

FireMastic-300™

Flexible fire and acoustic rated acrylic sealant. Suitable for sealing joints, linear gaps and service penetrations.

Approved to AS1530.4-2014 & AS4072.1



Technical Data Sheet

Edition 4

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Industry leading 5 hours fire protection....

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KEY BENEFITS

- Industry leading 5 hours fire rated acrylic mastic
- Highly flexible offering up to 40% movement
- Highly cost effective solution
- High Intumescent Content
- Up to 67dB sound reduction
- Suitable for Linear Gaps, Penetration Seals & Dampers
- Approved in a large variety of substrates; FR Plasterboard, Concrete, AAC, Hebel, Speedpanel, Korok, Timber, CLT, AFS, Dincel, solid and hollow masonry.



INTRODUCTION

BOSS FireMastic-300™ intumescent fire-rated & acoustic acrylic sealant is a one-part acrylic emulsion that is designed to resist the passage of fire, smoke and sound. FireMastic-300™ will intumesce and form a char when exposed to the heat of a fire, which will prevent the passage of fire and smoke for up to 5 hours in both integrity and insulation. In normal use it will also maintain the sound reduction index of a structure. FireMastic-300's superior acoustic properties means it offers up to a 67dB sound reduction, making it ideal for high performance acoustic installation.

PRODUCT APPLICATIONS

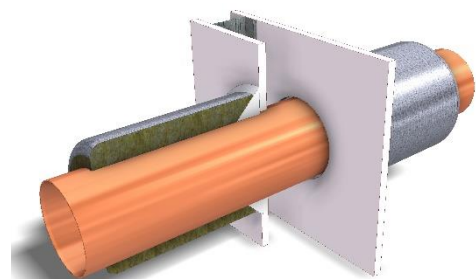
- Linear gaps seals in plasterboard ceilings and dry wall linings
- Sealing and filling joints in fire rated plasterboard systems
- Sealing of low movement construction joints
- Sealing the perimeter of intumescent dampers
- Fire Stopping around various services:
 - Steel & Copper Pipes
 - Cables
 - Cable Bundles
 - Cable Trays
 - Secondary sealing in-conjunction with other BOSS Fire products
- Areas requiring acoustic barriers or sound reduction
- Internal use only, can be painted

PHYSICAL SPECIFICATION

FireMastic-300™ is water based, non-sag, fire rated acrylic sealant. It is specifically designed for interior joints with up to 40% movement (+/- 20% either direction) of the original joint width, and non-combustible service penetrations.

FireMastic-300™ does not emit halogenated by products under fire conditions and contains no raw materials known to have an estrogenic effect on the environment. It has good un-primed adhesion to a wide variety of common building substrates.

Sizes available:	310ml / 600ml
Colours:	Light Grey / White
Product code:	FM300
Shrinkage:	Approximately 12%
Cure rate:	3mm per day at 50% relative humidity 23°C
Slump:	5mm after 1hr in 30mm joints
Drying time:	Tack dry in 30 min (23deg)
Flexibility:	40% (+/- 20% of joint)
FRL:	Up to -/300/300
Acoustic Rating:	Up to Rw (C;Ctr): 63(-2;-7) in partition. Rw (C;Ctr): 51(-1;-6) sealant only.
Shelf life:	24 Months



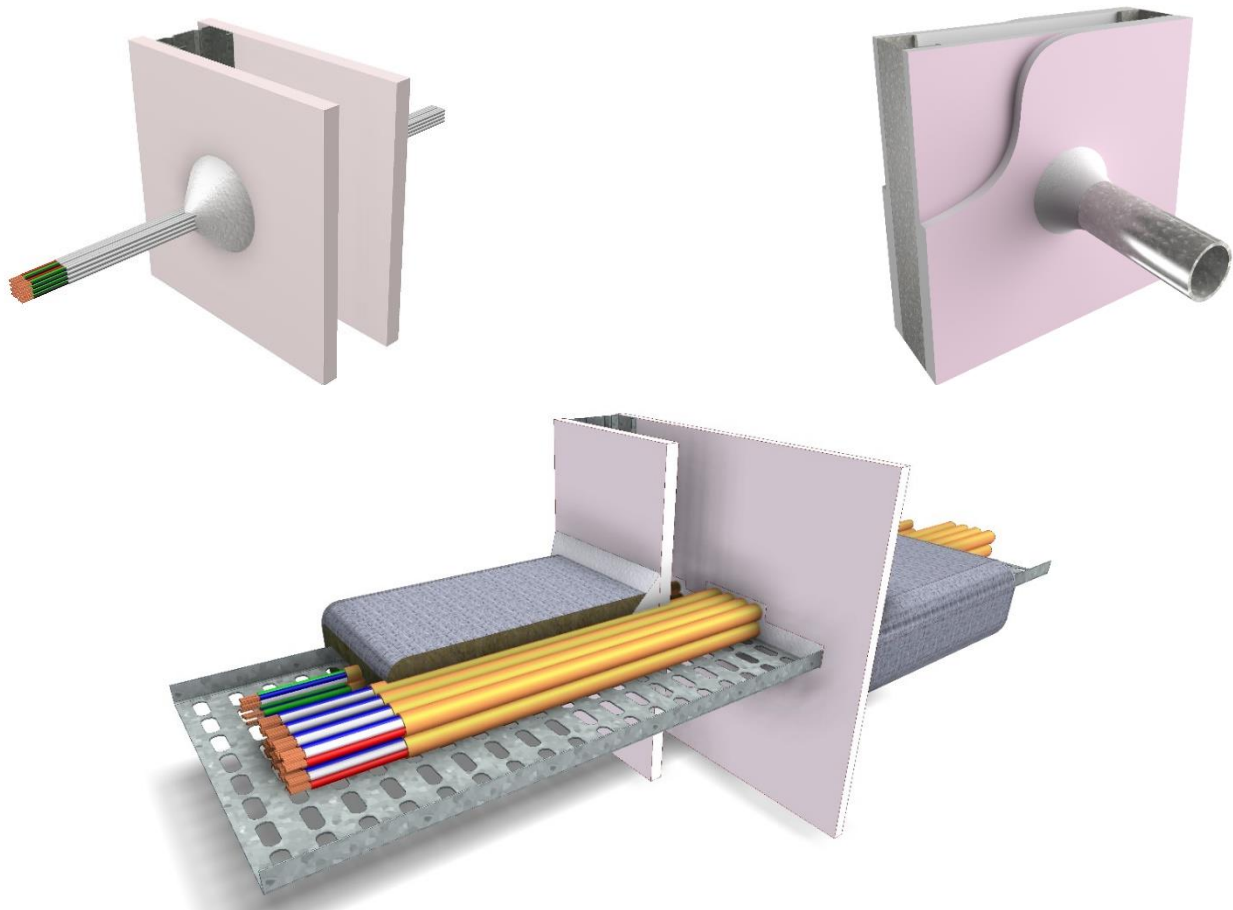
PERFORMANCE SPECIFICATIONS

FireMastic-300™ has extensive fire test approvals including AS1530.4-2014, AS1530.4-2005 and AS4072.1 offering up to FRL -/300/300. It also carries approvals for EN1366-4 and BS476 Part 20. Please refer to the further tables contained in this document for specific performance information relevant to each various applications.

Each project and/or application may have specific requirements and you should investigate these carefully. Ensure that you have read and understood the appropriate certification relative to your needs, and ensure you seek acceptance from the Certifying Authority or compliance inspector before installation. For updates on the range of BOSS Fire® certification please contact BOSS Technical Services.

INSTALLATION

1. Ensure that the gap, aperture and/or services in question are tested with BOSS FireMastic-300™ and the site conditions are within the application specification.
2. Ensure all surfaces are clean, dry and free from grease.
3. Use masking tape to provide straight edges around surfaces, if required for aesthetics.
4. Please refer over page under backing rod to determine if a backing rod is required.
5. Cut nozzle to required bead size and apply to substrate via a caulking gun. Smooth out sealant with a wet spatula within 5 minutes for professional finish.
6. Clean tools immediately after use with water.
7. Tack dry within 30mins, cures 3mm per 24hrs.



WALL SYSTEM GAP SEALS

Linear Gap Seals, System Joints and Construction & Expansion Joints

FireMastic-300™ can be used to provide an FRL of up to -/300/300, subject to the maximum integrity and insulation of the wall. Generally as the fire resistance of plasterboard wall increases, the thickness of lining increases also and therefore the depth of the seal will increase. The gap of up to 20mm must be the full depth of the plasterboard and will offer the FRL of the wall system up to -/300/300. – Ref Branz FAR 3821 – Issue 4.

Examples of suitable plasterboard systems (timber framed or steel framed):

- ✓ T-junction between masonry wall and plasterboard wall
- ✓ T-junction between 2 plasterboard walls
- ✓ Control joint in plasterboard wall
- ✓ Pipe and service penetrations through plasterboard (such as electrical services, metal pipes or ductwork) where a fire seal is required.
- ✓ Plasterboard walls to ceilings
- ✓ Timber to timber and timber to plasterboard junctions
- ✓ Masonry to steel junctions
- ✓ Perimeter edge and deflection head seals in various fire rated wall systems. (See below table).



WALL SYSTEM GAP SEALS

Type	Element	System Description	Seal Size	FRL	Report Ref
Fire Rated Plasterboard AAC / Hebel Speedpanel Dintel AFS Shaftliner Korok Concrete Metal Clad AAC	Perimeter Edge Seals	FireMastic-300™	10mm	-/300/300	Branz FAR 3821 Issue 4
	Deflection Head Seals	FireMastic-300™	20mm	-/300/300	Branz FAR 3821 Issue 4
Masonry (For more info please see page 5).	Linear Gap Seals	FireMastic-300™	25-50mm	-/300/180	Branz FAR 3821 Issue 4
Fire Rated Plasterboard	Linear Gap Seals	FireMastic-300™	50mm	-/60/60	PFITS FAR 190042 Issue 2
AAC (Minimum Density 670kg/m ³)	Linear Gap Seals	FireMastic-300™	50mm	-/60/60	PFITS FAR 190042 Issue 2

TIMBER INTERFACES

Please note that below references to Timber refer to Hardwood Timber with a density of 410kg/m³ or greater:

Interface Materials	Orientation	Element	System Description	Seal Size	FRL	Certification Reference
Timber to Timber	Walls / Floors	Linear Gap seals	FireMastic-300™	Gap Sizes No Greater than 50mm.	-/60/60	PFITS FAR 190042 Issue 2
Timber to Fire Rated Plasterboard	Walls / Floors / Ceilings	Linear Gap seals	FireMastic-300™	Gap Sizes No Greater than 50mm.	-/60/60	PFITS FAR 190042 Issue 2

GAP SEALS IN MASONRY WALLS & FLOORS

FireMastic-300™ can be used to provide an FRL of up to -/300/300 for gap seals in masonry walls and floors. Please refer to be below tables on this page for the performance relative to the intended seal size.

BACKING RODS

FireMastic-300™ was tested with foamed polyethylene (PE) backing rods, which controls the depth of seal and fills only part of the gap. PE or similar material rods may be used provided it does not interfere with the required depth of the fire sealant on either face. **Please note: Backing rod is required for all gaps of 10mm or greater.**

250mm Thick Masonry Wall Gap

REF Branz FAR 3821 Issue 4

Up to -/300/300 FRL

Gap Width (mm)	Seal Depth (mm)	FRL
5	10	-/300/300
10	10	-/300/300
15	10	-/300/300
20	10	-/300/300
25	15	-/300/180
30	15	-/300/180
35	25	-/300/180
40	25	-/300/180
45	25	-/300/180
50	25	-/300/180

250mm Thick Masonry Floor Gap

REF Branz FAR 3821 Issue 4

Up to -/300/180

Gap Width (mm)	Seal Depth (mm)	FRL
5	10	-/300/120
10	10	-/300/120
15	10	-/300/120
20	10	-/300/120
25	15	-/300/60
30	15	-/300/60
35	20	-/300/60
40	20	-/300/60
45	25	-/300/180
50	25	-/300/180

250mm Thick Masonry/Mild Steel Wall Gap

REF Branz FAR 3821 Issue 4

Up to -/300/90 FRL

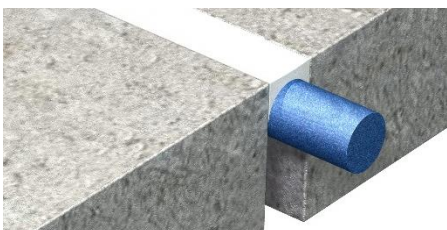
Gap Width (mm)	Seal Depth (mm)	FRL
5	15	-/300/90
10	15	-/300/90
15	15	-/300/90
20	15	-/300/90
25	15	-/300/90
30	15	-/300/90

100mm & 150mm Walls and Floor Specimens

REF FAR 3821 Issue 4

Masonry-Masonry and Masonry-Mild Steel

Gap Width (mm)	Seal Depth (mm)	Gap Faces	FRL
20	10	Masonry 100mm Wall	-/120/30
20	10	Masonry/Steel 100mm Wall	-/120/-
20	10	Masonry 150mm Floor	-/240/30
20	10	Masonry/Steel 150mm Floor	-/240/30
50	25	Masonry 100mm Wall	-/120/60
50	25	Masonry 150mm Wall	-/240/90
50	25	Masonry/Steel 150mm Wall	-/240/90



ELECTRICAL SERVICE PENETRATION

Service Penetration	Orientation	Substrate	System Description	Seal Size	FRL	Specific Dimensions	Certification Reference
Comms Cable Bundle + Cable Tray	Wall	96mm Thick - FR Plasterboard/GIB	FireMastic-300™ with P40-MAK Wrap™	50mm x 50mm Fillet	-/90/90	D2 Configuration - Bundle 60 Cables - Approx. 14mm Dia. Ea.	CSIRO COT 2970
Power Cable Bundles	Wall	144mm Thick FR Plasterboard/GIB	FireMastic-300™	30mm x 30mm Fillet	-/120/120	Bundle of 7 x 2.5mm ² , 12mm x 5.6mm 3-Core TPS Cables	FRT 180403i.1
Power Cable	Wall	96mm Thick FR Plasterboard/GIB	FireMastic-300™	50mm x 50mm Fillet	-/90/90	Single TPS Cable 2Core+E 2.5mm ²	CSIRO COT 2969
Power Cable Bundle + Cable Tray	Wall	96mm Thick FR Plasterboard/GIB	FireMastic -300™ with P40-MAK Wrap™	50mm x 50mm Fillet	-/90/90	Bundle 3 x 3C+E 6mm ²	CSIRO COT 2972
Power Cable Bundle + Cable Tray	Wall	96mm Thick FR Plasterboard/GIB	FireMastic-300™ with P40-MAK Wrap™	50mm x 50mm Fillet	-/90/90	Bundle 8 x 3C+E 16mm ²	CSIRO COT 2972

The table above only relates to BOSS Fire® solutions relating to the FireMastic-300™ product. For other BOSS Fire® products that offer certified electrical service penetration systems please consult the BOSS Fire® website - bossfire.com

NON-INSULATED METAL PIPES

Service Penetration	Orientation	Substrate	System Description	Seal Size	FRL	Specific Dimensions	Certification Reference
Galvanised Steel Pipe	Wall	144mm Thick - FR Plasterboard/GIB	FireMastic-300™	50mm x 50mm Fillet	-/120/120	34mm OD Pipe	FRT 180403i.1
Copper Pipe	Wall	96mm Thick FR Plasterboard/GIB	FireMastic-300™ with P40-MAK Wrap	50mm x 50mm Fillet	-/90/90	19mm OD Pipe (Appx E pipes)	CSIRO COT 2968
Copper Pipe	Wall	96mm Thick FR Plasterboard/GIB	FireMastic-300™ with P40-MAK Wrap	50mm x 50mm Fillet	-/90/90	150mm OD Pipe (Appx E pipes)	CSIRO COT 2971
Copper Pipe	Wall	96mm Thick FR Plasterboard/GIB	FireMastic-300™ with P40-MAK Wrap	50mm x 50mm Fillet	-/90/90	32mm OD Pipe (Appx E pipes)	CSIRO COT 2973
Copper Pipe 32mm	Floor	Comflor® 60 - 130mm Thick	FireMastic-300™	10mm x 10mm Fillet + 25mm Deep in Annular Gap	-/120/30	32mm OD Pipe	SFC FRT180137d.2
Copper Pipe 150mm	Wall	116mm Thick FR Plasterboard	FireMastic-300™	20mm x 20mm Fillet	-/120/-	152mm OD Pipe	SFC FRT180472a.1
Galvanised Steel Sprinkler Pipe 50mm	Wall	116mm Thick FR Plasterboard	FireMastic-300™	50mm x 50mm Fillet	-/120/120	60.3mm OD Pipe	SFC FRT180472a.1
Galvanised Steel Sprinkler Pipe 50mm	Wall	75mm Thick Hebel / AAC	FireMastic-300™	50mm x 50mm Fillet	-/120/90	60.3mm OD Pipe	SFC FRT180473a.1

The table above only relates to BOSS Fire® solutions using the FireMastic-300™ product. For other BOSS Fire® products that offer certified non-insulated non-combustible pipe penetration systems please consult the BOSS Fire website - bossfire.com

LAGGED METAL PIPES (HVAC+R)

Service Penetration	Orientation	Substrate	System Description	Seal Size	FRL	Specific Dimensions	Certification Reference
Paircoil / Power Cable / Control Cable Bundle	Wall	90mm Thick - 13mm FR Plasterboard/GIB + FR Plasterboard/GIB Pattress	FireMastic-300™ to pattress edges. FireMastic-HPE™	FM300 – Pattress Edges FMHPE – 26mm Deep x Annular Gap	-/60/60	10mm/15mm Insulated Copper Pipes, 2.5mm ² 2Core+E TPS Power Cable, 1.5mm ² 2C Data Cable and 20mm uPVC outlet pipe	CSIRO COT2919
Insulated Copper Pipe 50mm	Wall	116mm Thick FR Plasterboard	MaxiCollar™ with P40-Mak Wrap and FireMastic-300	5mm Annular Gap x 26mm Deep	-/120/90	50mm OD Pipe lagged with Thermobreak 30mm Tube Insulation	SFC FRT180472c.1
Insulated Copper Pipe 80mm	Wall	75mm Thick Hebel / AAC	MaxiCollar™ with P40-Mak Wrap and FireMastic-300 on BOSS Batt Sealed with BOSS Ablative Coating	5mm Deep x Annular Gap 2mm Bead between Wall + BOSS Batt	-/120/120	76.1mm OD Pipe lagged with Thermobreak 50mm Tube Insulation	SFC FRT180473b.1

The table above only relates to BOSS Fire® solutions using the FireMastic-300™ product. For other BOSS Fire® products that offer certified insulated non-combustible pipe penetration systems please consult the BOSS Fire® website - bossfire.com

MIXED SERVICE COMBINATIONS

Service Penetration	Orientation	Substrate	System Description	Seal Size	FRL	Specific Dimensions	Certification Reference
Paircoil / Power Cable / Control Cable Bundle	Wall	90mm Thick - 13mm FR Plasterboard/GIB + FR Plasterboard/GIB Pattress	FireMastic-300™ to pattress edges. FireMastic-HPE™ to annular gap	FM300 – Pattress Edges FMHPE – 26mm Deep x Annular Gap	-/60/60	10mm/15mm Insulated Copper Pipes with non-rated lagging, 2.5mm ² 2C+E TPS Power Cable, and a 1.5mm ² 2 Core Data Cable and 20mm uPVC outlet pipe.	CSIRO COT2919

Please refer directly to BOSS Fire® Multi-Service Transit Box for a wider variety of mixed service combinations including an extensive list of approved electrical, plumbing and HVAC solutions. Whilst BOSS FireMastic-300™ is used as a perimeter seal for the BOSS Fire® Multi Service Transit Box, the range of solutions are too extensive to include in this document. For other BOSS Fire® products that offer mixed service bundle solutions including FireMastic-HPE™, please consult the BOSS Fire® website - bossfire.com

COMBUSTIBLE / PLASTIC PIPES

Service Penetration	Orientation	Substrate	System Description	Seal Size	FRL	Specific Dimensions	Certification Reference
PEX Pipe							
PEX Pipe 20mm	Wall	90mm Thick - 13m FR Plasterboard/ GIB + FR Plasterboard/ GIB Pattress	FireMastic-300™ to pattress edges. FireMastic-HPE™ around pipe	FM300 – Pattress Edges FMHPE – 26mm Deep x 20mm	-/60/60	20mm OD Pipe	CSIRO COT 2917
PEX Pipe 25mm	Wall	118mm Thick - 13mm FR Plasterboard/ GIB	UniWrap® in Metal Sleeve and FireMastic - 300™	5mm wide x 2mm Deep	-/60/60	25mm OD Pipe	FRT 180403c.1
cPVC Pipe							
cPVC Pipe 25-32mm	Wall	116mm Thick FR Plasterboard/ GIB	UniWrap® and FireMastic - 300™	5mm x 5mm Fillet	-/120/60	33mm OD Pipe	CSIRO COT 3042
cPVC Pipe 32-40mm	Wall	116mm Thick FR Plasterboard/ GIB	UniWrap® and FireMastic - 300™	5mm x 5mm Fillet	-/120/90	48mm OD Pipe	CSIRO COT 3041
cPVC Pipe 50-60mm	Wall	116mm Thick FR Plasterboard/ GIB	UniWrap® and FireMastic - 300™	5mm x 5mm Fillet	-/120/90	60mm OD Pipe	CSIRO COT 3044
HDPE Pipe							
HDPE Pipe 75mm	Floor	Comflor® 60 - 130mm Thick	BOSS Batt Sealed with BOSS Ablative Coating, MaxiCollar™ and FireMastic-300™	10mm x 10mm Fillet + 5mm Deep Annular	-/120/120	75mm OD Pipe	SFC FRT180137b.2
uPVC Pipe							
uPVC Pipe 25mm	Floor	Comflor® 60 - 130mm Thick	BOSS Batt Sealed with BOSS Ablative Coating, MaxiCollar™ and FireMastic-300™	10mm x 10mm Fillet + 5mm Deep Annular	-/120/120	33.6mm OD Pipe	SFC FRT180137a.2
uPVC Pipe 40mm	Wall	116mm Thick FR Plasterboard	UniWrap® in Metal Sleeve and FireMastic-300™	3mm x 3mm	-/120/120	48.3mm OD Pipe	SFC FRT180472c.1
uPVC Pipe 40mm	Wall	75mm Thick Hebel / AAC	MaxiCollar™ and FireMastic-300™	11mm x 5mm	-/120/90	48.2mm OD Pipe	SFC FRT180473a.1
uPVC Pipe 50mm	Wall	116mm Thick FR Plasterboard	UniWrap® in Metal Sleeve and FireMastic-300™	5mm x 3mm	-/120/120	60.3mm OD Pipe	SFC FRT180472c.1
uPVC Pipe 50mm	Wall	75mm Thick Hebel / AAC	MaxiCollar™ and FireMastic-300™	8mm x 5mm Deep	-/120/120	55.7mm OD Pipe	SFC FRT180473b.1
uPVC Pipe 80mm	Wall	75mm Thick Hebel / AAC	MaxiCollar™ and FireMastic-300™	10mm x 5mm Deep	-/120/120	82.1mm OD Pipe	SFC FRT180473b.1
uPVC Pipe 100mm	Floor	Comflor® 60 - 130mm Thick	BOSS Batt Sealed with BOSS Ablative Coating, MaxiCollar™ and FireMastic-300™	5mm Deep x 6.5mm Annular Gap	-/120/120	109.8mm OD Pipe	SFC FRT180137a.2
uPVC Pipe 100mm	Floor	Comflor® 60 - 130mm Thick	Drop-In Collar™	5mm Deep x 27.5mm Annular Gap	-/120/90	109.8mm OD Pipe	SFC FRT180137d.2

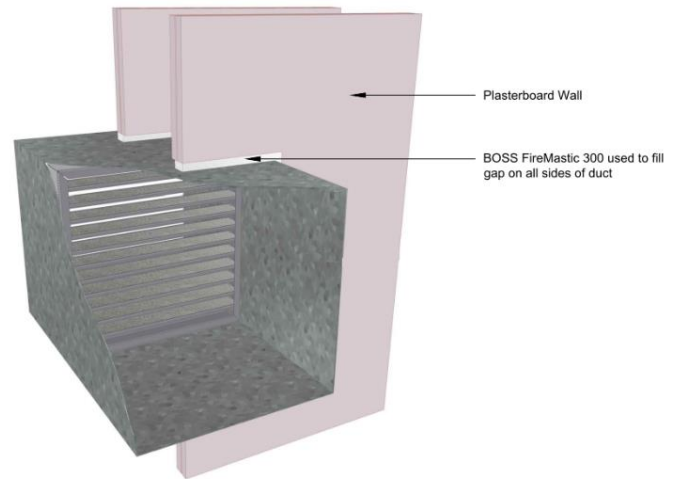
The table above only relates to BOSS Fire® solutions using the FireMastic-300™ product. For other BOSS Fire® products that offer certified combustible pipe penetration systems please consult the BOSS Fire® website - bossfire.com

FIRE DAMPER PERIMETER SEALS

FireMastic-300™ can be used to seal around the perimeter of intumescent dampers, fixed either to the face of a wall or in line with the wall. In both situations, FireMastic-300™ may be used to fill any gaps.

Face-fixed Dampers: apply FireMastic-300™ to the section of damper in contact with the wall and to any steel brackets attached to the wall. The damper must overlap the wall by at least 50mm and any gaps must not exceed 5mm.

In-line fixed Dampers: where the damper is fixed in line with the wall, apply FireMastic-300™ all around the edge of the damper. The gap between the edge of the damper and structural opening must not exceed 25mm and the sealant must be filled to the full depth of the damper. This is significantly in excess of any linear gap seal and is therefore able to maintain the fire resistance of the damper.



Notwithstanding the pre-mentioned installation specification, the dampers manufacturers installation instructions must be followed. However FireMastic-300™ may be used in place of the sealant specified.

Service Penetration	Orientation	Substrate	System Description	Seal Size	FRL	Certification Reference
Linear Gap around Intumescent Dampers	Wall	Perimeter Seal around Intumescent Dampers	FireMastic-300™	Max 5mm Gap for face fixed damper	-/300/300	Branz FAR 3821 Issue 4
Linear Gap around Intumescent Dampers	Wall	Perimeter Seal around Intumescent Dampers	FireMastic-300™	Max 25mm Gap for in-line installation gap	-/300/300	Branz FAR 3821 Issue 4

STORAGE & DISPOSAL

FireMastic-300™ is not affected by external environments. However, for long term storage and ease of installation, FireMastic-300™ should be stored indoors in a dry, frost-free environment below 30°C. BOSS FireMastic-300™ has an expected shelf life of approximately 18 months.

HEALTH AND SAFETY

To learn more about the safe handling of FireMastic-300™, see the Safety Data Sheet available at bossfire.com

IS THIS PUBLICATION CURRENT?

This document may be superseded by new versions. If you are unsure of whether or not this document is a current publication, please call us on +61 2 9531 8591 to confirm.

LIMITATION

BOSS Fire & Safety Pty Ltd has provided the above technical information in good faith and to the best of its knowledge. This information was deemed to be correct at the time of publication. Should any data come to BOSS Fire & Safety's attention relating to the fire resistance or performance of the product described, BOSS Fire & Safety reserve the right to amend this report.

BOSS Fire & Safety strive to constantly improve and develop products so this information may change without notice.

The information contained herein has been developed as a guide only and it does not constitute a guarantee of compliance of all applications. Each project and/or application may have specific requirements and you should investigate these carefully. Ensure that you have read and understood the appropriate certification relative to your needs, and ensure you seek acceptance from the Certifying Authority or compliance inspector before installation. For updates on the range of BOSS Fire® certification please contact BOSS Technical Services. +61 2 9531 8591

FURTHER INFORMATION

For additional technical information on the performance of BOSS FireMastic-300™, other BOSS Fire® products or any other BOSS Fire® related information please contact us on:

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