



# FIRE RATED BOARD



# SUPABOARD®

## DESCRIPTION

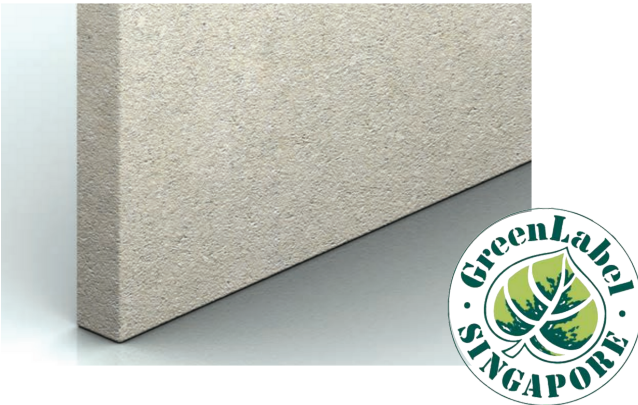
SUPABOARD® is a non combustible matrix engineered mineral board reinforced with selected fibers and fillers. It does not contain formaldehyde. and is beige in color. The front face of SUPABOARD® is smooth and is suitable for any forms of architectural or finishing treatment; the reverse face is sanded. The board can be left undecorated or easily finished with paints, wallpapers or tiles. SUPABOARD® is resistant to effects of moisture and will not physically deteriorate in a damp or humid environment. Whilst its performance characteristics are not degraded by moisture or aging, SUPABOARD® is not designed for application in areas subject to continual damp or high temperatures. It is manufactured under a quality management system certified in accordance with ISO 9001:2015. The manufacturing site is also certified to meet the environmental standards of ISO 14001:2015 and the occupational health & safety requirements of ISO 45001: 2018.

## FIRE RESISTANT APPLICATIONS

- Partitions & External Walls
- Ductwork
- M&E Services Enclosures
- Cavity & Smoke barriers

## ADVANTAGES

- Resistant to the effects of moisture.
- Not physically deteriorate when used in damp or humid conditions.
- Performance characteristics are not degraded by age or moisture.



STANDARD THICKNESS	STANDARD DIMENSION	NUMBER OF BOARDS PER PALLET	SURFACE AREA PER PALLET	WEIGHT OF BOARDS PER m²	WEIGHT PER PALLET
9	2440 X 1220	61	181m²	Approx. 9kg	Approx. 1760kg
12	2440 X 1220	46	137m²	Approx. 12kg	Approx. 1775kg
15	2440 X 1220	36	107m²	Approx. 15kg	Approx. 1733kg

All physical and mechanical values are averages based on standard production and tested according to internal procedures. The typical values are given for guidance. The figures can change dependent on the test methods used.

## MATERIAL PROPERTIES

GENERAL DESCRIPTION	Calcium Silicate Board made with Mineral Matrix Engineering Technology
SURFACE CONDITION & APPEARANCE	Beige color Front face: Smooth Back face: Sanded
NOMINAL DRY DENSITY (AVERAGE)	Nominal 1000kg/m <sup>3</sup>
MOISTURE CONTENT	Approx. 8.0% (may change depending on ambient Relative Humidity)
ALKALINITY	pH 9
THICKNESS TOLERANCE	-0.5mm, +1mm (standard thickness of boards)
DIMENSION TOLERANCE	±5mm (standard board dimensions)

## STATIC VALUES (DEFLECTION $f \leq l/250$ , safety factor $n \geq 3$ )

MODULUS OF ELASTICITY E	FLEXURAL STRENGTH F	TENSILE STRENGTH T	COMPRESSIVE STRENGTH $\perp$
Longitudinal: 4599/mm <sup>2</sup> Transverse: 381N/mm <sup>2</sup>	Longitudinal: 7.52N/mm <sup>2</sup> Transverse: 5.15N/mm <sup>2</sup>	Longitudinal: 5.99N/mm <sup>2</sup> Transverse: 5.17N/mm <sup>2</sup>	7.76N/mm <sup>2</sup>

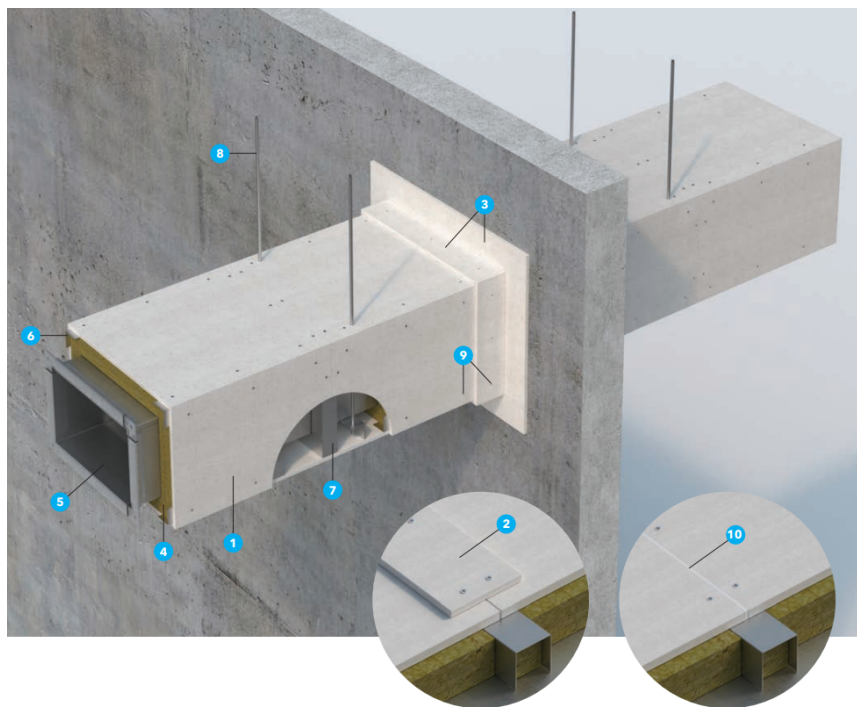
## REACTION TO FIRE & THERMAL PROPERTIES

COMBUSTIBILITY	SURFACE BURNING	THERMAL CONDUCTIVITY
A1 Classification: EN 13501 - 1 Non-combustible: BS 476: Part 4 and AS 1530: Part 1	Class 1: BS 476: Part 7 Class 0: AS 1530: Part 3	0.136W/m <sup>2</sup> K

## MANUFACTURING CERTIFICATION

SUPABOARD® is manufactured under a quality management system certified in accordance with ISO 9001: 2015. The manufacturing site is also certified to meet the environmental standards of ISO 14001: 2015 and the occupational health & safety requirements of ISO 45001: 2018.

## SUPABOARD® 120 MINUTES FIRE RESISTANT CLADDING DUCTS



Board joints option 1      Board joints option 2

Up to 120/120/120 fire resistance in accordance with the requirements of BS476: Part 24: 1987 and tested to duct types A and B.

- (1) One layer of SUPABOARD® 12mm thick.
- (2) SUPABOARD® cover strips 100mm wide x 9mm thick at all butt joints.
- (3) SUPABOARD® collar 100mm width x 12mm thick fitted around the duct on both sides of the wall or floor forming an L shape.
- (4) Mineral wool slab 50mm x 100kg/m<sup>3</sup> density.
- (5) Sheet metal duct and suitable steel support bracket.
- (6) Galvanized steel angles 50mm x 50mm x 0.6mm thick.
- (7) Steel channel collar 50mm x 50mm x 0.6mm thick fill with rock wool and coincides with boards' butt joints.
- (8) Threaded steel rod hangers at nominal 1200mm intervals and permissible tensile stress not exceeding 10N/mm<sup>2</sup>.
- (9) M4 self-tapping screws at nominal 200mm centers.
- (10) PROMASEAL® - A Acrylic Sealant.

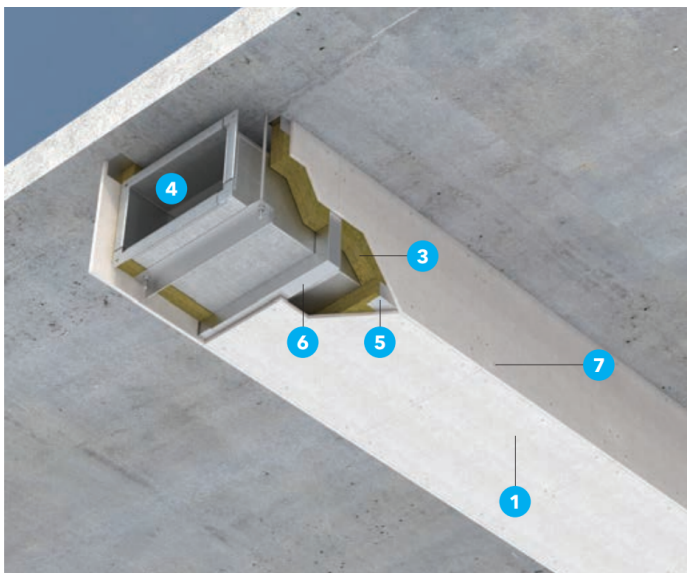


# SUPABOARD®

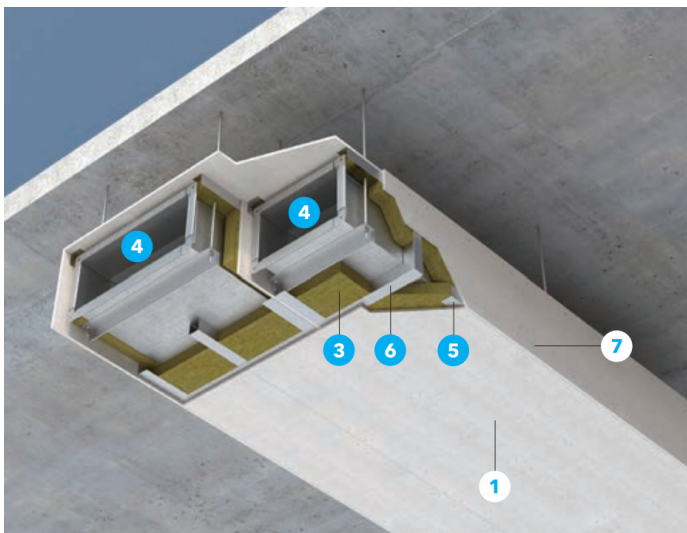
## OTHER TYPICAL FIXINGS OF CLADDING TO STEEL DUCTS



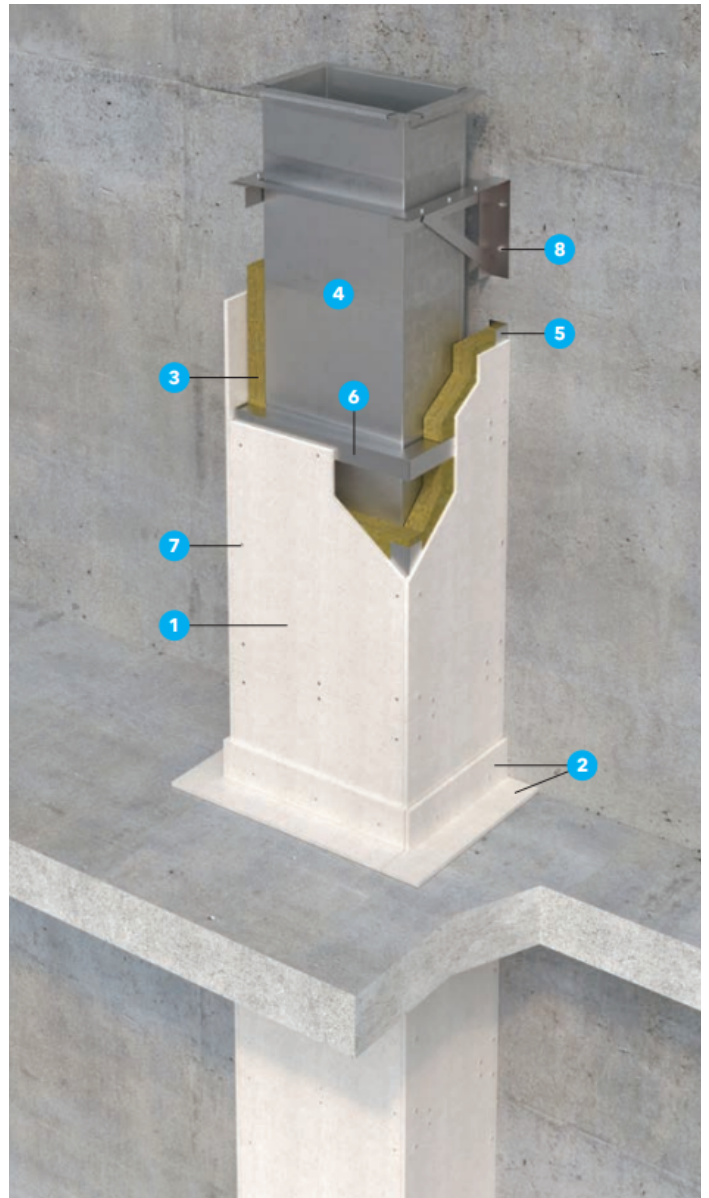
Two sided cladding to steel ducts.



Three sided cladding to steel ducts.



Multiple duct cladding.



Typical vertical cladding to steel ducts.

- (1) One layer of SUPABOARD® 12mm thick.
- (2) SUPABOARD® collar 100mm width x 12mm thick fitted around the duct on both sides of the wall or floor forming an L shape.
- (3) Mineral wool slab 50mm x 100kg/m<sup>3</sup> density.
- (4) Sheet metal duct and suitable steel support bracket.
- (5) Galvanized steel angles 50mm x 50mm x 0.6mm thick.
- (6) Steel channel collar 50mm x 50mm x 0.6mm thick fill with rock wool and coincides with boards' butt joints.
- (7) M4 self-tapping screws at nominal 200mm centers.
- (8) Suitable steel support bracket.



# SUPALUX® CALCIUM SILICATE BOARD

## DESCRIPTION

SUPALUX® consists of a calcium silicate matrix of reinforced fibers and fillers, 100% asbestos free. The product material formula is cured to form a dimensionally stable board through an autoclave process where the board is subjected to pressurized steam and high temperature. The result is a board that is lightweight with high impact resistance, excellent fire resistance performance and all the reliable qualities.

## PRODUCT PROPERTIES

SUPALUX® is manufactured under a quality management system certified in accordance with ISO 9001: 2008. The product has passed the site audit in accordance with the environmental standards of ISO 14001: 2004 and occupational health and safety requirements of OHSAS 18001: 2007. SUPALUX® is off-white in color. The front face is smooth and is suitable for any forms of architectural or finishing treatment; the reverse face is sanded. The board can be undecorated or easily finished with paints, wallpapers or tiles. SUPALUX® is resistant to effects of moisture and will not physically deteriorate in a damp or humid environment. Whilst its performance characteristics are not degraded by moisture or ages, SUPALUX® is not designed for application in areas subject to continual damp or high temperatures.

## EFFECT OF MOISTURE

Saturate a SUPALUX® board in water and allow it to dry, the product will return to its original condition with almost no degradation. Moisture and dampness have no permanent effect on the mechanical or fire resistance performance of the product. It is therefore possible to install SUPALUX® at any time of a building program.

## IMPACT RESISTANCE

A wall construction with SUPALUX® has fulfilled all the heavy duty application conditions for impact, crowd pressure, deflection and multiple cycles of door slam in accordance with the requirements of British Standard 5234, proving its excellent and high impact resistance.

## COMPATIBILITY

SUPALUX® is compatible with most building materials because it is non caustic and will neither promote corrosion nor affect bituminous compounds. The surface of the board is readily suitable to receive many forms of architectural treatments such as painting, wallpapering, waterproofing membranes, tiling and other common aesthetic finishes. It is advisable to strictly adhere to the instruction of all decorative materials' manufacturers at all times.

## PRODUCT PROPERTIES

- Structural steel fire protection
- Steel stud and solid/frameless partitions
- Self-supporting membrane ceilings
- Suspended ceilings
- Timber floor protection
- Cladding to steel ducts
- Services enclosures

## HEALTH AND SAFETY

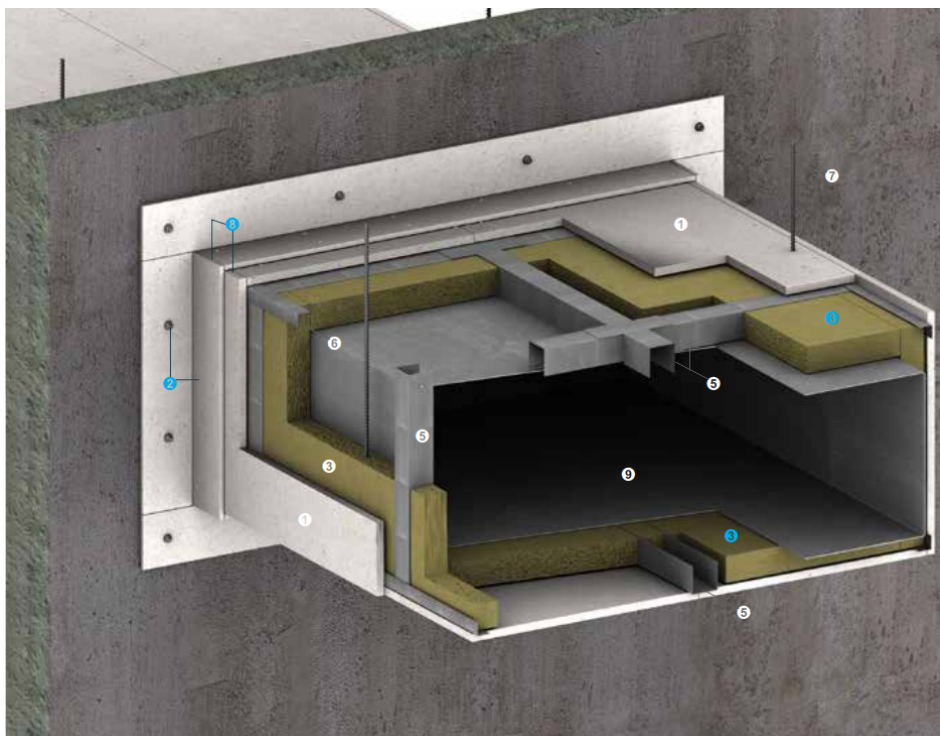
When machining the SUPALUX® product, airborne dust released may be hazardous to health. Do not inhale the dust and avoid contact with skin and eyes by using dust extraction equipment. Respect regulatory occupational exposure limits for total inhalable and respirable dust. SUPALUX® product is not classified as a dangerous substance so no special provisions are required regarding the transportation and the disposal of the product to landfill. The product can be placed in on-site rubbish skips with other general building waste which should then be disposed by a registered contractor in the appropriate and approved manner.



GENERIC DESCRIPTION	SUPALUX® Calcium Silicate Board
SURFACE CONDITION	Front face: smooth Back face: sanded
BUILDING REGULATIONS	Class 0
ALKALINITY	Approx. pH 12
COEFFICIENT OF EXPANSION	-6.4 x 10 <sup>-6</sup> m/mk
THICKNESS TOLERANCE	±0.5mm (standard thickness boards)
DIMENSION TOLERANCE	±0.5mm (standard thickness boards)

STANDARD THICKNESS	STANDARD DIMENSION	NUMBER OF BOARDS PER PALLET	SURFACE AREA PER PALLET	WEIGHT OF BOARDS PER m <sup>2</sup>	WEIGHT PER PALLET
9mm	2440mm x 1220mm	61	181.5m <sup>2</sup>	Approx. 8.77kg	Approx. 1688kg
12mm	2440mm x 1220mm	46	136.9m <sup>2</sup>	Approx. 11.7kg	Approx. 1698kg
15mm	2440mm x 1220mm	36	107.2m <sup>2</sup>	Approx. 14.6kg	Approx. 1662kg
20mm	2440mm x 1220mm	27	80.4m <sup>2</sup>	Approx. 19.5kg	Approx. 1664kg
25mm	2440mm x 1220mm	22	65.4m <sup>2</sup>	Approx. 24.3kg	Approx. 1681kg

## SUPALUX® FIRE PROTECTION: CLADDING TO STEEL DUCT



Up to -/60/60 or -/120/120 or -/240/240 fire resistance in accordance with the requirements of BS 476: Part 24: 1987.

(1) One layer of SUPALUX® board, thickness in accordance with the required fire resistance as follows:

60 minutes: 12mm thick  
120 minutes: 15mm thick  
240 minutes: 25mm thick

(2) SUPALUX® collar, one layer 150mm wide x same board thickness as main cladding. Fastened to the wall with M6 anchor bolts at 500mm centers. The section of collar to the duct should be fixed to the SUPALUX® cladding using 32mm long x No. 8 drywall screws at nominal 200mm centers.

(3) Mineral wool, thickness and density in accordance with the required fire resistance as follows:

60 minutes: Two layers of 25mm x 60kg/m<sup>3</sup>  
120 minutes: Two layers of 25mm x 100kg/m<sup>3</sup>  
240 minutes: Two layers of 50mm x 100kg/m<sup>3</sup>

(4) 35mm long x M4 self tapping screws at nominal 200mm centers.

(5) 50mm x 50mm x 0.6mm thick steel channel collar fixed at board joints to form grid 1220mm x 610mm maximum centers.

(6) 50mm x 50mm x 0.6mm thick steel angles joining corners of collars (5).

(7) Galvanized steel hanger support system, stress level in accordance with the required fire resistance as follows:

60 minutes: < 15N/mm<sup>2</sup>  
120 minutes: < 10N/mm<sup>2</sup>  
240 minutes: < 6N/mm<sup>2</sup>

(8) PROMASEAL® - A Acrylic Sealant at all board joints and hanger penetrations.

(9) Galvanized steel duct.

This cladding method is for a steel duct up to 6000mm x 1500mm. Minimum size of steel duct sheet, stiffeners and angle are as specified in DW/144.

# SUPALUX® FIRE PROTECTION: BUILDING SERVICES ENCLOSURE

Up to -/120/- or -/240/- fire resistance in accordance with the requirements of BS 476: Part 20: 1987.

(1) One layer of SUPALUX® board, thickness in accordance with the required fire resistance as follows:

120 minutes: 9mm thick

240 minutes: 12mm thick

(2) SUPALUX collar, one layer 150mm wide x same board thickness as main cladding. Fastened to the wall with M6 anchor bolts at 500mm centers. The section of collar to the duct should be fixed to the SUPALUX® cladding using 32mm long x M4 self tapping screws at nominal 200mm centers.

(3) SUPALUX® cover strips minimum 75mm wide x main board thickness at all board to board joints.

(4) Minimum 100kg/m<sup>3</sup> of mineral wool tightly packed to fill gaps between duct and opening within substrate.

(5) 35mm long x M4 self tapping screws at nominal 200mm centers.

(6) 50mm x 50mm x 0.6mm thick steel channel collar at board joints to form grid 1220mm x 610mm maximum centers.

(7) 50mm x 50mm x 0.6mm thick steel angles joining corners of collars (6).

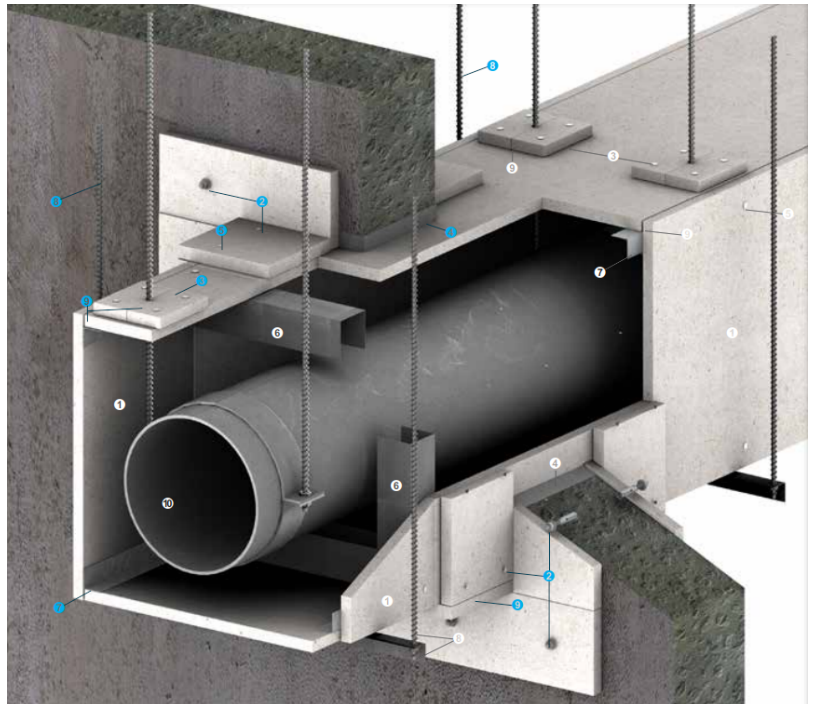
(8) Galvanized steel hanger support system, stress level in accordance with the required fire resistance as follows:

120 minutes: < 10N/mm<sup>2</sup>

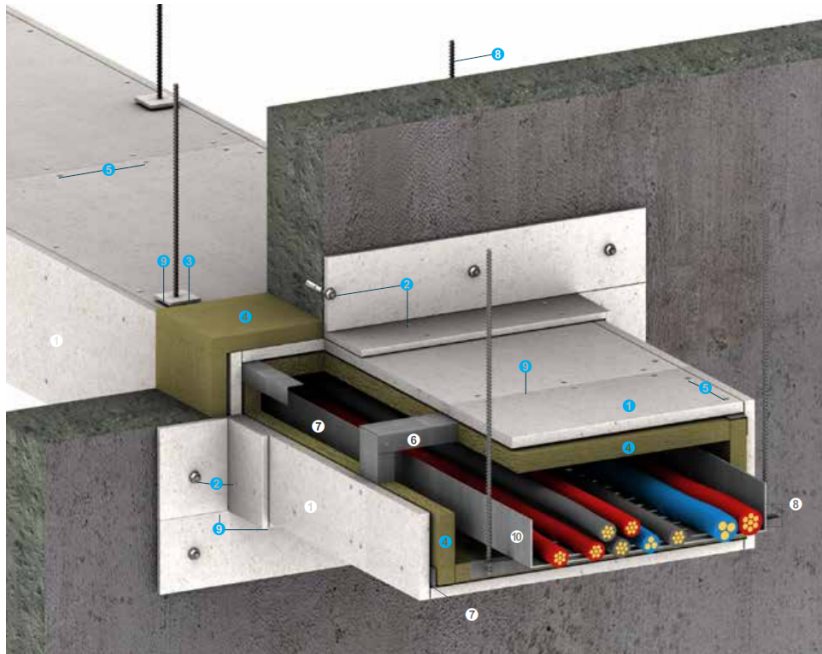
240 minutes: < 6N/mm<sup>2</sup>

(9) PROMASEAL® - A Acrylic Sealant at all board joints and hanger penetrations.

(10) General building services, eg. pipes.



# SUPALUX® FIRE PROTECTION: BUILDING SERVICES ENCLOSURE



(7) 50mm x 50mm x 0.6mm thick steel angles joining corners of collars (6).

(8) Galvanized steel hanger support system, stress level in accordance with the required fire resistance as follows:

120 minutes: < 10N/mm<sup>2</sup>

240 minutes: < 6N/mm<sup>2</sup>

(9) PROMASEAL® - A Acrylic Sealant at all board joints and hanger penetrations.

(10) General building services, eg. cable tray.

Up to -/120/120 or -/240/240 fire resistance in accordance with the requirements of BS 476: Part 24: 1987.

(1) One layer of SUPALUX® board, thickness in accordance with the required fire resistance as follows:

120 minutes: 12mm thick

240 minutes: 25mm thick

(2) SUPALUX® collar, one layer 150mm wide x same board thickness as main cladding. Fastened to the wall with M6 anchor bolts at 500mm centers. The section of collar to the duct should be fixed to the SUPALUX® cladding using 32mm long x M4 self tapping screws at nominal 200mm centers.

(3) SUPALUX® cover strips minimum 75mm wide x main board thickness at all board to board joints.

(4) Mineral wool

120 minutes: 50mm x 100kg/m<sup>3</sup>

240 minutes: two layers of 50mm x 100kg/m<sup>3</sup>

(5) 45mm long x M4 self tapping screws at 200mm centers.

(6) 50mm x 50mm x 0.9mm thick steel collar at board joints (maximum 1220mm centers). For ducts wider than 1220mm, collars should form grid 1220mm x 610mm maximum framing centers.

Applicable for services enclosure up to 3000mm x 1500mm.



# PROMASEAL® AN ACRYLIC SEALANT

## DESCRIPTION

PROMASEAL® AN Acrylic Sealant is a gunable sealant designed for the sealing of joints and services penetrations against the spread of fire, smoke and hot gases for up to 240 minutes fire resistance when tested to AS1530: Part 4, AS4072: Part 1 and BS476: Part 20. In addition, PROMASEAL® AN Acrylic Sealant may be used as acoustic sealant due to its density and flexibility. PROMASEAL® AN Acrylic Sealant should be used in conjunction with all penetration sealing systems to provide a secure cold smoke seal. Where the location of a fire is some distance from a penetration seal, there will be insufficient heat to activate an intumescent material. As such, cool smoke can rapidly pass through buildings, creating a toxic, life threatening environment. While the use of a cold smoke seal is not needed for meeting fire resistance performance requirements, it should be considered as a necessity to prevent smoke movement through buildings via penetrations, and is therefore highly recommended.

PROMASEAL® AN Acrylic Sealant can be supplied in:

- 300ml cartridges
- 600ml foil packs

## INSTALLATION GUIDE

### PENETRATION SEALS

PROMASEAL® AN Acrylic Sealant is used to seal around small gaps, with or without penetrating elements. The sealant is ideal for sealing around metal pipes, cables, conduits, busways and ducts which penetrate walls or floors. This product bonds to masonry, concrete, calcium silicate board, plasterboard, metal and cable coverings and remains flexible after curing, thus accommodating building movement. The fire resistance achieved will be limited to the fire resistance of the building element through which the service passes. The size of the gaps around services that can be protected with PROMASEAL® AN Acrylic Sealant has limitations. For metal pipes passing through floors the gap between the pipe and floor should be no greater than 38mm, for walls no greater than 20mm. For bundles of cables passing through floors, the maximum opening should be no greater than 50mm (approximately 200mm<sup>2</sup>) and through walls, 38mm (approximately 1100mm<sup>2</sup>). For cables on steel cable trays passing through walls, the maximum opening size should not exceed 70mm high x 440mm wide. In some installations when gaps are at the upper end of the range, sealant may be inclined to slump. In such cases the use of PROMASEAL® IBS™ may be the better solution.

### CONTROL JOINTS

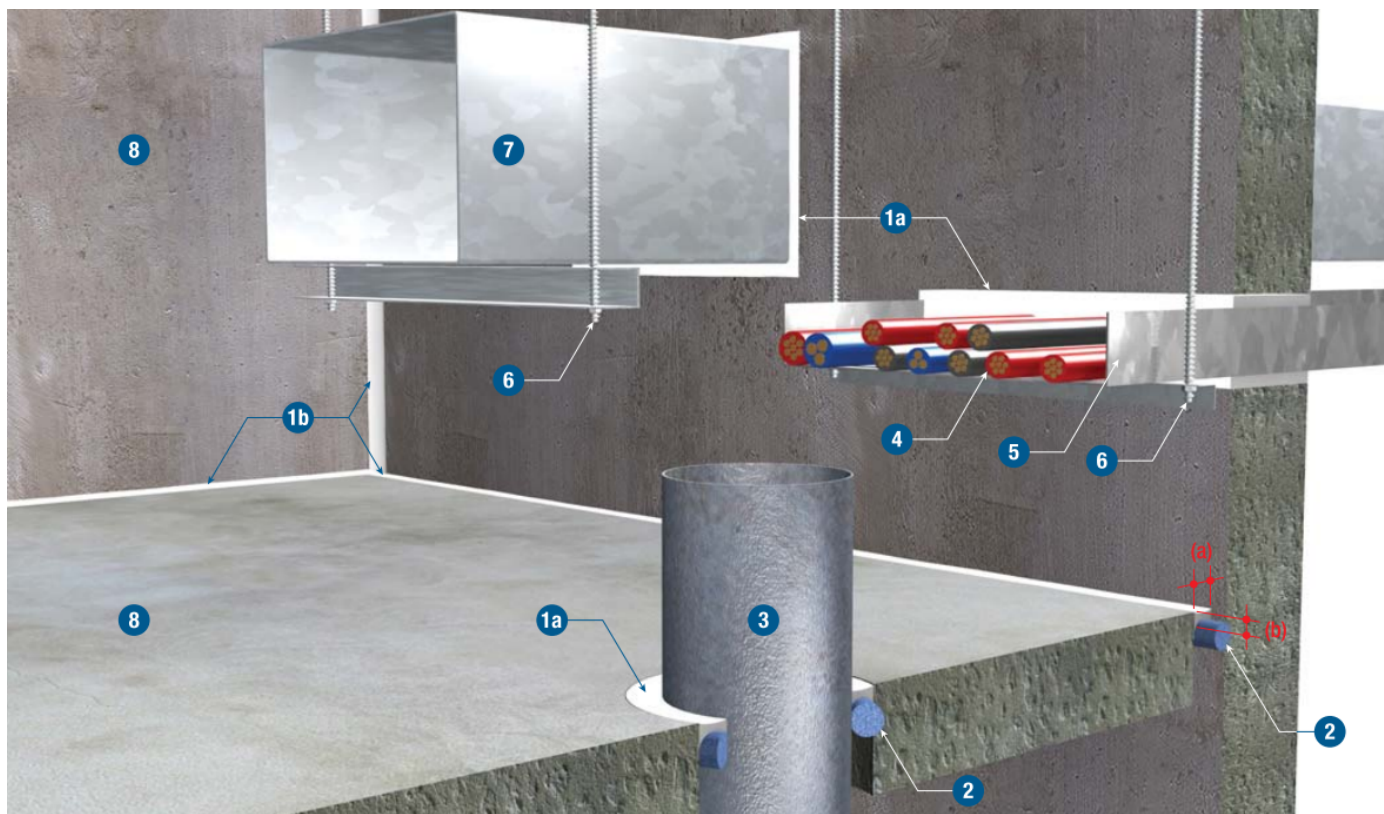
When specifying or sourcing a sealant for a control joint, it is essential that the characteristics of each control joint are taken into account. Control joints are provided either within or between elements of construction to allow for differential movement caused by a number of factors including shrinkage, thermal expansion, service loads, creep or as a means of joining pre cast units. Adhesion is excellent to most types of surface. For optimum performance the surfaces of the building element must be free of any dust or grease and be suitably primed. Once applied, they cure in air naturally to form a non-hardening, tack-free seal. PROMASEAL® AN Acrylic Sealant varies in its movement capabilities. As a general rule, the sealant has low movement properties (typically around  $\pm 12.5\%$  movement) and should not be used where movement is a high priority.

## RECOMMENDED SPECIFICATIONS

Where appropriate, the specified joints and gaps within floor/wall opening should be properly fire stopped using PROMASEAL® AN Acrylic Sealant capable of providing a fire resistance up to -/240/- or -/240/240 when tested and assessed in accordance with AS1530: Part 4 and/or BS476: Part 20: 1987. Installation of any fire stopping product should be carried out according to the manufacturer's recommendations.



# TECHNICAL DATA



**(1a)** For FRL up to -/240/- in floor penetrations and up to -/180/- in wall penetrations, depending on application and types of the services and penetrating elements, Insulation criteria may need to be waived on some services.

**(1b)** For FRL up to -/240/240 in control joints PROMASEAL® AN Acrylic Sealant, sealing depth for control joints as below:

(For FRL of -/120/120 (Minimum 120mm element thickness))

Gap width (a)	10mm	20mm	30mm	40mm	50mm
Fire side only (b)	10mm	10mm	15mm	#	#
Non fire side	10mm	10mm	#	#	#
Both side	10mm	10mm	15mm	20mm	20mm

(For FRL of -/180/180 (Minimum 150mm element thickness))

Gap width (a)	10mm	20mm	30mm	40mm	50mm
Fire side only (b)	10mm	10mm	15mm	#	#
Non fire side	10mm	10mm	#	#	#
Both side	10mm	10mm	15mm	20mm	20mm

(For FRL of -/240/240 (Minimum 170mm element thickness))

Gap width (a)	10mm	20mm	30mm	40mm	50mm
Fire side only (b)	10mm	10mm	20mm	#	#
Non fire side	10mm (FRL -/240/180)	10mm (FRL -/240/180)	#	#	#
Both side	10mm	10mm	15mm	20mm	20mm

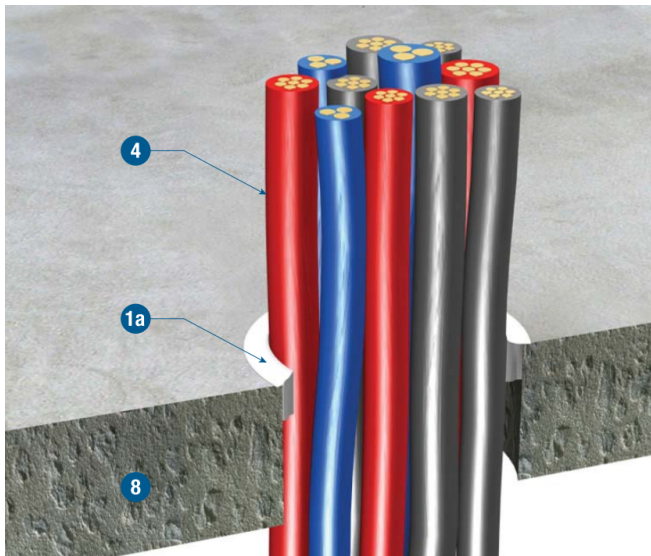
#Please request for PROMASEAL® IBS™.  
NOTE: Typical floor and wall element thicknesses are 120mm, 150mm, 170mm for 120, 180, 240 minutes respectively.  
USAGE: To calculate the sealant volume, multiply joint width (mm) x depth (mm) x length (M) and divide by the container volume (ml). For example, 20mm x 10mm x 50M ÷ 600ml = 17 foil packs of PROMASEAL® AN Acrylic Sealant.

- (2) Polyethylene backing strip
- (3) \*Cast-in type for FRL of -/240/- or cored hole-fixed type for FRL of -/120/- Metal pipe up to 150mm diameter
- (4) Electrical cables
- (5) Steel cable tray
- (6) Services support system to be within 300mm on the barrier side
- (7) Steel ventilation duct
- (8) Masonry or concrete floor slab/wall



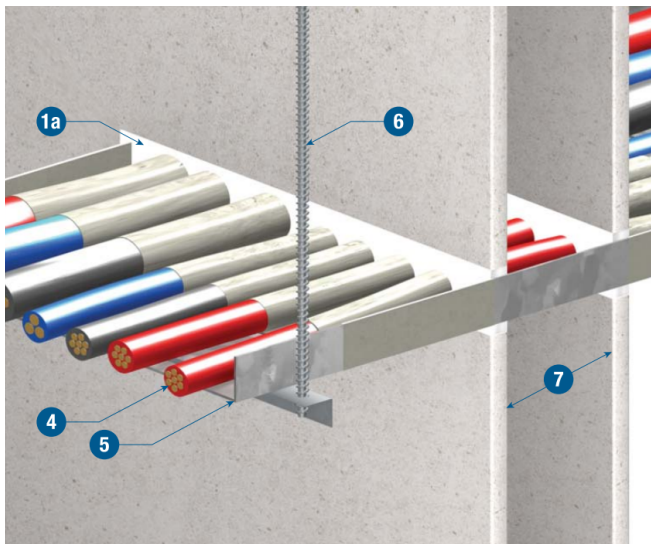
### Electrical cables through masonry or concrete floor

\*For FRL up to -/120/-



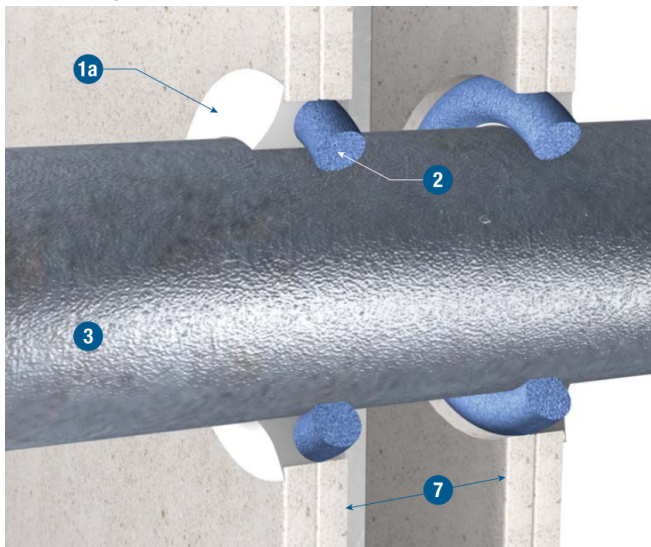
### Cable tray through lightweight partition

\*For FRL up to -/180/-



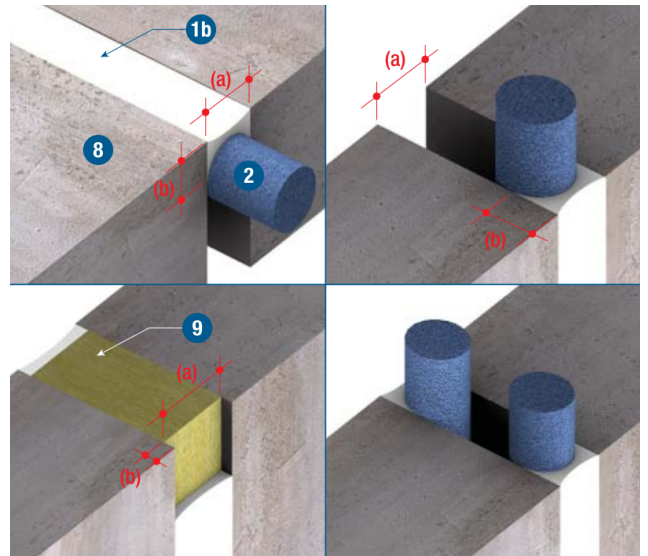
### Metal pipe through lightweight partition

\*For FRL up to -/120/-

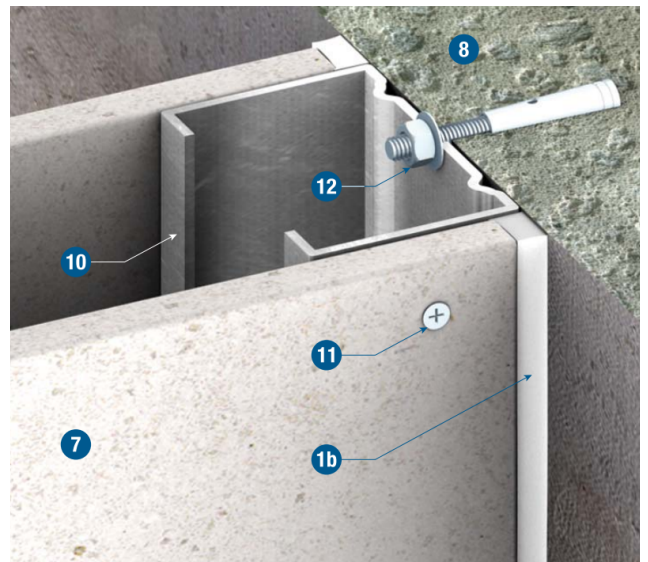


### Control joints for gaps in masonry or concrete floor or wall

Clockwise: 1-sided in floor, 1-sided in wall, 2-sided in wall and big gap in wall



### Junction of lightweight partition to masonry or concrete substrate



## TECHNICAL DATA

(1a) For FRL up to -/240/- in floor penetrations and up to -/180/- in wall penetrations, depending on application and types of services and penetrating elements. Insulation criteria may need to be waived on some services.

(1b) For FRL up to -/240/240 in control joints

(2) Polyethylene backing strip

(3) Metal pipe up to 150mm diameter

(4) Electrical cables

(5) Steel cable tray

(6) Threaded steel hanger rods

(7) Lightweight partition

(8) Masonry or concrete floor slab/wall

(9) Mineral wool

(10) Steel channel

(11) Drywall type self-tapping screws

(12) Anchor fixing

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