Technical Data Sheet
Pipebloc PWP Wraps
UIC of product-type: PWP

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FSi DEVELOP MANUFACTURE PROTECT

FIRE STOPPING & COMPARTMENTATION SYSTEMS

UAE Certificate of Compliance

APPROVED
CF5369

ETA 15-0490
CE-1121-CPR-JA5081

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Product Technical Data

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Product Overview

Technical Description of the Product

PipeBloc PWP Wraps are designed and tested to seal service penetration apertures containing plastic pipes using thermoplastic composites based on graphite intumescent technology. They have been developed to provide a high volume expansion and pressure seal during a fire. The PipeBloc PWP wraps offers EI120 tested to EN1366-3 the maximum diameter being 250mm. The ultra thin design of PipeBloc PWP wraps ensures that they can be installed into the tightest of locations.

PipeBloc PWP wraps can be installed into flexible walls, rigid walls, rigid floor constructions and in Batt seals. They are compatible with polypropylene (PP), polyethylene (PE) and polyvinylchloride (PVC) pipes. PipeBloc PWP wraps is tested with end capping configurations that cover U/C & C/C pipes. PipeBloc PWP wraps is used around combustible pipes to form a penetration seal to reinstate the fire resistance performance of wall and floor constructions.

Intended Use

The intended use of PipeBloc PWP wraps is to reinstate the fire resistance performance of wall and floor constructions where they are penetrated by various combustible pipe services.

The specific elements of construction that the PipeBloc PWP wraps may be used is as follows:

- Fire resistance testing to EN 1366-3: 2009 and EN 13501-2 EI 120.
- Certifire 3rd Party Certification CF 5369.
- Fire resistance tested in flexible walls and rigid floors.
- Tested with Plastic Pipes - PVC, HDPE, PP and PE.

Key Product Points

- Causes no known effects to plastic pipes.
- Suitable for wall and floor installation and in Stopseal Batt.
- The product is based on an thermoplastic composite and is therefore non-toxic.
- Halogen free, contains no asbestos, ceramic or mineral fibres and is environmentally friendly.
- Not affected by fungus, vermin or rodents.
- Conditioned to Type X: -20°C to +70°C with accordance with EOTR 024 and Etag 026.

Product Technical Data

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Description	Results	Test Standards
Pipe Diameter	32mm, 40mm, 50mm, 55mm, 63mm, 75mm, 82mm, 90mm, 100mm, 110mm, 125mm, 140mm, 160mm, 200mm and 250mm	
Width (Nominal)	40mm	
Thickness (Nominal)	2mm at 32mm upto 12mm at 250mm	
Density	Approximately 1.2 g/cm^3	ISO 2811-1:2011
Volume Expansion	Approximately 25 times	EOTA TR 024
Expansion Pressure N/mm²	1.30	EOTA TR 024
Fire Resistance	Up to EI 120	EN 1366-3: 2009, EN 13501-2
Expected Shelf Life	N/A	N/A

Installation

Ensure that the aperture and services in question are tested with PipeBloc PWP wraps, and the site conditions are within the application specification. An annular space needs to be present around the service to allow sufficient installation depth.

All services and apertures need to be clean and clear of all dust and loose particles. The aperture temperature needs to at 5°C or above at time of installation.

Upon installation make sure that you install the PipeBloc PWP wraps around the pipe leaving 5mm from the face of the surface, make sure that you fill all of the annulus with Pyrocoustic Sealant to finish of the system.

Once compacted, smooth off the Pyrocoustic Sealant to produce a professional looking finish.

Performance Data - Wall

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Substrates

The walls shall be a minimum of **100mm thick**. Drywalls shall comprise a minimum of 2 layers of 'Type F' Gypsum board on both faces, with minimum 50mm studs. Masonary / Concrete walls shall have a minimum density for concrete or brick of 780kg/m³ and for aerated concrete blocks of 600kg/m³. All walls shall have at least the same fire resistance as that required for the sealing system.

Service support requirements

Services should be rigidly supported via steel angles, hangers or channels, not further than 400mm from the surface of the sealing system on both faces of walls and the top face of floors unless specified otherwise in the performance data.

Terminology

Fire performance in accordance with EN1366-3, EN1366-4, Classification 13501-2:2007 + A1:2009, ETAG-026, Air Permeability EN1026, Sound EN10140. Fire resistance classes are: E = Integrity, the product can withstand the fire from the non-fire side, I =Insulation, the product can withstand the temperature travelling down the service, U/U = Uncapped inside and outside the furnace, U/C = Uncapped inside and Capped outside the furnace, C/U = Capped inside and Uncapped outside the furnace.

FLEXIBLE OR RIGID WALL

PipeBloc PWP wraps, friction fitted flush to both sides of flexible or rigid walls with a minimum thickness of 100mm, PVC Pipes.				
Penetration Specification	**Wrap Reference**	**Intumescent Material**	**Annulus Space (mm)**	**Classification**
PVC Pipe 50 mm ø 1.8mm wall thickness.	50 mm PipeBloc PWP wraps	40 mm (W) x 2 mm (T)	4	EI 120 U/C
PVC Pipe 160 mm ø 6.2mm wall thickness.	160 mm PipeBloc PWP wraps	40 mm (W) x 8 mm (T)	10	EI 90 U/C
PVC Pipe 160 mm ø 9.5mm wall thickness.	160 mm PipeBloc PWP wraps			EI 120 U/C
PVC Pipe 200 mm ø 7.7mm wall thickness.	200 mm PipeBloc PWP wraps	40 mm (W) x 10 mm (T)	12	
PVC Pipe 200 mm ø 9.6mm wall thickness.	200 mm PipeBloc PWP wraps			

PipeBloc PWP wraps, Friction Fitted Flush to Both Sides of Flexible or rigid walls with a minimum thickness of 100mm, PP Pipes				
Penetration Specification	**Wrap Reference**	**Intumescent Material**	**Annulus Space (mm)**	**Classification**
PP Pipe 50 mm ø 2.9 mm wall thickness.	50 mm PipeBloc PWP wraps	40 mm (W) x 2 mm (T)	4	EI 120 U/C
PP Pipe 160 mm ø 4.0 mm wall thickness.	160 mm PipeBloc PWP wraps	40 mm (W) x 8 mm (T)	10	E 120 U/C EI 90 U/C
PP Pipe 160 mm ø 14.6 mm wall thickness.	160 mm PipeBloc PWP wraps			EI 120 U/C
PP Pipe 200 mm ø 4.9 mm wall thickness.	200 mm PipeBloc PWP wraps	40 mm (W) x 10 mm (T)	12	E 120 U/C EI 90 U/C
PP Pipe 200 mm ø 18.2 mm wall thickness.	200 mm PipeBloc PWP wraps			EI 120 U/C
PP Pipe 250 mm ø 10.1 mm wall thickness.	250 mm PipeBloc PWP wraps	40 mm (W) x 12 mm (T)	14	E 120 U/C EI 20 U/C

Performance Data - Wall

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FLEXIBLE OR RIGID WALL

PipeBloc PWP wraps, friction fitted flush to both sides of flexible or rigid walls with a minimum thickness of 100mm PE Pipes				
Penetration Specification	**Wrap Reference**	**Intumescent Material**	**Annulus Space (mm)**	**Classification**
PE Pipe 50 mm ø 2.9 mm wall thickness.	50 mm PipeBloc PWP wraps	40 mm (W) x 2 mm (T)	4	EI 120 U/C
PE Pipe 160 mm ø 4.9 mm wall thickness.	160 mm PipeBloc PWP wraps	40 mm (W) x 8 mm (T)	10	EI 15 U/C
PE Pipe 160 mm ø 9.5 mm wall thickness.	160 mm PipeBloc PWP wraps			EI 90 U/C
PE Pipe 200 mm ø 4.9 mm wall thickness.	200 mm PipeBloc PWP wraps	40 mm (W) x 10 mm (T)	12	EI 15 U/C
PE Pipe 200 mm ø 18.4 mm wall thickness.	200 mm PipeBloc PWP wraps			EI 120 U/C

Performance Data - Batt

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Substrates

The walls shall be a minimum of **100mm thick**. Drywalls shall comprise a minimum of 2 layers of 'Type F' Gypsum board on both faces, with minimum 50mm studs. Masonary / Concrete walls shall have a minimum density for concrete or brick of 780kg/m³ and for aerated concrete blocks of 600kg/m³. All walls shall have at least the same fire resistance as that required for the sealing system.

Service support requirements

Services should be rigidly supported via steel angles, hangers or channels, not further than 400mm from the surface of the sealing system on both faces of walls and the top face of floors unless specified otherwise in the performance data.

Terminology

Fire performance in accordance with EN1366-3, EN1366-4, Classification 13501-2:2007 + A1:2009, ETAG-026, Air Permeability EN1026, Sound EN10140. Fire resistance classes are: E = Integrity, the product can withstand the fire from the non-fire side, I =Insulation, the product can withstand the temperature travelling down the service, U/U = Uncapped inside and outside the furnace, U/C = Uncapped inside and Capped outside the furnace, C/U = Capped inside and Uncapped outside the furnace.

FLEXIBLE OR RIGID WALL

PipeBloc PWP wraps, Installed into Stopseal 50mm Batt in Flexible Wall with a minimum thickness of 100mm both sides, PVC-U, PVC-C							
Aperture Size	**Seal Composition**	**Services**	**Pipewrap Reference**	**Intumescent Material**	**Capping**	**Penetration Formation**	**Classification**
600mm x 600mm	Pattress installation of 50mm thick 140kg/m³ Stopseal Coated Batt.	40mm (1.8mm - 3.7mm wall thickness)	PipeBloc PWP wraps 40	2mm - 40mm width x 2	U/C	Cluster Formation of Pipes with 0mm separation.	EI 60
		200mm (7.7mm - 9.6mm wall thickness)	PipeBloc PWP wraps 200	10mm - 40mm width x 2			

PipeBloc PWP wraps, Installed into Stopseal 50mm Batt in Flexible Wall with a minimum thickness of 100mm both sides PE, ABS & SAN+PVC							
Aperture Size	**Seal Composition**	**Services**	**Pipewrap Reference**	**Intumescent Material**	**Capping**	**Penetration Formation**	**Classification**
600mm x 600mm	Pattress installation of 50mm thick 140kg/m³ Stopseal Coated Batt.	40mm (2.9mm - 4.6mm wall thickness)	PipeBloc PWP wraps 40	2mm - 40mm width x 2	U/C	Cluster Formation of Pipes with 0mm separation.	EI 60
		200mm (11.9mm - 18.4mm wall thickness)	PipeBloc PWP wraps 200	10mm - 40mm width x 2			

Performance Data - Floor

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Substrates

The floors shall be a minimum of **150mm thick**. Masonry / Concrete floors shall have a minimum density for concrete or brick of 780kg/m³ and for aerated concrete blocks of 600kg/m³. All floors shall have at least the same fire rating as that required for the sealing system.

Service support requirements

Services should be rigidly supported via steel angles, hangers or channels, not further than 400mm from the surface of the sealing system on both faces of the wall and the top side of the floor unless specified otherwise in the performance data.

Terminology

Fire performance in accordance with EN1366-3, EN1366-4, Classification 13501-2:2007 + A1:2009, ETAG-026, Air Permeability EN1026, Sound EN10140. Fire resistance classes are: E = Integrity, the product can withstand the fire from the non-fire side, I =Insulation, the product can withstand the temperature travelling down the service, U/U = Uncapped inside and outside the furnace, U/C = Uncapped inside and Capped outside the furnace, C/U = Capped inside and Uncapped outside the furnace.

RIGID FLOOR

PipeBloc PWP wraps, friction fitted flush to both sides (top and bottom) of Rigid Floor with a minimum thickness of 150mm, PVC Pipes				
Penetration Specification	**Wrap Reference**	**Intumescent Material**	**Annulus Space (mm)**	**Classification**
PVC Pipe 50 mm ø 1.8 mm wall thickness	50 mm PipeBloc PWP wraps	1 Layer of 40 mm (W) x 2 mm (T) 1 Layer of 40 mm (W) x 2 mm (T) Combined Thickness 40 mm (W) x 4 mm (T)	4	EI 120 U/C
PVC Pipe 200 mm ø 7.7 mm wall thickness	200 mm PipeBloc PWP wraps	40 mm (W) x 10 mm (T)	12	EI 120 U/C
PVC Pipe 200 mm ø 9.6 mm wall thickness	200 mm PipeBloc PWP wraps			EI 60 U/C

PipeBloc PWP wraps, friction fitted flush to both sides (top and bottom) of Rigid Floor with a minimum thickness of 150mm, PP Pipes				
Penetration Specification	**Wrap Reference**	**Intumescent Material**	**Annulus Space (mm)**	**Classification**
PP Pipe 50 mm ø 2.9 mm wall thickness	50 mm PipeBloc PWP wraps	1 Layer of 40 mm (W) x 2 mm (T) 1 Layer of 40 mm (W) x 2 mm (T) Combined Thickness 40 mm (W) x 4 mm (T)	4	EI 120 U/C
PP Pipe 200 mm ø 4.9 mm wall thickness	200 mm PipeBloc PWP wraps	40 mm (W) x 10 mm (T)	10	E 20 U/C EI 15 U/C
PP Pipe 200 mm ø 18.2 mm wall thickness	200 mm PipeBloc PWP wraps			E 120 U/C EI 90 U/C

Performance Data - Floor

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RIGID FLOOR

PipeBloc PWP wraps, friction fitted flush to both sides (top and bottom) of Rigid Floor with a minimum thickness of 150mm, HDPE Pipes				
Penetration Specification	**Wrap Reference**	**Intumescent Material**	**Annulus Space (mm)**	**Classification**
HDPE Pipe 50 mm ø 2.9 mm wall thickness	50 mm PipeBloc PWP wraps	1 Layer of 40 mm (W) x 2 mm (T) 1 Layer of 40 mm (W) x 2 mm (T) Combined Thickness 40 mm (W) x 4 mm (T)	4	EI 120 U/C
HDPE Pipe 200 mm ø 4.9 mm wall thickness	200 mm PipeBloc PWP wraps	40 mm (W) x 10 mm (T)	12	EI 120 U/C
HDPE Pipe 200 mm ø 11.4 mm wall thickness	200 mm PipeBloc PWP wraps			EI 120 U/C

Extended Scope of Works

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Direct field of application – DiAP and Extended Field of Application- EXAP

DiAP and EXAP rules are an output from European harmonization of fire testing methods, classifications and product standards where applicable. At a national level, experienced persons or fire test organisations have previously provided assessments of expected performance based on expert judgement and opinion, however these rules allow interpretation through the specific EN 1366 test standard.

DiAP and EXAP rules are provided in the EN 1366 and EN 15882 test standards series. They are derived from information obtained from tests carried out in accordance with relevant EN 1366 tests at recognised laboratories in Europe. The test results achieved by a particular design may be directly applied to a limited number of variations without recourse to expert advice, providing the design remains substantially as tested. EXAPs shall be based on primary test evidence to a specific part of the EN 1366 series and may be supplemented by appropriate test evidence generated from other sources, or other relevant historical data. The EXAP rules conside changes in the tested design beyond the scope of direct application and may also consider variations to the tested design.

Direct field of application - DiAP

Fire Stopping systems of this type are often complicated by extensive changes in modern buildings and their influence on the fire hazard should be considered carefully. The fire hazard can be reduced by providing penetration seals at the points where the services pass through fire separating elements (walls/floors).

The impact of fire on a construction or service system can vary considerably. A strict scientific approach to the problem of adequate testing of a sealing system would, therefore, be to design a series of tests each of which corresponds to a specified fire situation and arrangement. However, such an approach would probably fail due to its economic consequences, as tests of this type are very timeconsuming and costly. The method of test described in the EN 1366 series has therefore been designed with the intention of covering a wide range of fire situations in a minimum of tests. To allow a wider field of application, standard configurations are defined on the basis of general experience and historic data wherever possible. As frequently a number of influencing parameters was considered when defining the standard configurations, not all of which may be addressed explicitly in the field of direct application rules (e.g. metalscreen of cables). To allow nevertheless flexibility a modular approach was taken as far as possible so that various combinations of standard configuration elements can be used to fit the needs of the user.

Where a nonstandard configuration was used, the field of application is restricted to what was tested, however the field of direct application rules given in the various parts of the EN 1366 series may be applied, subject to deviating rules given in the annexes of each part. Rules cover supporting construction, orientation, penetrating services, service supports, penetration seal size, distances and overall configurations of penetration seal materials and services to be included.

Extended Field of Application- EXAP

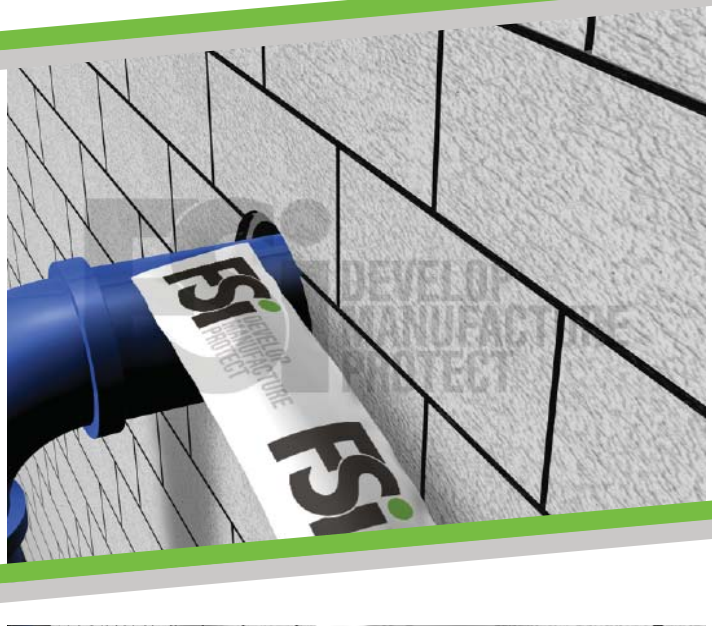
The purpose EXAP document is to provide the principles and guidance for the preparation of extended application documents for penetration sealing systems tested in accordance with the EN 1366 and EN 15882 series. The field of the extended application document is additional to the direct field of application given within the relevant part of EN 1366 and may be applied to or based on a single test, or a number of tests, which provide the relevant information for the formulation of an extended application.

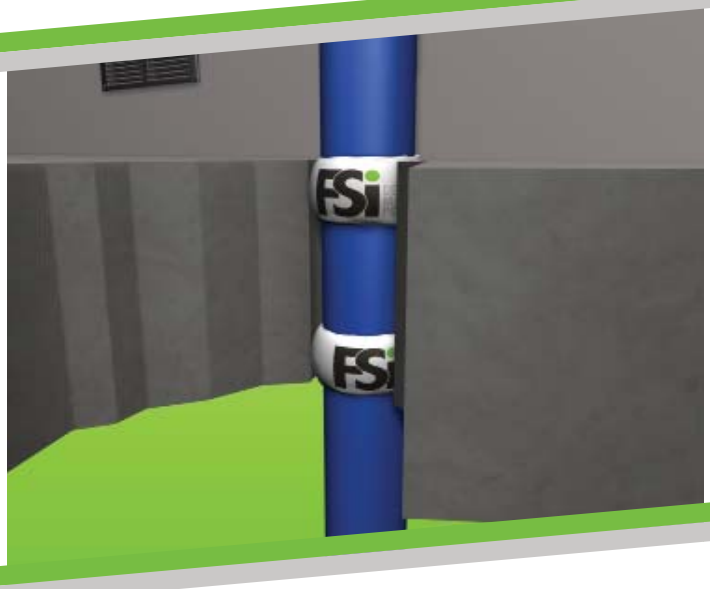
There are a number of practical limitations on the size and design of elements that can be tested by the standard methods of fire resistance test. When these elements are required to be larger, or are of a modified design, there is a necessity to be able to confirm their performance, without the ability of being able to test them. To achieve this, extended application documents for the various elements are used.

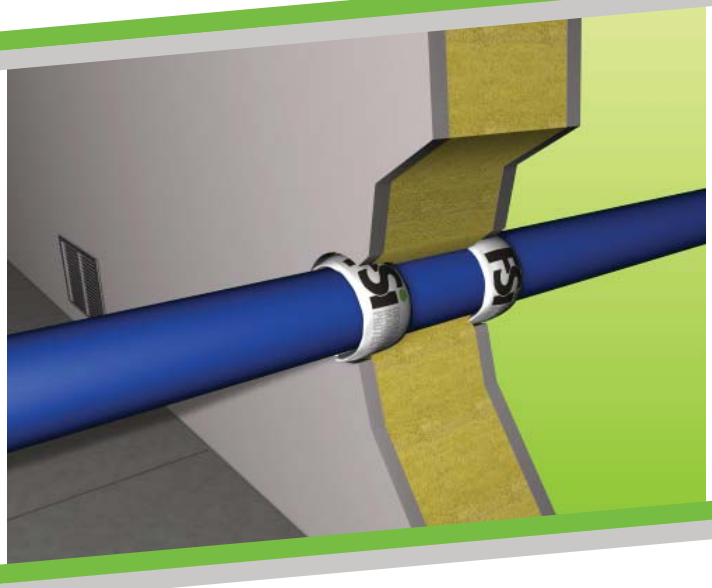
Due to the diverse nature of materials and constructions used to seal openings in fire resistant separating elements it has been necessary to separate the extended application principles into generic seal types within the specific EXAP EN 15882 series. Often more than one variation is to be incorporated, should this be the case the overall effect shall be considered. Principles common to all generic seal types are given in the EXAP and rules for each specific generic seal type are given. The Annex provide rules for the application of test results and provides information relating to the extended application of those test results on for service penetrations.

Variables for each seal type, which require consideration included are as follows:

1) Separating element;
2) Type of service;
3) Size of service;
4) Seal size and configuration
5) Material changes (components or formulation) – comparison test approach, reduced test program
6) Orientation
7) Penetration seals at the head of walls (like a linear joint) – consider the issue of movement
8) Penetration seals at slab edges (like a linear joint) – consider the issue of movement
9) Distances of penetration seals to other openings in the separating element e.g. doors







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