



MASTERIMPACT®

THE HIGH IMPACT MATERIAL
FOR SOLID WALL SYSTEMS

Intumex®
ASIA PACIFIC



THE MASTERIMPACT® SOLID WALL SYSTEMS – DESIGNED FOR MODERN BUILDING CONSTRUCTION & CONTEMPORARY LIVING

In today's urban environments, high population growth dictates that the majority of newly constructed residential buildings are of the high rise variety. This necessity in itself brings along its own problems in terms of living conditions, with a premium on maximising living space, a reduction of noise from adjacent rooms and apartments, the use of fast track construction methods and a lowering of construction costs all being an important part of the designers brief.

The MASTERIMPACT® solid wall system is designed to fulfil all the above requirements, providing the designer with greater flexibility in enabling him to achieve his vision. The Intumex Asia Pacific MASTERIMPACT® solid wall system has undergone a stringent range of testing for both its fire and its physical performance. The MASTERIMPACT® solid wall systems offers excellent acoustic properties, combined with superb impact resistance, with high tensile and shear strength properties.



The MASTERIMPACT® solid wall system fulfils the requirements as a heavy duty (HD) grade wall in accordance with the criteria of BS 5234: Part 2: 1992 and therefore is suitable for use in public areas subject to heavy foot traffic.

The MASTERIMPACT® solid wall system has been developed for use in both residential and business environments, as such the system is designed to be easily decorated. Ceramic tiles for kitchens and bathrooms can be applied with ease, fill and tape joints to provide a surface suitable for painting over, or plaster skim to ensure a smooth clean surface to which can be applied wall coverings of any description.

WHAT ARE THE BENEFITS OF USING THE MASTERIMPACT® SOLID WALL SYSTEMS?

MASTERIMPACT® is an autoclaved calcium silicate product which is 100% asbestos-free, it is manufactured to an ISO 9000: 2000 quality management system. The board is specifically designed for use in solid wall applications where high impact resistance is required. It is especially suitable for use in wet or highly humid environments. MASTERIMPACT® solid wall systems are designed with fast installation in mind, and to be cost efficient to meet all budgets.

MASTERIMPACT® has good dimensional stability, it is classified as a Class 0 product in accordance with building regulations definitions, and has a Class 1 the surface spread of flame in accordance with the criteria of BS 476: Part 7: 1987.

The MASTERIMPACT® solid wall system can provide a **FIRE RESISTANCE PERFORMANCE** of up to 4 hours in terms of integrity and insulation as a internal wall or partition, tested in accordance with the criteria of BS 476: Part 22: 1987.



Not only fire resistant, MASTERIMPACT® is **WATER PROOF** as well. This benefit is derived from the manufacturing process of the board, combined with the cement mixture forming the core, allowing this system to be used in wet areas without cause for concern. MASTERIMPACT® has been subject to, and passed test for water tightness, in accordance with the criteria of BS 4624: 1981 and BS 4315: Part 2: 1970.

MASTERIMPACT® solid wall systems are designed to be capable of **WITHSTANDING THE WEIGHT OF IMPOSED LOADS**, such as hanging cupboards, sanitary fittings e.g. sinks, basins etc. making this system eminently suitable for use in kitchens, bathrooms etc.



The two layer and composite core design of the system combine to produce a wall which offers **EXCELLENT THERMAL INSULATION** for both hot and cold climates.



The installation of the MASTERIMPACT® solid wall system is **CLEANER & FASTER TO INSTALL** than the more traditional methods of using concrete or masonry constructions.

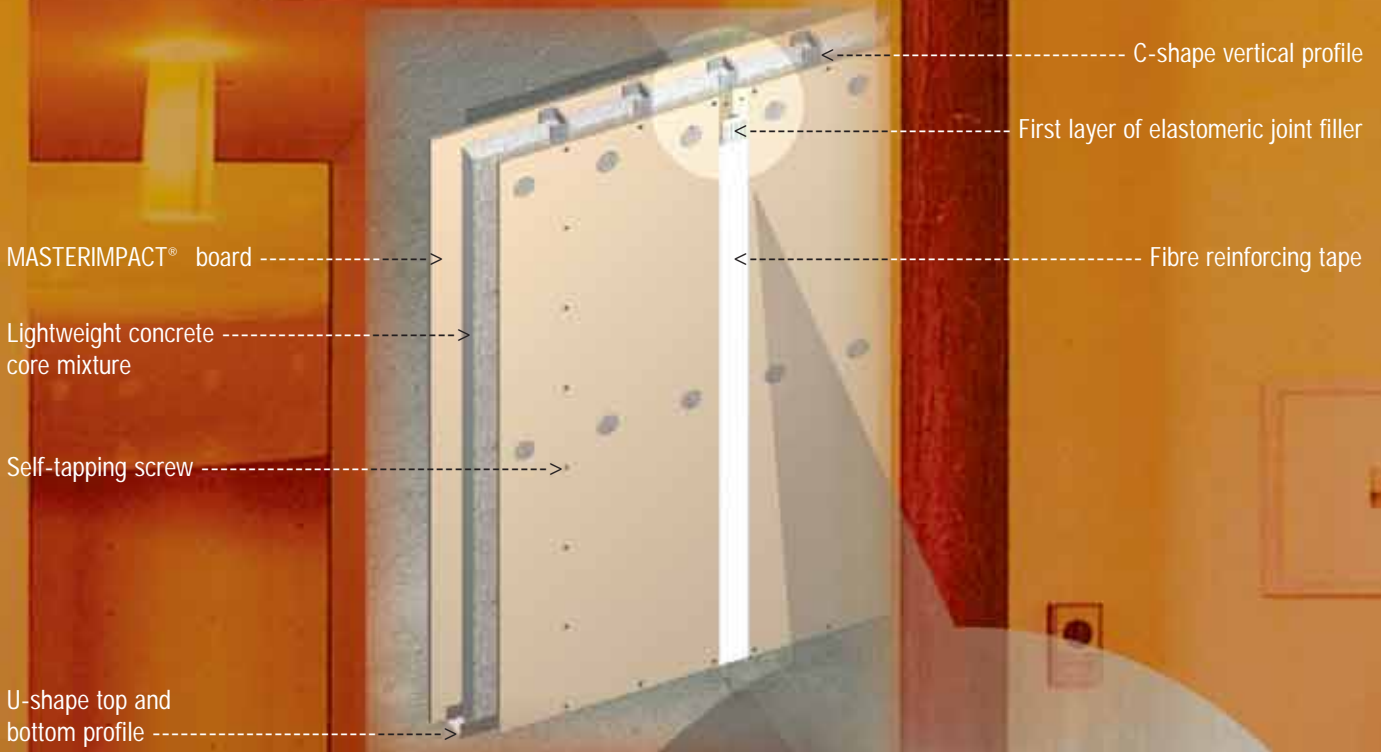
The MASTERIMPACT® solid wall system offers **SUPERB ACOUSTIC PROPERTIES**, and provides a significant airborne and impact sound insulation properties. This makes the MASTERIMPACT® solid wall system ideal for use in residential or business environments.



Unlike working with concrete or masonry, services in terms of pipes and cables can be installed as soon as the steel stud framing is erected. After this, the MASTERIMPACT® cladding is installed and the cavity filled with the concrete mixture. This allows much **GREAT FLEXIBILITY IN THE CONSTRUCTION PROCESS** means that no more interruptions will be necessary in a finished solid wall construction.

When compared to concrete or masonry constructions, the MASTERIMPACT® solid wall systems offers a **MUCH REDUCED FOOTPRINT** in terms of thickness and kg/m² which once again allows a greater degree of flexibility to the building design team.

THE PREPARATION OF TOOLS & MATERIALS FOR MASTERIMPACT® SOLID WALL SYSTEMS



Generally while working with MASTERIMPACT® solid wall system, hand tools and low speed electric tools are recommended. There are a few additional items of equipment required:

- **MIXER** for preparing the lightweight concrete core.



- **PUMP** for delivering the lightweight concrete into the dry wall.

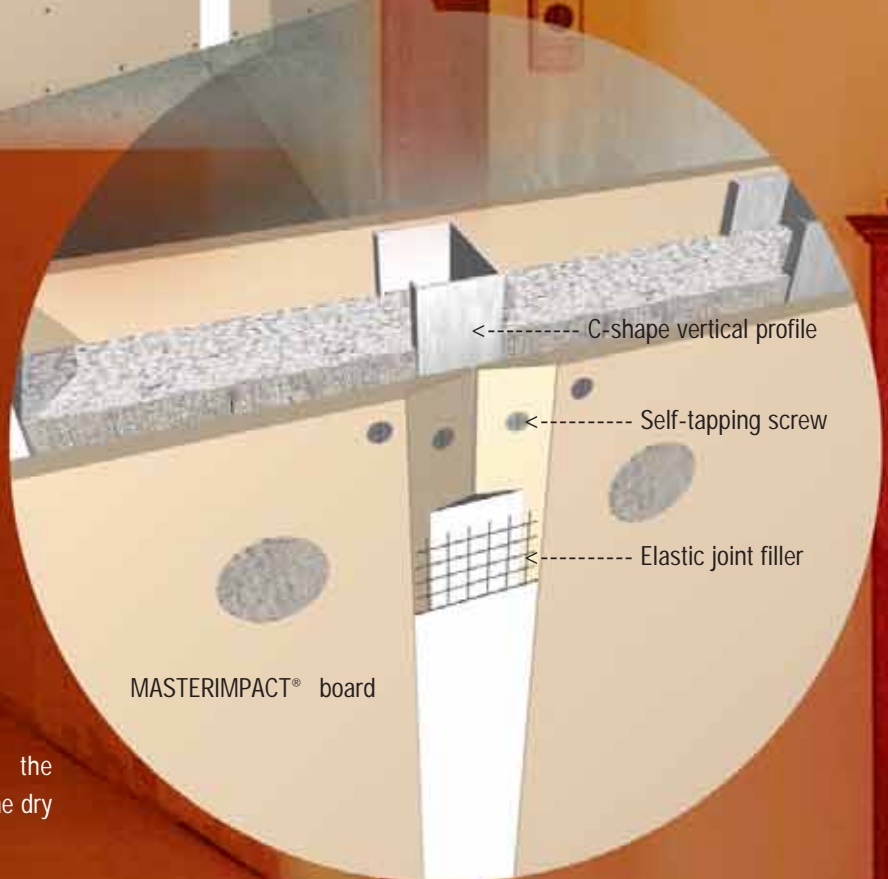


- **PIPING** for passing the concrete from the pump into the wall. A rubber type is more flexible and easier to work with.



- **SAW** for cutting the board. A jigsaw for example is good for cutting the board into various shapes.

- **ELECTRIC SCREW DRIVER** for fixing the board.



MASTERIMPACT® SOLID WALL SYSTEMS: STEP BY STEP

1 Install standard steel stud partition framing, studs at nominal 300mm centres vertical and 2440mm centres horizontal.



2 Fix MASTERIMPACT® board to one face only, install all internal pipes and cables.



3 Fix MASTERIMPACT® board to the front face, drill holes between each vertical stud, and at nominal 1220mm height centres.



4 Insert the filler hose and begin to pump the cement mixture into the cavity, ensuring all apertures are fully filled.



5 Leave to dry for 48 hours, then apply joint filler where appropriate to fill holes, gaps between boards etc.



6 Where a superior finish is required, apply a skin coat of gypsum plaster over the whole construction.



For more precise installation details of MASTERIMPACT® solid wall systems, please consult your local Intumex Asia Pacific organisation.

MASTERIMPACT® is supplied with a recessed edge for flush jointing and is available in standard nominal size of 6mm/9mm/12mm thick x 1220mm wide x 2440mm long. A maximum size of 1260mm wide x 3100mm long is available upon request.

It should be noted that the values stated in the follows are average values of the MASTERIMPACT® product obtained under normal conditions, and may subject to change without prior notice. Always consult Intumex Asia Pacific for more specific details.

PHYSICAL PROPERTIES

Density (at EMC)	Nominal 1300 kg/m ³
Value of pH (resistant to dilute chemicals, brine, chlorine etc)	11
Moisture content (at EMC)	10% by weight
Moisture movements:	
● Normal to oven dry)	1.30 mm/m
● Normal to saturated	0.60 mm/m
Water absorption capacity	30% by weight
Thermal expansion	6×10^{-6} m/m ^o K
Thermal conductivity (at 20 to 300°C)	0.35 W/m ^o K
Thermal shrinkage (at 4 hours/500°C):	
● Length/Width	0.56%
● Thickness	0.78%
● Weight loss	10.50%
Resistance to continuous freezing	-30°C
Resistance to continuous heating	150°C
Biologically resistant to attack from insects or vermin, including wood boring insects e.g. termite. Also resistant to rot and fungal.	
Compatible with most common building materials, non-caustic and will not promote corrosion. Unanodised aluminium should be protected when indirectly contacted. Does not require alkali resisting primers.	

MECHANICAL PROPERTIES

Bending strength (oven dry):	
● Lengthwise	12 N/mm ²
● Widthwise	9 N/mm ²
Bending modulus (oven dry):	
● Lengthwise	9500 N/mm ²
● Widthwise	7500 N/mm ²
Delamination strength (air dry)	1 N/mm ²
Screw retention strength* (self-tapping screws 5 x 32mm)	980 N (average)

*For reference only; as the retention strength may vary depending on types of screw used.

FIRE RESISTANCE

Combustibility (tested to BS 476: Part 4)	Non-combustible
Building regulations classification	Class 0
Surface spread of flame (tested to BS 476: Part 7)	Class 1
Fire performance (tested to AS 1530: Part 3):	
● Ignition index	0
● Flame spread index	0
● Heat evolved index	0
● Smoke developed index	0

HEALTH & SAFETY

MASTERIMPACT® is formulated without asbestos or any other inorganic fibres. When using power saws or sanders in a confined space, a dust extraction equipment is recommended to control the dust levels. MASTERIMPACT® is not loadbearing. Please contact Intumex Asia Pacific for more details on health and safety data sheets.

Intumex Asia Pacific has always been committed to the highest standards of quality. Our MASTERIMPACT® board manufacturing and production systems operate under a rigorous quality management system, independently certified as complying with BS EN ISO 9000. This provides specifiers, contractors and end users with an independent assurance of our continuous quality control of production.

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