grip into the timber frame.
- 25

- 30 All testing preformed by approved Material Testing Laboratories, used approved adhesive and fasteners on Ezy-Lite™ Board samples for Australian Standard testing. We provided leading adhesive manufacturers samples of Ezy-Lite™ Panels and Boards to test the best bonding agent that would be nontoxic when burnt, water proof, and will adheres to any materials such as brick, wood, steel and concrete.

35

The fasteners we recommend For Ezy-Lite™ Board are Class 3 mechanical galvanized Phillips countersunk head screw with a Course thread which drives into the board and

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- timber excellent, use self drill fine Course head for steel frame, We recommend 8 x 40 - 50mm screws. For the Ezy-Lite™ Panel we recommend the Class 3 Mechanical Galvanized Buggal screws with a hex head and a self countersunk head, the size of the screw depends on the thickness of the panel.
- 5 For extra strength and stability, use the staggering method of laying the Ezy-Lite™ Board/ Panel, this method of stagger lying provides a good wall bracing.
- 10 The panels can be laid vertically or horizontally, either way requires no studs on joints. The Tong and groove system on the panel gives a solid and even surface. For windows and door areas, cut the panel where required and using fibre tape, tape the ends and render one or two coats.
- 15 Painting Any traditional Acrylic paint can be used on the Ezy-Lite™ Boards or Panels, for internal and external use one coat primer must be used without the use of anti- alkaline primer.
- 20 Cutting Ezy-Lite™ board can be cut very easily with a carbide tip knife for rough cuts, place the Ezy-Lite™ board rough side up, scour along a straight line with the knife, then snap along the scoured line. Finer cuts are achieved by using power tools such as circular saw, jigsaw, bench top saw, etc. (Please note the section of Health and Safety Practices regarding dust) Refer to pictures below
- 25 Nailing. For best result on wall cladding, use Ezy-Lite™ Bond and galvanized nails for fixing, no pre drilling required, nails should be fixed 12mm from end and counter sunk max 1mm from the surface of the board.
- 30 Fixing. When fixing Ezy-Lite™ Boards or Panels, We recommend the use of Ezy-Lite™ Fasteners, which should not go more than 1.0mm from the surface of the board and 12mm away from edges. Further more do not over-spin these screws due to losing grip to frame.
- Joining. When joining the two boards or panels together, ensure the ends are free from dust, grease and oil before adding glue to ends.
- 35 Tiling. Using Ezy-Lite™ Board for tile underlay, we recommend using the rough side up of the board and glue down with Ezy-Lite™ Bond before nailing galvanized nails they should

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be used at 200 mm apart all joints should be sealed with approved sealer, apply tiles with standard tile adhesive.

- 5 Cutting Ezy-Lite™ Panels is made by using hand or power saw and Stanley knife when cutting Boards. Below are pictures showing the procedure of cutting the Ezy-Lite™ Board, simply place a straight edge along the required cutting area, that with a Stanley knife score along the straight edge than snap of the board.

Installing Ezy-Lite™ panels is accomplished in 3 basic steps which can be followed below,

- 10
- 1- Ensure wall is plumbed and free from any bows in timber wall.
 - 2- Place small daps 50 cent size approximately 200 -250 mm centres
 - 3- Place panel into position and fix with approved fasteners (for 60mm Panels use 14 x 100 Galvanised Buggal screw) make sure screws are countersunk approx 1 - 2mm below surface and 30 - 40mm from edge

15 Board or Panel details

Compressive Strength	20MPa (3,000 PSI)
Impact Resistance	>6kJ/m ²
Tensile Strength	>5.5 MPa
Density	1000 Kg/m ³
Moisture Absorption	26% Maximum saturation (slow absorbing rate)
Moisture Content	10%
Thermal Conductivity	0.216 (W/m-K) (like a softwood)
Modulus of elasticity	6045 N/mm ²
Flexibility	20.1 N/mm ²
Surface Alkalinity	10Ph
Thermal Expansion	0.08%
Hot/Cold	Less than < 0.03%
Expansion in Water	No water drops form on surface
Frost Resistance	Non-Combustible / 9mm Exceeds 1Hour
Combustibility / Fire	No Asbestos
Ratings	< 5 ug/g (not used in the process)
Asbestos Analysis	Tested designed ASTM E90=STC 48, 50, 55 and 60
Formaldehyde Analysis	MgO + glass fibre
Sound Attenuation (9mm)	
Basic Compound	

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The following test has been conducted by recognized laboratories in Australia and Around the World to comply with AS/NZS (Australian and New Zealand Standards) and International Standards.

- 5 AS/NZS 2908.2-2000 Cellulose-Cement product -Part 2 : Flat sheets. The Product is classed as type A, category 4 within AS/NZS 2908.2.

AS/NZS1530.2-1993 Method of tests on building materials, components and structure test for flammability of materials AS/NZS1530.3-1999

- 10 Methods for fire tests on building materials, components and structure simultaneous determination of ignition-ability, flame propagation, heat release and smoke release.

AS/NZS1530.4 2005 Testing of full scale wall in temperatures of 1200 Deg C achieving over 90 Min on 8mm Ezy-Lite Board.

AS 2464.4-1981 Testing for thermal insulation.

AS/NZS 4040.5-1996 Testing for resistance of impact.

- 15 AS/NZS 4284-2008 Testing for building facade.

B.C.A Meets the Building Code of Australia for Non-Flammable, Water Proofing, Impact Resistance and Moisture and damp proof.

- 20 Fire Rating Classification Per International Standards and Tests (class A1 as the highest rating for building materials)

European Standards UNI EN ISO 1182 (Noncombustible) Euroclass A1

European Standards UNI EN ISO 1716 (heat resistance) Euroclass A1

European Standards UNI EN ISO 13501-1 (smoke and flame) Euroclass A1

- 25 United States & Canada US ASTM E136 - Noncombustible

United States & Canada Surface Burning Characteristics CAN/ULC-S102

and US ASTM E 84

British Standards 476: part 7: 1997 and part 4: 1970, which shows it has a class 1 surface spread of flame and non combustible class.

30

While we have described herein a particular embodiment of a wall lining it is further envisaged that other embodiments of the invention could exhibit any number and combination of any one of the features previously described. However, it is to be understood that any variations and modifications can be made without departing from the spirit and scope thereof. This includes the panel system having a unique locking mechanism, like a jigsaw puzzle. (male/female-joints). Also covers not only a single-sided panel whereby a single Ezy-Lite board is attached to polystyrene board, but covers double sided panels,

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whereby Ezy-Lite board is attached on either side with Polystyrene foam sandwiched in between. The joining system can be a beveled cut & or tapered edge as per Figures 11 and 12.

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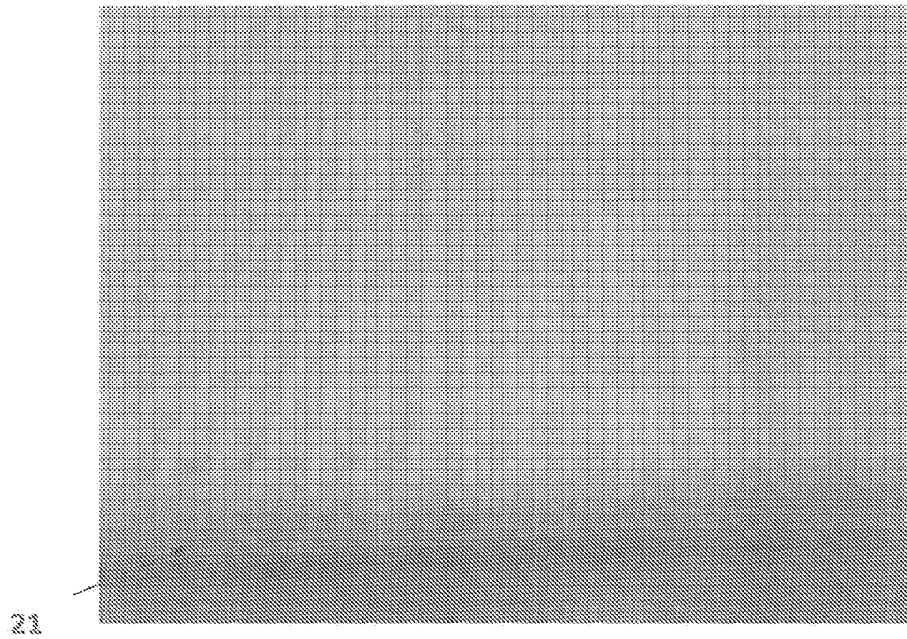
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The Claims Defining the Invention are as Follows:

1. A wall lining panel comprising:
 - a. a panel body of mineral fibre material such as MgO
 - b. a layer of material within the lining body to improve insulation;whereby the layer of material is a matted synthetic fibrous material such as polystyrene or fibreglass.
2. A wall lining panel according to claim 1 wherein at least one surface of the panel has a surface effect including one of:
 - a. a texture surface;
 - b. a decorative surface; and
 - c. an insulation surface.
3. A wall lining panel according to claim 1 or 2 with on at least one outer surface an embedded cross linked member forming a membrane with a weave spacing; whereby the moulding of the wall lining body forms at least a partial extrusion of material between the weave to provide a consistently rough outer surface such that the wall lining provides at least a partially pre-rendered outer surface, with on at least one outer surface an embedded cross linked member forming a membrane with a weave spacing whereby the moulding of the wall lining body forms at least a partial extrusion of material between the weave to provide a consistently rough outer surface such that the wall lining provides at least a partially pre-rendered outer surface wherein the cross linked is a cross weave having substantially between 3 to 12 millimetre weave gap with the extrusion through the weave being greater than the thickness of the cross linked member and less than 50% of the spacing of the weave.
4. A wall lining panel according to any one of the preceding claims wherein the panel body includes one of more of:
 - a. a shaping of the panel body to encompass or sandwich the insulation within at least two planar body sections;
 - b. an edging of the panel body to allow abutment of adjacent panels in respective angular configurations;
 - c. a complementary edging of the panel body to allow interfitting engagement of adjacent panels;
 - d. the panel system will have a unique locking mechanism, like a jigsaw puzzle (male/female-joints); and

- e. the joining system having a bevelled, cut or tapered edge.
5. A wall lining board substantially as hereinbefore described with reference to any one or more of Figures 7 or 12 of the drawings.

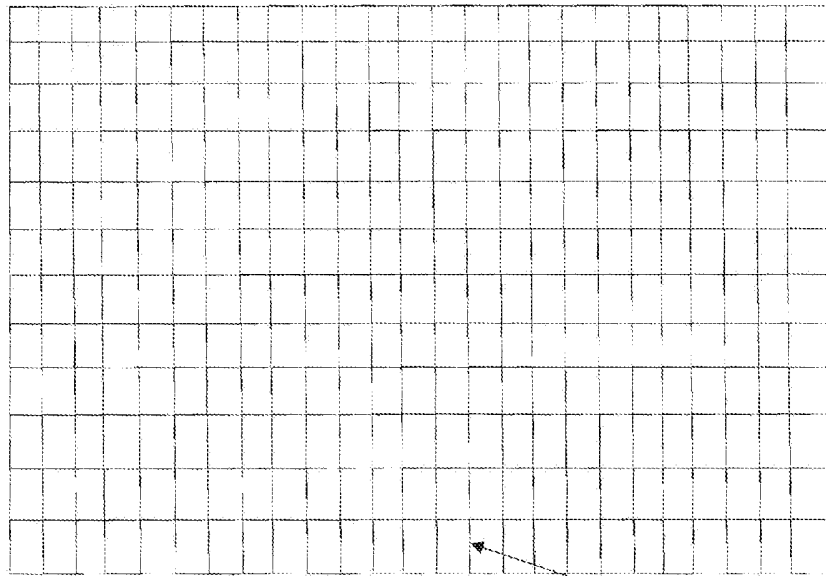


Ezy-Lite Board with Pre-Rendered face

Figure 1

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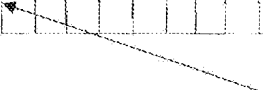


Figure 2

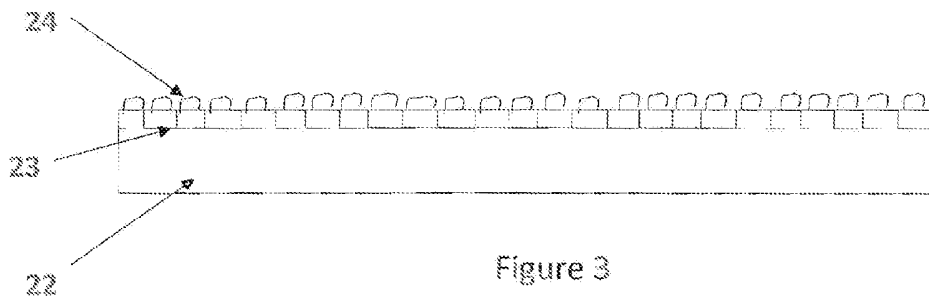


Figure 3

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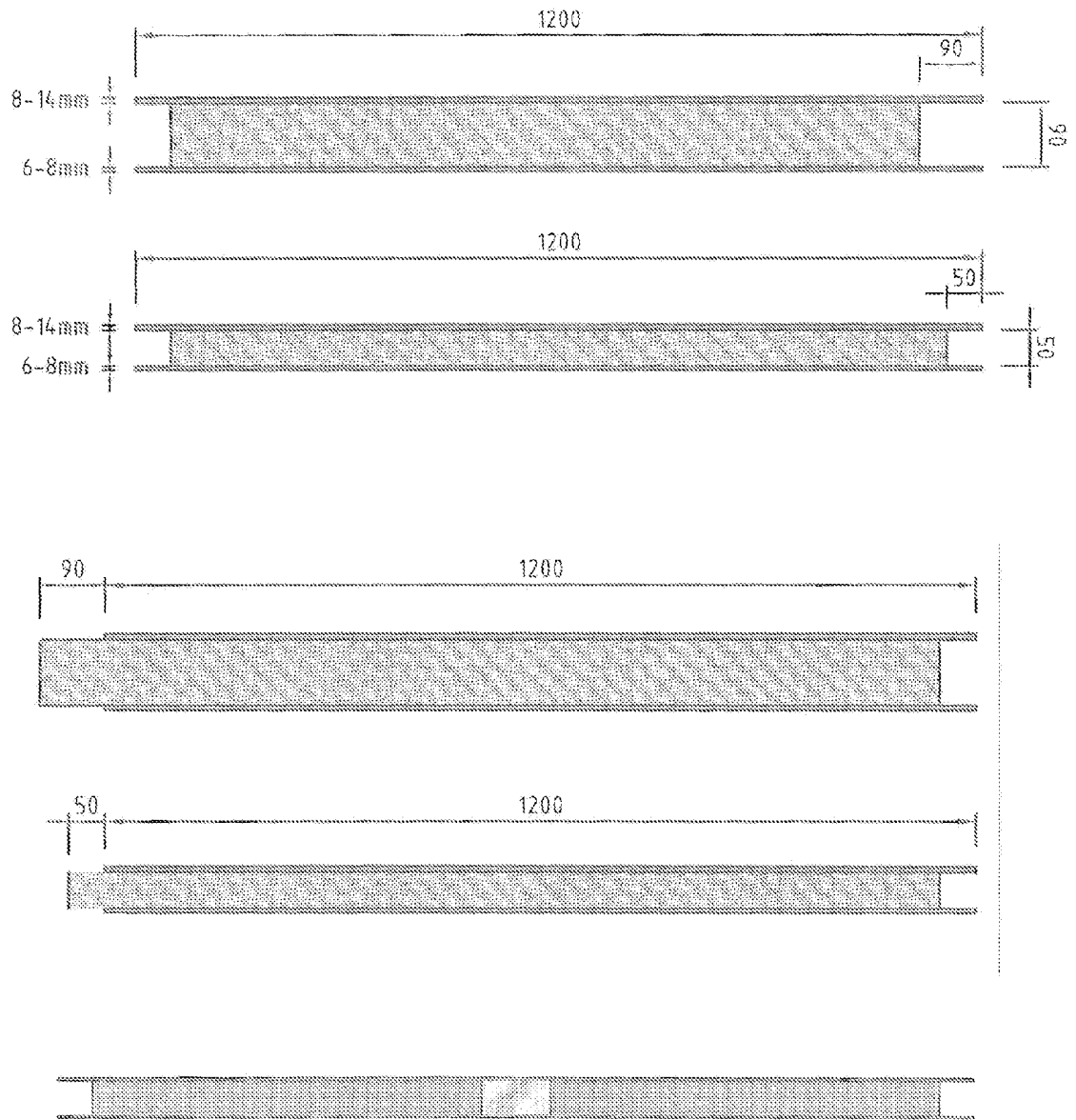


Figure 4

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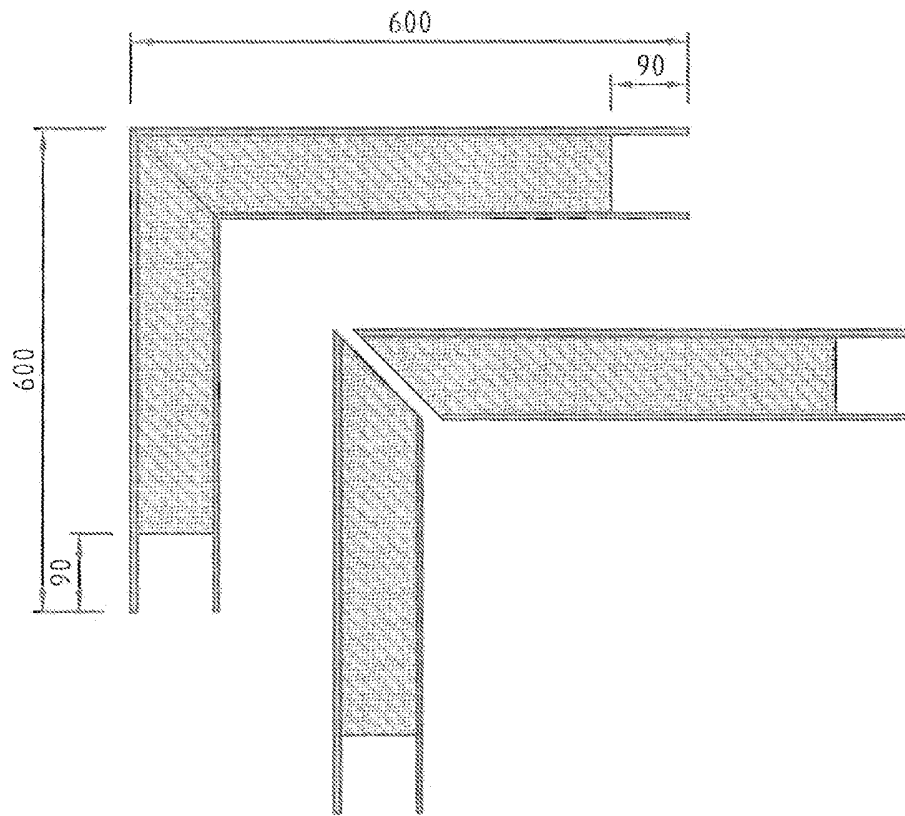


Figure 5

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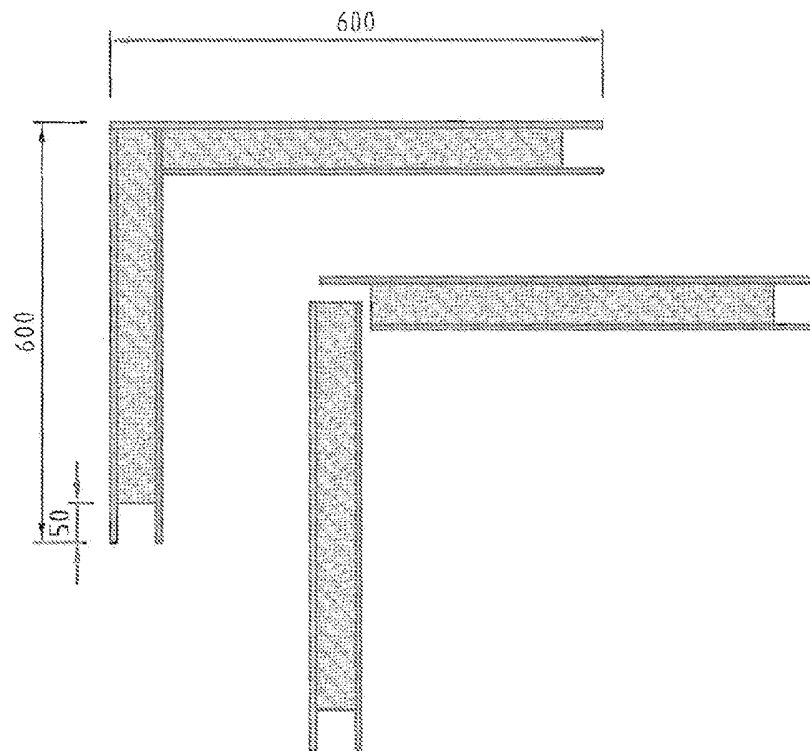
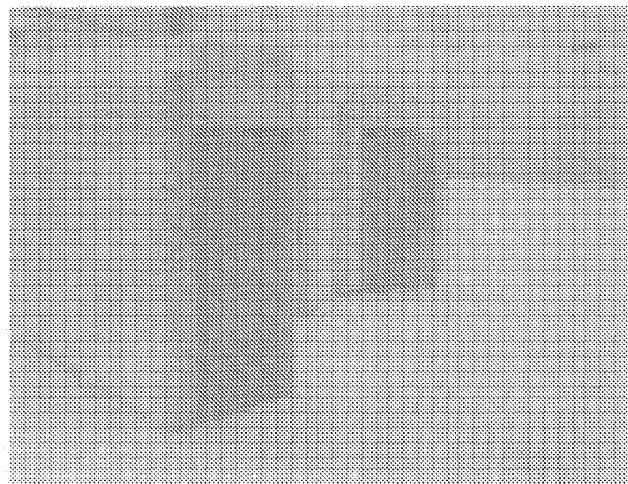
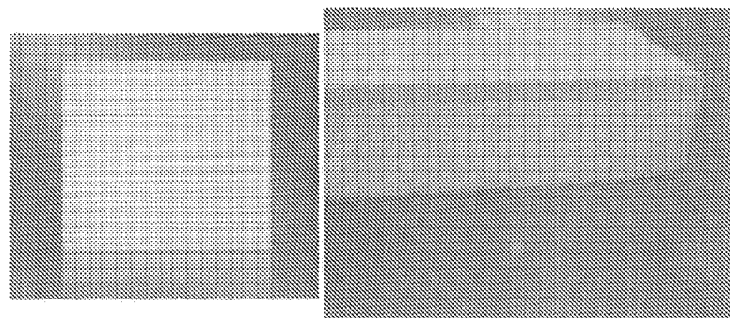


Figure 6



Ezy-Lite Panel with Recycled Polystyrene

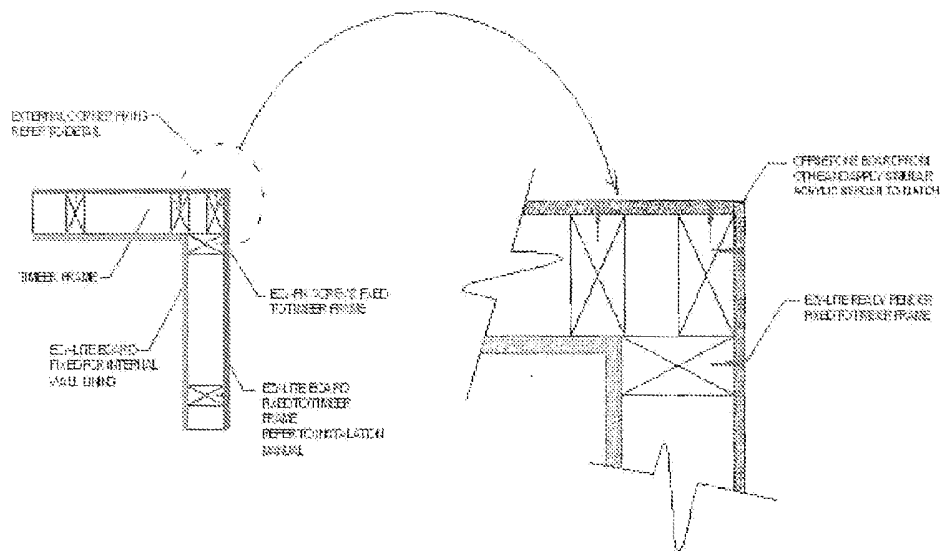
Figure 7



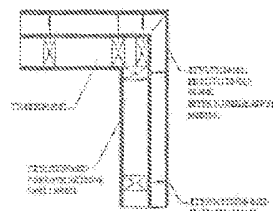
Ezy-Lite Single Side Panel with Polystyrene

Figure 8

Figure 9



External Corner Board Join Detail



Tong and groove joining system

Figure 10

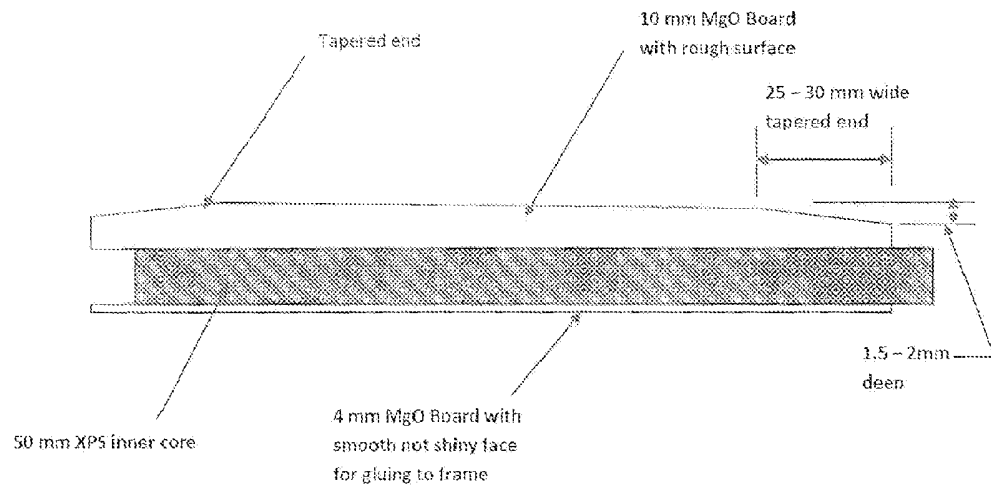
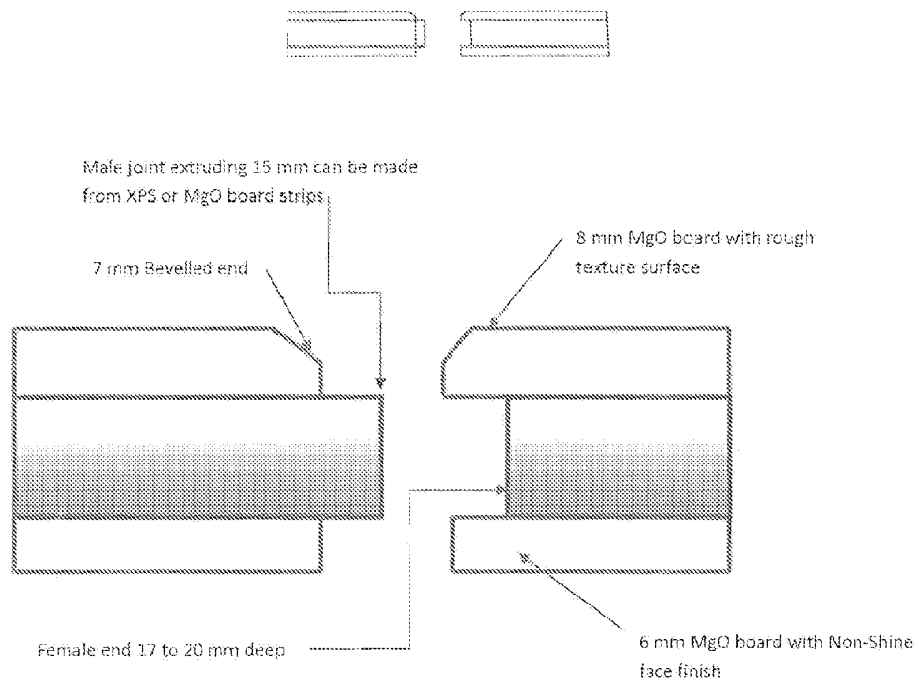


Figure 11



Detail Of Joining System

Figure 12