PFC COROFIL
PASSIVE FIRE PROTECTION SOLUTIONS

Product Technical Data Sheet:

TDSCUPW

PFC Corofil Universal Pipe Wrap CUPW

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SERVICE PENETRATIONS

NBS

ASFP

Revision 1 - 03/08/2020

Technical Description of Product

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PFC Corofil Universal Pipe Wrap is an intumescent strip which is installed around combustible pipes to form a penetration seal used to reinstate the fire resistance performance of wall and floor constructions where they have been provided with apertures for the penetration of combustible pipe services.

PFC Corofil Universal Pipe Wrap has been tested to EN1366-3 and offers fire resistance periods of up to 120 minutes for differing services and wall/floor constructions.

In the event of a fire the intumescent expands on heating, providing a closure of combustible pipes to prevent the passage of fire between compartments.

PFC Corofil Universal Pipe Wrap is manufactured as a roll of intumescent 25m x 40mm x 2mm, it has a removable paper on one face, covering an adhesive strip which adheres to each layer as it is wrapped around the pipe. Each roll is supplied in an individual box.

Intended Use

PFC Corofil Universal Pipe Wrap is installed at the soffit and upper surface of floors and on both faces of walls, depending on the application and by applying a number of wraps to reach the required thickness. Fixing specifications and number of wraps required is detailed in the **performance tables** from page 6 to 12.

PFC Corofil Universal Pipe wrap can be used with PFC Corofil Acoustic Intumescent Sealant (see Technical data sheet TDSCAIS for details) to seal the gap between the combustible pipe and the aperture. Gap sizes are detailed in the **performance tables** from page 6.

The specific substrates in which PFC Corofil Universal Pipe Wrap can be installed is listed under **Installation Instructions** on page 4 of this data sheet.

This data sheet shows the only applications the product has been tested in. Please ensure the product has been tested in and is suitable for your application (see PFC Corofil terms and conditions 13.1.1).

Key Points

- Suitable for use on combustible and metallic pipes, with or without insulation.
- Conditioned to Type X: Intended for use in conditions exposed to weathering.
- PFC Corofil Universal Pipe Wrap has an assumed working life of 10 years.
- The indications of a working life can not be assumed as a guarantee given by PFC Corofil, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

Technical Data

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Specification

Description	Result	Test Standard
Pipe Diameter	32mm, 40mm, 50mm, 55mm, 63mm, 75mm, 82mm, 90mm, 100mm, 110mm, 125mm, 140mm, 160mm, 200mm, 250mm	
Plastic Pipe Material	PVC-U, PVC-C, ABS, SAN+ PVC, PE-HD, PE, PP	
Nominal Width	40mm	
Nominal thickness	2mm at 32mm up to 12mm at 250mm	
Fire Resistance	Up to EI120	EN1366-3:2009 & EN13501-2
Volume Expansion Ratio (at 450°C)	Approximately 25 times	EOTA TR 024
Expansion Pressure N/mm^2	1.30	EOTA TR 024
Insulation Types	Phenolic, Elastomeric, Glass and Stone Wool	

Installation Instructions

- Ensure that the aperture, substrates and pipe materials have been tested for use with PFC Corofil Universal Pipe Wrap.
- Apertures should be clean and free of dust and loose particles.
- Apertures in the supporting element must be to the maximum oversize as listed in the **performance tables** from page 6 to 12 of this data sheet. The annular space should be filled with PFC Corofil Acoustic Intumescent Sealant.
- Apertures for the penetration of pipes must be separated by a minimum 200mm unless in coated panel (see relevant tables below).
- Services in walls should be supported by a maximum of 400mm from each face. Services in floors should be supported by a maximum of 400mm from the upper surface of the floor.
- Ensure that the adhesive surface of the Universal Pipe Wrap is installed on the outer face, facing away from the pipe surface.
- Install the Universal Pipe Wrap around the pipe, ensuring the correct number of wraps around the pipe and slide into the aperture ensuring the wrap is friction fitted flush to the surface of the supporting construction.
- Apply PFC Corofil Acoustic Intumescent Sealant into the annular gap and finish flush with the surface of the supporting construction.

Installation Instructions

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Substrates

- Flexible Walls: The wall must have a minimum thickness of 100mm and comprise timber or metal studs lined on both faces with a minimum 2 layers of 12.5mm 'type F' gypsum boards according to EN520. In timber stud walls, no part of the penetration shall be within 100mm of a timber stud, a minimum of 100mm insulation of class A1 or A2 according to EN13501-1 should be provided within the cavity between the penetration and the stud.
- Rigid Walls: The wall must be a minimum 100mm thick and comprised of concrete, aerated concrete or masonry, with a minimum density of 650kg/m^3.
- Rigid Floor: The floor must be a minimum 150mm thick and comprised of concrete, aerated concrete or masonry with a minimum density of 650kg/m^3.
- PFC Corofil Coated Panel system.

The supporting construction must be classified in accordance with EN13501-2 for the required fire resistance period.

Terminology

Fire resistance classes:

E = Integrity. The length of time it takes for the fire to pass to the non fire side.
I = Insulation. The length of time it takes for the heat of the fire to pass to the non fire side.

Test condition:

U/U = Uncapped in the furnace/Uncapped outside the furnace
U/C = Uncapped in the furnace/Capped outside the furnace
C/U = Capped inside the furnace/Uncapped outside the furnace

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Resistance to Fire Classification of PFC Corofil Universal Pipe Wrap

Intumescent Thickness
The permitted thickness for the intumescent material for various ranges of pipe diameters

Intumescent Thickness.	
Pipe Diameter	**Intumescent Material**
ø 32mm - ø 50mm	1 wrap x 40mm wide x 2mm thick
ø 51mm - ø 82mm	2 wraps x 40mm wide x 2mm thick
ø 83mm - ø 115mm	3 wraps x 40mm wide x 2mm thick
ø 116mm - ø 160mm	4 wraps x 40mm wide x 2mm thick
ø 161mm - ø 200mm	5 wraps x 40mm wide x 2mm thick
ø 201mm - ø 250mm	6 wraps x 40mm wide x 2mm thick

Walls minimum thickness 100mm
Flexible or Rigid Wall
PVC-u Pipes according to EN1452

PFC Corofil Universal Pipe Wraps installed within **both sides** of a flexible or rigid wall, minimum thickness 100mm - PVC-u pipes.			
Penetration Specification	**Wrap size/Number**	**Annulus Space**	**Classification**
PVC pipe 32mm ø 1.8mm wall thickness	1 wrap x 40mm x 2mm	4mm	EI120 U/C
PVC pipe 40mm ø 1.8mm wall thickness			
PVC pipe 50mm ø 1.8mm wall thickness			
PVC pipe 160mm ø 6.2mm wall thickness	4 wraps x 40mm x 2mm	10mm	EI90 U/C
PVC pipe 160mm ø 9.5mm wall thickness			EI120 U/C
PVC pipe 200mm ø 7.7mm wall thickness	5 wraps x 40mm x 2mm	12mm	
PVC pipe 200mm ø 9.6mm wall thickness			

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Walls minimum thickness 100mm
Flexible or Rigid Wall
PE Pipes according to EN ISO 15494

PFC Corofil Universal Pipe Wraps installed within **both sides** of a flexible or rigid wall, minimum thickness 100mm - PE pipes.			
Penetration Specification	**Wrap size/Number**	**Annulus Space**	**Classification**
PE pipe 32mm ø 2.9mm wall thickness	1 wrap x 40mm x 2mm	4mm	EI120 U/C
PE pipe 40mm ø 2.9 mm wall thickness			
PE pipe 50mm ø 2.9mm wall thickness			
PE pipe 160mm ø 4.9mm wall thickness	4 wraps x 40mm x 2mm	10mm	EI15 U/C
PE pipe 160mm ø 9.5mm wall thickness			EI90 U/C
PE pipe 200mm ø 4.9mm wall thickness	5 wraps x 40mm x 2mm	12mm	EI15 U/C
PE pipe 200mm ø 18.4mm wall thickness			EI120 U/C

PP Pipes according to EN 1451

PFC Corofil Universal Pipe Wraps installed within **both sides** of a flexible or rigid wall, minimum thickness 100mm - PP pipes.			
Penetration Specification	**Wrap size/Number**	**Annulus Space**	**Classification**
PP pipe 32mm ø 2.9mm wall thickness	1 wrap x 40mm x 2mm	4mm	EI120 U/C
PP pipe 40mm ø 2.9mm wall thickness			
PP pipe 50mm ø 2.9mm wall thickness			
PP pipe 160mm ø 4.0mm wall thickness	4 wraps x 40mm x 2mm	10mm	E120 U/C EI90 U/C
PP pipe 160mm ø 14.6mm wall thickness			EI120 U/C
PP pipe 200mm ø 4.9mm wall thickness	5 wraps x 40mm x 2mm	12mm	E120 U/C EI90 U/C
PP pipe 200mm ø 18.2mm wall thickness			EI120 U/C
PP pipe 250mm ø 10.1mm wall thickness	6 wraps x 40mm x 2mm	14mm	E120 U/C EI20 U/C

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Walls minimum thickness 100mm

Single layer of 50mm PFC Corofil Coated Panel, pattress fixed to both outer faces of the wall. Maximum aperture 750mm x 1200mm

PFC Corofil Universal Pipe Wrap installed within **the outer faces** of a 50mm PFC Corofil Coated Panel installed pattress fixed to both sides of a flexible or rigid wall, minimum thickness 100mm.		
Penetration Specification	**Wrap size/Number**	**Classification**
Steel or copper pipe 42mm – 159mm ø 1.2mm – 14.2mm wall thickness, 13mm – 25mm elastomeric insulation continuous/sustained	2 wraps x 40mm x 2mm	E120 C/U EI60 C/U
Steel or copper pipe 42mm – 159mm ø 1.2mm – 14.2mm wall thickness, 25mm elastomeric insulation continuous/sustained		E120 C/U EI90 C/U
Steel or copper pipe 42mm ø 1.0mm - 14.2mm wall thickness, 25mm – 13mm elastomeric insulation continuous/sustained		EI120 C/U
Steel or copper pipe 42mm – 108mm ø 1.2mm – 14.2mm wall thickness, 25mm – 40mm phenolic foam insulation continuous/sustained		E120 C/U EI90 C/U
Steel or copper pipe 42mm ø 1.0mm – 14.2mm wall thickness, 25mm – 40mm phenolic foam insulation		EI120 C/U
Steel or copper pipe 42mm ø 1.2mm – 14.2mm wall thickness, 50mm thick glass fibre insulation 30kg/m^3 continuous/sustained		E120 C/U EI90 C/U

Performance Data

Walls minimum thickness 100mm
Flexible or Rigid Wall
Double layer of 50mm PFC Corofil Coated Panel, installed internally within the wall.
Maximum aperture 750mm x 1200mm

PFC Corofil Universal Pipe Wrap installed within **the outer faces** of a double layer of 50mm PFC Corofil Coated Panel installed internally within a flexible or rigid wall, minimum thickness 100mm.		
Penetration Specification	**Wrap size/Number**	**Classification**
Steel or copper pipe 42mm – 159mm ø 1.2mm – 14.2mm wall thickness, 13mm – 25mm elastomeric insulation continuous/sustained	2 wraps x 40mm x 2mm	E120 C/U EI60 C/U
Steel or copper pipe 42mm ø 1.0mm - 14.2mm wall thickness, 25mm – 13mm elastomeric insulation continuous/sustained		E120 C/U EI90 C/U
Steel or copper pipe 42mm – 108mm ø 1.2mm – 14.2mm wall thickness, 25mm – 40mm Phenolic foam insulation continuous/sustained		E120 C/U EI60 C/U
Steel or copper pipe 42mm ø 1.0mm – 14.2mm wall thickness, 25mm – 40mm Phenolic foam insulation		E120 C/U EI90 C/U
Steel or copper pipe 42mm ø 1.2mm – 14.2mm wall thickness, 50mm thick glass fibre insulation 30kg/m^3 continuous/sustained		E120 C/U EI90 C/U

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Walls Minimum thickness 100mm

Flexible or Rigid Wall

Single layer of 50mm PFC Corofil Coated Panel, pattress fixed to both outer faces of the wall. Maximum aperture 750mm x 1200mm

PFC Corofil Universal Pipe Wraps installed within **the outer faces** of a 50mm PFC Corofil Coated Panel installed pattress fixed to both sides of a flexible or rigid wall, minimum thickness 100mm.			
Penetration Specification	**Wrap size/Number**	**Penetration Formation**	**Classification**
PVC pipe 50mm ø 1.8mm – 3.7mm wall thickness	1 wrap 40mm x 2mm	Cluster formation of pipes with 0mm separation. There must be a minimum 50mm from the edge of seal	EI60 U/C
PVC pipe 200mm ø 7.7mm – 9.6mm wall thickness	5 wraps 40mm x 2mm		
PE pipe 50mm ø 2.9mm – 4.6mm wall thickness	1 wrap 40mm x 2mm		
PE pipe 200mm ø 11.9mm – 18.4mm wall thickness	5 wraps 40mm x 2mm		
PP pipe 50mm ø 2.9mm - 6.9mm wall thickness	1 wrap 40mm x 2mm		
PP pipe 200mm ø 4.9mm – 18.2mm wall thickness	5 wraps 40mm x 2mm		

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Floors minimum thickness 150mm
Rigid Floor
PVC Pipes according to EN1452

PFC Corofil Universal Pipe Wrap installed within **both surfaces** of a rigid floor, minimum thickness 150mm - PVC pipes.			
Penetration Specification	**Wrap size/Number**	**Annulus Space**	**Classification**
PVC pipe 32mm ø 1.8mm wall thickness	1 wrap x 40mm x 2mm	4mm	EI120 U/C
PVC pipe 40mm ø 1.8mm wall thickness			
PVC pipe 50mm ø 1.8mm wall thickness			
PVC pipe 200mm ø 7.7mm wall thickness	5 wraps x 40mm x 2mm	12mm	E120 U/C EI90 U/C
PVC pipe 200mm ø 9.6mm wall thickness			EI60 U/C

HDPE Pipes to EN1519

PFC Corofil Universal Pipe Wrap installed within **both surfaces** of a rigid floor, minimum thickness 150mm - HDPE pipes.			
Penetration Specification	**Wrap size/Number**	**Annulus Space**	**Classification**
HDPE pipe 32mm ø 2.9mm wall thickness	1 wrap x 40mm x 2mm	4mm	EI120 U/C
HDPE pipe 40mm ø 2.9mm wall thickness			
HDPE pipe 50mm ø 2.9mm wall thickness			
HDPE pipe 200mm ø 4.9mm wall thickness	5 wraps x 40mm x 2mm	12mm	
HDPE pipe 200mm ø 11.4mm wall thickness			

Performance Data

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Floors Minimum thickness 150mm
Rigid Floor
PP Pipes to EN1451

PFC Corofil Universal Pipe Wrap installed within **both surfaces** of a rigid floor, minimum thickness 150mm - PP pipes.			
Penetration Specification	**Wrap size/Number**	**Annulus Space**	**Classification**
PP pipe 32mm ø 2.9mm wall thickness	1 wrap x 40mm x 2mm	4mm	EI120 U/C
PP pipe 40mm ø 2.9mm wall thickness			
PP pipe 50mm ø 2.9mm wall thickness			
PP pipe 200mm ø 4.9mm wall thickness	5 wraps x 40mm x 2mm	12mm	E20 U/C EI15 U/C
PP pipe 200mm ø 18.2mm wall thickness			E120 U/C EI90 U/C

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