

TRILITE[®] NEO BOARD

Chloride Free Magnesium Oxide Noncombustible Board

ONE BOARD FITS ALL APPLICATION



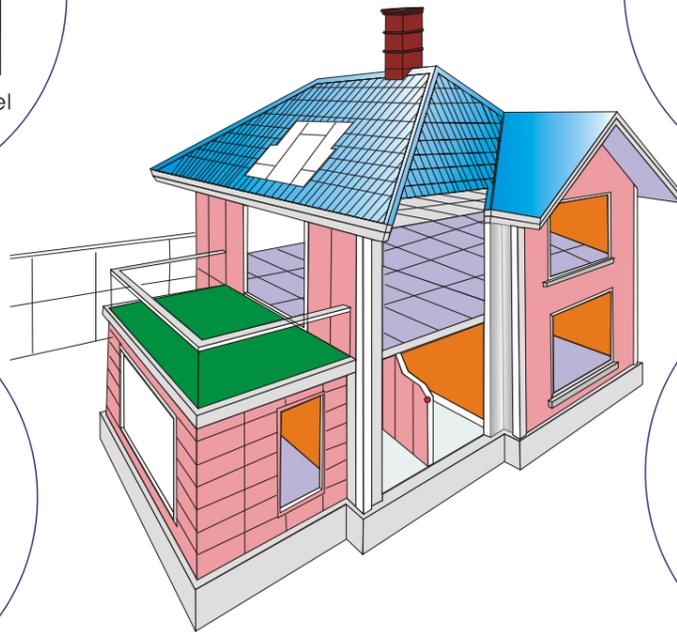
Interior Partition, Drywall



Furnitures, Sandwich panel



Concealed type ceilings



Fire Resistant Doors



Substrate for vinyl, films, melamine, wood veneers

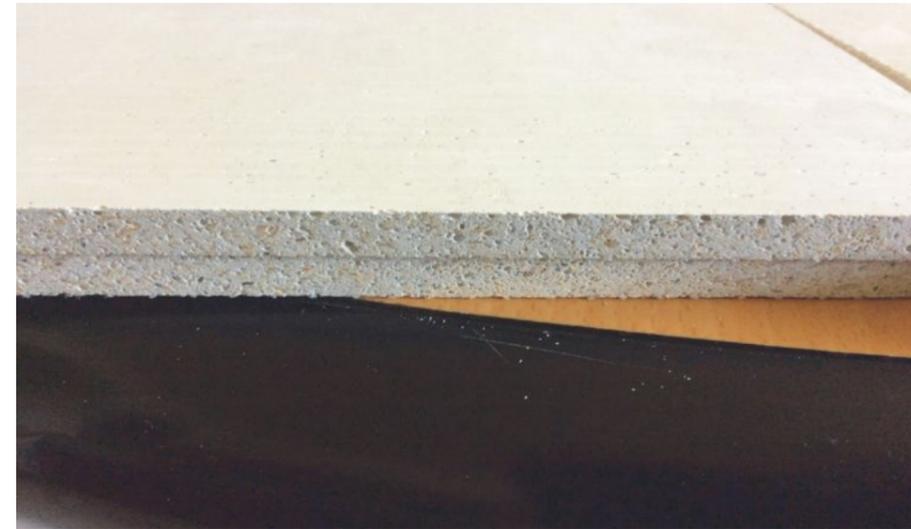


Tile Backer board



Fascia, Soffits, Roof linings

NEO BOARD STANDARD BOARDS



STANDARD BOARDS
Our Core Appearance



STANDARD BOARDS
Our Surface Appearance



STANDARD BOARDS
Back Side (Rough)
Appearance



Composition

Produce from a mixture of consistent mineral based raw materials i.e : Mgo powder , $MgSO_4$, $CaCO_3$, wood fibre , glassfiber mesh. 100% asbestos free, non-toxic, safe, durable and can withstand fire, water, moisture, insects, vermin, fungi, termite, molds and mildew.

Dimensions

Thickness : 3mm up to 18mm
 Size : 1220mm x 2440mm
 1220mm x 2700mm
 Edges : Square Edge,
 45 deg.Tapered Edge
 Tapered Edge

* Special size & thickness can be made to order upon request.

ProductionTolerances

Width -2mm , + 2mm
 Length -2mm , + 3mm
 Squareness < 5mm

Quality Management

Production and manufacturing system of our factory operates under a rigorous quality management system independently certified and accredited to ISO 9001 : 2015 and CE certified

A New Generation of MgO ..

- ▶ **Mould Resistant**
- ▶ **Water Resistant**
- ▶ **Does not break easily**
- ▶ **Eco-Friendly**
- ▶ **Easy to cut & fix**
- ▶ **Chloride Free, no salt leaching, non-corrosive.**

Your Peace of mind

Superior Points

Resistant to Weather & Climactic Conditions



Tested to many cycles of soaking, freezing, heating. Boards showed no cracking, crumbling & disintegration Category A to EN 12467 .

Non-combustible, Fire Rated, Non-flammable



Noncombustible to BS EN ISO1184 and EUROCLASS " A1 " building board Tested to BS EN ISO 1716 gross heat combustion and pass.

Superior Moisture & Water Resistance



TRILITE NEO will not physically deteriorate to the effects of water or moisture. It absorbs water without losing strength and fully recover with minimal movements upon drying.

Stable, Dimensionally Stable



Strong, practically non-shrink during low temperatures and hardly does not expand at all even at high temperatures.

Thermal Insulation Properties



Provides a degree of thermal insulation superior than other more expensive products. Excellent heat & cold thermal barrier. Thermal conductivity 0.21 W/mK.

Resistant to Mould Growth, Mildew & Termite Attacks



Unlike plywood or wood fibre based boards that harbors insects, moulds, fungus and bacteria. TRILITE is 100% unaffected from these occurrences.

Fast Installation & Easy to Finish



Lightweight, simply fix using self drilling screws on either steel or timber structures. Surfaces are smooth and can be painted, laminated with HPL, timber veneers, wallpapers, tiles, external coatings, etc...

Chemically Stable



Trilite NEO are produced from natural, mineral based raw materials and the chemical reaction is irreversible that results in a chemically stable , durable, strong board.

Non-hazardous to health, eco-friendly



Produced without asbestos, formaldehyde, carcinogen, or any other harmful substances t. Non-toxic, safe product. Environmentally Friendly.

Superior Sound Insulation



Provides excellent sound insulation for walls & ceiling with the Rw values increasing the thicker the wall & density of infilled insulation used.

TYPICAL APPLICATIONS

TRILITE NEO is used in a wide range of multi-purpose applications. Typical applications include but not limited to :

- Wall Partitions and Drywall
- Fire Resistant Doors Manufacture
- Internal Partitions & Lining
- Suspension Concealed Ceiling
- Fascias, Eaves & Soffit Linings
- Wet Areas as Tile Backer board
- Floor & Roofing Underlayment
- Substrate for Veneres, HPL,melamine
- Prefabricated Homes
- Duct Casing & Service Enclosures
- Fire Rated & Insulation Applications
- Decorative Wall& Ceiling Substrate



Effects of Moisture

Length Expansion after water absorption	0.06%
Movement normal to saturated	0.3%

Biological

TRILITE NEO : resistant to attack by insects or termites. Will not nourish mould, mildew and fungus growth.

Freeze Thaw Test

Category A board (highest standard) as Tested to EN 12467 , where boards where immerse in water for 48 hours, freeze thaw for 100 times at - 20 C for 1 hour, then in a water bath at 20 C for 1.5 hrs.

Warm Water Soak

TRILITE NEO board was immersed in warm water soak for a period of 56 days. On competition , there was no visual damage, achieving Category A board to EN 12467 testing standard.

CATEGORY A board as defined in BS EN 12467:2012 fibre cement flat sheets product specification means, sheets which are intended for applications where they may be subjected to heat, high moisture and severe frost.

Heat-Rain Incorporating Thermal Shock

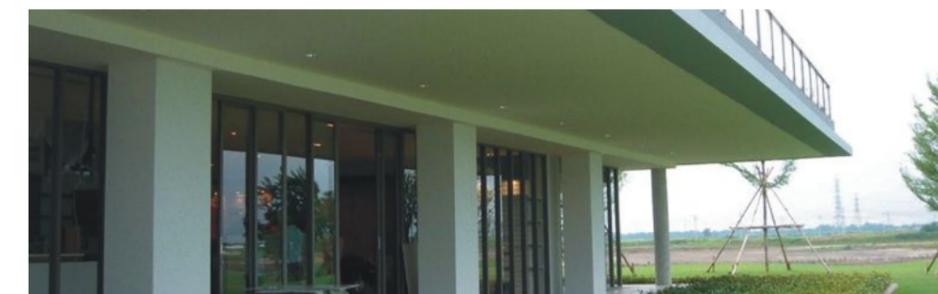
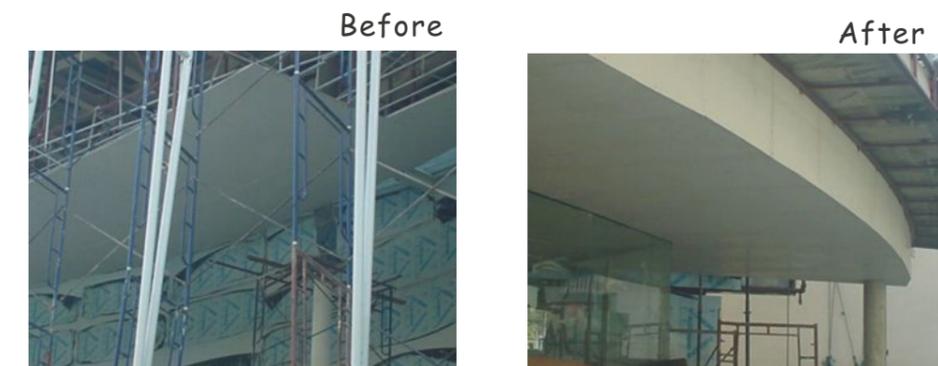
TRILITE NEO board showed no signs of warping , cracking, delamination or blistering after being subjected to 50 cycles of heat-rain incorporating thermal shock from the water spray. No dampness or dripping on the undersides of the board.

Soak Dry

Category A board (highest standard) as Tested to EN 12467 , where boards where dried in an oven at 60 C for 6 hours. Cycle wasrepeated 50 times.

Water Endurance Test

No bloating on back side of board, non-occurence of swelling, sweat on board surface. No breaking or toring apart of the board. Board regains its original strength after drying.



Cutting

Machining

TRILITE NEO 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.

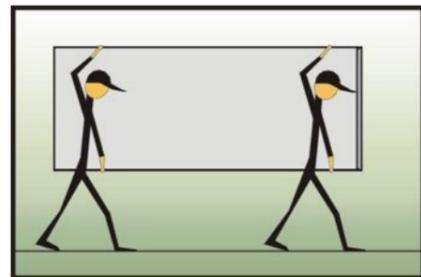
Surface Laminating

TRILITE NEO 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.

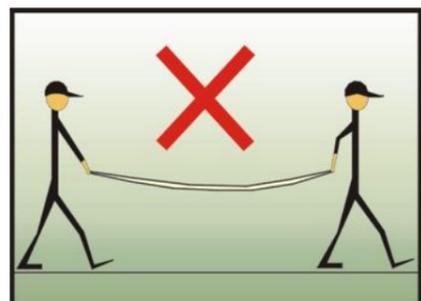
Painting

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

SAFE HANDLING

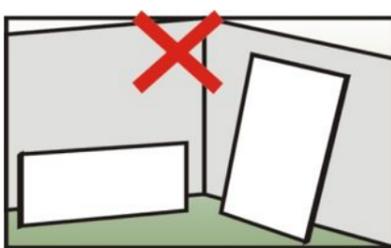


Boards should be lifted from the pallet by sliding sideways and carried on its long edges. Individual boards should be stacked and handled carefully to avoid damage.



Never carry board as shown above.

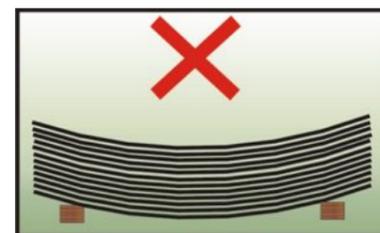
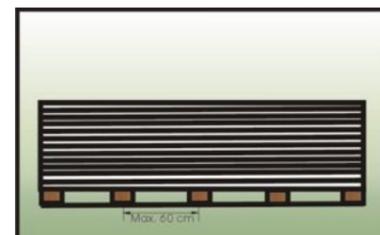
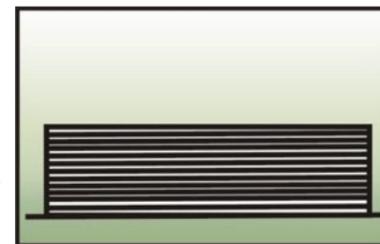
STORAGE & TRANSPORT



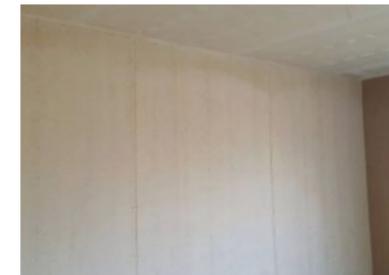
Never stack boards on its edges or upright positions.



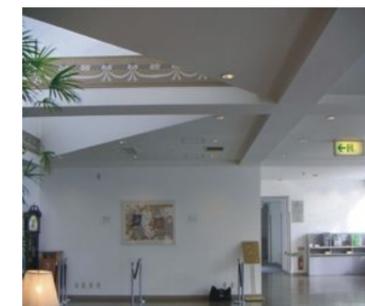
Keep dry and store in a dry and covered area, if product becomes wet allow to dry before fixing. TRILITE NEO are supplied on wooden pallets with support timbers at maximum 400mm centres. Always ensure product is stored on EVEN ground.



NEO BOARD Installation Guide



Partitions & Ceilings



CUTTING

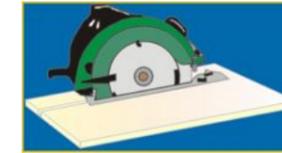
Rough Cut

Can be easily cut longitudinally or transversely. A cut should be made on the face side of the board by knife or cutter with a line ruled prior to cutting. The rule can be down on the board at required distance and is scored with a knife at the end of the rule. The boards should then be pressed with both hands, cut and snap over a straight edge.



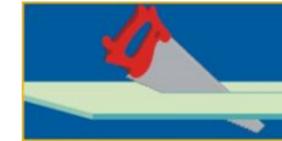
Smooth Cut

For a smooth, clean cut use a circular saw with blades equipped not less than 120 carbide teeth and set the speed above 4500 rpm.



SAWING

Can be easily cut using a normal saw, fret saw or an electric tool. When large quantities of the boards are to be cut, the use of a circular hand saw is advisable.



DRILLING

For making holes on the board, you could 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.



PLANING & SANDING

The edges can be planed or smoothed with a surform, rasp or file. Use conventional papers for sanding.



SURFACE LAMINATING

TRILITE NEO is suitable for bonding to all decorative substrate. For bonding adhesive, you could consult with the local adhesive manufacturer and pre-testing is advisable. When bonding to one face, the reverse side should always be counterbalanced to avoid warping. Make sure that no dirt, or air comes in between the adhesive & board otherwise bubbles may occur and bonding is not tight.



SUPPORT STRUCTURE

It is recommended for 6mm, 8mm and 9mm thickness boards to be fixed on the timber or steel structure with supports at 400 centre. For 10mm and 12mm supports should be at 600 centre.



NAILING Can be manual or power nailed with a flat headed stainless steel nail. Diameter should be 2.2 or 3.1mm, length 3 to 3.5 times the board thickness. For power nailing tools should be set to 3 to 4 bars and then finely adjusted to achieve required penetration. It is essential to steadily position on background structure.

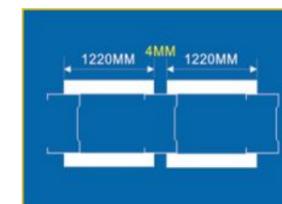


SCREWING It is recommended to use self drilling countersunk screws with ears for tight holding in galvanized steel or stainless steel. Screw diameters should be from 3.5 to 4.2mm, length should be 2.5 to 3 times the board thickness. Fixings at 200mm nominal centres. Edges of boards should be screwed at least 10 - 15mm from edges and all edges should coincide with support structures. Thinner boards can be stapled with 16 gauge, 6mm Crown x 25mm long rust proof staples.



JOINTING

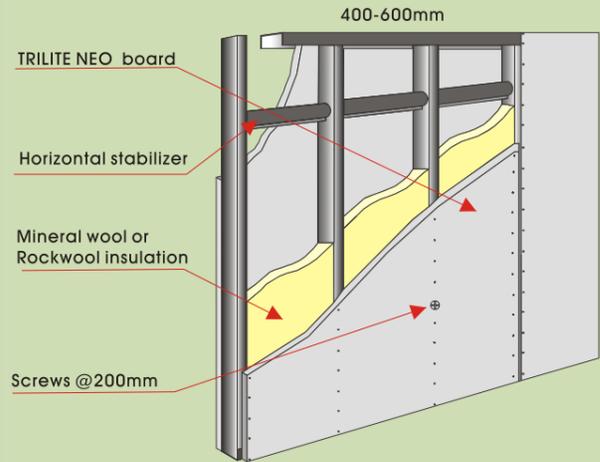
Our boards are suitable for fixing to both timber and metal framing. Studs are recommended to be placed at 407mm centres. A 4mm gap between boards is necessary for joint filling. Gaps must be clean and remove all dusts (using stainless steel brush), otherwise the contact point between sealants and board is separated without bonding together and result in surface cracks. Should be constructed to suit individual local building regulations and practice. It is recommended to use joint filler that has flexibility.



NEO BOARD

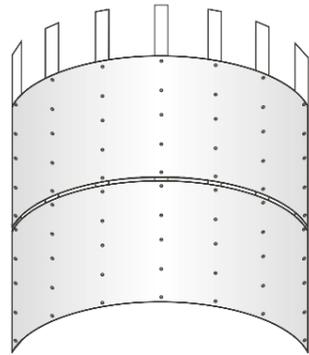
Fixing and Jointing

Board Framing



- Before installing, ensure the frame and floor area is level and clean from dust 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.

Curving Application



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

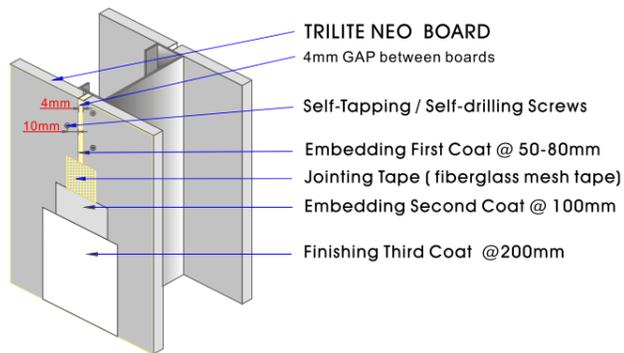
Applications : curved ceilings, walls, columns, eaves soffits, areas with high fire risk requirements like hotels, shopping malls, schools, hospitals, offices, railways concert halls among others.

Note : Fix board on its horizontal positions.

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

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 fiberglass 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.

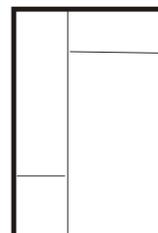
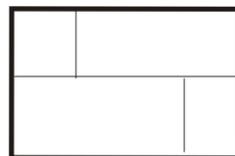
Board Arrangement



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



Interior Partition Walls



Tile Backer Board in Wet Areas



Soffit, Eaves lining, Fascia Installation

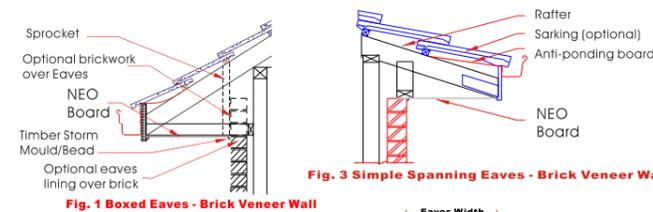


Fig. 1 Boxed Eaves - Brick Veneer Wall

Fig. 3 Simple Spanning Eaves - Brick Veneer Wall

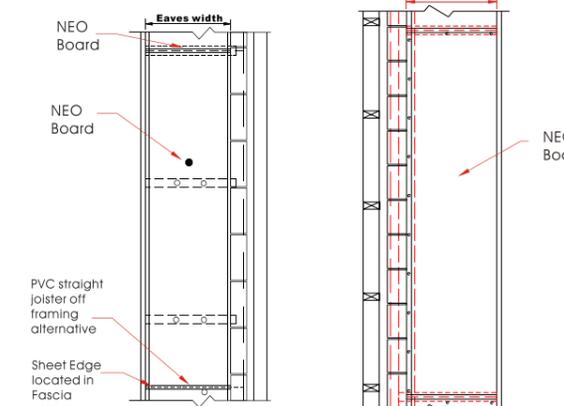
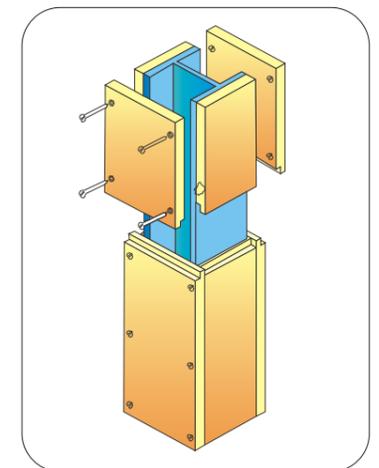


Fig. 2 Boxed Eaves - Plan

Fig. 4 Simple Spanning Eaves - Plan

Ducts and Steelwork Protection

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



NEO BOARD

Technical Data Sheet

TEST ITEM	TEST STANDARD	TEST RESULTS
Density (ex-works)	BS EN 12467:2012	1050 kg/ m ³ (+/- 100)
Noncombustible & Fire Resistance	EN ISO 13501-1 EN ISO 1182 EN ISO 1716	CLASS A1 Noncombustible 2.2141 MJ/Kg
Thermal Conductivity	EN 12664	0.210 W/mK
Water Vapour Permeability	BS EN ISO 7783	1.35 MNs/g
Water Absorption Rate	JC 646	< 20%
Moisture Content	JC 646	< 14%
Dry Shrinking Rate	GB/T 7019:2014	< 0.3%
Wet Bulking Factor	GB/T 7019:2014	< 0.6%
Screw Grip Force	JC 688	> 20 N/mm
Dimension Tolerances Length Thickness Straightness of Edge Squareness of Edge	BS EN 12467:2012	Categorised as Level 1
Water Impermeability	BS EN 12467	No drop formation
Category, class	BS EN 12467	Category A, Class 1 Level 1
Warm Water Resistance Heat/Rain " Freeze / Thaw " Soak/Dry "	BS EN 12467	PASS
Racking Resistance	BS EN 594	1.85 kN/m (no vertical load) ; 2.24 kN/m (5 kN/m applied load)
Fungus & Mold Resistance		100% free of mold & fungus growth
Determination of Asbestos		No Asbestos content
Formaldehyde content	ASTM C-1338	Not Detected at all
Effect of Acid & Alkali	NIOSH 9002	Resistant - no change
Biological resistance to insects, rodents, termites	ISO 14184-1	Highly Resistant & Unaffected

SANDED FINISH

Why You Need Sanded Finish Magnesium boards?

- "A1" fire grade material & noncombustible
- Strict Thickness Precision, minimum deviation
- Unaffected by water & moisture, does not degrade nor deteriorate when in contact with water.
- Very Safe, does not contain asbestos, formaldehyde or any other toxic substances
- Ideal for fire doors, flooring, walls , substrate for lamination, furnitures, countertops, others
- Easy to cut, glue, fix , install & decorate



100% Environmentally Friendly
Low Carbon Emission production
High Quality, Mineral Based Raw Materials
M1 classified, free from TVOC , VOC , carcinogens, ammonia. Odour Free.
Versatile, Multi-purpose, Stable

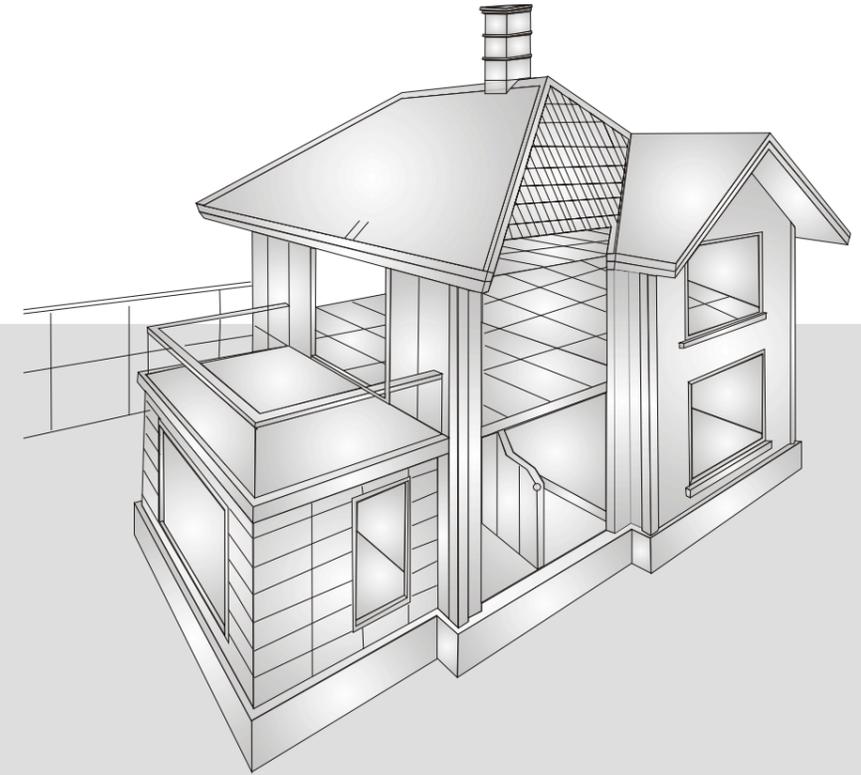
NEO BOARD

SANDED FINISH



TRILITE[®]

NEO BOARD



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Distributor / Agent



Noncombustible, Euroclass A1
Category A - EN12467:2012
Chloride Free MGO Board