

3M Technical Data Sheet

3M™ Fire Barrier Mouldable Putty

The 3M™ Fire Barrier Mouldable Putty consists of a synthetic elastomer designed for use as a one part, intumescent fire resistive putty used to restore the integrity of fire rated building construction.

Mouldable Putty achieves up to a 4 hour Fire Resistance Rating when tested in accordance with AS1530.4 & AS4072.1. This is achieved by the unique intumescent (expanding when heated) and high strength insulating char-forming properties of this material.

Product Features

- Halogen-free formula: Free from corrosive gases during a fire, making it safe for building occupants and sensitive electrical equipment.
- Minimal odour
- Long shelf life: Sticks and pad packages can be sealed for reuse. Putty will not dry out or crumble
- Easily re-enterable
- Provides a draft and cold smoke seal in the installed condition, even before any temperature rise occurs, resulting from a fire
- Adheres to all common building surfaces (cement, gypsum, wood and plastic), including metal and plastic electrical boxes
- One part, solventless pads or Sticks are easily hand moulded, with no damming required, allowing easy application
- Intumescent: expands when heated, forming a hard char, preventing the transmission of hot gases and fire
- No special tools required
- Contains no asbestos, non toxic
- Testing in accordance with AS1530.4, AS4072.1, EN1366, and ASTM E814 (UL Listed).



Physical Properties

Typical Physical Properties	Value
Colour	Red-Brown
Density	1.20-1.45 kg/l (10-12 lbs/gal)
Adhesion	Good on all construction substrates

Heat Expansion		
Begins	177°C (350°F)	
Significant	204°C (400°F)	
Free Expansion	Normal 3 times	

Test Condition	Temperature	Humidity	Time	Normal Expansion
Oven	80°C (176°F)	–	90 days	2.7 Times
Humidity Chamber	32°C (90°F)	90 Percent	90 days	2.6 Times

Availability

3M™ Fire Barrier Mouldable Putty is available from Authorised 3M Fire Protection Products Distributors.

Dimensions	Weight	Packaging (Unit/case)
178 mm x 178 mm Pad (7" x 7")	103 gm (3.63 oz.)	10
40.6 mm dia. x 279 mm Stick (1.6" x 11")	491 gm (17.30 oz.)	20

Maintenance

Mouldable Putty is stable under normal storage conditions. Normal stock rotation practices are recommended. This product is not impaired by freezing; however, it should be warmed to at least 0°C (32°F) before applying.

Performance Specifications for Installers

Table 1

3M Fire Barrier System	Building Element	Blank (Unpenetrated) Seal	Mixed PVC Insulated Cables, Cable trays and Cable bundles*	For Telecommunication Cables, Cable trays and Cable bundles only*
3M Fire Barrier Mouldable Putty	Floor: Concrete slab. <i>Minimum 120mm thickness</i>	-/240/120	-/180/-	-/240/30
	Wall: Plasterboard Dry Wall, solid masonry, hollow masonry or concrete construction. <i>Minimum 116mm thickness</i>	-/120/120	-/120/30	-/120/30
	Wall: Solid masonry, hollow masonry or concrete construction. <i>Minimum 150mm thickness</i>	-/240/180	-/120/30	-/120/30

In order to achieve the above FRLs you must ensure that the Mouldable Putty 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 Mouldable Putty system. The Installation Techniques can be found on the final pages of this document.

What does FRL mean?

FRL stands for 'Fire Resistance Level'. For example, an FRL of '-/240/180' indicates:

- **Structural Adequacy.** The first dash '-' indicates that Mouldable Putty is non load bearing

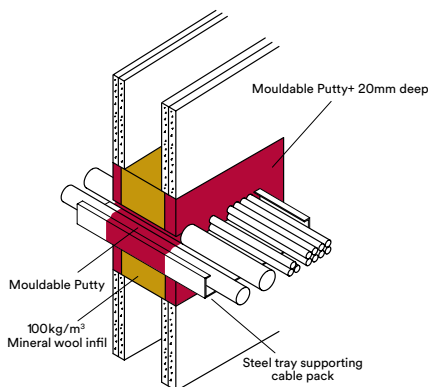
- **Integrity.** The middle number '240' indicates for how many minutes the Mouldable Putty system can resist the passage of flames and hot gasses
- **Insulation.** The last number '180' indicates how many minutes it takes the unexposed face to heat up by more than 140°C.

*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.

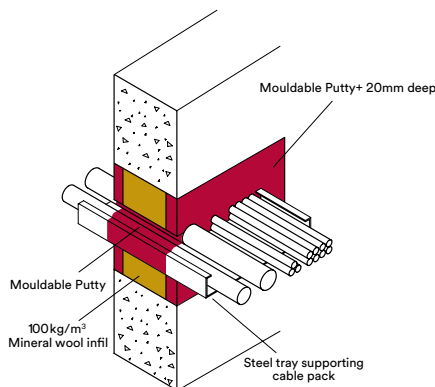
Performance Specifications for Engineers and Specifiers

3M™ Fire Barrier Mouldable Putty 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 and blank unpenetrated seals with Mouldable Putty installed as per the Installation Techniques. Specifications for standard D1 and D2 cable configurations can be found in AS1530.4 Appendix D.

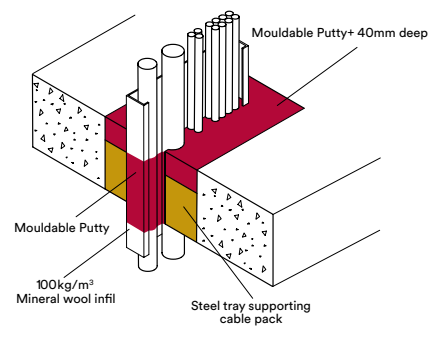
D1 Cable Pack – Power Transmission Cables.



Dry Wall 116mm – FRL: -/180/30

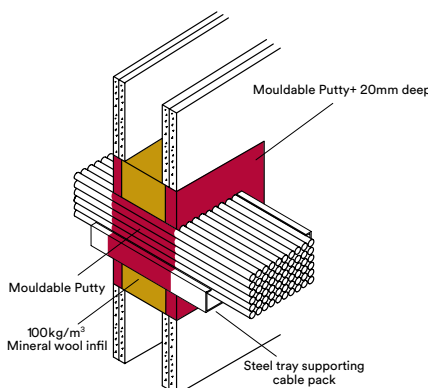


Solid Masonry, Hollow Masonry or Concrete Wall 116mm – FRL: -/180/30

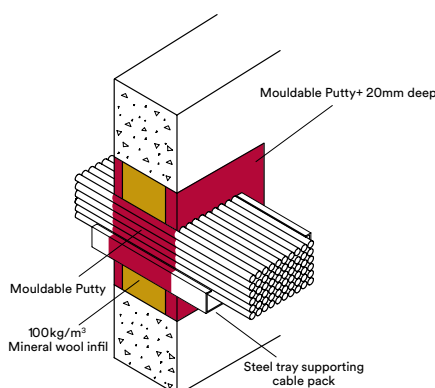


Concrete Floor 120mm – FRL: -/180/-

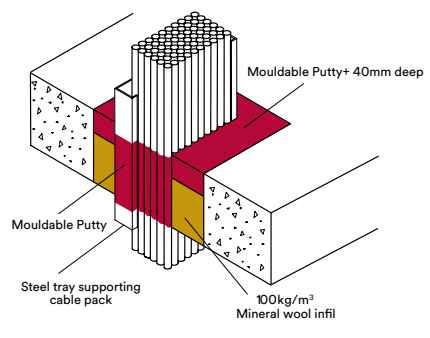
D2 Cable Pack – Telecom Cables.



Dry Wall 116mm – FRL: -/120/30

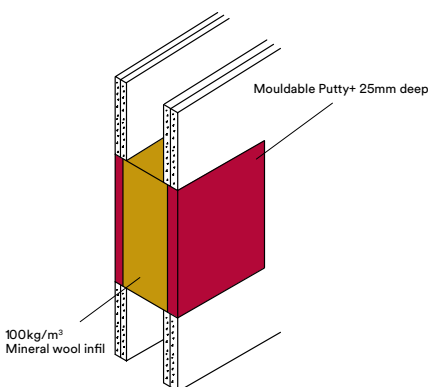


Solid Masonry, Hollow Masonry or Concrete Wall 116mm – FRL: -/120/30

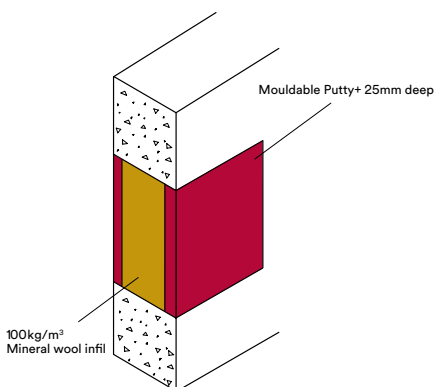


Concrete Floor 120mm – FRL: -/240/30

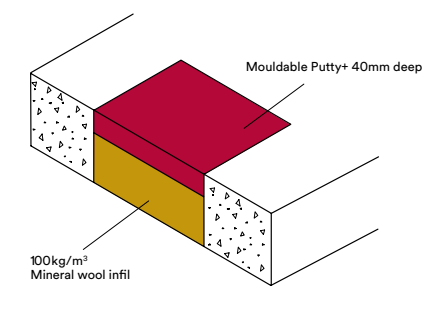
Blank Openings (unpenetrated)



Dry Wall 116mm – FRL: -/120/120



Solid Masonry, Hollow Masonry or Concrete Wall :
 116mm - FRL: -/120/120
 150mm - FRL: -/240/180
 170mm - FRL: -/240/240



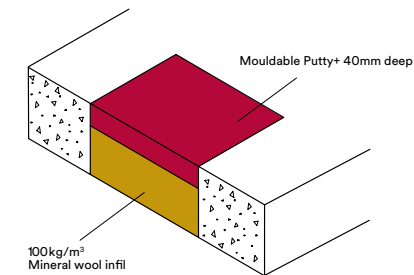
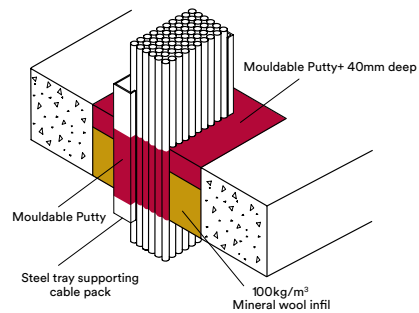
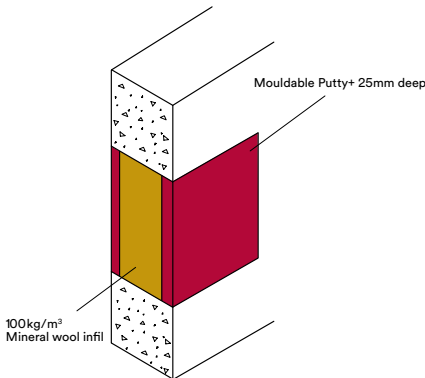
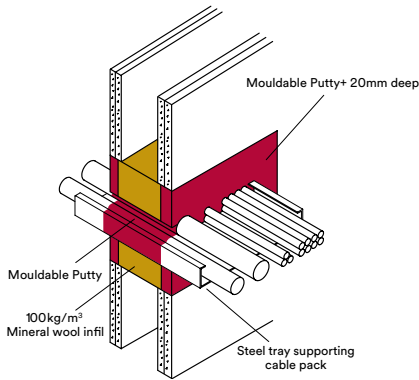
Concrete Floor :
 120mm - FRL: -/240/120
 150mm - FRL: -/240/180
 170mm - FRL: -/240/240

Installation Techniques:

Installation Techniques: Walls

Electrical Cables, Blank (unpenetrated) Seals

- Install 100kg/m³ 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 Mouldable Putty.
- Install Mouldable Putty to a depth of 20mm for electrical cables and 25mm for blank unpenetrated seals on both sides of the wall. It is usually easiest to mould the Putty into place one section at a time. Ensure that the Mouldable Putty is installed flush with the wall on both sides of the penetration.
- Wrap cables and metal pipes with a single layer of 3M™ Fire Barrier Mouldable Putty+ Pad for the full depth of the seal.



Installation Techniques: Floors

Electrical Cables, Blank (unpenetrated) Seals

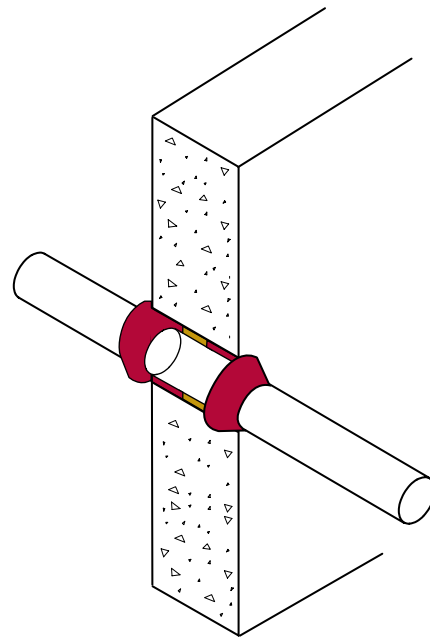
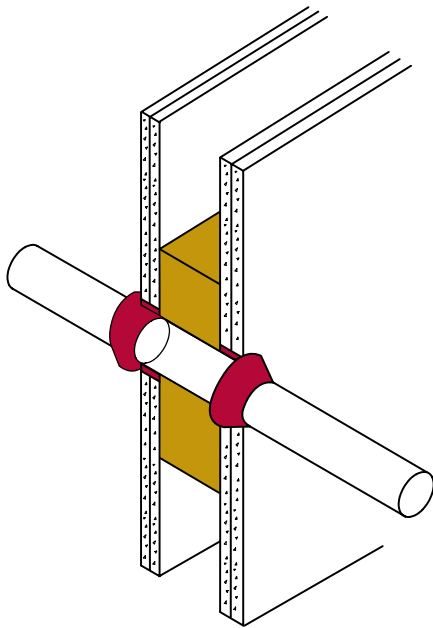
- Install 100kg/m³ mineral wool infill friction fitted into the floor slab, the bottom of the mineral wool should be flush with the bottom surface of the floor slab. Ensure that enough space is left above the mineral wool for the Mouldable Putty.
- Install Mouldable Putty to a depth of 40mm on the top side of the floor slab only. It is usually easiest to mould the Putty into place one section at a time. Ensure that the Mouldable Putty is installed flush with the top surface of the floor slab.
- Wrap cables and metal pipes with a single layer of 3M™ Fire Barrier Mouldable Putty+ Pad for the full depth of the seal.

Appendix A - Insulation Upgrade* with 30mm Fillet System

FRL - / 120 / 120

100mm flexible wall systems

75mm solid wall systems



30mm Fillet System:

Single Cables

Diameters up to 20mm

16mm² multi-core cable

30mm Fillet of 3M™ Fire Barrier Mouldable Putty MP+ Sticks & Pads along the cable.

Diameter of 3M™ Fire Barrier Mouldable Putty MP+ Sticks & Pads, around the cable, at the surface of the wall, must be at least 40mm.

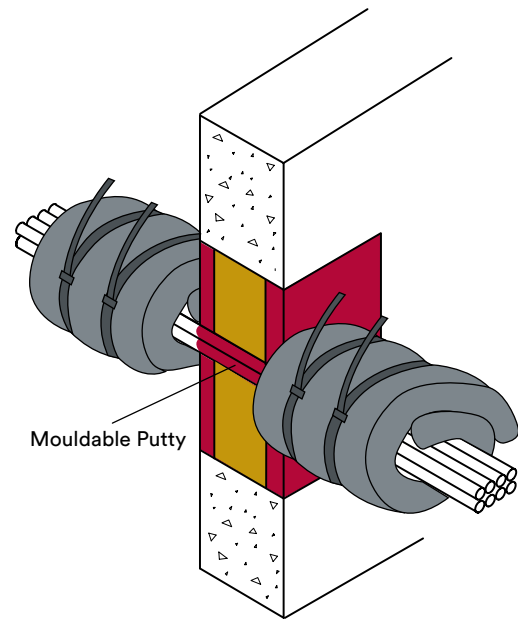
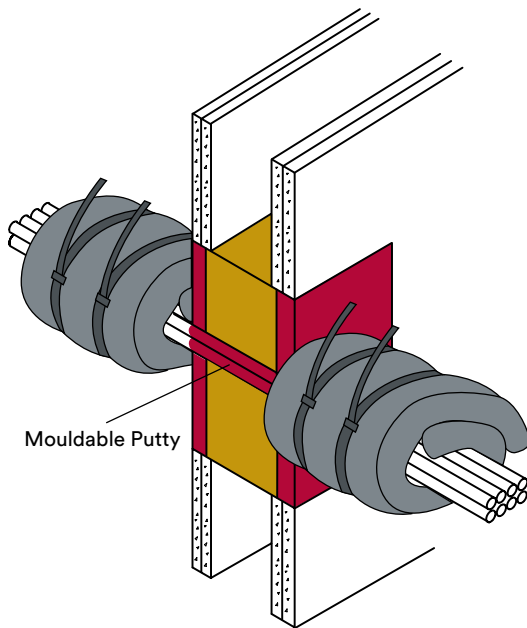
*3rd Party Fire Testing to AS 1530.4 & AS 4072.1 completed. Revised Regulatory Information Report (RIR) in progress.

Appendix A - 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.

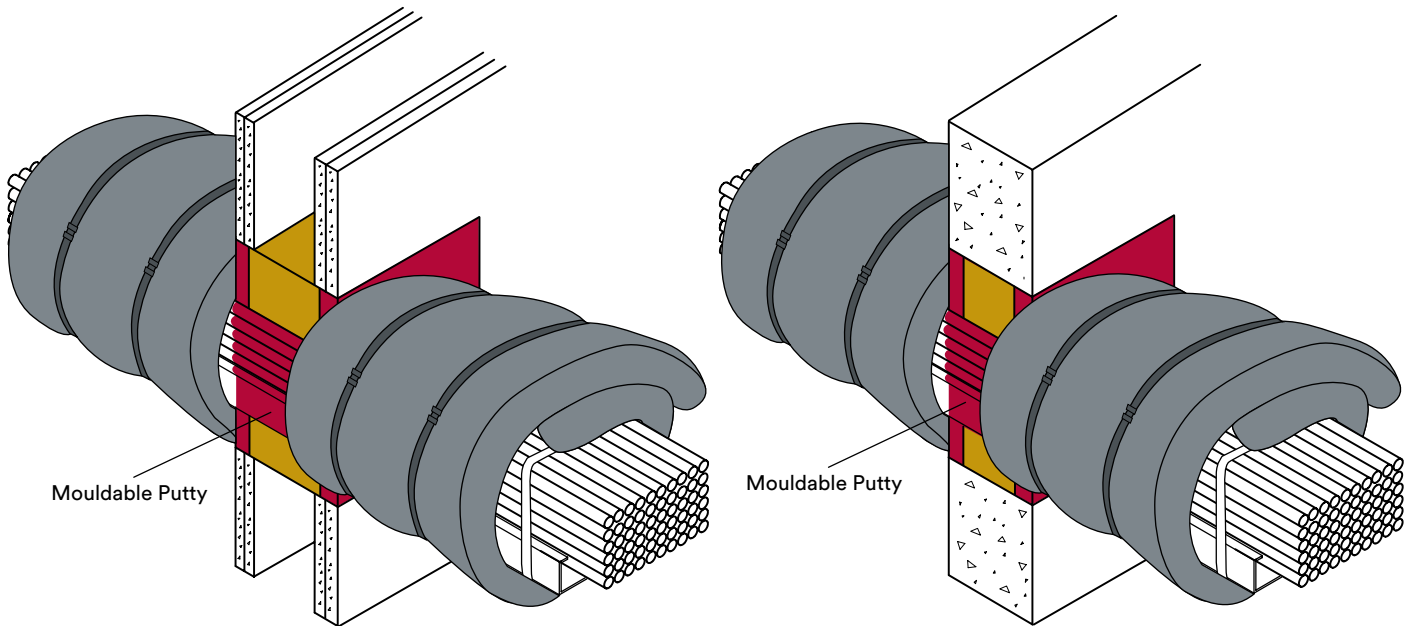
*3rd Party Fire Testing to AS 1530.4 & AS 4072.1 completed. Revised Regulatory Information Report (RIR) in progress.

Appendix A - Insulation Upgrade* with 600mm Wrap System

FRL - / 120 / 120

116mm flexible wall systems

116mm solid wall systems



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 615+ System

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

*3rd Party Fire Testing to AS 1530.4 & AS 4072.1 completed. Revised Regulatory Information Report (RIR) in progress.



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