

3M Technical Data Sheet

# 3M™ Fire Barrier Sealant IC 15WB+

The 3M™ Fire Barrier Sealant IC 15WB+ is a latex sealant designed for use as a one-part fire, smoke, noxious gas and water resistant sealant. In addition, the unique intumescent property of this material (expands when heated) means that as the combustible cable insulation is consumed by fire, the sealant expands to maintain the penetration seal.

IC 15WB+ Sealant can be installed with a standard or bulk caulking gun, pneumatic pumping equipment or it can be easily applied with a putty knife or trowel. Sealant bonds to gypsum wallboard, concrete, metals, wood, plastic and cable jacketing. No mixing is required. Tool within 5 minutes of application, if required. IC 15WB+ Sealant provides Fire Resistance Ratings of up to 2 hours.



## Product Features

- Water Based: Easy clean up, no special handling, routine disposal
- Intumescent: Expands when heated to maintain seal around items consumed by fire
- Endothermic: Absorbs heat energy, releases chemically bound water
- Thixotropic: Will not sag or run in overhead or vertical applications
- Halogen-free
- Fast dry: Tack-free in approximately 8 to 12 minutes @ 23°C (73°F)
- Paintable. Best results obtained after 72 hour cure
- Minimal shrinkage
- Yellow colour
- High flow rate: 2000 g/min. with 6 mm (1/4") nozzle
- Point contact allowed
- Testing in accordance with AS1530.4, AS4072.1, EN1366, and ASTM E814 (UL Listed).

## Physical Properties

Typical Physical Properties	
Tack Free Time (ASTM C679-87)	8 to 12 minutes @ 23°C (73°F)
Continuous operating temperature	Up to 48°C (120°F)
Expansion at 350° C (662°F)	2.0
Colour	Yellow
Density	1.43 kg/L (12.0 lb./gal.)
Adhesion	Very good on all construction substrates
Application	Caulk guns, trowel, spatula, pressurized pumps
Durometer Hardness (Shore A)	70
Solids	80% by weight
VOC	0% by weight
Odour	Pleasant non-irritating
Flow Rate	2000 grams/min. from 6.35 mm (1/4") nozzle at 50 psi
ASTM E 84: Flame Spread Smoke Development	0 0
Boeing Flow (Sag Characteristics)	<5.08 cm (2") in 5 minutes

## Availability

3M™ Fire Barrier IC 15WB+ Sealant is available from Authorized 3M Fire Protection Products Distributors.

Size	Packing Unit/Case
300 ml (10.1 fl.oz.) cartridge	12
594 ml (20 fl. oz.) sausage	10
802 ml (27 fl. oz.) cartridge	6
17 litre (4.5 gallon) pail	1

## Maintenance

IC 15WB+ Sealant is stable under normal storage conditions and has a one year shelf life. Normal stock rotation practices are recommended.

**Recommended: Store between 4°C (40°F) & 32°C (90°F) for maximum shelf life. Keep from freezing.**

Table 1 - Performance Specifications for Installers

Australian Standard FRL's		Fire Resistance Level (FRL)				
3M Fire Barrier System	Building Element	Blank (Unpenetrated) Seal	PVC Insulated Cables, Cable trays and Cable bundles*	Copper or Steel Pipes Small 15mm diameter or smaller 0.9mm Wall thickness or thicker*	Steel Pipes Small 34mm diameter or smaller 3.5mm wall thickness or thicker*	Steel Pipes Large 114mm diameter or smaller 4.5mm wall thickness or thicker*
3M™ Fire Barrier Sealant IC 15WB+	<b>Floor:</b> Concrete slab. <i>Minimum 120mm thickness</i>	-/120/120	-/120/30	—	—	—
	<b>Wall:</b> Plasterboard Dry Wall, solid masonry, hollow masonry or concrete construction. <i>Minimum 116mm thickness</i>	-/120/120	-/120/30	—	—	—
	<b>Wall:</b> Solid masonry, hollow masonry or concrete construction. <i>Minimum 150mm thickness</i>	-/120/120	-/120/30	-/120/30	-/120/30	-/120/-

In order to achieve the above FRLs you must ensure that the IC 15WB+ Sealant is installed as per the Installation Techniques and the building element you are installing into has an FRL performance equal to or better than that of the IC 15WB+ system. The Installation Techniques can be found on the final page of this document.

#### What does FRL mean?

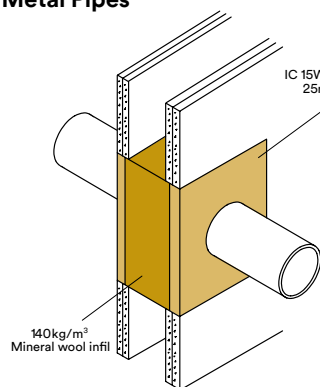
FRL stands for 'Fire Resistance Level'. For example, an FRL of '-/120/30' indicates:

- **Structural Adequacy.** The first dash '-' indicates that IC 15WB+ Sealant is non load bearing

- **Integrity.** The middle number '120' indicates for how many minutes the IC 15WB+ system can resist the passage of flames and hot gasses
- **Insulation.** The last number '30' indicates how many minutes it takes the unexposed face to heat up by more than 140°C.

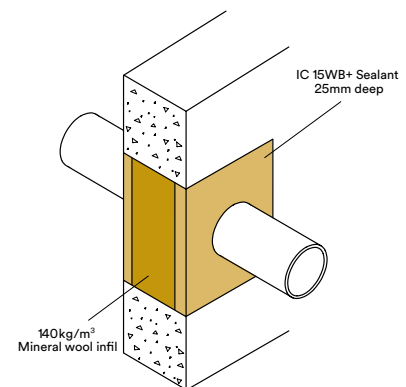
\*Where the FRL of the firestopping system requires an insulation value greater than that given in table 1, the use of additional insulating wraps can be employed - see Appendix A.

#### Metal Pipes



#### Dry Wall 150mm

Copper: 15mm dia, 0.91mm wall: FRL: -/120/30  
 Steel: 34mm dia, 3.5mm wall: FRL: -/120/30  
 Steel: 114mm dia, 4.5mm wall: FRL: -/120/-



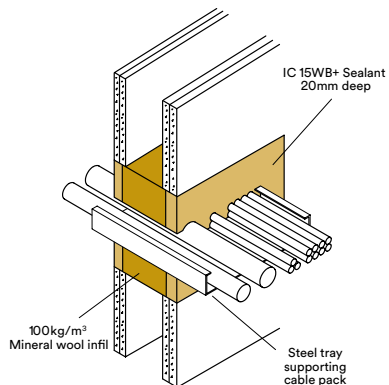
#### Solid Masonry, Hollow Masonry or Concrete Wall 150mm

Copper: 15mm dia, 0.91mm wall: FRL: -/120/30  
 Steel: 34mm dia, 3.5mm wall: FRL: -/120/30  
 Steel: 114mm dia, 4.5mm wall: FRL: -/120/30

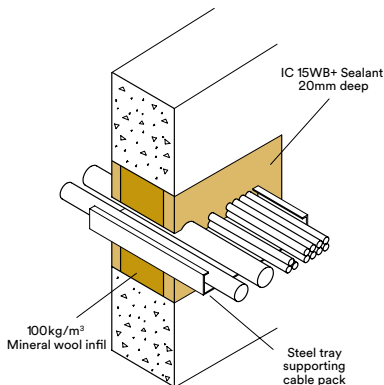
# Performance Specifications for Engineers and Specifiers

3M™ Fire Barrier IC 15WB+ Sealant has been tested in accordance with AS1530.4 and assessed in accordance with AS4072.1. The following illustrations provide a summary of the test results for D1 and D2 cable configurations, metal pipe penetrations and blank unpenetrated seals with IC 15WB+ Sealant installed as per the Installation Techniques. Specifications for standard D1 and D2 cable configurations can be found in AS1530.4 Appendix D.

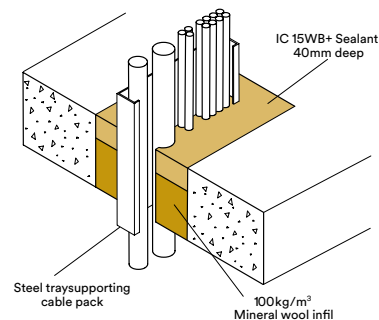
## D1 Cable Pack – Power Transmission Cables.



Dry Wall 116mm – FRL: -/120/30

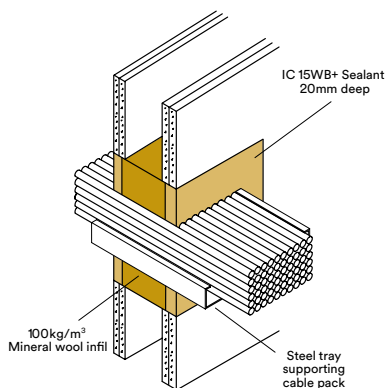


Solid Masonry, Hollow Masonry or Concrete Wall 116mm – FRL: -/120/30

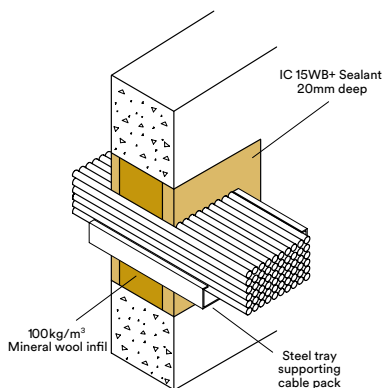


Concrete Floor 120mm – FRL: -/120/30

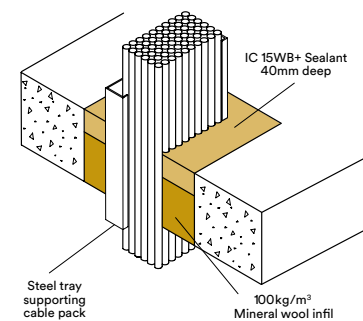
## D2 Cable Pack – Telecom Cables.



Dry Wall 116mm – FRL: -/120/30

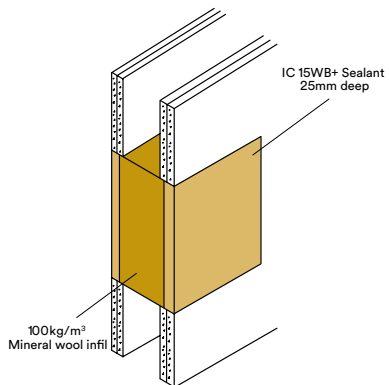


Solid Masonry, Hollow Masonry or Concrete Wall 116mm – FRL: -/120/30

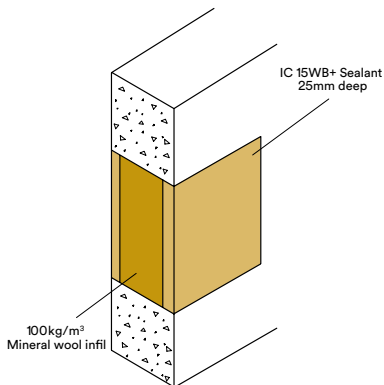


Concrete Floor 120mm – FRL: -/120/30

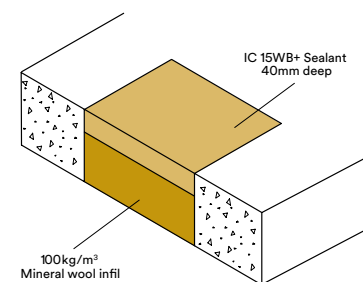
## Blank Openings (unpenetrated)



Dry Wall 116mm – FRL: -/120/120



Solid Masonry, Hollow Masonry or Concrete Wall 116mm – FRL: -/120/120



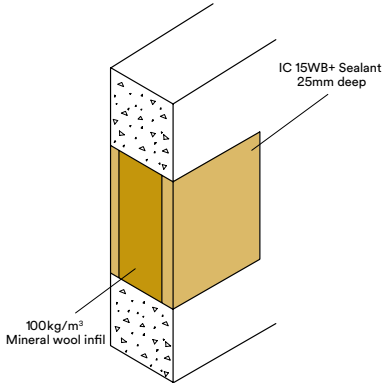
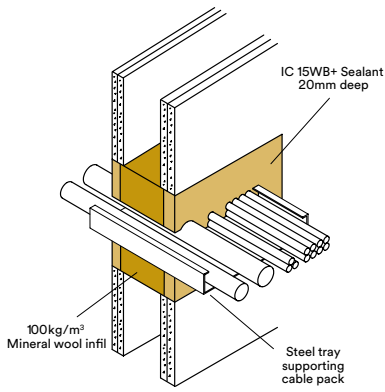
Concrete Floor 120mm – FRL: -/120/30

## Installation Techniques:

### Installation Techniques: Walls

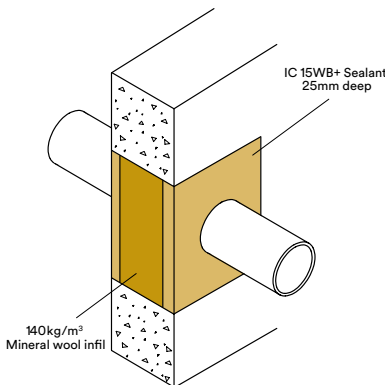
#### Electrical Cables, Blank (unpenetrated) Seals

- Install 100kg/m<sup>3</sup> mineral wool infill friction fitted and centred in the penetration. Ensure that enough space is left on either side of the mineral wool for the IC 15WB+ Sealant.
- Install IC 15WB+ Sealant to a depth of 20mm for electrical cables and 25mm for blank unpenetrated seals on both sides of the wall. Ensure that the Sealant is installed flush with the wall on both sides of the penetration.



#### Metal Pipes

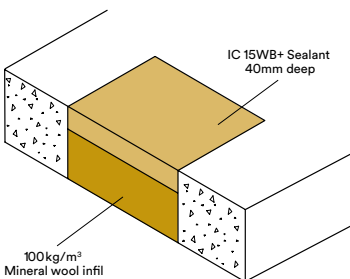
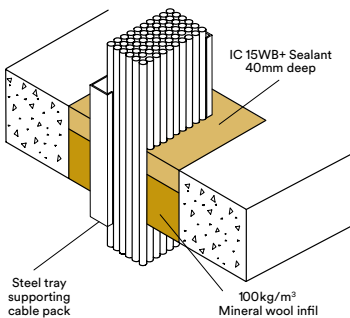
- Install 140kg/m<sup>3</sup> Mineral Wool infill friction fitted and centred in the penetration. Ensure that enough space is left for the IC 15WB+ Sealant.
- Install IC 15WB+ Sealant to a depth of 25mm on both sides of the wall, ensure that the Sealant is installed flush with the wall on both sides of the penetration.



### Installation Techniques: Floors

#### Electrical Cables, Blank (unpenetrated) Seals

- Install 100kg/m<sup>3</sup> mineral wool infill friction fitted into the floor slab, the bottom of the mineral wool should be flush with the bottom surface of the floor slab. Ensure that enough space is left above the mineral wool for the IC 15WB+ Sealant.
- Install IC 15WB+ Sealant to a depth of 40mm on the top side of the floor slab only; ensure that the Sealant is installed flush with the top surface of the floor slab.



3rd Party Fire Testing to AS 1530.4 & AS 4072.1

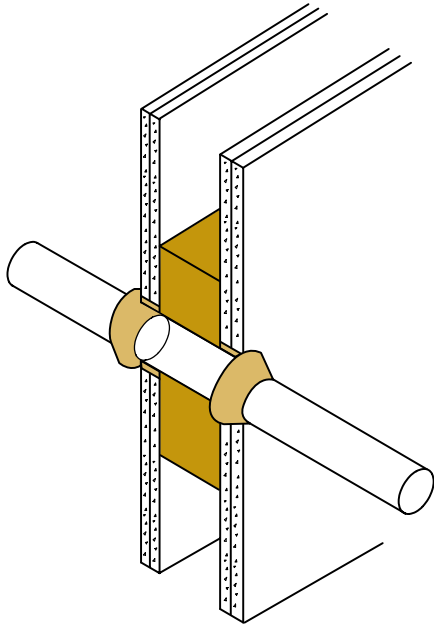
To view all current 3M Fire Protection Approvals: [www.3M.com.au/fireprotection](http://www.3M.com.au/fireprotection)

## Appendix A

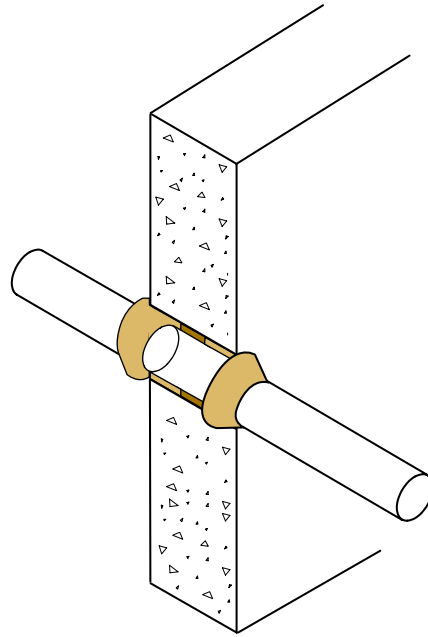
### Insulation Upgrade with 100mm Wrap System

FRL - / 120 / 120

100mm flexible wall systems



75mm solid wall systems



### 30mm Fillet System:

#### Single Cables

Diameters up to 20mm

16mm<sup>2</sup> multi-core cable

#### 3M™ Fire Barrier Packing material PM4

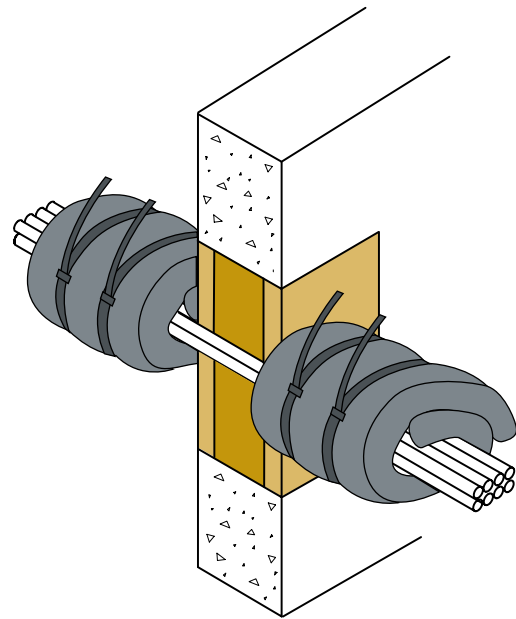
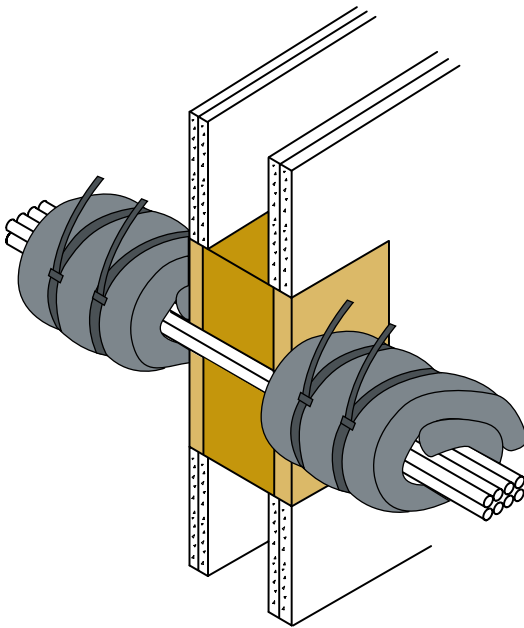
Diameter of 3M™ IC15WB+, around the cable, at the surface of the wall, must be at least 40mm.

## Insulation Upgrade with 150mm Wrap System

FRL - / 120 / 120

100mm flexible wall systems

75mm solid wall systems



### 150mm Wrap System:

**Cable Bundles**

**Diameters up to 20mm**

**Up to 8 Cables / Bundle**

**3M™ Fire Barrier Duct Wrap Collar 615+ System**

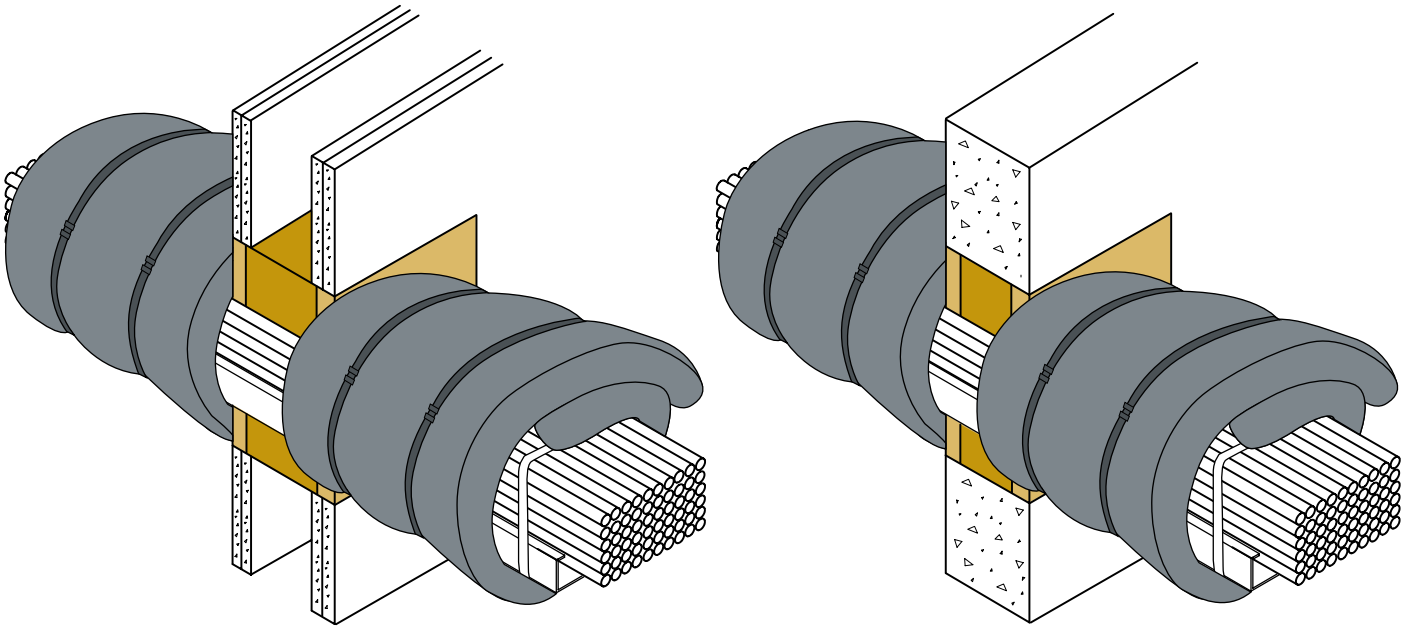
Scotch® 8981 Filament Tape as an assembly aid, and Metal Cable Ties, at spacing of 100mm.

## Insulation Upgrade with 600mm Wrap System

FRL - / 120 / 120

116mm flexible wall systems

116mm solid wall systems



### 600mm Wrap System:

**Cable Bundles & Trays & Metal Pipes, as per related Regulatory Information Report ( RIR )\***  
**All diameters and configurations, in accordance with AS 1530.4 and AS 4072.1**

**3M™ Fire Barrier Duct Wrap 615+ System**

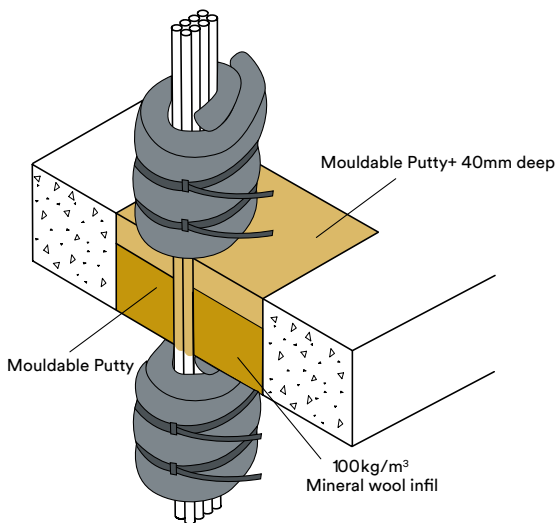
Scotch® 8981 Filament Tape as an assembly aid, and Metal Cable Bands, at spacing of 200mm.



## Insulation Upgrade with 150mm Wrap System

FRL - / 120 / 120

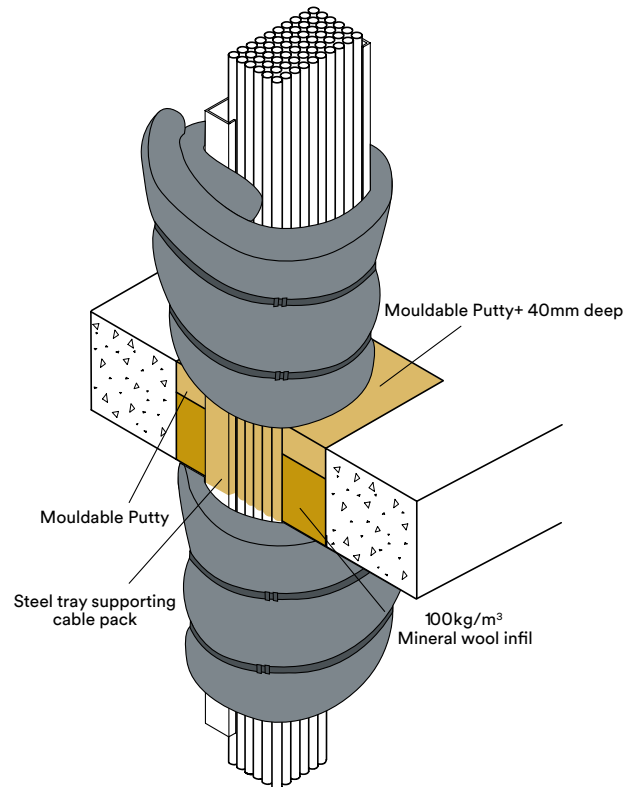
Min 120 mm Concrete Slab



## Insulation Upgrade with 600mm Wrap System

FRL - / 120 / 120

Min 120 mm Concrete Slab



### 150mm Wrap System:

**Cable Bundles Diameters up to 20mm  
Up to 8 Cables / Bundle**

#### **3M™ Fire Barrier Duct Wrap Collar 615+ System**

Scotch® 8981 Filament Tape as an assembly aid,  
and Metal Cable Ties, at spacing of 100mm.

### 600mm Wrap System:

**Cable Bundles & Trays**

**All diameters and configurations,  
in accordance with AS 1530.4 and AS 4072.1**

#### **3M™ Fire Barrier Duct Wrap Collar 615+ System**

Scotch® 8981 Filament Tape as an assembly aid,  
and Metal Cable Bands, at spacing of 200mm.



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North Ryde, NSW 2113

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3rd Party Fire Testing to AS 1530.4 & AS 4072.1

To view all current 3M Fire Protection Approvals: [www.3m.com.au/fireprotection](http://www.3m.com.au/fireprotection)

**For further information Call: 136 136**

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