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July 2017



Multi**Kem** MP-1000® Calcium Silicate Board

A1 Non-combustible multi-purpose fire resistant building board
for interior and semi-exposed applications



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PASSIVE FIRE PROTECTION

Specialists for the construction, infrastructure, transport, energy, industrial and commercial sectors.

www.kemwell-fire.com



High Performance non-combustible Calcium Silicate Board

Kemwell MultiKem MP-1000® is an easy to install, non-combustible calcium silicate building board, combining fire, moisture and impact resistance with thermal insulation properties. It provides up to 120 minutes fire resistance.

It is a versatile and lightweight Class 0 board but has the required strength for a wide range fire passive fire protection projects, including internal partitions, ceilings and semi-exposed applications.

The boards have excellent dimensional stability under heat and in severe moisture environments, and are suitable for installation in damp and wet areas.

In the building and construction industry lightweight structures are gaining wide spread recognition and acceptance against traditional brick and masonry. MultiKem MP-1000® partition systems provide solutions to meet most design criteria for lightweight walls and ceilings.

You can specify Kemwell MultiKem MP-1000® with confidence.

COMPOSITION

MultiKem MP-1000® is made from environmentally friendly materials and has an off-white colour with a smooth finish on one side with a sanded reverse face.

Kemwell autoclaved calcium silicate boards are asbestos-free. Calcium silicate is a white free-flowing powder obtained by reacting calcium oxide and silica. It has a low bulk density and high physical water absorption.

The boards are manufactured from a homogeneous mixture of cement, organic cellulose fibres and selected mineral binder. The autoclaving process promotes the crystallisation of the calcium silicate, which in turn contributes to the exceptional dimensional stability of the board.

It is not classified as a dangerous substance and can be placed in an on-site skip with other general building waste.

All standard boards come with cut square edges. Recessed edges may be available and can be produced to special order.

SUPPORT

The Kemwell project team provides expert support services throughout all stages of any construction project, including:

- Technical advice
- Supply of data sheets and certification
- Product selection and application consultation
- Site-visits
- Installation advice

Please contact us to discuss your project or requirements further.

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APPLICATIONS

- Fire rated walls
- Dry wall systems and acoustic partitions
- Acoustic ceilings
- Fixed smoke curtains/barriers
- Decorative and moisture resistance ceilings
- Curved architectural ceilings
- Bathroom and shower partitions
- Access panels in wet areas
- Backing boards for tiles and cladding
- Fire rated industrial wall linings
- Aesthetic casings for electrical and mechanical building services
- Wall, roof, soffit, porch, parapet and canopy linings
- Composite panels
- Perforated finishes
- Door upgrades

SECTORS

- Entertainment
- Hospitality and conference facilities
- Retail and shopping malls
- Commercial buildings and offices
- Education
- Healthcare and leisure
- Industrial
- Restaurants and hotels
- Residential properties

Smoke barrier



Moisture resistant ceiling



Building services enclosure with exterior paint finish



FEATURES



Fire Resistance

MultiKem MP-1000® provides up to 120 minutes fire resistance and meets BS 476 Part 4 and BS EN ISO 1182 Euro Class A1.

It has an A1 non-combustible (construction applications) reaction to fire classification, according to EN 13501-1: 2007, as classified by Exova Warrington fire in the UK.



Acoustic Performance

MultiKem MP-1000® is an economic solution for both acoustic ceilings and partitions. A perforated panel when used with mineral wool provides an excellent sound absorption material. This has been widely used in opera houses, conference rooms and lecture theatres around the world.

It is also good sound insulator which when suitably constructed with steel stud and mineral wool infill will achieve a sound transmission class up to 60dB (STC 60).



Moisture and Weather Resistant

MultiKem MP-1000® retains its excellent dimensional stability, even in damp and humid conditions. It can be installed at an early stage of construction programme, even before the building is weather tight. It is suitable for semi-exposed applications and can be left undecorated. Boards are ideal for installation in damp and wet areas, as the boards are also rot proof and resistant to mould growth.



Chemical Stability

It is a chemically stable building material and is unaffected by contact with most chemicals.



Dimensional Stability

MultiKem MP-1000® has excellent dimensional stability under heat and in severe moisture environments. It also has a small expansion rate. Boards are suitable for most industrial applications due to good impact resistance.



Easy Workability

It is easy to install, it is simple to cut, drill, shape and fixed. It can be worked in the same way as timber products with no special tools required. MultiKem MP-1000® is also maintenance friendly.



Smooth Surface

MultiKem MP-1000® has a smooth surface making it easy to apply a decorative finish to, such as tiles, paint or wallpaper



Durability

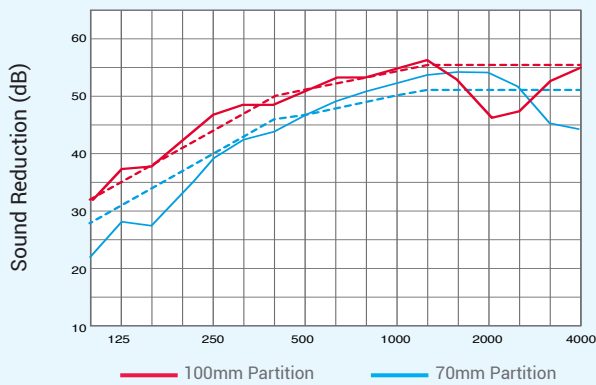
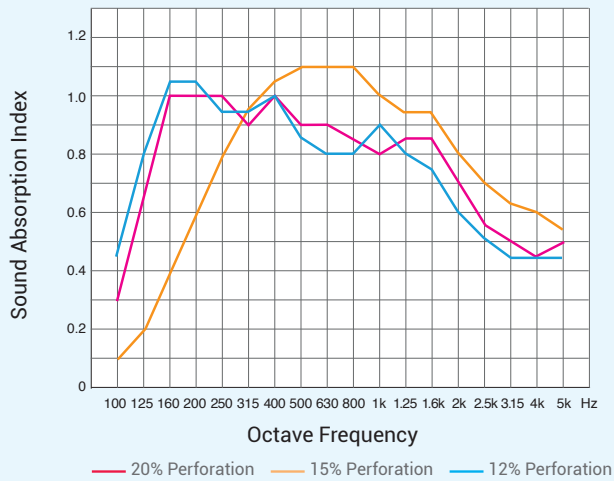
MultiKem MP-1000® is a lightweight but strong building board. System performance is unaffected by the hazards and condition of its working environment.



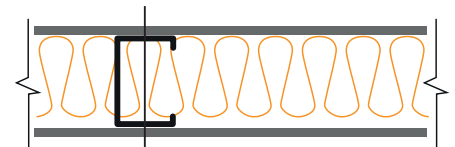
Vermin Resistant

MultiKem MP-1000® remains unaffected by rodent, termite and insect attack.

ACOUSTIC PERFORMANCE TECHNICAL DATA

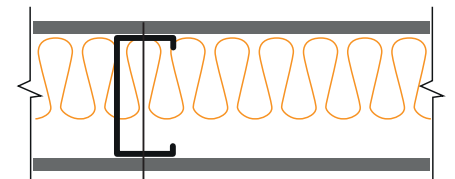


PARTITION DETAILS



STC 45

9mm MultiKem MP-1000®
75mm G1 channels with
50mm 60 kg/m³ mineral
wool infill
9mm MultiKem MP-1000®



STC 49

12mm MultiKem MP-1000®
100mm G1 channels with
50mm 60 kg/m³ mineral
wool infill
12mm MultiKem MP-1000®

For details of MultiKem MP-1000® acoustic partitions, please contact our technical support team.

TECHNICAL PROPERTIES

PHYSICAL PROPERTIES

	Test	Value
Density Oven Dry	BS EN 12467	1000 kg/m ³ (+/- 10%)
Nominal Weight	Ambient	
6mm		6.6 kg/m ²
9mm		9.9 kg/m ²
12mm		12.6 kg/m ²
Surface Alkalinity		pH 7-10
Flexural Strength	BS EN 12467	6.0 MPa (along grain) 8.0 MPa (across grain)
Moisture Movement	Ambient to Saturated	0.05%
Dimensional Changes in Length due to Relative Humidity	BS EN 318	+ 0.017% @20°C, RH 30% ~ 85% - 0.017% @20°C, RH 85% ~ 30%
Sag when Suspended at 610mm Span	Ambient	<1mm
Moisture Content	Ambient	Ex works - 15%, In situ - 6%
Water Absorption Capacity	By Weight	~ 48%
Thermal Conductivity	EN 12664	0.185 W/mK
Linear Thermal Expansion	BS EN ISO 10515-8	-1.7x1E-6/°C
Resistance to Continuous Heating	In-House	100°C

DURABILITY & AGING

	Standard	Additional Information
Durability and Strength Tests	BS EN 12467 & CE Mark	Category C sheet, intended for internal applications that are subjected to moisture & heat
Warm Water Test	BS EN 12467	Pass, for 50 cycles of test
Water Tightness	ASTM C1185-08	No formation of water droplets after a 24hr test

FIRE PERFORMANCE

	Standard	Additional Information
Reaction of Fire	EN 13501-1	Euro Class A1
Non-combustibility	BS EN ISO 1182	Pass
	BS 476: Part 4	
	AS 1530.1	
	JIS A1312	
Heat of Combustion	BS EN ISO 1716	Pass
Surface Spread of Flame	BS 476: Part 7	Class 1
Fire Propagation Test	BS 476: Part 6	Class 0
Ignitability	BS476: Part 5	
Fire Rated Partition	BS 476: Part 22	1 hour FRP
	BS EN 1364-1	2 hour FRP (integrity only)
Minimum Bending Radius	Lengthwise	4800mm for 6mm, 7200mm for 9mm, 9800mm for 12mm

ACOUSTIC PERFORMANCE

	Standard		Thickness	Rw-dB	STC
Acoustic Insulation	AS 1276.1				
	AS 1191	Board	6mm	26	26
	ASTM E90		9mm	28	28
	ASTM E413		12mm	29	29
	BS EN ISO 140-3	Partition	91mm	45	45
	BS EN ISO 717-1		99mm	48	48
			123mm	55	55
			214mm	60	60

ENVIRONMENTAL FRIENDLY

	Standard	Additional Information
Organic Emission	ASTM D5116-06	Non toxic & satisfied the emission tests.
Recyclable Product	ISO 14001	Crushed down for recycle use. Product made under ISO 14001 environmental management

BOARD SIZES

Boards manufactured in accordance with:
ISO 9001:2008 Standard Quality Management Systems
ISO 14001:2004 Environmental Management Systems



MEASUREMENTS

Thickness	6 / 9 / 12 / - 25mm
Widths	1200mm / 1220mm
Lengths	2400mm / 2440mm

Note: All standard boards come with cut square edges. Recessed edges may be available and can be produced to special order.

MANUFACTURING TOLERANCES

Length Tolerance	+/- 5mm
Width Tolerance	+/- 5mm
Thickness Tolerance	+/- 0.3mm



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