

# CEMENT BOARD





### **Cement board**

A cement board is a combination of cement and glass fibres usually formed into 1.2 meter by 2.4 meter sheets, 6 to 12 millimetre thick that are typically used as a tile backing board. Cement board can be nailed or screwed to wood or steel studs to create a substrate for vertical tile and attached horizontally to plywood for tile floors, kitchen counters and backsplashes. It can be used on the exterior of buildings as a base for exterior plaster (stucco) systems and sometimes as the finish system itself. Additionally, it can also be laminated and converted into ceiling tiles to be installed in "wet areas".

Cement board offers an extremely stable, strong bond for most tile mortars and any materials that use cement based materials to create a finish bond. Cement board also adds impact resistance and strength to the wall surface as compared to moisture-resistant gypsum boards. Some cement board is also fabricated in thin sheets with polymer modified cements to allow bending for curved surfaces.

As a tile backing board, cement board has better long-term performance than paper-faced gypsum core products because it will not mold, mildew or physically break down in the continued presence of moisture or leaks. Cement board is not actually waterproof, but it is highly resistant to absorbing moisture and has excellent drying properties. In areas continually exposed to water spray (i.e showers) a waterproofing barrier is usually recommended behind the boards or as a trowel-applied product to the face of the boards behind the finish system.

One major disadvantage of cement board is the weight per square meter. It is approximately twice that of gypsum board, making handling by one person difficult. Cutting of cement board must also be done with carbide-tipped tools and saw blades. Due to its hardness, pre-drilling of fasteners is often recommended. Finally, cement board is initially more expensive than moisture-resistant gypsum board but may provide better long term value.

Cement board has very little movement under thermal stress, but the boards are usually installed with a slight gap at joints in shower pans, bathtubs, and each other. These joints are then filled with silicone sealant (or acrylic sealant if it is to receive paint) or a joint compound before applying a finish. The filled joints are taped with fibreglass tape like conventional gypsum board. Combined with a water impermeable finish, cement board is a stable, durable backing board.

The category of construction material known as cement board includes both water resistant and waterproof board. Each has its own best use.

## **Cement Board Composition:**

E-Board range of fibre cement board is manufactured from a homogenous of Portland Cement, treated cellulose fibres, finely ground silica and quartz and other select mineral fillers at a state of the art, using sophisticated, digitally-controlled processes. The principle components of the mixture are cement and cellulose fibre. Cement acts as a hydraulic binder and the cellulose fibres interlock with the cement and quartz matrices to add strength to the boards. Absolutely no asbestos is used during the entire process, making our products 100% asbestos free.

A Wide Range of Fibre Cement Boards to Choose from:

The E-Board range consists of a wide selection of versatile, environment friendly asbestos-free fibre cement boards available in a large variety of surface finish options. Indeed its the ideal choice for architects, engineers and designers and suitable for all interior and exterior applications.

A new age Multipurpose Cement Board meant primarily for internal applications. It is extensively used for false ceilings, dry wall partitions, internal lining and variety of internal applications in the residential, commercial and industrial sectors.

E-Board is widely preferred over gypsum and other wood-based products due to its exceptional dimensional stability even under prolonged exposure to moisture. It can accept a host of painted/polished finishes and is compatible with a host of surface finishing materials like Laminate Veneer, Vinyl/PVC wallpaper, etc.

Finishing options:

Wallpaper, Laminate, Paint, Veneer and Polish.

This Designer Cement Board is premium version of E-Board. These unique, environment friendly self-embossed boards are the perfect substitutes for wood-based products like Ply Boards, Partition Boards and MDF for interior applications like false ceilings, partitions, panels and sidings. E-Boards Classic with its wonderful range of textures.-Lake & Hill, Oceanic, Cascade, Electra and Siding- can offer unlimited design options beyond the imagination of Architects and Designers.

E-Board Classic comes with a superior, pure white coating of 100% water-based, acrylic cement primer (except for sliding texture which is finished with light yellow shade). The Ready- to- Paint pre-primed surface not only offers an excellent base for applying final paint/polish, but also consumed less paint/polish.

E-Board Endura is a general purpose durable, high strength, Compressed Cement Board with a smooth flat surface meant primarily for Exterior and wet-area cladding applications. E-Board Endura is resistant to prolonged exposure to weathering effect like sun, rain, UV rays, etc and does not require any special coating or protective layer to enhance its durability or dimensions stability. These special features makes E-Board Endura ideal for external applications like eaves and soffit lining, external decking, steel structural encasement, rain screening, permanent formwork substrate for roof tile & roof sarking etc.

E-Board Endura is exceptionally strong and offers superior sound and impact resistance, thus making the perfect choice for high impact and load bearing Partition/Wall solutions, Hollow/Solid Core Panelling for Pre-Fab Structures, Commercial Flooring (cavity/raised/mezzanine)etc.

E-Board Endura is resistant to damage caused by permanent water /seepage accepts all kinds of paints and surface finishes. The product can also be used as substrate to durable, aesthetically appealing facade systems as well.

## SUPERIOR ATTRIBUTES

### Termite proof



E-Board range of products are totally termite/vermin proof. It shows no signs of rot or decay and are also rodent free.

### Moisture resistance



E-Board range of products are suitable for all kinds of ambient/atmospheric conditions- humid wet and dry. E-Board range of products will not warp or deteriorate with effect of moisture. When in contact with moisture the product absorbs, but does not retain moisture. It regains its full strength once it is dried off.

### Fire resistance



E-Board range of products are non-combustible as per BS-476 Part IV and also qualifies for Part V (Ignitability), Part VI (Fire propagation Index) and Part VII (Surface Spread of Flame). Moreover the products survive the stringent Early Fire Hazard test in accordance with Australian Standard AS 1530 Part. III. These tests are recognised worldwide for the evaluation of superior fire resistance.

### Environmental Friendly



E-Board range of products are totally timber-free and complements the environment by conserving energy.

### Impact resistant



E-Board range of products offer high impact resistance because of their strength and mechanical integrity. The products are suited for high traffic areas.

### Weather resistant



Resistant to extreme weather conditions (sun, rain, UV rays etc.). These products also provide protection against prolonged exposure to humidity, moisture and salinity.

## APPLICATION MATRIX

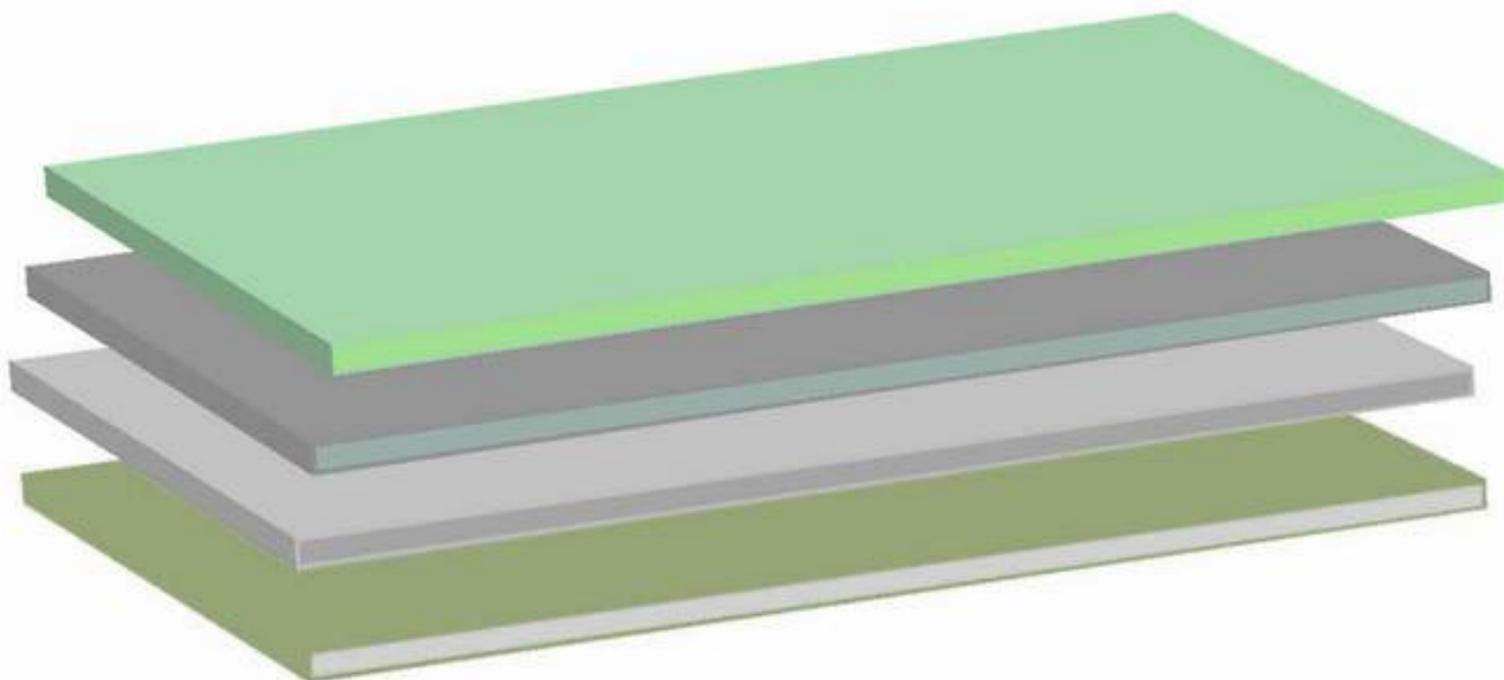
Applications	E-Board	E-Board Classic	E-Board Endura	Recommended Thickness
False Ceiling	■	■		4.5mm or 6.0mm
Drywall Partition	■	■		6.0mm or 9.0mm or 12.0mm
Panelling	■	■		6.0mm or 9.0mm
Wet Area Lining			■	6.0mm or 9.0mm
Eaves and Soffit Lining	■			4.5mm or 6.0mm
Tile Underlay			■	9.0mm or 12.0mm
External Wall Cladding/Bracing			■	9.0mm or 12.0mm
Roof Sarking	■			12.0mm
Permanent Formwork Rain Screening			■	9.0mm or 12.0mm
High Impact/Load Bearing Partition Wall			■	9.0mm or 12.0mm
Commercial Flooring/Decking			■	12.0mm or 15.0mm
Hollow or Solid Core Panels for Prefab Structure			■	9.0mm or 12.0mm
Column Encasing/Ducting			■	9.0mm or 12.0mm

## STANDARD SIZES AND THICKNESS

	E-BOARD	E-BOARD CLASSIC	E-BOARD ENDURA
STANDARD SIZES	3.00MX1.20M 2.70MX1.20M 2.40MX1.20M	2.40MX1.20M 1.20MX1.20M 1.20MX1.60M	3.00MX1.20M 2.70MX1.20M 2.40MX1.20M
THICKNESSES	4.5mm, 6mm 9mm, 12mm	4mm, 6mm	6mm, 9mm 12mm, 15mm

## TECHNICAL PROPERTIES

S.NO	PROPERTIES	UNIT	STANDARD	VALUE	
				E-Board/ E-Board Classic	E-Board Endura
1.0	Apparent Density (Dry)	Kg/m <sup>3</sup>	ISO 8336	>1200	>1500
2.0	Standard Weight	Kg/m <sup>2</sup>	ISO 8336	8.95 for 6mm	12.25 for 6mm
3.0	Mechanical Characteristic	ISO	8336		
3.1	Minimum Modulus of Rupture (MOR) :(at EMC)	MPA, N/mm <sup>2</sup>	ISO 8336	10	16
3.2	Minimum Modulus of Rupture (MOR) : (In wet conditions)	MPA, N/mm <sup>2</sup>	ISO 8336	7	10
4.0	Impact Strength (Charpy Method)	KJ/m <sup>2</sup>	ASTM D256	6.9 for 8mm 7.7 for 10mm	9.0 for 6mm, 12.0 for 9mm
5.0	Adhesion/Lamina Bond Strength	MPA, N/mm <sup>2</sup>	ASTM D1037	0.9 - 1.0	1.5 - 1.8
6.0	Screw Withdrawal Strength (FACE)	N	IS 2380, Part XIV	2000	3000
7.0	Additional Characteristics				
7.1	Thermal Conductivity at 50°C (mean temperature)	W/m/°K	ASTM C518	0.21	0.28
7.2	Linear coefficient of thermal expansion	mm/mm/°C	ASTM D696	7.43 x 10 <sup>-6</sup>	5.3 x 10 <sup>-6</sup>
8.0	pH value			8-9	9-10
9.0	Acoustic Insulation	dB	BS 2750	26 dB for 6mm	32 dB for 6mm



#### IV. Durability

E-Board products are made of highly durable material and excel in all durability tests as per ISO :8336 Part (E)\*\* and ASTM C-1185\*\*

Test	Result
Water Impermeability	No drops after 24 hours
Frost Resistance Freeze/Thaw Tests	Passes in 25 cycles
Warm Water	Passes in 25 cycles
Soak Dry	Passes in 25 cycles
Heat Rain	Passes in 25 cycles

## HANDLING AND STORAGE

E-Board fibre cement boards are extremely durable and sturdy. However, sometimes mishandling/ improper storage can reduce their life. In order to avoid any kind of spoilage and breakage, the following precautions should be taken to ensure sustainable satisfactory performance.

- E-Board range of fibre cement boards should be carried on their edges and stacked on a firm, smooth and level surface. E-Board should always be stored under a covered shed.
- To ensure optimum performance, E-Board should be dry prior to fixing, painting/coating. If the boards are wet, allow them to dry thoroughly before fixing and finishing.
- Do not drug board to over the other
- Avoid dirt settling on the texture surface while cutting, drilling, screwing or nail fixing.
- Use gloves or apply french chalk on hands to avoid dirt or patch marks while handling.

