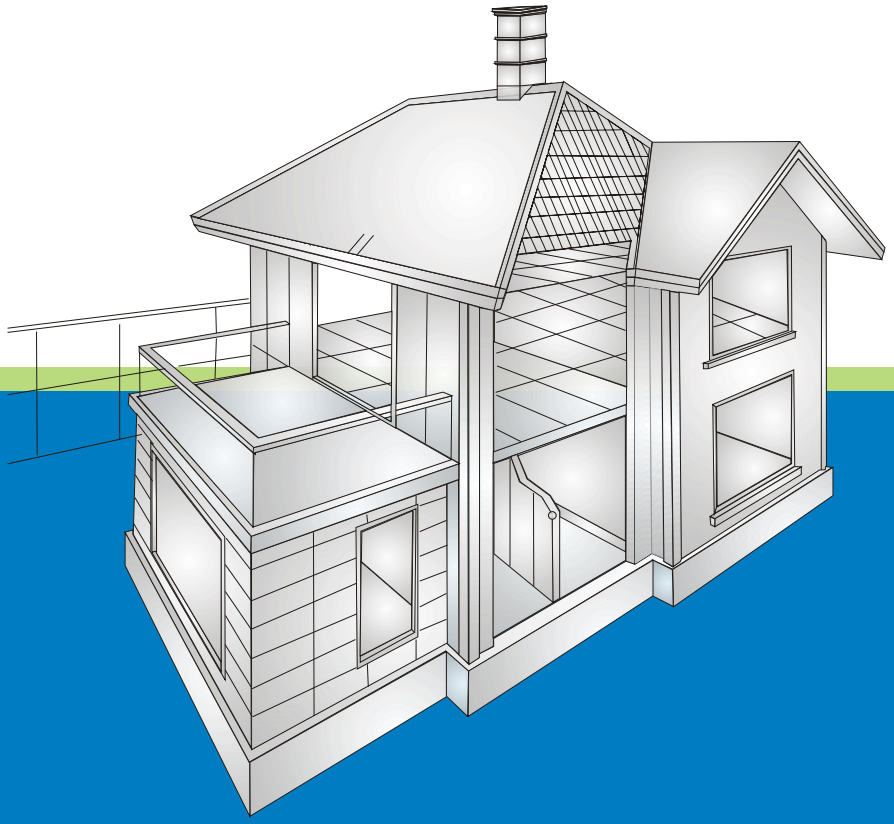
TRILITE®

RMS BOARD

Reinforce Magnesium Silicate



DARE TO BE DIFFERENT

External & Internal Applications

Go Green Environment

100% ASBESTOS FREE

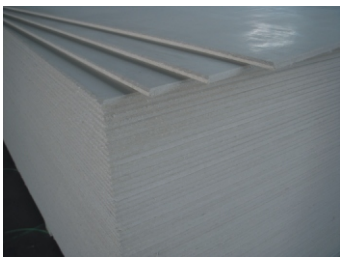
Global warming is a fact, our actions now will help preserve our environment for a better tomorrow.

TRILITE RMS boards are produce with minimum emission of CO^2 which is high on the list of " greenhouse " effect, that contributes to global warming phenomenon. RMS board production is energy friendly , curing is achieve with minimum energy consumption. It's " green " and an " eco-friendly " board.

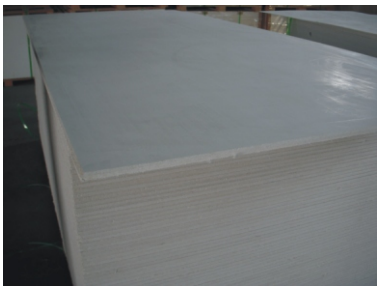
It does not contain toxic components such as formaldehyde, asbestos, organic solvents, heavy metals or oil, totally SAFE and Environmental Friendly.

The Right Stuff

TRILITE RMS board is produce from a matrix of inorganic substances i.e: Natural silicates, MgO, CaCO3, MgCl, Perlite and other inorganic fillers . The unique formula is distinct and separates our board from the rest in terms of durability, technical performance, fire resistance and stability.



Bevelled Edge



Square Edge

Tapered Edge

CE

CE Conformity Number : 13SH200002005 to European Construction Products Directive CPD 89/106/EEC

TRILITE RMS boards used as cladding in Europe

Approval Certificates issued by :

Fire Resistance

Combustibilty (In accordance to BS 476 Part 4) (In accordance to BS EN 1182)	**Non-combustible**
Surface spread of flame (In accordance to BS 476 Part 7)	**Class 1**
Building regulation classification (In accordance to EN 13501-1)	**A1 or A1fl Euroclass**
Surface Burning Characteristics (In accordance to ASTM E-84)	**Class A** **Flame Spread = 0** **Smoke Developed = 0**
12mm - Single Board Only (In accordance to BS 476 Part 22)	**180 minutes fire rating**
12mm - Timber & Steel Partition (In accordance to BS 476 Part 22)	**132 minutes fire rating - Steel** **123 minutes fire rating - Timber**
9mm - Steel Partition (In accordance to BS 476 Part 22)	**71 minutes fire rating**

Area of Application

Eaves lining
Fascias
Soffits
Ceilings
Canopies
Porch lining

TRILITE RMS is suitable for a wide range of applications and is always ahead in the building board technology meeting the stringent building regulations and demands for higher quality standards with durability, safety and economy.

TRILITE RMS is a modern, practical construction material of outstanding performance which is cost effective. It had been use in numerious high fire risk areas, fire protection applications, manufacture of fire doors.

TRILITE RMS is a fire retardant board with good noise attenuation and acoustic properties. It is fitted directly to metal wall frames as a backing board. It also has the capability to accept direct render.

Exterior Cladding
Exterior Wall
EIFS Systems
Ductwork
Access Panels
Agricultural Bldgs.
E&M Service Enclosures
Infill for Sandwich panels
Passive Fire Protection
Elevated Floor underlayment
Interior Impact Wall

Prefabricated Homes
Interior Walls
Linings / Partitions
Moisture Area Wall
Decorative backing boards
Interior Fire Rated Walls
Furniture backing board
Replace plywood & MDF
Underlay of wet areas
Ceramic Tile Substrate
Countertops

Water & Moisture Resistance

Test Properties	Test Standard	Unit	Test Result
Water Vapour Transmission	BS EN ISO 12572	Grams / m^2. Day	48.1
Water Vapour Permeability	BS EN ISO 15148	Kg /m^2. H 0.5	0.142
Freeze Thaw after 100 cycles Modulus of Rapture (MOR)	BS EN 12467	N /mm^2	Parallel : 15.7 Perpendicular : 10.1
Thickness Swelling after water immersion	BS EN 317	%	0.2
Soak Dry after 50 cycles Modulus of Rapture (MOR)	BS EN 12467	N /mm^2	Parallel : 15.8 Perpendicular : 11
Moisture Content	BS EN 322	%	9.4
Bending Strength after 24 hours soak in water	BS EN 12467	N /mm^2	Parallel : 17.2 Perpendicular : 13.4
Cyclic test in humid condition	BS EN 321	N/mm^2	0.97
Dry to soak movement	CNS 13778	%	0.3
Moisture absorption rate	CNS 13778	%	32
Length Expansion rate	CNS 13778	%	0.06

Mechanical & Thermal Resistance

Test Properties	Test Standard	Unit	Test Result
Compressive strength	BS EN 12390-3	N/mm^2	8.3
Bending strength	BS EN 310	N/mm^2	17.1
Modulus of elasticity	BS EN 310	N/mm^2	7845
Tensile strength	BS EN 12467	N/mm^2	3.60
Screw Withdrawal strength	BS EN 320	N/mm^2	87
Thermal conductivity	CNS 13778	W/mK	0.139
Impact strength	BS 5669:part 4	MM/MM	23
Surface Alkalinity	BS 6829	PH	9.5 - 10
Racking strength	EN 14358	KN	16.98 (on 5kN)- 12mm 12.09 (on 5kN)- 9mm 8.41 (on 0kN)- 12mm 7.52 (on 0kN)- 9mm

Airborne Sound Resistance

Test Properties	Test Standard	Unit	Test Result
12mm board partition wall	BS EN ISO 717-1	Rw	48db
9mm board partition wall	BS EN ISO 717-1	Rw	45db

Microbiological Resistance

Test Properties	Test Standard	Unit	Test Result
Determination of asbestos content	NIOSH 9002		None detected
Formaldehyde content check	ISO 14184-1		None detected
Fungi & Mold Resistance	ASTM C-1338		No Growth occured

Dimensions

Density : 1050 kg / m^3 (+/ - 100 kg / m^3)
Thickness : 3mm , 4mm , 6mm , 8mm, 9mm
10mm, 12mm, 15mm, 18mm
Width : 1220mm , 915mm
Length : 3000mm, 2440mm, 2135mm, 1830mm

** Special dimensions can be made to order upon request **

- Edge : Square , Tapered, Bevelled, Rebated
- Surface : Sanded and Unsanded
- Product Tolerances

Width Tolerance : - 2mm , + 2mm
Length Tolerance : - 2mm , + 3mm
Thickness Tolerance :

3mm to 4mm	=	-0.2mm , +0.2mm
6mm to 9mm	=	-0.3mm , +0.3mm
10mm to 12mm	=	-0.8mm , + 0.8mm
15mm to 18mm	=	-1.0mm , + 1.0mm

Diagonal Tolerance : +/- 5mm

- Non deforming, minimal contraction/expansion
- Noncombustible, Fire-proof
- A1 European Fire Resistant Board
- Upto 180 minutes fire protection
- 100% Water Resistant, moisture resistant
- Energy Saving, great insulating property
- Multipurpose, versatile both interior/exterior
- Mold,termite, fungus, bacteria resistant
- Light weight, high impact resistance
- High Dimentional Stability
- Extra Strength & Durable
- Good Acoustic performance
- Easy Installation, fast and time saving
- Odourloss and Non-toxic under fire.

Category A Building Board to EN 12467 suitable for applications subjected to heat, high moisture and sever frost.

Thermal Insulation Properties
high level of resistance to thermal movements .

Water Impermeable, Moisture Resistant
will not physically deteriorate when immerse in water , a strong moisture barrier board.

Dimensionally Stable
Strong, irreversible chemical properties , minimum thermal movements and non shrink with changes in temperatures. .

High Quality Raw Materials
We are the pioneer and the first manufacturer to develop the magnesium based boards with a unique , un-match composition to date.

Low Carbon Manufacture
Produced from natural cure process with very low energy consumption and drying stage unlike other autoclaved products.

TRILITE RMS is the leading exterior based board for applying direct render coating in Europe. Meeting the ever increasing,higher standards of durability, economy and safety.

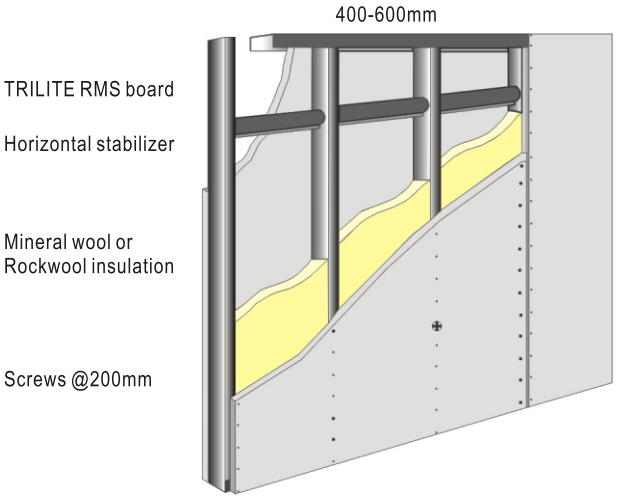
AS AN EXTERIOR RENDER BASE BOARD

Tested with a very successful outcome to the following :

- *Hydrothermal Freeze Thaw Conditions*
- *Soft & Hard Body Impact*
- *Bond Strength*
- *Wind Loading*

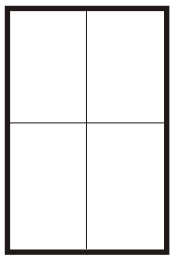
Fixing and Jointing

Board Framing



- Before installing, ensure the frame and floor area is level and clean fromdust and other debris.
- Framing structure spacing should be supported vertically, thinner boards should be fix @ 400mm centre by studs . For thicker boards at not more than 600mm centre by studs.
- Centres can be adjusted to avoid clashes with frame fixings underneath. All edges should coincide with support structure.
- Screws must be driven flush to the board, not countersunk or exposed
- Boards must be screwed not less than 15mm from the edges of the framing.
- When fixing, start at the centre and work outwards to prevent distortion within the boards. Boards should be offset so that 4 corners never meet at one point. A 6-8mm gap should be left between the ceiling & floor level for movements.

Board Arrangement



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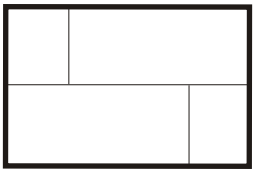
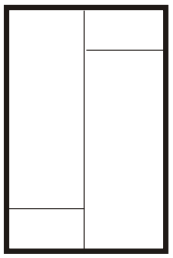
Do not use 4 way joints

- When fixing the boards to frames, use a " brick bond" arrangement as shown below.
- Minimum board width should not be less than 70mm.

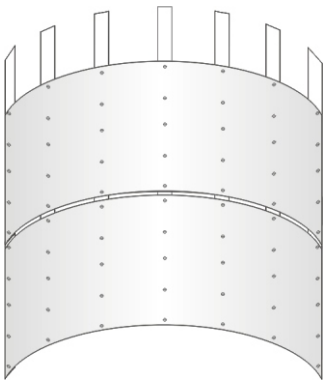
Horizontal board arrangement



Vertical board arrangement



Curving Application



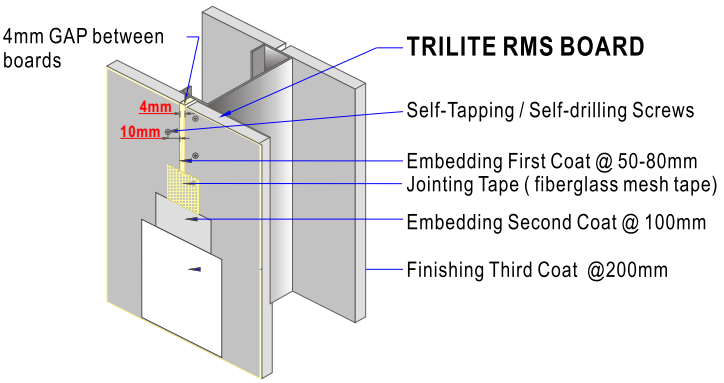
TRILITE RMS in 3mm and 4mm thickness are suitable for use into various curvatures to match designer's imaginations with a fire and water resistant board.

Applications : curved ceilings, walls, columns , eaves soffits, areas with high fire risk requirements like hotels, shopping malls, schools, hospitals, offices, railways concert halls among others.

Thickness	Minimum Bending Radius
3mm	500mm
4mm	600mm

Note : Fix board on its horizontal positions.
For thicker board requirements, you can layer the various thickness to achieve desired total thickness.

Board Jointing



Step -1 First Coat

Apply an elastic/flexible joint compounds at joints. Silicon for the corners & edges.

Fill the gap with the compound using a clean putty knife about 5-8cm wide along the joint evenly. Wait to dry and when it is almost dry firmly embed the self adhesive fibreglass tape centrally into the joint.

Apply jointing compound on the tape with the tapping knife and use sufficient pressure to ensure the tape is firmly placed and free from trapped air/bubbles.

Wait to dry and remove extra material lying outside of the joint and sand away any excess elastic joint compound.

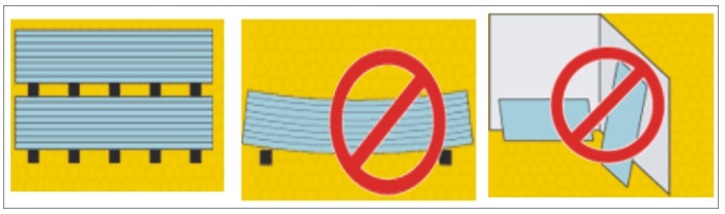
Step - 2 Second Coat

When the first coat had dried, apply the second coat of jointing compound with a wide clean putty knife about 10cm and let it dry completely. Remove extra material lying outside of the joint and allow it to dry.

Step - 3 Second Coat

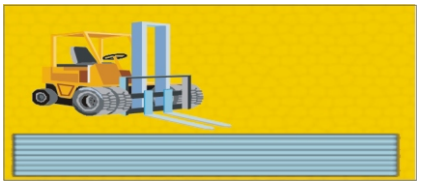
When the second coat has dried , apply a very thin layer of jointing compound at 20cm to touch up any uneven surface , remove extra material and allow it to dry. Ensure that the preceding application and tape is completely covered and spread it to remove visibility of the joint.

Handling and Storage



Storage of boards

Store flat on a flat pallet or rack above ground level with evenly distributed dry timber support. Cover with plastic sheeting to protect from rain or moisture. Keep dry and store in a dry and covered area. Support timbers at maximum of 400mm centre. Never stack boards on its edges or upright positions.



Transport of boards

Transport boards stacked on the original pallet by forklift or crane. When loose boards are transported they must be laid flat and fully protected with waterproof or plastic sheets. When manually moving , the boards must always be carried in a vertical position.

Handling of boards

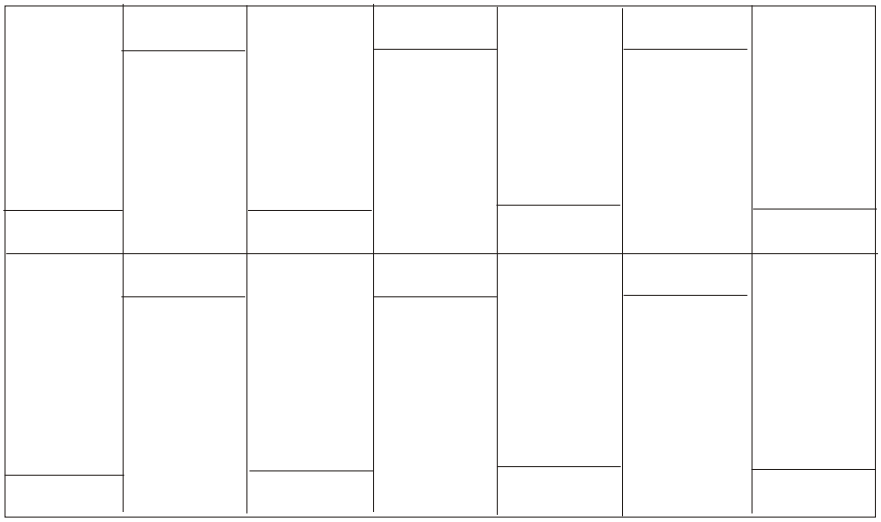
Boards should be lifted sideways and carried on its long edges. Single boards to be handled vertically, avoid dropping the board on the corner.

Conditioning of boards

TRILITE RMS has an ex-work moisture content of 9%(+/ - 3%) and is in equilibrium when the temperature is 20 C with a relative air humidity of 50 - 60%. It adapts to the ambient humidity level, therefore to adjust to its working conditions it should be allowed to acclimatise for 24 - 48 hours prior to fixing.

Installation Guide

Expansion Gaps



Within a single frame assembly up to 9000 x 4500mm maximum, expansion gaps between boards should be 4mm.

Where 2 frame assemblies meet, expansion gaps to be 10-12 mm.

Support structures should be at a 400mm, maximum of 600mm centres, there should be a 4mm gap between each boards and on all edges. Boards joints should be treated accordingly with a flexible joint compound.

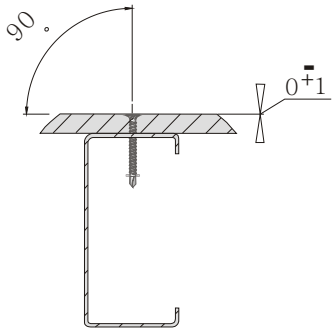
Conditions for fixing frames over the above size must be covered on a project basis and local building regulations must be applied.

Screwing

- Screw fixing should be self drilling /self countersinking screws in galvanized steel or stainless steel.
- Screw diameter should be from 3.5 to 4.2mm and length should be 2.5 to 3 times the thickness of the board.
- Screw heads should be just below the surface of the board
- and not driven too deep.
- Screw heads are to be covered with the jointing compound to achieve the right finished surface.

Before

After



Note:

1.1 When fitted, the head should be flush with the surface of the board +/- 1mm.

1.2 The screw should also be fitted normal to the board +/- 5 degrees.

Fixing Centres

Diagram 1 : Fixing Centres and Fixings

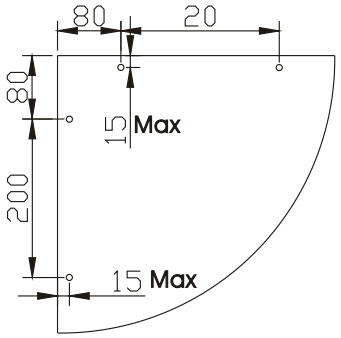
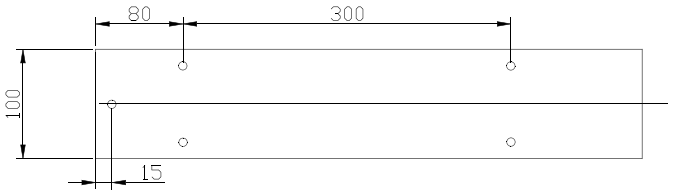


Diagram 2 : Minimum Board Width



Cutting

Machining

TRILITE RMS is machined and processed using tungsten carbide tipped blades at all times.

Type of Blade

Alternative or trapezoidal teeth.

Chart shows the number of revolutions and number of teeth (Z).

Diameter (mm)	250	300	350	400
Board thickness up to 12mm	Z = 48	Z = 60	Z = 72	Z = 72
Board thickness exceeding 12mm	Z = 36	Z = 48	Z = 54	Z = 60
Number of revolutions rpm	3000 / 4500	3000	3000	3000 / 1500

Milling : Common machines with carbide tipped tools. The higher the rpm, the better the milled edge.

SAWING

- Portable circular saw
- Cross cut hand saws for thickness up to 12mm
- Jigsaw for thickness up to 12mm and small work
- Fixed saw for dimensioning (vertical or horizontal)

Drilling

For making holes on the board, use a masonry drill, use low-high speed drills for better results. Place the board under the drilling location for a clean hole, do not use hammer action.

Surface Laminating

TRILITE RMS is suitable for bonding to all decorative substrate. For bonding adhesive, you could consult with the local adhesive manufacturer and pre-testing is advisable. Make sure that no dirt or air comes in between the adhesive and board otherwise bubbles may occur and bonding is not tight. Ceramic tiles can be applied to the board surface by using branded tile adhesive.

Painting

Ensure that all surfaces are clean, dry and free from dust , dirt or sanding residue before applying paint. Using brand paints usually give good results and always follow the paint manufacturer recommendation.

For external applications apply sealer or primer (refer to paint manufacturers specification) and remove the surface of any dust, dirt, grease or substances that may affect the bonding of the paint.

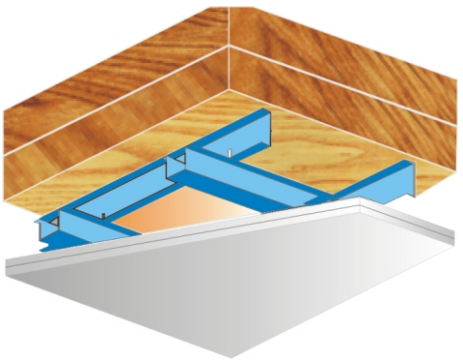
Before

After

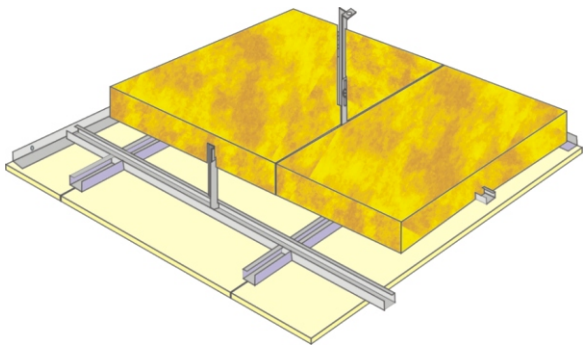
Noncombustible Suspended Ceiling System

Fire Rated Suspended False Ceilings

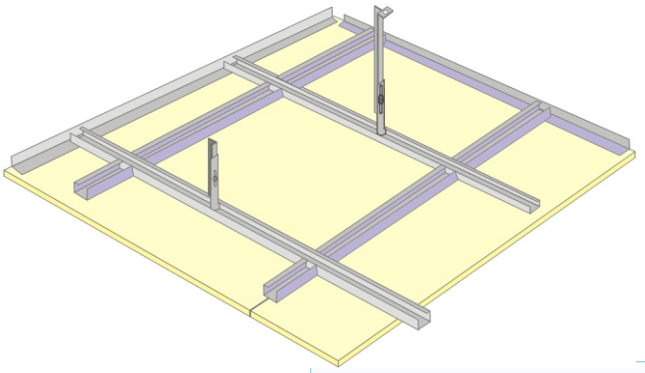
Assessed Performance to BS 476 Part 22

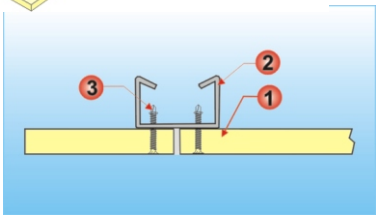


Ceiling channel height = 25mm fixed at 400mm centres.



1. TRILITE RMS BOARD
2. Ceiling Channel Section 50 x 27 x 0.6mm at 610 x 1220mm spacing.
3. Wall angle 19 x 32 x 0.5mm
4. Mineral wool insulation
5. Self tapping M4 Screws at 300mm centres.
6. M6 Screws at approx. 350mm centres.





1. TRILITE RMS BOARD
2. U Channel 50 x 27 x 0.6mm at 610 x 1220mm spacing
3. Galvanized Self-tapping screws

Acoustic and Noncombustible Flooring System

TRILITE RMS boards are flooring substrate may be fixed to timber or steel joists. The type, size and final spacings of the joists should be determine by the structural engineers. The thickness of the joists or width must be sufficient (45mm minimum) to allow correct fixing. The boards are fixed so the lengthwise direction is spanning across the joists. Where load requirements are greater, all board edges must be supported as in Fig. C. It is recommended to apply a layerof adhesive between the board edges.

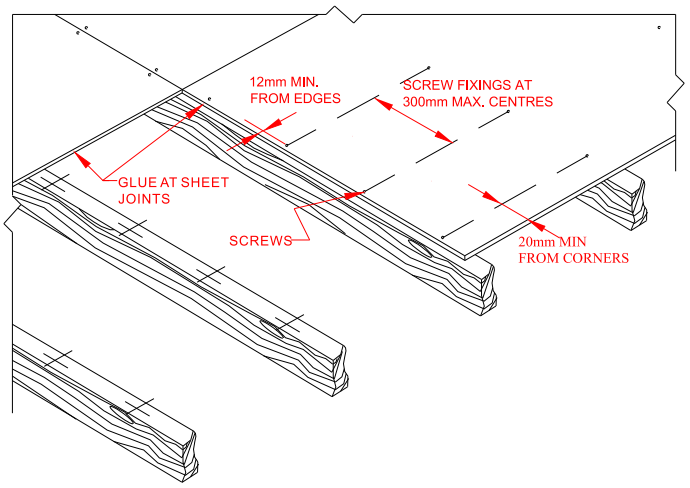


FIG.B - FIXING FOR RESIDENTIAL APPLICATIONS AND TOILET OR SHOWER AREAS

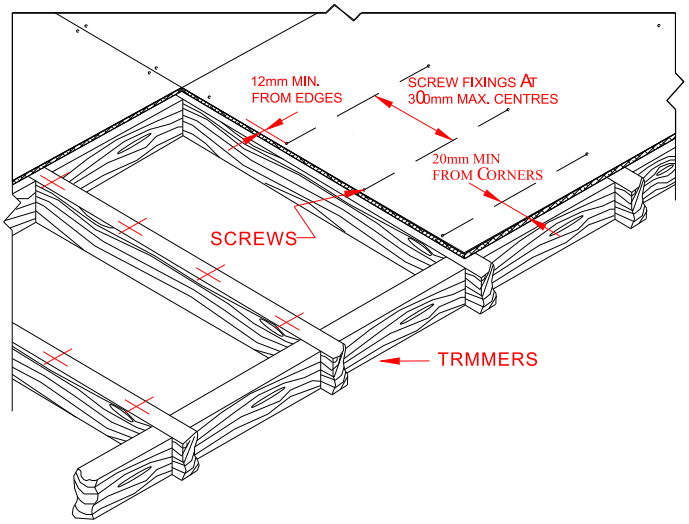


FIG. C - FIXING FOR GENERAL COMMERCIAL APPLICATIONS

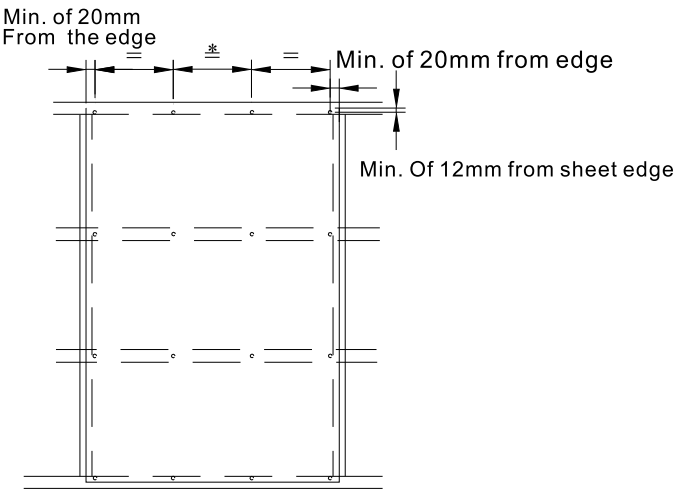


FIG. A1 - SPACINGS OF FIXINGS -1220mm WIDE SHEET PLACED ACROSS JOISTS

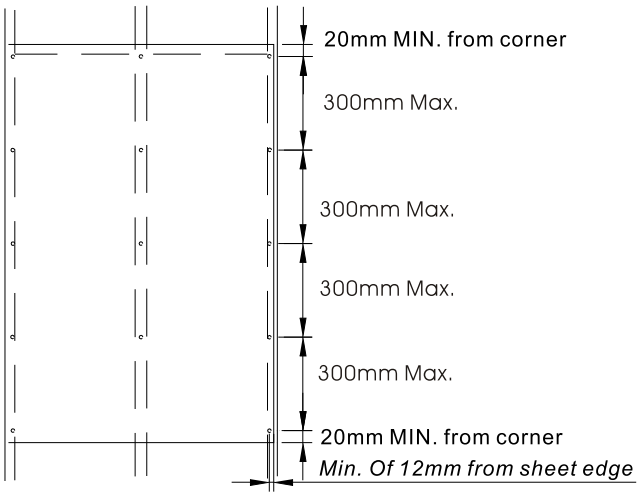


FIG. A2 - SPACING OF FIXINGS -SHEET PLACED ALONG JOISTS

- Use screws with countersunk heads and screws at 300mm centres ensuring screw heads are flush with the surface. Make sure that the surface is clean and even before laying the boards.
- Stagger all board joints ensuring they don't align with sub-floor joints. Four corners of the boards must never allow to meet at one point. Apply an even layer of tile adhesive with a trowel to the sub-floor before setting the board firmly and evenly in place.

Tile Backer Board in Wet Areas

Interior Partition Walls

Eaves Lining Installation

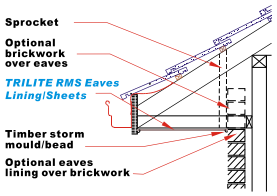


Fig. 1 Boxed Eaves - Brick Veneer Wall

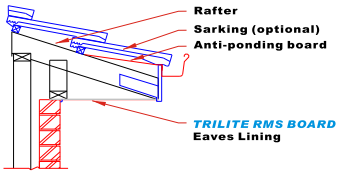


Fig. 3 Simple Spanning Eaves - Brick Veneer Wall

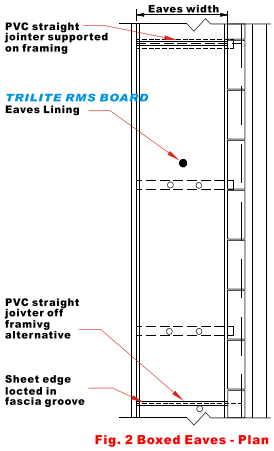


Fig. 2 Boxed Eaves - Plan

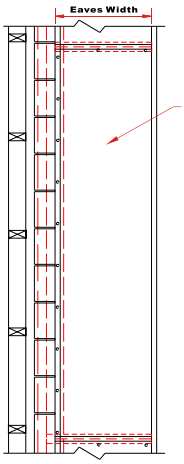
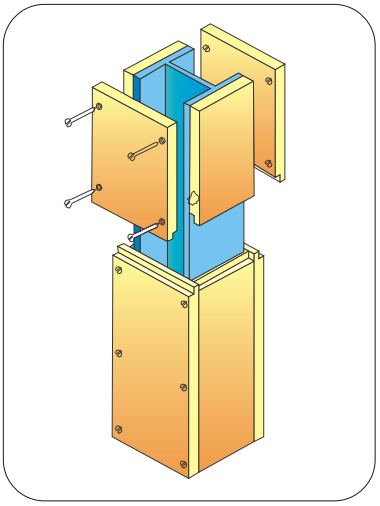


Fig. 4 Simple Spanning Eaves - Plan

Ducts and Steelwork Protection

TRILITE RMS boards can be applied for fire protection of structural steelworks, fixed by edge screwing or stapling boards together. Fast and economical to install.



TRILITE®
RMS BOARD

Stable Quality

Reliable Partner

Durable Products

Your perferct Choice for your projects

Reinforce Magnesium Silicate

Website : www.triliteboard.com

CE
Marked

Manufacturer :
Triple Lite Incorporated
2F, 78 Fenliao Rd. Section 1 Linkou District,
New Taipei City, Taiwan R.O.C
Tel : (886-2) 86013869 , 86013870
Fax : (886-2) 26018859
Email : triple.lite@msa.hinet.net

Distributor / Agent