firewise
supplies ltd

Technical Data
Firewise FR Fire Wraps
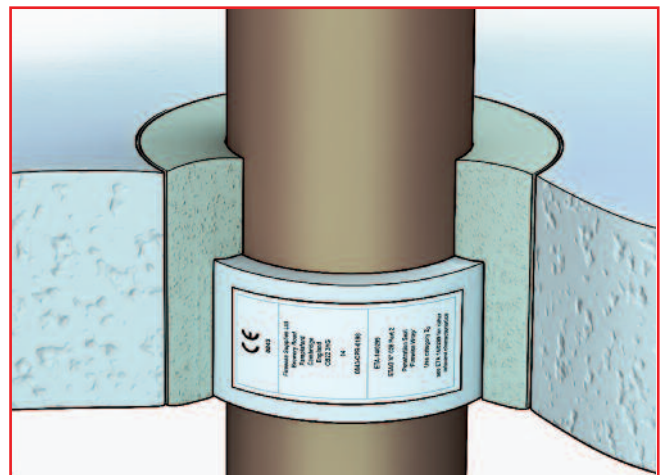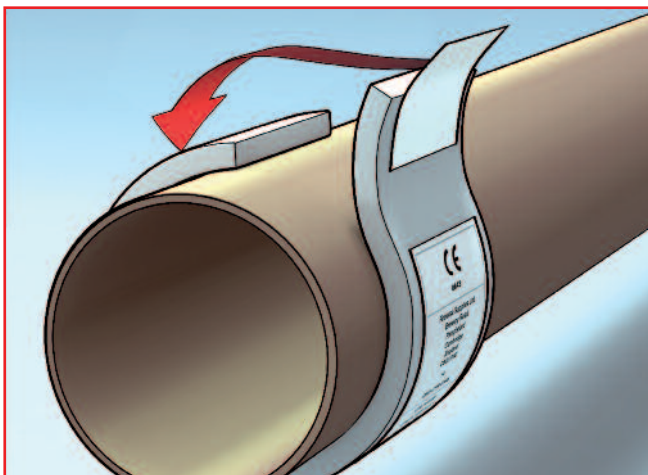
Related Firewise Products

Acoustic Intumescent Mastic

Fire Rated Mortar

Fire Rated Board / Batt

Technical Data - Firewise FR Fire Wraps

Product Description

Firewise FR fire wraps provide a robust and economic fire seal to provide fire resistance in concrete and blockwork compartment walls and floors where openings in these construction elements are formed to accommodate building services. In a fire attack situation, the intumescent lining within the fire wrap expands to form a robust char barrier which prevents the passage of flames and hot gases through voids created by thermal degradation of the building services and in additon restricts temperature rise on the non-fire side of the wall or floor.

Firewise FR fire wraps are made from multiple layers of a flexible 1.8mm thick water-resistant intumescent material contained within a polythene sleeve. The fire wraps are fastened around services with an adhesive tab. Firewise FR fire wraps are supplied in 16 standard sizes. Firewise FR fire wraps are particularly suitable when fittings are located close to the wall or floor and where the fire seal requires installing within the depth of the separating element.

Physical Properties

Composition:	Plastic sleeve with intumescent liner
Intumescent activation temperature:	Approximately 160° C
Intumescent expansion pressure:	146.8 kPa mean peak pressure for 1.85mm thick material in a 8.27mm gap
Intumescent expansion volume ratio:	10.75 mean ratio at 2.84 kPa
Service temperature:	-15°C - +75°C

Firewise FR Fire Wraps contain no hazardous materials and are asbestos free. This data sheet should be read in conjunction with the MSDS for this product.

Fire Performance

Scope of use of CE marked wraps in accordance with ETAG 026-2. Refer to ETA 14/0299 for further details – available from Firewise.

Construction	Pipe Outside Diameter	Product Code	Integrity (mins)	Insulation (mins)	Width x Layers	Pipe Wall Thk (mm)	Pipe Material
Concrete/Masonry Walls - min. 100 mm thick - min. density 650 kg/m3 - refer to Fig A	Up to 55 mm	WF055CE	120	120	50 x 2	2.2 – 8.1	uPVC
	56 – 82 mm	WF082CE					
	83 – 110 mm	WF110BCE					
	125 mm	WF125ACE	180	90		3.2 – 9.2	
	160 mm	WF160ACE	120	90	50 x 3	3.2 – 11.8	
	Up to 60 mm (110 mm with insulation)	WF110BCE	240	90	50 x 2	3.7 – 14.2	Insulated mild steel & stainless steel. Insulation 25 mm thick
	61 – 75 mm (111 – 125 mm with insulation)	WF125ACE	120	45			
	76 – 110 mm (126 – 160 mm with insulation)	WF160DCE	120	45		8.0 – 14.2	
	111 – 150 mm (161 – 200 mm with insulation)	WF200BCE	120	45			
	151 – 219 mm (201 – 269 mm with insulation)	WF270CE	120	45			
	Up to 42 mm (92 mm with insulation)	WF110BCE	240	20		1.2 – 14.2	Insulated copper, mild steel & stainless steel. Insulation 25 mm thick
	43 – 75 mm (93 – 125 mm with insulation)	WF125ACE	240	20		2.2 – 14.2	
	76 – 108 mm (126 – 158 mm with insulation)	WF160DCE	240	20			
Concrete Floors - min. 150 mm thick - min. density 650 kg/m3 - refer to Fig B	50 mm	WF055CE	180	180	50 x 2	2.2 – 8.1	uPVC
	82 mm	WF082CE					
	110 mm	WF110BCE					
	50 mm	WF055CE	240	240		3.6 – 8.1	
	82 mm	WF082CE					
	110 mm	WF110BCE					
	125 mm	WF125BCE			75 x 2	3.7 – 9.2	
	160 mm	WF160CCE			75 x 4	3.2 – 11.8	
	160 mm	WF160CCE	180	180		6.2	PE/ABS/SAN+PVC
Mortar Seal - within concrete floor, as above - min. 100 mm thick - refer to Fig C	110 mm	WF110CCE	180	180	75 x 1	3.4	uPVC
	160 mm	WF160BCE			75 x 3	4.0	
	110 mm	WF110ACE	60	60	50 x 1	4.3	PE
	125 mm	WF125BCE	180	180	75 x 2	4.9	
	200 mm	WF200ACE			75 x 7	7.8	
	250 mm	WF250CE			75 x 7	7.8	

Fire Performance

Scope of use of wraps tested in accordance with EN1363-1:1999 & EN1366-3:2004.

Firewise FR fire wraps can be used as a fire seal for thermoplastic pipes and electrical cables in large bunches.

Construction/Service	Integrity	Insulation
Mineral wool boards - refer to Fig D		
uPVC plastic pipes	Up to 90 mins*	Up to 90 mins*
Masonry walls & concrete floors - refer to Figs A, B & C		
cable bunches	240 mins	240 mins
plastic pipes	240 mins	240 mins
plastic pipes >160 ≤ 250mm	180 mins	180 mins
plastic pipes >250 ≤ 315mm	120 mins	120 mins

*depending on pipe size

Wrap Size	Product Code	Fire Rating (mins)	Width x Layers
55mm	WF055CE	240	50 x 2
82mm	WF082CE	240	50 x 2
110mm	WF110ACE	60	50 x 1
110mm	WF110BCE	90*/240	50 x 2
110mm	WF110CCE	180	75 x 1
125mm	WF125BCE	240	75 x 2
160mm	WF160BCE	60*/180	75 x 3
160mm	WF160CCE	240	75 x 4
200mm	WF200ACE	180	75 x 7
250mm	WF250CE	180	75 x 7
315mm	WF315	120	75 x 10

* in mineral wool boards

Installation Instructions

Fig A. Cast-into Concrete/Blockwalls

1. Please refer to the detail shown.

2. A fire wrap is required on both sides of the wall unless the fire risk is limited to one side only.

3. Ensure there is sufficient annular space around the pipe or cables to allow for the thickness of fire wrap (see dimensional data). For CE installations this should be minimal.

4. Position a fire wrap around the pipe/cables and fasten using the self-adhesive tab. Slide the wrap along the pipe/cables so that the edge is flush with one side of the wall. Repeat this for the other side of the wall.

5. Once the fire wrap is securely fastened, fill the annular space with a suitable FR Mortar or other solid non-combustible material.
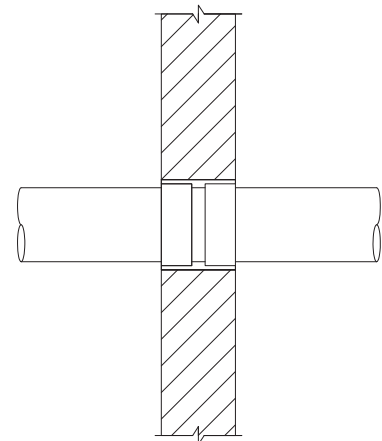
Fig B. Cast-into Concrete Slab

1. Please refer to typical detail shown.

2. Ensure there is sufficient annular space around the pipe or cables to allow for the thickness of fire wrap (see dimensional data). For CE installations this should be 30mm.

3. Position a fire wrap around the pipe/cables and fasten using the self-adhesive tab. Slide the wrap along the pipe/cables so that the edge is flush with the soffit of the floor.

4. Once the fire wrap is securely fastened, fill the annular space with a suitable FR Mortar or other solid non-combustible material.

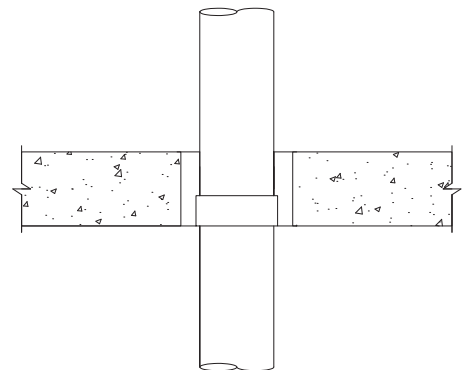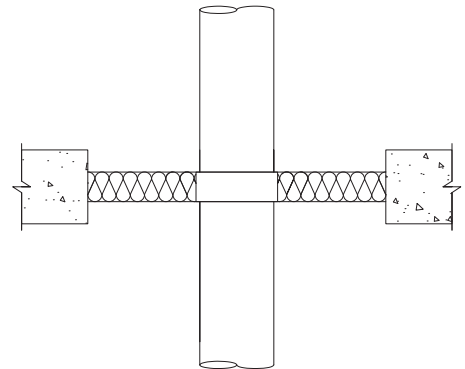5. Check that the edge of the fire wrap is fully visible at the surface.

Fig C. Cast-into Mortar Seal

1. Please refer to typical detail shown.

2. Ensure there is sufficient annular space around the pipe or cables to allow for the thickness of fire wrap (see dimensional data). For CE installations this should be 75mm max.

3. Position a fire wrap around the pipe/cables and fasten using the self-adhesive tab. Slide the wrap along the pipe/cables so that the edge is flush with the soffit of the floor.

4. Once the fire wrap is securely fastened, fill the annular space with a suitable FR Mortar or other solid non-combustible material.

5. Check that the edge of the fire wrap is fully visible at the surface.
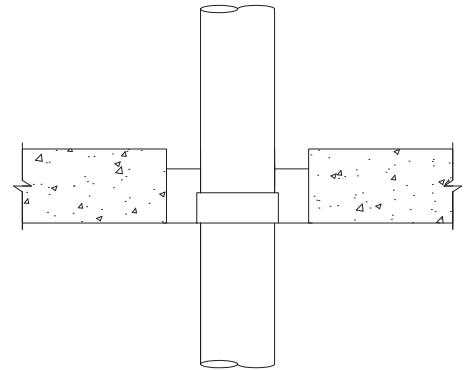
Fig D. Cast-into Mineral Wool Boards

1. Please refer to the detail shown.

2. Ensure there is sufficient annular space around the pipe to allow for the thickness of fire wrap (see dimensional data).

3. Position a fire wrap around the pipe and fasten using the self-adhesive tab. Slide the wrap along the pipe so that the wrap is fully positioned centrally within the mineral wool board.

4. Once the fire wrap is securely fastened, ensure any holes or gaps between the pipe and the mineral wool board are sealed using Firewise FR Intumescent Mastic.