Technical Product Information

3M™ IC 15WB+

Fire Barrier Sealant

Product description

3M™ IC 15WB+ is a single-component fire barrier caulk developed for firestop through-penetrations in walls and ceilings. The product is water-based and halogen-free. The caulk is an intumescent, endothermic building material, which expands to three times its original volume at temperatures above 200°C, releasing chemically bound water in the process. It thus absorbs heat and forms a seal against fire, smoke, toxic gases and water. IC 15WB+ is supplied in a 310 ml container.

Applications

IC 15WB+ is suitable for smaller firestop through-penetrations in walls and ceilings, cable harnesses, cables, cable trays and metal pipes. Not suitable for plastic pipes. Can also be used in combination with the 3M products FireDam 2000 Coating and FireDam 240 Coated board as an additional smoke seal. The compound is also particularly suitable for making good firestop through-penetrations and for sealing smaller openings in firestop through-penetrations.

Special features

- Water-based
- Intumescent (strong expansion)
- Endothermic (releases chemically bound water)
- Strong, flexible layer created on curing
- Can be applied to walls and ceilings with a putty knife
- Halogen-free
- Quick-drying, can be painted over
- Easily recognisable as a firestop construction material from its yellow colour

Technical data

Colour	Yellow
Smell	Low odour, non-irritating
Intumescence	at least 2x at 350 °C
Expansion	above 200 °C
Max. working temperature	48 °C
Dust-dry (23 °C)	15 minutes
Drying time (23 °C)	2 - 8 hours for a 1 cm thick coating
Curing time	72 hours
Shrinkage	10 %
Flow rate (6 mm opening, 3.4 bar)	2000 gr/min
Density	1.43 kg/l
Hardness (after complete curing)	70 Shore A
Adhesion	Adheres to any substrate
Storage temperature	5 – 35 °C, avoid frost
Shelf life	12 months

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Fire resistance

Fire resistance is a combination of flame resistance (E) and temperature resistance (I) The fire resistance is dependent on the wall or floor, the design of the through-penetration, the pipe/cable going through it and the manner in which the fire barrier product was applied. The table below shows, for example, that a metal pipe positioned on the wall has a lower temperature resistance in consequence than centred installation of the same pipe.

Tests on the basis of EN 1366-3 produced the following results:

Through pipe/cable	Double-layer plaster wall (at least 150 mm)		Concrete wall (at least 150 mm)	
	Flame resistance (E)	Temperature resistance (I)	Flame resistance (E)	Temperature resistance (I)
Through-penetration with no pipes	120 min.	120 min.	120 min.	120 min.
Telecom cable (single or several)	120 min.	90 min.	120 min.	90 min.
Electric cable (single or several)	120 min.	90 min.	120 min.	90 min.
Non-insulated copper pipe (centrally positioned)	120 min.	90 min.	120 min.	90 min.
Non-insulated steel pipe (central, 34 mm)	120 min.	120 min.	120 min.	120 min.
Non-insulated steel pipe (central, 110 mm)	120 min.	15 min.	120 min.	30 min.

3M™ Fire Barrier IC 15WB+ Sealant was tested by Evoxa Warringtonfire in accordance with EN 1366-3 2004 and classified by Evoxa Warringtonfire Certifire in accordance with EN 13501-2. In addition, the product was tested and listed by Underwriters Laboratory (UL), Intertek Testing Services (Omega Point Laboratory) and Factory Mutual (FM). It has over 750 listings in the USA.

Instructions for use

IC 15WB+ can be applied using a putty knife, trowel or filler knife. For smaller openings or between cables, use the mastic spray. No stirring or mixing is required.
The caulk bonds to concrete, metal, wood, plastic, cable sheathing etc. Any tools used can be cleaned using water.

In addition to standard glass wool with a density of 140 kg/m³, glass wool PM4 material can also be used for smaller holes (10 cm x 6.2 m). This material will not cause itching to the hands and can be used in small quantities to seal the opening.
You can mask pipes and wall using Scotch® 2364 masking tape (25 mm x 50 m).

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Dimensions and measurements

Please take the following data into account when using IC 15WB+ Sealant.

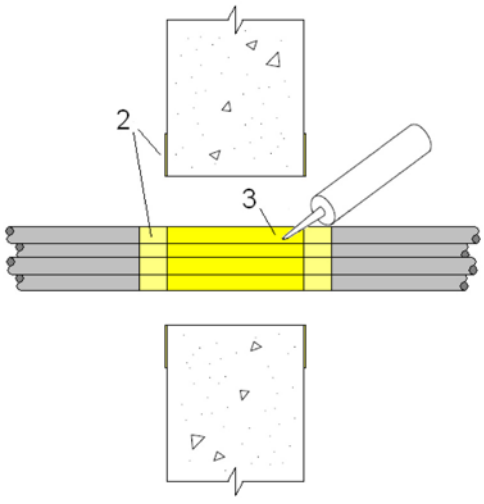
Description		Values
Minimum thickness of substrate	Wall	150 mm
	Floor	150 mm
Maximum dimensions of through-penetration	Round	160 mm
	Rectangular	300 cm²
Minimum distance between several through-penetrations	Horizontal/vertical	200 mm
Minimum distance from the penetration to the nearest metal strut (plaster wall)	Horizontal/vertical	100 mm
Distance between	Cable and wall	At least 40 mm
	Cables	0 mm
Sealing	Wall	Both sides
	Floor	On the underside. In the case of hazardous liquids, on both sides likewise.
Depth IC 15WB+		25 mm
Annular thickness IC 15WB+	Single cable	At least 25 mm
	Cable harness	At least 25 mm
	Metal pipes	At least 25 mm
	Insulated metal pipes	
	(NB: in combination with FS 195+ Strip)	At least 25 mm
Mineral wool	Density	At least 100 kg/m³, optimally 140 kg/m³
	Thickness	≥ 50 mm
Maximum filling quantity	Max. cable filling	40 %
	Max. diameter metal pipes	See minimum annular density

IC 15WB+ – integration in a wall of concrete, stone, plasterboard or with metal inserts.

Step 1
Clean surface of wall through-penetration and pipes to remove dust, dirt and material residues. This ensures optimum adhesion of the sealant .

Step 2
For a clean job, mask the through-penetration on both sides of the wall using masking tape (e.g. Scotch ®-Tape 2364, 25 mm x 50 m).

Step 3
In the case of cable harnesses, undo these to spray IC 15WB+ mastic over the entire wall thickness between the cables. This serves to create a smoke seal between the cables. Retie the cables so that the mastic can spread well in the interstices.



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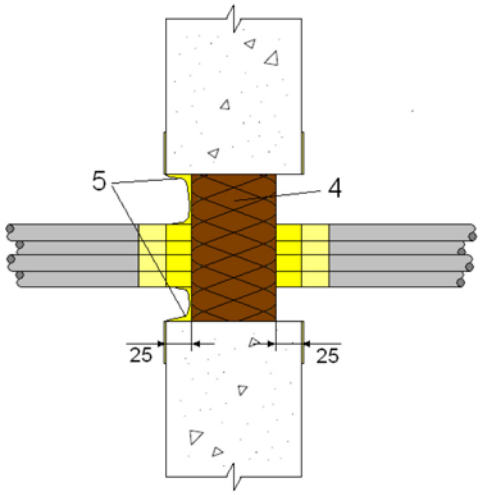
Step 4
Plug the through-penetration around the pipes, cables or cable trays (or the entire penetration in the case of empty openings) with firmly compacted glass wool with a density of 140 kg/m³ (e.g. Conlit P by Rockwool). You should apply 5 cm of packing for a wall thickness of 10 cm, or 10 cm for thicker walls.
Take care to leave a 25 mm deep cavity for the fire barrier caulk. Glass wool with a lower density can also be used, but should be compacted harder before being pressed into the through-penetrations. For example: a glass wool board of 100 kg/m³, 100 mm thick, should be compressed by 30%, up to a thickness of 70 mm. The effective density is thus 142 kg/m³.

Step 5
Apply a bed of IC 15WB+ to the inside of the penetration and spread the mastic to improve adhesion.

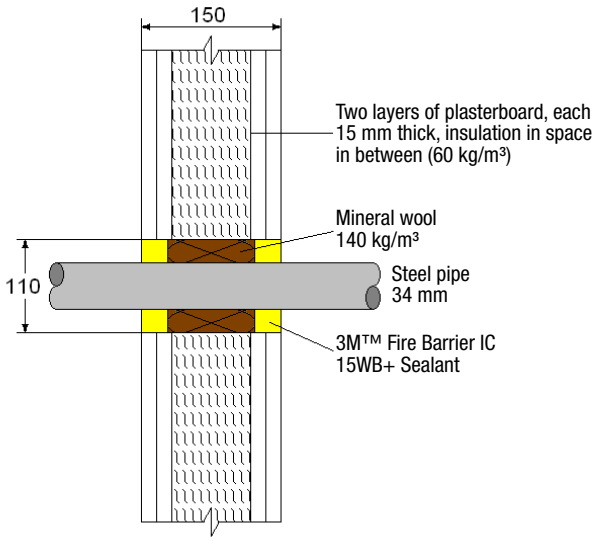


Note:
If the surface is not clean, or is very dusty, as is often the case with plasterboard, you can mix a small quantity of IC 15WB+ with water and brush it onto the surface.
Repeat this on the other side of the wall.

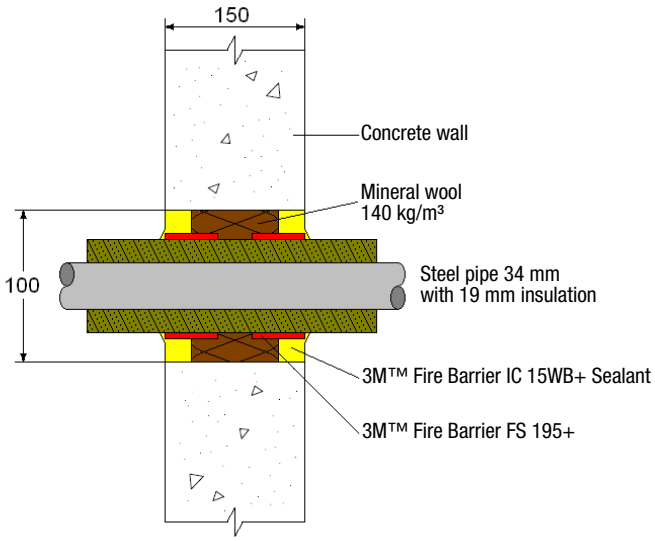
Application examples

Below you will find some application examples for 3M™ Fire Barrier IC 15 WB+ Sealant.

Through-penetration with metal pipe



Through-penetration with insulated metal pipe



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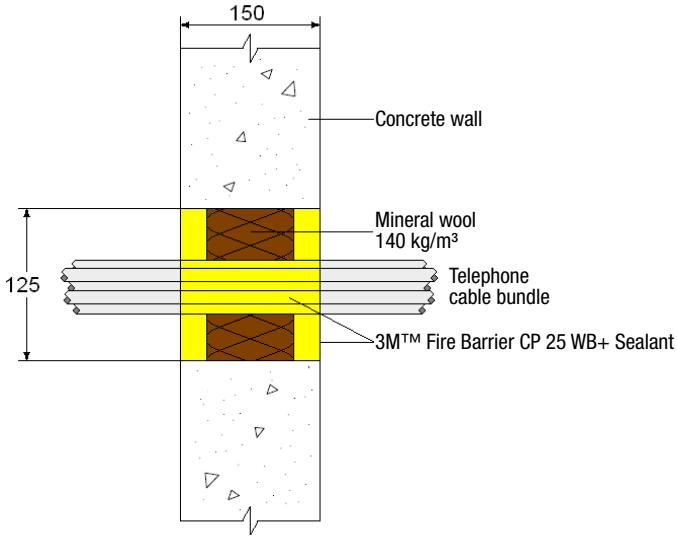
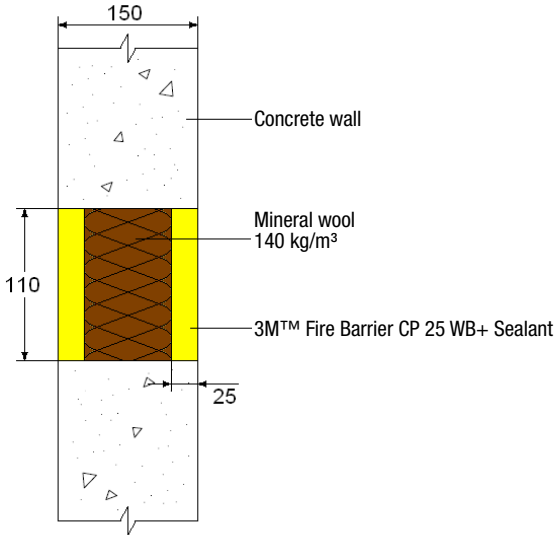
Through-penetration with cable harness



Empty through-penetration



General note:

All the information and/or recommendations featured here are empirical values. We make no claims as to the completeness of this information. It is incumbent on the customer/publisher to check for himself prior to using the product whether it is suitable for the proposed application, taking any influences that may affect the application into account. Unless otherwise stipulated in statutory regulations, all questions relating to any warranty and liability for our product are determined according to the respective purchase agreement regulations.

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