



MASTERBOARD®

Fire Rated Partition System

THE MASTER OF ALL BOARDS

BY

Intumex®
ASIA PACIFIC

Time is of the essence for all involved in today's fast track building industry. Improvements in the speed of development; progressive improvement of products and systems; tools & equipment, installation procedures, etc. happens on daily basis.

Intumex MASTERBOARD® Fire Rated Partition

Based on our years of experience, the Intumex MASTERBOARD® fire rated partition system has been specially designed to meet the customer's prime requirement:- durable; cost effective; speedy installation. This non-loadbearing partition system can be easily erected to fit in with the wide variations experienced in site conditions. The standard height of partition is up to 3m. However, partitions with heights exceeding 3m is possible. Please consult Intumex Technical Department for more details.



Partition that Works Against Fire

The Intumex MASTERBOARD® fire rated partition system requires no insulating material and provides a superb performance against fire. Under test conditions, the Intumex MASTERBOARD® system provided in excess of two hours integrity and insulation in accordance with the criteria of BS 476: Part 22: 1987. With a wall thickness of 100mm, it is approximately 10~13% thinner than traditional gypsum wall partition systems for **two hours fire rating**, thus marginally increasing dollar per unit the available rental area.

The Intumex MASTERBOARD® fire rated partition has a weighted sound reduction index, R_w of 46dB (ISO 717), this makes the system widely acceptable for use in commercial as well as residential buildings. In some instances, sound transmission classification index (STC) is also referred. The resulting single-number rating calculated in accordance with ASTM E413 normally is similar to R_w value, with a maximum deviation of 1~2dB where applicable.

Specifications: Intumex MASTERBOARD® Fire Rated Partition

MATERIAL

The partition system comprises of 9mm thick " MASTERBOARD® by Intumex " autoclaved high impact calcium silicate, asbestos free board, manufactured to ISO 9002 quality system, meeting the properties stated at the last page of this brochure, and 15mm thick proprietary standard gypsum plasterboard (Non fire rated).

FIRE PERFORMANCE

Building Regulations

Fire Performance : Building Regulations Classification	Class '0'
Surface Spread Of Flame (BS 476 : Part 7 : 1987)	Class '1'

MASTERBOARD® is approved for use in areas where ceilings or partitions having a surface rating of Class '0' is required.

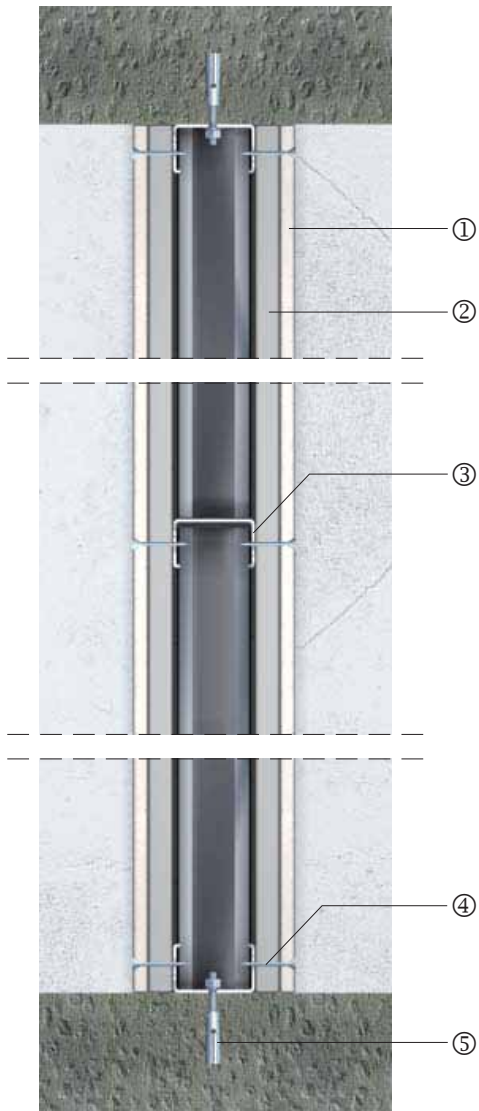
British Standard BS 476

British Standard BS476 : Part 6 - Method of test for fire propagation for products.

British Standard BS476 : Part 7 - Method for classification of the surface spread of flame of products. MASTERBOARD® by Intumex is classified as a Class 1 material.

British Standard BS476 : Part 11 - Method for assessing the heat emission from building materials. MASTERBOARD® by Intumex is classified as a material of limited combustibility.

The details of the partition structure are as illustrated in following figure.



Detail of annotations:

- ① 9mm thick MASTERBOARD®.
- ② 15mm thick standard gypsum plasterboard (Non fire rated).
- ③ Minimum 52mm x 32mm x 0.6mm galvanised steel channels at nominal 610mm centres.
- ④ M6 self-tapping screws at nominal 300mm centres.
- ⑤ M6 steel anchor bolt at nominal 300mm centres.

Stagger joints between layers 610mm both orientations. Layers should be stitched together at joints using 30mm stitching screws at 300mm centres.

Handling of the MASTERBOARD®

WORKING WITH THE BOARD

CUTTING & SAWING

Use a fine-toothed saw. For shaped cuts use a pad, keyhole or coping saw. Work fair face up and support the board throughout. A power saw can be used, with a tungsten carbide tipped blade.



NAILING

When nailing, position not less than 12mm from board edge without pre-drilling. Galvanised wire nails are recommended. Do not use lost head nails or panel nails. Boards can also be stapled, For fire resistance applications and the use of staples, please consult Intumex.



DRILLING

Use a hand drill or high speed power drill (not hammer type); bits should have HSS tips. When drilling, always provide support to the back of the board to prevent break out.



FIXING

Boards should be supported at max. 610mm centres and fixed to supports at 200mm centres. In normal areas, cross noggins are required only at board joints. If increased impact resistance is required, 400mm support centres should be used with cross noggins at 1220mm centres.



PLANNING & SANDING

The edges of the boards can be planed or smoothed with a surfm, rasp or file. Use conventional papers for sanding.



SCREWING

When screwing, do not countersink 6mm boards. Pre-drilling is not necessary. Use self-drill/self-tapping screws. Screws should be at minimum of 12mm from board edges and 50mm from board corners.



DECORATING THE BOARD

PAINTING & PAPERING

Any conventional paints can be used. Alkali resistant primers are not necessary. Water based paints (with a watered down first coat) or oil based paints can be applied to all products using proprietary primer/top coat systems as recommended by paint manufacturers.



When papering MASTERBOARD®, size to seal against suction and improve slip, then hang papers or vinyl in the normal way.

PLASTERING

If a skim finish is desired, fix textured side out, apply a sealing coat of universal primer and allow to dry. Follow with a second coat. Apply plaster while this coat is wet and tacky. At all times strictly follow plaster/jointing compound manufacturers' instructions for applying to fibre cement boards.



TILING

Minimum 9mm thick boards should be fixed, textured side out. Supports should be maximum 400mm centres with cross noggins at transverse board joints. Seal the boards with P.V.A. Countersunk corrosion resistant screws should be used to fix boards at 200mm centres. Fix tiles in strict accordance with manufacturers' recommendations.



HANDLING & STORAGE

Carry boards on edge, and do not drop on their corners. MASTERBOARD® should be stored under cover on a flat base, clear of the ground. If stored in the open, the stack should be fully protected from the weather. If stored on racks, boards should be fully supported across their width at not more than 1m centres. The following recommendations must be always taken into account when handling MASTERBOARD®.

LIFTING

Always lift boards off the board below, never slide board on board or drag the stack as this could mark the surface of the lower board.



PROTECTION

Boards should be stored under cover for protection against inclement weather on a covered dry-level ground, away from the working area of the mechanical plant.



STACKING

Boards should be a maximum of 800mm high, on firm level ground. If two or more pallets are stacked, the total stack height must be not more than 3500mm.



CARRYING

Always carry the boards on edge but do not store on edge.



HEALTH & SAFETY

No special precautions are necessary in handling or working. When power sawing or sanding in a confined space, dust extraction equipment must be used to control dust levels. Care should be taken to prevent injury from sharp edges and corners.

Do not leave boards lying about on site, on scaffolding or in high traffic areas, where risk of damage or injury is increased, and prevent any misuse which could result in personal injury or damage to boards. In the event of injury obtain proper medical treatment. The materials and the packaging used for distribution do not incorporate any substances considered to be hazardous to health.

MASTERBOARD® is NOT a loadbearing material and should not be used to floor walkways, apertures in floors etc.

As with all products which contain quartz, for example concrete or clay, this product will also release dust containing quartz particles when it is mechanically machined (cutting, sanding, drilling etc.) inhalation of high concentrations of dust can irritate the airways. Dust can also irritate the eyes and/or the skin. The inhalation of quartz containing dust, in particular high concentration of fine (respirable) dust or over a prolonged period of time can lead to lung disease (silicosis) and an increased risk of lung cancer. Avoid the inhalation of dust when using machinery by using appropriate dust extraction equipment. Ensure adequate ventilation in and around the working area. Avoid contact with the eyes and skin and avoid inhalation of the dust by wearing the appropriate personal protection gear (safety goggles, protective clothing and dust mask). For more detailed information please check the material safety data sheet applicable to this product, which is available upon request.



FIRE PERFORMANCE

MASTERBOARD® is non combustible when tested in accordance with the criteria of BS 476: Part 4: 1970. This product is also classified as a Class '0' material in accordance with Building Regulations Definitions.



THERMAL INSULATION

MASTERBOARD® can provide a degree of thermal insulation, depending on system and product thickness. MASTERBOARD® provides an ideal support for thermal insulation materials, and is resistant to continuous operating temperatures up to 80°C.



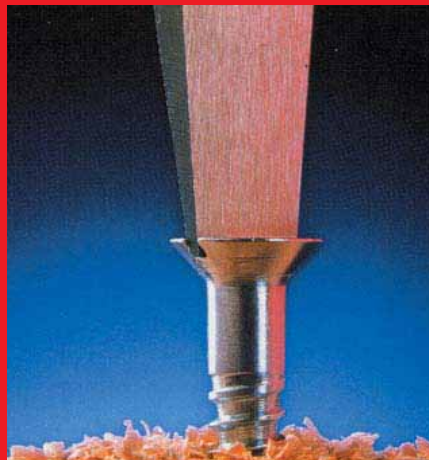
FLEXIBLE COMPATIBILITY

MASTERBOARD® is compatible with most commonly used building materials. MASTERBOARD® will not cause corrosion (it is alkali in nature), it is non caustic, and does not cause any adverse reaction when in contact with bituminous materials. MASTERBOARD® can be decorated using most commonly available materials.



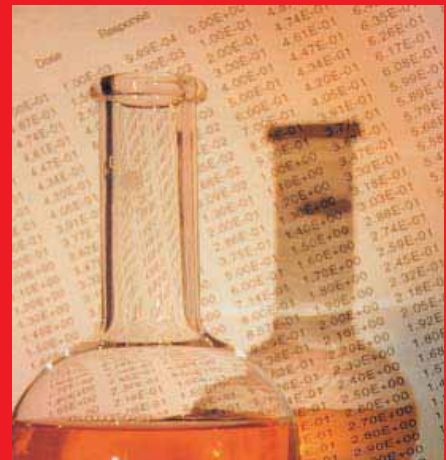
BIOLOGICAL PERFORMANCE

MASTERBOARD® has a high pH, it is immune to attack from insects or vermin. MASTERBOARD® will not support mould or fungal growth. MASTERBOARD® is non toxic and does not emit smoke or toxic fumes under fire conditions.



EASY TO USE

MASTERBOARD® is flexible yet robust, it is easily worked using conventional wood working tools. Boards can be nailed or screwed into position, depending on substrate. For most instances, pre-drilling is not required provided fixings are a minimum of 50mm from corners and 12mm from board edges.



CHEMICALLY BALANCED

MASTERBOARD® is resistant to brine and dilute chlorine solution, resistant to low concentrations of most acids and alkalis. Surface pH value of MASTERBOARD® is between 7 to 10.

THE WELL KNOWN FACTS



DIMENSIONAL STABILITY

MASTERBOARD® has good dimensional stability and is eminently suitable for use in areas of high humidity. It can withstand both high temperatures and frequent temperature changes. It has very low movement in relation to temperature changes.



EXCELLENT ACOUSTIC PERFORMANCE

MASTERBOARD® has an excellent acoustic performance, rated at R_w 46dB.



EXCELLENT DURABILITY

The base of MASTERBOARD® contains no water soluble additives. Under normal conditions, un-decorated MASTERBOARD® will not degrade, rot or deteriorate physically.

TECHNICAL PROPERTIES

PROPERTIES	DESCRIPTIONS	UNITS	VALUES
The Board	Thickness	mm	6 / 9 / 12 / 15 / 20
	Width*	mm	610 / 1220
	Length*	mm	610 / 1220 / 1830 / 2440
	Weight (approx.)	kg/m ²	6 for 6mm board 9 for 9mm board 11 for 12mm board 14 for 15mm board 19 for 20mm board
Density	Nominal dry density	kg/m ³	910 (± 10%)
Strength	Flexural strength, across grain	MN/m ²	9
	Flexural strength, along grain	MN/m ²	6
	Compressive Strength	MN/m ²	10
	Flexural Modulus of Elasticity, dry	GN/m ²	5.5
	Sag when suspended at 600mm span	mm	1.5 for 6mm board 1 for 9mm board 1 for 12mm board
Bending Radius	Minimum bending radius for board at ambient:		
	Along grain	mm	4800 for 6mm board 7200 for 9mm board 9600 for 12mm board
	Across grain	mm	5400 for 6mm board 8200 for 9mm board 10900 for 12mm board
Effect of Moisture	Moisture movement (ambient to saturated)		6.5mm/m
	Nominal moisture content:		
	In situ at EMC	%	5 to 7
Thermal Performance	Thermal conductivity		W/m.K
	Thermal movements (100-25°C)		m/m.C
Fire Performance	Surface spread of flame (BS476: Part 7)		Class 1
	Building Regulations Classification		Class 0
Tolerances	Manufacturing tolerances:		
	Length	mm	± 5
	Width	mm	± 5
	Thickness	mm	± 0.5 for 6mm board ± 0.5 for 9mm board ± 0.5 for 12mm board
	Difference of diagonals		mm

* Equivalent metric sizes are available and a maximum length of 3050mm and width of 1250mm can be produced to special order.

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