FC11034-001 TO [2018]
Technical Opinion Summary

This is to certify that the specimen described below has been examined by BRANZ on behalf of the sponsor.

Sponsor

IPASSIVE NZ LIMITED
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Reference BRANZ Reports FC11034-001 TO [2018] 13 November 2018

Referenced Standard AS1530.4:2014 and AS 4072.1-2005

Specimen Name: Nullifire FB 750 Fire Barrier and penetrations with Nullifire FS 702 mastic sealant

Specimen Description: The blank fire barrier consists of one or two layers of 50 mm thick Nullifire FB 750 batt either friction fit into a wall aperture or fixed to the face of the wall over the aperture and sealed to the wall with a fillet of Nullifire FS 702 mastic. For two layers the batt may be laminated together or separated by 20 to 30 mm apart. The fire barrier may be penetrated by a range of structural steel, copper and steel pipes or power and communication cable penetrations and sealed to the barrier with Nullifire FS 702 mastic as described in the following tables 1, 2, 3 and 4 and 5.

The walls may be either concrete or masonry walls including AAC walls, for example Hebel, at least 110 mm thick or plasterboard lined walls with at least two layers of 12.5 mm thick fire rated plasterboard and at least 70 mm wide steel studs or 95 mm deep timber studs with the apertures in the walls also lined with the same two layers of plasterboard. The concrete floors are at least 120 mm thick.

It is also considered the walls may be of Speedpanel or KOROK panel construction, but the fire resistance of the blank panels and penetrations systems listed in the tables would be limited to the following maximum FRL:

-/60/60 for a 51 mm thick Speedpanel or KOROK wall

-/90/90 for a 64 mm thick Speedpanel wall

-/120/120 for 78 mm thick Speedpanel or KOROK wall

Orientation: Exposure from either side

The assessed results were as follows

Issued by

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Reviewed by

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Regulatory authorities are advised to examine test reports before approving any product.

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13 November 2023

Table 1: Steel Structural Members

Steel structural joists or columns	FRL
Steel structural joists or columns, with exposed surface area to volume ratio (A/V) of 160 m^{-1} or greater, penetrating a Nullifire FB 750 fire barrier though a suitably shaped, close fitting, cut-out and sealed on both faces with a 22 mm fillet of Nullifire FS 702 mastic and the joist clad on all faces with mineral fibre insulating material equal or greater than 20 mm thick 160 kg/m^3 density.	-/120/30

Table 2: - Blank Fire Barriers

Blank fire barrier	FRL
Two layers of 50 mm thick FB 750 batt either laminated together or separated by 20 to 30 mm apart and friction fit into the aperture and sealed around the perimeter with a fillet of Nullifire FS 702 mastic; or One layer of 50 mm thick FB 750 batt fixed to each face of the wall or floor. Maximum dimensions 2,000 mm & 2.2 m^2	-/120/120
One layer of 50 mm thick FB 750 batt either friction fit into the aperture and sealed around the perimeter with a fillet of Nullifire FS 702 mastic; or One layer of 50 mm thick FB 750 batt fixed to the exposed face of the wall or underside of a floor. Maximum dimensions 2,000 mm & 2.2 m^2	-/120/60

Table 3: - Steel Pipe penetrations

Steel pipes	Lagging	Seal	Intumescent	FRL
Steel pipes 160 mm OD or less penetrating a hole of the same diameter as the pipe through a Nullifire FB 750 fire barrier	40 mm thick mineral fibre for the full length of the pipe on both faces	Fillet 20 mm wide of FS 702 mastic between pipe and barrier to both faces	None	-/120/60
Steel pipes 160 mm OD or less penetrating a hole of the same diameter as the pipe through a Nullifire FB 750 fire barrier	30 mm thick Paroc 90 kg/m^3 foil faced mineral fibre for the full length of the pipe on both faces	Fillet 20 mm wide of FS 702 mastic between pipe and barrier to both faces	None	-/120/120
Steel pipes 220 mm OD or less penetrating a hole of diameter 100 mm greater than the pipe through a concrete floor and a two x 50 mm thick Nullifire FB 750 pattress fire barrier to the underside of the floor	Two layers of 20 mm thick Armaflex for the full length of the pipe on both faces	None	Nullifire FP302 two layers 60 mm wide x 4 mm thick rebated into a groove in the pattress	-/120/30
Steel pipes 160 mm OD or less penetrating a hole of the same diameter as the pipe through a 100 mm thick Nullifire FB 750 fire barrier 250 mm square on the underside of a concrete floor	None	Fillet 20 mm wide of FS 702 mastic between pipe and pattress to both faces	None	-/120/30

Table 4: - Copper pipe penetrations

Copper Pipes	Lagging	Seal	Intumescent	FRL
Copper pipe 15mm OD or less through a 32 mm diameter hole in a 100 mm thick FB 750 fire barrier wall	Armaflex to both faces	None	Two layers of 60 mm wide x 4 mm thick Nullifire FP302 in annular gap	-/120/60
Copper pipe 15 mm OD or less through a 32 mm diameter hole in a 100 mm thick FB 750 fire barrier wall	Knauf 20 mm thick foil faced 90 kg/m^3 density mineral fibre; or 20 mm thick foil faced phenolic foam; or 20 mm thick foil faced Isowool 48 kg/m^3 to both faces	None	Two layers of 60 mm wide x 4 mm thick Nullifire FP302 in annular gap	-/120/120
Copper pipe 15mm OD or less through a hole of the same diameter in a 100 mm thick FB 750 fire barrier wall	Paroc 40 mm thick mineral fibre to both faces	Nullifire FS 702 fillet between pipe and barrier to both faces	None	-/120/90
Copper pipe 22 mm OD or less through an 82 mm diameter hole in a 100 mm thick FB 750 fire barrier wall	Foil face phenolic pipe insulation 30 mm thick to both faces	Nullifire FS702 25 mm deep from each face backed by mineral fibre (64 kg/m^3) in the cavity	None	-/120/120
Copper pipe 160 mm OD or less through a hole of the same diameter in a 100 mm thick FB 750 fire barrier wall	Paroc 30 mm thick mineral fibre to both faces	Nullifire FS 702 fillet between pipe and barrier to both faces	None	-/120/120

Table 4 - Continued

Copper pipe 15 mm OD or less through a 180 mm diameter steel sleeve 130 mm long in a fire barrier wall of two 50 mm thick FB 750 panels separated by 30 mm	Foil wrapped glass wool 50 mm thick to each face; or Nitrile rubber insulation 32 mm thick	Nullifire FS702 30 mm deep to each face backed by mineral fibre (64 kg/m^3)	None	-/120/120
Copper pipe 160 mm OD or less through a hole of the same diameter in a fire barrier wall of two 50 mm thick FB 750 panels separated by 30 mm	40 mm thick foil faces mineral fibre insulation (90 kg/m^3); or 30 mm thick Paroc mineral fibre, 500 mm long to both faces up to the barrier	Nullifire FS 702 fillet 25 mm between the insulation lagging and barrier	None	-/120/120

Table5 - Power & Communication Cables

Cables	Lagging	Seal	Intumescent	FRL
Steel cable tray or ladder tray up to 600 mm wide with any of up to two 185 mm^2 power cables or cable of lesser cross section area of conductor; or up to seven telecommunication screened cables (maximum diameter 100 mm) through a profiled hole in two x 50 mm thick Nullifire FB 750 laminated fire barrier	Mineral fibre (45 kg/m^3) 25 mm thick for 200 mm on unexposed face to tray and cables	Fillet of Nullifire FS702 mastic 20 mm wide between cables/tray and barrier to both faces	None	-/120/120
	None			-/120/30
FP 160 cable duct 240 mm wide x 140 mm high with up to two 185 mm^2 power cables or cable of lesser cross section area of conductor through a profiled hole in two x 50 mm thick Nullifire FB 750 laminated fire barrier	None	Mineral fibre 64 kg/m3 50 mm thick within the duct	Duct lined with two layers of 4 mm thick FP302 intumescent	-/120/30
Steel cable tray or ladder tray up to 450 mm wide through a rectangular steel box 340 mm wide x 140 mm high x 300 mm long containing any of up to two 185 mm^2 power cables or cables of lesser cross section area of conductor through a hole in two x 50 mm thick Nullifire FB 750 fire barrier	None	Nullifire FS702 mastic 6 mm deep between cables and box to both faces over a 288 mm deep backing of mineral fibre backing (64 kg/m^3)	None	-/120/120
Power and coax cables up to twelve 2C & E cables passing through minimum cut-out holes to accommodate the penetration through a two x 50 mm thick Nullifire FB 750 laminated fire barrier	None	Fillet of Nullifire FS702 mastic 60 mm wide between the cables and barrier to both faces	None	-/120/120

Table 5 - Continued

Power cable up to 185 mm^2 or less conductor cross section passing through a minimum cut-out hole to accommodate the penetration through a two x 50 mm thick Nullifire FB 750 laminated fire barrier	None	Fillet of Nullifire FS702 mastic 60 mm wide between the cables and barrier to both faces	None	-/120/90
Bundles of cables including up to ten Cat 5E cables, three fire alarm cables, five fibre optic cables and six lighting flexible cables passing through a minimum cut-out hole to accommodate each penetration bundle through a two x 50 mm thick Nullifire FB 750 laminated fire barrier fixed to the underside of a concrete floor slab.	None	Nullifire FS702 mastic between the cables and barrier	None	-/120/120
Bundles of cables including up to ten fire alarm cables, and five 2C & E 1.5 mm^2 power cables passing through a 55 mm OD conduit through a minimum cut-out hole to accommodate the penetration through a two x 50 mm thick Nullifire FB 750 laminated fire barrier within an aperture in a concrete floor slab.	None	None	One layer of 60 mm wide x 4 mm thick FP302 rebated centrally into the fire barrier	-/120/120