#### **UL-EU CERTIFICATE**

Certificate No. UL-EU-00513-CPR

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Date of Issue 2014-05-27 Revised 2017-12-19

Certificate Holder Neutron Fire Technologies Limited

Shire Hall Quay Street Lostwithiel Cornwall PL22 0BS

Manufacturer A/005

Certified Product Type Fire Stop – Pipe Collars & Wraps

Product Trade Name Firebreak Series Collars, Firebreak FX200 Pipe Wrap/

Firebreak FX200 Sealstrip

Trademark N/A

Rating/Classification See Appendix

Harmonised Technical Specifications ETAG 026-2 / EN 13501-2

Supporting Documentation ETA 14/0060, EC - CERTIFICATE OF CONSTANCY OF

PERFORMANCE - 0843 - CPR - 0173, Classification

Report No. 4786286802, 4786100997

Additional information N/A

**Expiry date** 2024-05-26





**Head of Notified Body**Chris Miles

This is to certify that representative samples of the Certified Product listed above have been investigated by Underwriters Laboratories to the Standard(s) indicated on this Certificate, in accordance with the UL Global Services Agreement and the UL-EU Mark Service Terms and Conditions ("Agreement"). The Certificate Holder is entitled to use the UL-EU Mark for the Certified Product listed on the certificate and manufactured at the production site(s) listed, in accordance with the terms of the Agreement. Only those products bearing the UL-EU Mark for Europe should be considered as being covered by UL's UL-EU Mark Service. This Certificate shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.



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This certificate relates to the use of Firebreak FX Series Collars, Firebreak FX200 Pipe Wrap/Firebreak FX200 Sealstrip for fire stopping where there are service penetrations through floors and walls. The detailed scope is given in pages 3 to 17 of this Certificate. This shows the thickness and acceptable dimensions, substrates and orientations required to provide fire resistance periods of up to 240 minutes for differing services and wall/floor constructions.

The products are certificated on the basis of:

- i) ETA 14/0060
- ii) ETA 14/0199
- iii) EC CERTIFICATE OF CONSTANCY OF PERFORMANCE 0843 CPR 0173
- iv) EC CERTIFICATE OF CONSTANCY OF PERFORMANCE 0843 CPR 0187
- v) Classification report No. 4786286802
- vi) Classification report No. 4786100997
- vii) Inspection and surveillance of factory production control by UL
- viii) Fire resistance test data in accordance with EN 1366-3: 2009
- ix) Classification in accordance with EN 13501-2
- x) Durability and Servicability as defined in ETAG 026-2

The durability class of Firebreak FX Series Pipe Collars, Firebreak FX200 Pipe Wrap/Firebreak FX200 Sealstrip is  $Y_2$  - intended for use at temperatures below 0°C, but with no exposure to rain nor UV. Includes lower use categories.

Firebreak FX Series Pipe Collars comprise Firebreak FX300, Firebreak FX400 and Firebreak FX500 pipe collars.

The Firebreak FX Series Pipe Collars may be supplied with shells of stainless steel or mild steel with either a galvanized or powder coated finish. The body of the collars can be either half shells with slide together fixings; half shells with hinge and toggle latch fixings or a continuous wrap around body with slide through and fold back fixing tabs..



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Product-type: Pipe closures	Intended use: Pend	etration Seal
Basic requirement for construction work	Basic Requirement	Performance
	BWR 1 Mechanical resistance and stabili	ty
人り上人り上人り	None	Not relevant
$\times \times \times$	BWR 2 Safety in case of fire	$\langle \times \times \rangle$
EN 13501-1	Reaction to fire	FX300/FX500 Class E Performance not assessed for other devices
EN 13501-2	Resistance to fire	See pages 3 - 17
	BWR 3 Hygiene, health and environmen	t
EN 1026:2000	Air permeability (material property)	No performance determined
ETAG 026-3, Annex C	Water permeability (material property)	No performance determined
Declaration of manufacturer	Release of dangerous substances	Use categories: IA1, S/W3 Declaration of manufacturer
	BWR 4 Safety in use	タビタビタビ
EOTA TR 001:2003	Mechanical resistance and stability	No performance determined
EOTA TR 001:2003	Resistance to impact/movement	No performance determined
EOTA TR 001:2003	Adhesion	No performance determined
YU: YU: YU	BWR 5 Protection against noise	- Y U - Y U - Y U
EN 10140-2/ EN ISO 717-1	Airborne sound insulation	No performance determined
Vii. Vii. Vii	BWR 6 Energy economy and heat retention	on
EN 12664, EN 12667 or EN 12939	Thermal properties	No performance determined
EN ISO 12572 EN 12086	Water vapour permeability	No performance determined
	General aspects relating to fitness for us	e
EOTA TR 024:2009	Durability and serviceability	Y2
В	SWR 7 Sustainable use of natural resource	ces
VIII VIII VIII	VII. VII. VII. VII	No performance determined



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Substrate	Minimum Wall	FX300 Pipe Collars: Service Pen Penetrating Services	Seal Position	Collar Inlay	Service insulation	Fire Re	esistano ins.)
substrate	Thickness (mm)	renetrating Services	Seal Position	Conar Imay	Service insulation	E	EI
~/:	1		ecording to EN 1329	9-1, EN 1452-2 and	I EN 1453-1		
	- W-11	Diameter 40 mm, wall thickness 2.4-3.2 mm	i Willi		Hr W Hr W	120	120
	L/\_	Diameter 55 mm, wall thickness 2.4-3.2 mm	レハーレ		~ レハ ~ レハ	120	1.2
		Diameter 65 mm, wall thickness 2.4-3.2 mm					
	\ /··	Diameter 75 mm, wall thickness 2.4-3.2 mm		30 x 6 mm		120	60
	E 36 LI	Diameter 82 mm, wall thickness 2.4-3.2 mm	1 3/ U.	20 11 0 111111	Ur YOUr YO	110 11	
	1-/\_	Diameter 65 mm, wall thickness 2.4-3.2 mm*	L/\ ~ L		" レノ\ " レノ\	/	
		Diameter 75 mm, wall thickness 2.4-3.2 mm*				120	12
	1	Diameter 82 mm, wall thickness 2.4-3.2 mm*			- \ / - \ /		
	1 3/ 13	Diameter 90 mm, wall thickness 2.7-6.6 mm	r W Ur		Hr W Hr W	120	9
	レノ	Diameter 110 mm, wall thickness 2.7-6.6 mm	レノヘーレ	30 x 10 mm	ニレノヘニレノヘ	120	
		Diameter 90 mm, wall thickness 6.2 mm	Both Sides	30 X 10 IIIII	None		
	\ /s.	Diameter 110 mm, wall thickness 6.2-9.5 mm		/:- /			
	n W-11	Diameter 125 mm, wall thickness 9.5 mm	ir Willy	$W \cup V \cup W$	H: V H: V	120	12
	LA	Diameter 140 mm, wall thickness 9.5 mm	レノノーレ		L L V L L V	- 4/	
		Diameter 160 mm, wall thickness 9.5 mm					700
	N/~	Diameter 125 mm, wall thickness 4-9.5 mm	1/1				1
	1 1/ 13	Diameter 140 mm, wall thickness 4-9.5 mm	r W Ur	45 x 16 mm		120	9
	F/\_	Diameter 160 mm, wall thickness 4-9.5 mm	レノヘード		「ヒハートハ	/-	
Gypsum		Diameter 125 mm, wall thickness 2.5-9.5 mm*					
board /	100 (or *	Diameter 140 mm, wall thickness 2.5-9.5 mm*	1/:-		- \ / - \ /	120	1
Iasonry /	130 mm)	Diameter 160 mm, wall thickness 2.5-9.5 mm *	11 W U1		U 1/ U 1/ 1/	Ur W	
Concrete	L/\_	PE pipe according to EN 1519-1, EN 12201-2 and	I EN 1266-1, ABS p	oipe according to El	N 1455-1 and SAN+PVC	pipe accord	ing to
			1565	-1		_	
	1/-	Diameter 40 mm, wall thickness 3.0-4.6 mm			. \/\/	120	1:
	a 3/ II	Diameter 50 mm, wall thickness 3.0-4.6 mm	In 37 III	$M \sqcup U \cap W \sqcup W$	Un W Un W		
	レノ	Diameter 75 mm, wall thickness 4.5-6.8 mm*  Diameter 75 mm, wall thickness 4.5 mm	L-/\P	30 x 6 mm	ニレノヘニレノヘ	120	9
		Diameter 75 mm, wall thickness 4.5-6.8 mm				00	g
	1/6	Diameter 90 mm, wall thickness 2.7 mm*		$\sim$	- \ / \ /	90	
	T 16 LJ	Diameter 90 mm, wall thickness 2.7-6.6 mm	Ir M Ur		Ur Y Ur Y	120	13
	-/\_		F/\F		ニレノヘニレノヘ	120	9
		Diameter 90 mm, wall thickness 10 mm*		30 x 10 mm		90	9
	1/11	Diameter 110 mm, wall thickness 2.7 mm*	Both Sides		None	120	1:
	11 11 13	Diameter 110 mm, wall thickness 2.7-6.6 mm	Fr W-Ur		Ur-W Ur W	120	9
	-/\-	Diameter 110 mm, wall thickness 10 mm*	P//P	$\Lambda^- L \Lambda$	ニトハニトハ	90	9
		Diameter 125 mm, wall thickness 4.8 mm				60	
	1/10	Diameter 125 mm, wall thickness 4.9-14.6 mm	1/11		1 \/n \/	60	6
	1 3Y U	Diameter 125 mm, wall thickness 9.5 mm*	ILX Ut	M.JUL M	U n M U n M	120	12
	-//	Diameter 140 mm, wall thickness 14.6 mm	F/\ L	45 x 16 mm	トノハートノハ	60	6
		Diameter 140 mm, wall thickness 9.5 mm*				120	12
		Diameter 160 mm, wall thickness 14.6 mm				60	6

All pipe classifications are pipe end configuration U/U, C/U, U/C, C/C (U=Uncapped, C=Capped)

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Substrate	Minimum Wall	Penetrating Services	Seal Position	Collar Inlay	Service insulation	Fire Re	sistance ns.)		
	Thickness (mm)	Tonous using Ser 1866	5 <b>041 1</b> 0514011			E	EI		
		I	PP pipe according t	o EN ISO 15494					
		Diameter 40 mm, wall thickness 2 mm				120	120		
	- W II	Diameter 40 mm, wall thickness 2.1-4.3 mm	- W11-		II: VIII: V	120	60		
	エハー	Diameter 50 mm, wall thickness 2 mm	レルベレ		PLAPLA	120	120		
	<i></i>	Diameter 50 mm, wall thickness 2.1-4.3 mm		30 x 6 mm		120	60		
		Diameter 75 mm, wall thickness 2 mm		50 X 6 IIIII		120	120		
C	I- 37/II	Diameter 75 mm, wall thickness 2.1-4.3 mm	- 37/III-		III- WIII- W	120	60		
Gypsum board /	100 (or *	Diameter 80 mm, wall thickness 2 mm	レハビレ		ピレハピレハ	120	120		
Masonry /	130 mm)	Diameter 80 mm, wall thickness 2.1-4.3 mm	Both Sides		None	120	60		
Concrete		Diameter 90 mm, wall thickness 2.7 mm		20 10		100	120		
	I- \/ II	Diameter 110 mm, wall thickness 2.7 mm	- WH.	30 x 10 mm	(UL)(UL)( <u>U</u>	120	120		
	ヒハー	Diameter 140 mm, wall thickness 3.5 mm	レハビレ	ハーレハ		120	45		
		Diameter 140 mm, wall thickness 4.0 mm*	$\supset$ $\supset$						
	~ /	Diameter 160 mm, wall thickness 4.0 mm*		45 x 16 mm		120	120		
	I. WH	Diameter 140 mm, wall thickness 4.0-14.6 mm*	- WII.	10 11 10 11111	II. VIII. V		1111		
	LA	Diameter 160 mm, wall thickness 4.0-14.6 mm*	LVAL		ピレハピレハ	120	45		
		PVC-U pipe according to EN 1	329-1, EN 1452-2	and EN 1453-1					
· \/-	- N/11	Diameter 90 mm, wall thickness 1.8-4.2 mm	1/11	30 x 10 mm	1 M/11 M/				
	11_1( U	Diameter 110 mm, wall thickness 1.8-4.2 mm	1 N U1	30 X 10 IIIII	None	U I - N			
	-/\-	Diameter 125mm, wall thickness 2.5 mm	Both Sides			240	240		
		Diameter 140mm, wall thickness 2.5 mm		45 x 16 mm					
	1/60	Diameter 160 mm, wall thickness 2.5 mm	1000	16.00	. \ / \ /	. 1			
	1 )( U	PE pipe according to EN 1519-1, EN 12201-2 and EN 1266-1, ABS pipe according to EN 1455-1 and SAN+PVC pipe according to EN 1565-1							
Masonry /	150	Diameter 125mm, wall thickness 6.2 mm							
Concrete	150 mm	Diameter 140mm, wall thickness 6.2 mm	Both Sides	45 x 16 mm	None	240	240		
	. V/II	Diameter 160 mm, wall thickness 6.2 mm	- 3//11		n. Wii. W				
	LA		BevEx Drinl	ks Python					
		Diameter 80 mm	Both Sides	30 x 6 mm	None	240	240		
		Steel pipe, with Conti	nuous Sustained (C	CS) K-Flex ST or A	rmaflex insulation				
	L V II	Diameter 47.6 mm, wall thickness 1.5-14.2 mm	r W IIIv	30 x 6 mm	13 mm insulation	240^	180^		
	LXU	Diameter 114.3 mm, wall thickness 2-14.2 mm		45 x 16 mm	19 mm insulation	240^	120^		

All pipe classifications are pipe end configuration U/U, C/U, U/C, C/C (U=Uncapped, C=Capped) (except steel pipes) ^ pipe classifications are pipe end configuration C/C (U=Uncapped, C=Capped)



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	Minimum Wall	FX400 Pipe Collars: Service Pend				Fire Re	sistan
Substrate	Thickness (mm)	Penetrating Services	Seal Position	Collar Inlay	Service insulation	Е	E
	1		cording to EN 132	9-1, EN 1452-2 and	d EN 1453-1		
	- W-11	Diameter 32 mm, wall thickness 3-3.2 mm	1 W H 1	Willia W	lir Willir W	Hr Y	
	L/\_	Diameter 38 mm, wall thickness 3-3.2 mm	レハート	ハーレハ	~ トンノ、 ~ トンノ	/	
		Diameter 40 mm, wall thickness 3-3.2 mm			=		
	1/-	Diameter 42.2 mm, wall thickness 3.2 mm	1/11	50 x 4 mm	. \/\/		
	1 30 U	Diameter 46 mm, wall thickness 3.2 mm	1 3/ U1	$M \cup M \cap M$	Ur YOUr YO	U r 3/	
	-/\	Diameter 48.3 mm, wall thickness 3.2 mm	L/\h,	/\_=/\	ニレハニレハ	/	
		Diameter 50 mm, wall thickness 3.2 mm					
	1/11	Diameter 55 mm, wall thickness 3.2 mm	1/11	. / /	n \/m \/		
	1 30 U	Diameter 60.3 mm, wall thickness 3.2 mm	i X Ui	M UI M	UE M UE M	Ut 1	
	-/\	Diameter 63 mm, wall thickness 3.2 mm	F/\. b	$/ - \nu / $		/	120
		Diameter 65 mm, wall thickness 3.2 mm	Both Sides	50 x 6 mm	None	120	
	1 1/11	Diameter 70 mm, wall thickness 3.2 mm	1/11	V/11 \/	11 \/ (11 \/		
	1 36 U	Diameter 75 mm, wall thickness 3.2 mm	I W UI	M Ur M	UI X UI X	UI X	
	-/\	Diameter 82 mm, wall thickness 3.2 mm	-/\ -	// 4//		/	
		Diameter 90 mm, wall thickness 6.6 mm		50 x 8 mm			
	Diameter 110 mm, wall thickness 6.6 mm		1/11	20110111111	n. Vm. V	T	
		Diameter 114.3 mm, wall thickness 3.2-9.5 mm	LXUL	K UL K		$U \cap U$	
	-/\	Diameter 125 mm, wall thickness 3.2-9.5 mm		60 x 18 mm	-/\ -/\	1-/	
		Diameter 140 mm, wall thickness 3.2-9.5 mm		00 X 10 IIIII			
Gypsum	- \/ii	Diameter 160 mm, wall thickness 3.2-9.5 mm		V/11/3/	II: \/III:\/	H- \	
board /	100	Diameter 200 mm, wall thickness 3.9 mm		125 x 20 mm			
Iasonry /	100	PVC-U pipe according to EN 1329-1, EN 1452-2					
Concrete		Diameter 55 mm, wall thickness 2 mm	Both Sides	50 x 8 mm	19mm insulation (CS)	120	12
	L 3/11	PE pipe according to EN 1519-1, EN 12201-2 and	1565 1565		IN 1455-1 and SAN+PVC	pipe accord	ing to
	LAL	Diameter 32 mm, wall thickness 3.7-4.6 mm		ハーレハ	・レハ・レハ	~ L //	
		Diameter 38 mm, wall thickness 3.7-4.6 mm					1
		Diameter 40 mm, wall thickness 3.7-4.6 mm					1
	- W II	Diameter 42.2 mm, wall thickness 4.6 mm	- Wills	50 x 4 mm	11- V/11- V/	120	12
	レハー	Diameter 46 mm, wall thickness 4.6 mm	レハベレ	ハーレハ	ピレハピレハ	~ 1. /	
		Diameter 48.3 mm, wall thickness 4.6 mm					١.
		Diameter 50 mm, wall thickness 4.6 mm					
1/6	3/11	Diameter 60.3 mm, wall thickness 3.2 mm	- Wille	$M \coprod_{i \in M} M$	II. VIII. V	11.	
		Diameter 63 mm, wall thickness 3.2-6.8 mm	1/1. ~/ 1	ハベレハ	$^{\prime}$ L $^{\prime}$ L $^{\prime}$ L $^{\prime}$ L $^{\prime}$ L $^{\prime}$	~ 1.7	
	レハロ	Diameter 03 mm, wan unckness 3.2-0.8 mm	Both Sides		50 x 6 mm None		6
	<u>ا</u>	Diameter 65 mm, wall thickness 3.2-6.8 mm	Both Sides	50 x 6 mm	None	60	
	K,	Diameter 65 mm, wall thickness 3.2-6.8 mm  Diameter 70 mm, wall thickness 3.2-6.8 mm	Both Sides	50 x 6 mm	None	60	
	5	Diameter 65 mm, wall thickness 3.2-6.8 mm  Diameter 70 mm, wall thickness 3.2-6.8 mm  Diameter 75 mm, wall thickness 6.8 mm	Both Sides	50 x 6 mm	None		
		Diameter 65 mm, wall thickness 3.2-6.8 mm  Diameter 70 mm, wall thickness 3.2-6.8 mm  Diameter 75 mm, wall thickness 6.8 mm  Diameter 90 mm, wall thickness 5.1-6.6 mm	Both Sides	50 x 6 mm	None	120	
		Diameter 65 mm, wall thickness 3.2-6.8 mm Diameter 70 mm, wall thickness 3.2-6.8 mm Diameter 75 mm, wall thickness 6.8 mm Diameter 90 mm, wall thickness 5.1-6.6 mm Diameter 110 mm, wall thickness 10 mm	Both Sides	50 x 6 mm	None		12
		Diameter 65 mm, wall thickness 3.2-6.8 mm Diameter 70 mm, wall thickness 3.2-6.8 mm Diameter 75 mm, wall thickness 6.8 mm Diameter 90 mm, wall thickness 5.1-6.6 mm Diameter 110 mm, wall thickness 10 mm Diameter 110 mm, wall thickness 6.2-6.6	Both Sides	XIIX	None	120	12
		Diameter 65 mm, wall thickness 3.2-6.8 mm Diameter 70 mm, wall thickness 3.2-6.8 mm Diameter 75 mm, wall thickness 6.8 mm Diameter 90 mm, wall thickness 5.1-6.6 mm Diameter 110 mm, wall thickness 10 mm Diameter 110 mm, wall thickness 6.2-6.6 Diameter 114.3 mm, wall thickness 7 mm	Both Sides	XIIX	None	120 60	12
		Diameter 65 mm, wall thickness 3.2-6.8 mm Diameter 70 mm, wall thickness 3.2-6.8 mm Diameter 75 mm, wall thickness 6.8 mm Diameter 90 mm, wall thickness 5.1-6.6 mm Diameter 110 mm, wall thickness 10 mm Diameter 110 mm, wall thickness 6.2-6.6	Both Sides	XIIX	None	120 60	12 6 12

Diameter 160 mm, wall thickness 7 mm

All pipe classifications are pipe end configuration U/U, C/U, U/C, C/C (U=Uncapped, C=Capped)



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Substrate	Minimum Wall	Penetrating Services	Seal Position	Collar Inlay	Service insulation	Fire Re (mi	sistano ns.)
oubstrute	Thickness (mm)	Ü		•	2021000	E	El
/ /		PB pipe ac	cording to DIN169	68/16969, EN ISO	15876-2		
		Diameter 32 mm, wall thickness 3.7 mm					
	- WH	Diameter 38 mm, wall thickness 3.7 mm	- W11-	50 x 4 mm	IF VIIIF V	120	120
	エハビ	Diameter 40 mm, wall thickness 3.7 mm	レルベレ	30 X 4 IIIII	$^{\prime}$ L $^{\prime}$ L $^{\prime}$ L $^{\prime}$ L $^{\prime}$ L $^{\prime}$ L		
	$\rightarrow$	Diameter 50 mm, wall thickness 6.8 mm	$\supset$				
		Diameter 60.3 mm, wall thickness 3.2 mm					
	L 3//11	Diameter 63 mm, wall thickness 3.2 mm	Both Sides		None		
		Diameter 65 mm, wall thickness 3.2 mm		50 x 6 mm		120	60
	-/	Diameter 70 mm, wall thickness 3.2 mm	シヘン				
		Diameter 75 mm, wall thickness 6.8 mm					
	- N/11	Diameter 90 mm, wall thickness 8.2 mm	3/11	VIII.W	n. \/m. \/	45	45
	11 30 U	,	1 N U1	50 x 8 mm		30	30
	-/\	Diameter 110 mm, wall thickness 10 mm	1' , DDI 00	27/0070 EN ICO	15404	30	3(
$\leq 2 \leq$		1 1	according to DIN 80	)///80/8, EN ISO	15494		
	1/50	Diameter 32 mm, wall thickness 3.7 mm	1/6/		- \/G-\/	120	9(
	II WIU	Diameter 38 mm, wall thickness 3.7 mm  Diameter 40 mm, wall thickness 3.7 mm	50 x 4 mm	Jr-W Ur W	120	90	
Gypsum	LA	Diameter 50 mm, wall thickness 6.8 mm	レハーレ		L L V L L V	30	3
		Diameter 60.3 mm, wall thickness 2.6 mm**				30	3
board /	100	Diameter 63 mm, wall thickness 2.6 mm**	Both Sides		None		
Masonry / Concrete		Diameter 65 mm, wall thickness 2.6 mm**	Both Blacs	50 x 6 mm	TVOIC	120	12
Concrete	ヒハン	Diameter 70 mm, wall thickness 2.6 mm**	レハソレ	30 A 0 Hilli	<b>レドル アドル</b>	120	
	$\rightarrow$	Diameter 75 mm, wall thickness 2.6 mm**					١.
	_ /	Diameter 90 mm, wall thickness 3.8 mm**					
	I. 3/11	Diameter 110 mm, wall thickness 3.8 mm**	. WII.	50 x 8 mm	II: V/II. V/	120	6
	4 1/4 U		pipe according to I	SO 21003 / DIN16	836		
	-/\	Diameter 16 mm, wall thickness 3 mm			2121	120	12
		Diameter 32 mm, wall thickness 3 mm				120	9
	1/11	Diameter 40 mm, wall thickness 4 mm	Both Sides	50 x 4 mm	None	90	4
	11 1/ U	Diameter 50 mm, wall thickness 4.5 mm	11 1/ U1		JI W UI W	120	2
	L/\_	Copper with 19 mm thick Arma	flex insulation or K	-Flex-ST insulatio	n Continuous Sustained (C	S)	
	< $>$	Diameter 54 mm, wall thickness 0.8-14.2 mm	Both sides	50 x 8 mm	19 mm insulation	120	12
	L-\/11	Telecoms cables up	to 21 mm diameter	in bundles up to 10	00 mm diameter^		
	11 10 0	Up to 21 mm diameter in bundles up to 100 mm					
	-/\	diameter^	-/\ -		None	120	9
	52	Up to 21 mm diameter in bundles up to 100 mm diameter^	Both sides	50 x 8 mm	300 mm long, single layer of	120	12
	h W U	I W U I W U I W U I W U		$M \cup M \cap M$	Insulwrap material <sup>\$</sup>		
		PVC	conduits				
Gypsum		5 off 20 mm diameter PVC conduits, each filled					
board /	130	with 1 off 16 mm diameter H624Y	Exposed/fire	50 x 4 mm		120	12

All pipe classifications are pipe end configuration U/U, C/U, U/C, C/C (U=Uncapped, C=Capped)



<sup>^</sup> Collar size must be an intimate fit to the cable bundle size

<sup>\$</sup> Only required on non-fire risk side or both sides is fires risk side is unknown

<sup>\*\*</sup> Uponor Decibel Pipe

<sup>\*\*\*</sup>This system shall only be used where the Authority Having Jurisdiction (AHJ) identifies that the fire risk is from the side of the wall that is fitted with the collar, or alternatively collars may be fitted to both sides

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Substrate	Minimum Wall	Penetrating Services	Seal Position	Collar Inlay	Service insulation	Fire Resistar (mins.)			
	Thickness (mm)	2 Choose wang Soc Vices				E	EI		
N. 1		PVC-U pipe ac	ccording to EN 132	9-1, EN 1452-2 and	1 EN 1453-1				
	I. WII	Diameter 200 mm, wall thickness 4.2 mm	Both Sides	125 x 20 mm	None	60	60		
		P	B pipe according to	EN ISO15876-2					
	$\rightarrow$	Diameter 60.3 mm, wall thickness 6.8 mm							
M		Diameter 63 mm, wall thickness 6.8 mm							
	1.77/11	Diameter 65 mm, wall thickness 6.8 mm	Both Sides	50 x 6 mm	None	45	4:		
	11 16 U	Diameter 70 mm, wall thickness 6.8 mm	11 K U1		UI JUUI X	UI N			
	5	Diameter 75 mm, wall thickness 6.8 mm	for A Section		hr/A hr/A	The #1			
		MLCP pipe according to ISO 21003 / DIN16836							
		Diameter 16 mm, wall thickness 3 mm	Both Sides	50 x 4 mm	None	120	12		
Gypsum		Diameter 32 mm, wall thickness 3 mm				120	90		
board /	100	Diameter 40 mm, wall thickness 4 mm				90	4:		
Masonry /	100	Diameter 50 mm, wall thickness 4.5 mm				120	20		
Concrete		PE pipe according to EN 1519-1, EN 12201-2 and	l EN 1266-1, ABS j 1565		N 1455-1 and SAN+PVC	pipe accordi	ng to		
		Diameter 60.3 mm, wall thickness 6.8 mm		д ЧГ д					
	-/ \_	Diameter 63 mm, wall thickness 6.8 mm	シヘン						
	$\sim$ $>$	Diameter 65 mm, wall thickness 6.8 mm		50 x 6 mm	$\sim$	30	30		
	F VIII	Diameter 70 mm, wall thickness 6.8 mm	<b>.</b>		II. WIII. W	H: W			
	F//	Diameter 75 mm, wall thickness 6.8 mm	Both sides	VALV	None	~ L/\			
		Diameter 90 mm, wall thickness 10.0 mm		50 x 8 mm		45	4:		
	. \/iii	Diameter 100 mm, wall thickness 10.0 mm	- \/II-	30 X 8 HIIII	II. VIII. V	43	4.		
		Diameter 160 mm, wall thickness 7.0 mm		60 x 18 mm		120	6		

Diameter 160 mm, wall thickness 7.0 mm

60 x 18 mm

All pipe classifications are pipe end configuration U/U, C/U, U/C, C/C (U=Uncapped, C=Capped)



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Firebro	eak FX400	Pipe Collars: Service Penetration	on Seals in 1	00 mm Firel	break Batt Seals	in Dryv	valls		
		-	sonry Walls						
Substrate	Minimum Wall	Penetrating Services	Seal Position	Collar Inlay	Service insulation	Fire Resistance (mins.)			
2	Thickness (mm)	<b>8</b>				E	EI		
~ /		PVC-U pipe a	ccording to EN 132	9-1, EN 1452-2 and	i EN 1453-1				
	L 3//11.	Diameter 60.3 mm, wall thickness 3.2 mm	1. \/11.		HEAVITE W	11. Au			
		Diameter 63 mm, wall thickness 3.2 mm			None				
		Diameter 65 mm, wall thickness 3.2 mm	Both Sides	50 x 6 mm		120	60		
		Diameter 70 mm, wall thickness 3.2 mm	Both Sides	30 x 6 mm	None	120	60		
	1/	Diameter 75 mm, wall thickness 3.2 mm	. \/		\\/\\/				
	ls 3/111	Diameter 82 mm, wall thickness 3.2 mm	10 3/1110	$M \coprod_{i \in M} M_i$	In William W.				
-1-//	レハー	PB pipe according to EN ISO15876-2							
Gypsum		Diameter 32 mm, wall thickness 3.7 mm		50 x 4 mm					
board /	100	Diameter 38 mm, wall thickness 3.7 mm	Both Sides		None	120	120		
Masonry / Concrete	1- WH	Diameter 40 mm, wall thickness 3.7 mm							
Concrete	LAV	MLCI	P pipe according to	ISO 21003 / DIN16	5836				
		Diameter 16 mm, wall thickness 3 mm				120	120		
		Diameter 32 mm, wall thickness 3 mm	D 41 C' 1	50. 4	N	120	90		
	1.7/11	Diameter 40 mm, wall thickness 4 mm	Both Sides	50 x 4 mm	None	90	45		
		Diameter 50 mm, wall thickness 4.5 mm	II KUUL		ULXULX	120	20		
		PE pipe according to EN 1519-1, EN 12201-2 and	1 EN 1266-1, ABS <sub>1</sub> 1565		N 1455-1 and SAN+PVC	pipe accord	ing to EN		
	1/11	Diameter 160 mm, wall thickness 6.2 mm	Both sides	60 x 18 mm	None	120	15		

All pipe classifications are pipe end configuration U/U, C/U, U/C, C/C (U=Uncapped, C=Capped)



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F	irebreak	FX500 Pipe Collars: Service Pend	etration Sea	ls in Drywal	ls and Masonry	Walls	
Substrate	Minimum Wall Thickness (mm)	Penetrating Services	Seal Position	Collar Inlay	Service insulation	Fire Resistance (mins.)	
Substrate		T chetrating services				E	EI
Gypsum		PVC-U pipe ac	cording to EN 132	9-1, EN 1452-2 and	I EN 1453-1		
board /	1)(1	Diameter 200 mm, wall thickness 10.6 mm	Both Sides				
Masonry /		Diameter 225 mm, wall thickness 10.6 mm		60 x 26 mm	II: VIII: V	90	90
Concrete		Diameter 250 mm, wall thickness 10.6 mm		ハベレル	None	$V \perp J$	
		Diameter 200 mm, wall thickness 10.6 mm		130 x 24 mm			
	100	Diameter 225 mm, wall thickness 10.6 mm				240	240
Masonry /	- V/II	Diameter 250 mm, wall thickness 10.6 mm	- WH.			11. 3/	
Concrete	レハー	Diameter 315 mm, wall thickness 12.1 mm	レハベレ	130 x 32 mm	ピレハプレハ	120	120
	$\sim$	Steel pipe, with Contin	nuous Sustained (C	CS) K-Flex ST or A	armaflex insulation		
		Diameter 219.1 mm, wall thickness 6.4-14.2 mm	Both Sides	130 x 32 mm	25 mm insulation	240^	240^

All pipe classifications are pipe end configuration U/U, C/U, U/C, C/C (U=Uncapped, C=Capped) (except steel pipes)



<sup>^</sup> pipe classifications are pipe end configuration C/C (U=Uncapped, C=Capped)

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	Minimum Floor	ebreak FX300 Pipe Collars: Servi			C	Fire Re	sistanc	
ubstrate	Thickness (mm)	Penetrating Services	Seal Position	Collar Inlay	Service insulation	E	EI	
	$\sim$		ccording to EN 132	9-1, EN 1452-2 and	EN 1453-1			
		Diameter 40 mm, wall thickness 3 mm				240	240	
	I. \/ II	Diameter 40 mm, wall thickness 3.1-3.2 mm	1. V/11.		II: VIII: V	120	120	
		Diameter 55 mm, wall thickness 3 mm			VLJ,VLJ	240	240	
	>	Diameter 55 mm, wall thickness 3.1-3.2 mm	2/			120	120	
		Diameter 65 mm, wall thickness 3 mm		30 x 6 mm		240	240	
	. \/ 11	Diameter 65 mm, wall thickness 3.1-3.2 mm	L 37/11.	30 X 0 IIIII	II. 37 II. 37	120	120	
		Diameter 75 mm, wall thickness 3 mm			レレル・レル・ルール・	240	240	
	$\supset$	Diameter 75 mm, wall thickness 3.1-3.2 mm	2/\			120	120	
		Diameter 82 mm, wall thickness 3 mm	G CC.		N	240	240	
	L-\/11	Diameter 82 mm, wall thickness 3.1-3.2 mm	Soffit		None	120	120	
		Diameter 90 mm, wall thickness 1.8 mm		A ULA	レレルレレル	180	180	
	-/ \_	Diameter 90 mm, wall thickness 1.9-10 mm	2/ \ \ 2	20 10		120	120	
		Diameter 110 mm, wall thickness 1.8 mm		30 x 10 mm		180	18	
	. \/11	Diameter 110 mm, wall thickness 1.9-10 mm	- 3/11.		II: \/ III. \/	120	12	
		Diameter 125 mm, wall thickness 2.5 mm		スピース		180	18	
	-/ \_	Diameter 125 mm, wall thickness 2.6-9.5 mm	2/\2			90	90	
		Diameter 160 mm, wall thickness 2.5 mm		45 x 16 mm		180	18	
	I= \/ III	Diameter 160 mm, wall thickness 2.6-9.5 mm	- Will-		II. VIII. V	90	90	
	LAV	PE pipe according to EN 1519-1, EN 1220	1-2 and EN 1266-1.	ABS pipe to EN 14	155-1 and SAN+PVC pipe	e to EN 1565	5-1	
	$\rightarrow$	Diameter 40 mm, wall thickness 3.7 mm		T I	T	180	180	
		Diameter 40 mm, wall thickness 3.8-11.6 mm	$\sim$			120	12	
Concrete	150 mm	Diameter 50 mm, wall thickness 3.7 mm	I. VIII.	30 x 6 mm	II. VIII. V	180	180	
	$L \wedge V$	Diameter 50 mm, wall thickness 3.8-11.6 mm	1 / 4		VLA, VLA	120	120	
	>	Diameter 90 mm, wall thickness 4.2mm				100	1.0	
		Diameter 110 mm, wall thickness 4.2 mm	Soffit	20 10	None	180	18	
	- \/	Diameter 90 mm, wall thickness 4.3-10 mm	I. 37 III.	30 x 10 mm	II. WII. W	lle.		
	LAU	Diameter 110 mm, wall thickness 4.3-10 mm	イレハ・レレ		レレハレレハ	60	60	
	$\supset$	Diameter 125 mm, wall thickness 6.2 mm						
		Diameter 160 mm, wall thickness 6.2 mm	$\overline{}$	45 x 16 mm		120	120	
	- WH		BevEx Drin	ks Python				
	LAU	Diameter 80 mm	Soffit	30 x 6 mm	None	240	240	
	2/ \_	Steel pipe, wit	h Continuous Susta	ined (CS) K-Flex S'	T insulation			
		Diameter 114.3 mm, wall thickness 2-14.2 mm	Soffit	4 x 16 mm	19 mm insulation	240^	240	
	- WH	Diameter 47.6 mm, wall thickness 1.5-14.2mm	Bollit	30 x 6 mm	13 mm insulation	90^	90	
	$L A \sim$		PB pipe according to	EN ISO15876-2				
	$\supset$ $\setminus$	Diameter 40 mm, wall thickness 3.7-4.6 mm	C CC	20. 6	NY	240	240	
		Diameter 50 mm, wall thickness 4.6 mm	Soffit	30 x 6 mm	None	90	90	
	- VII	Diameter 75 mm, wall thickness 6.8 mm  PP pipe according to DIN 8077/8078, EN ISO 15494						
		Diameter 40 mm, wall thickness 1.8-3.7 mm	according to Diff of	01110010, EN 150 1				
	-/ \	Diameter 50 mm, wall thickness 1.8 mm	<i></i>	20		240	240	
		Diameter 50 mm, wall thickness 1.8-2.8 mm		30 x 6 mm		120	120	
		Diameter 30 mm, wan thickness 1.0 2.0 mm	Soffit	Vii V	None			
	: \/ii	Diameter 75 mm, wall thickness 1.9 mm	Soffit	VIII. VI	None	180	180	

All pipe classifications are pipe end configuration U/U, C/U, U/C, C/C (U=Uncapped, C=Capped) (except steel pipes) ^ pipe classifications are pipe end configuration C/C (U=Uncapped, C=Capped)



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Firebrea	Firebreak FX300 Pipe Collars: Service Penetration Seals in 50 mm Firebreak Compound, underplayed with Stone wool board 140/kg/m³ in Concrete Floors										
Substrate	Minimum Floor Thickness (mm)	Penetrating Services	Seal Position	Collar Inlay	Service insulation		sistance ns.) EI				
		PVC-U pipe acc	PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1								
Concrete	150 mm	Diameter 90 mm, wall thickness 2.0 mm Diameter 110 mm, wall thickness 2.0 mm	Soffit	30 x 10 mm	None	120	120				

All pipe classifications are pipe end configuration U/U, C/U, U/C, C/C (U=Uncapped, C=Capped)



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Substrate	Minimum Floor	Penetrating Services	Seal Position	Collar Inlay	Service insulation	Fire Re (mi	sistanc ns.)				
Substrate	Thickness (mm)	Teletrating Services	Scal I osition	Conar Imay	Service institution	E	EI				
7		PVC-U pipe a	ccording to EN 1329	9-1, EN 1452-2 and	I EN 1453-1						
		Diameter 32 mm, wall thickness 3 mm									
	I. \/II	Diameter 38 mm, wall thickness 3 mm	i. \//ii.		HEA/HEA/	240	240				
		Diameter 40 mm, wall thickness 3 mm		50 4							
		Diameter 42.2 mm, wall thickness 2 mm		50 x 4 mm	-/\ -/\						
		Diameter 46 mm, wall thickness 2 mm									
	100	Diameter 55 mm, wall thickness 2 mm	Soffit		None	180	180				
	H K U	Diameter 82 mm, wall thickness 3.2 mm	JI X UI	50 x 6 mm	UI MULK	UI X					
	-/\	Diameter 110 mm, wall thickness 6.6 mm		50 x 8 mm	-/\ -/\	-/					
		Diameter 160 mm, wall thickness 3.2-9.5 mm				180	60				
	2/11/2/11	Diameter 160 mm, wall thickness 9.5 mm	1 1/11	60 x 18 mm	$a = \lambda / a = \lambda /$						
	11 J( U	Diameter 200 mm, wall thickness 9.5 mm	31 X U1	125 x 20 mm		180	18				
リビリビ	PE pipe according to EN 1519-1, EN 1220	1-2 and EN 1266-1.		455-1 and SAN+PVC pipe	to EN 156	5-1					
		Diameter 32 mm, wall thickness 3.7 mm	J1-2 and EN 1200-1,	50 x 4 mm	P-F-	180					
Concrete	150 mm	Diameter 38 mm, wall thickness 3.7 mm	1.3/11.		n \/m \/		18				
Concrete	100 11111	Diameter 40 mm, wall thickness 3.7 mm	JI )( UI		DIN UIN						
	-/\	Diameter 75 mm, wall thickness 8.2 mm	-/\ -	/ \ -/ \	- 5/\ - 5/\	/					
		Diameter 90 mm, wall thickness 8.2 mm		50 x 8 mm		240	24				
	10/11	Diameter 110 mm, wall thickness 8.2 mm	Soffit		None						
	11( U	Diameter 114.3 mm, wall thickness 6.2 mm	#11.00 UT	HULK							
	-/\	Diameter 125 mm, wall thickness 6.2 mm	-/\ -		-/\ -/\						
ンヘビ		Diameter 140 mm, wall thickness 6.2 mm		60 x 18 mm		180	18				
		7			11 N/11 N/		6				
	1	Diameter 160 mm, wall thickness 6.2 mm	Diameter 160 mm, wall thickness 6.2 mm  MCLP pipe according to ISO 21003 / DIN16836								
	Mi	Diameter 160 mm, wall thickness 6.2 mm MCL	P pipe according to 1	ISO 21003 / DIN16	836						
	1)(1		Mary All No.	7 1 1 7 1	h/% h/%	240	240				
	1)(1	MCL	P pipe according to Soffit	ISO 21003 / DIN16 50 x 4 mm	836 None	240					
	0	MCL Diameter 16 mm, wall thickness 2 mm Diameter 40 mm, wall thickness 4 mm PVC-U pipe a	Soffit So	50 x 4 mm 9-1, EN 1452-2 and	None						
		MCL Diameter 16 mm, wall thickness 2 mm Diameter 40 mm, wall thickness 4 mm	Soffit	50 x 4 mm	None		240 60 90				

All pipe classifications are pipe end configuration U/U, C/U, U/C, C/C (U=Uncapped, C=Capped)



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	Fire	ebreak FX500 Pipe Collars: Serv	rice Penetrati	on Seals in (	Concrete Floors		
Substrate	Minimum Floor	Penetrating Services	Seal Position	Collar Inlay	Service insulation	Fire Resistanc (mins.)	
Substrate	Thickness (mm)	Telletrating Services				E	EI
		PVC-U pipe a	according to EN 132	9-1, EN 1452-2 and	I EN 1453-1		
	L)(U	Diameter 200 mm, wall thickness 10.6 mm	Soffit	60 x 26 mm	II: VIII. V	60	
		Diameter 225 mm, wall thickness 10.6 mm					60
		Diameter 250 mm, wall thickness 10.6 mm			None		
		Diameter 200 mm, wall thickness 10.6 mm		130 x 24 mm			
Concrete	150 mm	Diameter 225 mm, wall thickness 10.6 mm				120	120
	II K U	Diameter 250 mm, wall thickness 10.6 mm	U )( U )			UT N	
	-/\	Diameter 315 mm, wall thickness 12.1 mm		130 x 32 mm	シヘシハ	60	60
		Diameter 400 mm, wall thickness 3.2 mm		130 x 40 mm		240^	240^
	- N/11	Steel pipe, wi	ith Continuous Susta	ined (CS) K-Flex S	T insulation		
		Diameter 219.1 mm, wall thickness 6.4-14.2	Soffit	130 x 32 mm	19 mm insulation	120 <sup>s</sup>	120 <sup>\$</sup>

All pipe classifications are pipe end configuration U/U, C/U, U/C, C/C (U=Uncapped, C=Capped) (except where indicated otherwise)



<sup>^</sup> pipe classifications are pipe end configuration U/C, C/C (U=Uncapped, C=Capped)

<sup>\$</sup> pipe classifications are pipe end configuration C/C (U=Uncapped, C=Capped)

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Firebr	eak FX20	0 Pipe Wraps/ Firebreak FX200	Sealstrip: Se	ervice Peneti	ration Seals in Di	rywalls	and		
		Mason	nry Walls						
Substrate	Minimum Wall Thickness (mm)	Penetrating Services	Seal Position	Wrap size	Service insulation	Fire Resistance (mins.)*			
						E	EI		
Gypsum board	L 3//11	PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1							
	100	Diameter 20-55 mm, wall thickness 2 mm	Both Sides	50 x 1.8 mm	None	120			
		Diameter 56-110 mm, wall thickness 3.7-6.6 mm		50 x 3.6 mm		90	90		
		Diameter 56-125 mm, wall thickness 6.6 mm				90			
		Diameter 126-160 mm, wall thickness 9.5 mm Diameter 161-200 mm, wall thickness 6.2 mm		50 x 7.2 mm 50 x 12.6 mm					
		Copper/steel^							
		Diameter 54 mm, wall thickness 0.8-14.2 mm	Both Sides	50 x 3.6 mm	19 mm Armaflex <sup>\$</sup>	60	60		
		Telecoms cables in bundles up to 100 mm diameter (wrap/sealstrip must be in intimate contact with the cable bundle)							
		Up to 21 mm diameter	トルーレ	50 x 3.6 mm None Single layer of 300 mm wide Insulwrap material	None	- 1.71	30		
		Up to 21 mm diameter	Both Sides		120	90			

<sup>\*</sup> all pipe classifications are pipe end configuration U/U, C/U, U/C, C/C (U=Uncapped, C=Capped) (except copper/steel pipes)



<sup>\$</sup> Pipe insulation is continuous and passes through the seal (CS)

<sup>^</sup> C/U pipe configuration for copper pipe

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Firebreak FX200 Pipe Wraps/ Firebreak FX200 Sealstrip: Service Penetration Seals Masonry Walls								
Substrate	Minimum Wall	Penetrating Services	Seal Position	Wrap size	Service insulation	Fire Resistance (mins.)*		
	Thickness (mm)					E	EI	
	150	PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1						
11.2 \/ 11		Diameter 20-55 mm, wall thickness 2 mm	Both Sides	50 x 3.6 mm	None	240	240	
Concrete/ brick/block		Diameter 20-82 mm, wall thickness 3.3 mm				120	120	
		PE pipe according to EN 1519-1, EN 12201-2 and EN 1266-1, ABS pipe according to EN 1455-1 and SAN+PVC pipe according to EN						
	150							
	1)(1	Diameter 20-55 mm, wall thickness 3.2 mm	Both Sides	50 x 3.6 mm	None	120	120	
		Copper^						
		Diameter 25 mm, wall thickness 0.8-14.2 mm	Both Sides	50 x 1.8 mm	25 mm Armaflex <sup>\$</sup>	120	120	

<sup>\*</sup> all pipe classifications are pipe end configuration C/U, U/C, C/C (except copper pipes)

<sup>^</sup> C/U pipe configuration for copper pipe

Firebreak FX200 Pipe Wraps/ Firebreak FX200 Sealstrip: Service Penetration Seals in Masonry Walls									
with Firebreak 44 foam infill									
Substrate	Minimum Wall	Penetrating Services	Seal Position	Wrap size	Service insulation	Fire Resistance (mins.)*			
	Thickness (mm)					E	EI		
	150	Telecoms cables in bundles up to 100 mm diameter (wrap/sealstrip must be in intimate contact with the cable bundle)							
Concrete/ brick/block		Up to 20 mm diameter 'C3' electrical cables in accordance with HD 604.5	Central	75 x 1.8 mm	None	120	120		
		Up to 15 mm diameter 'A3' electrical cables in accordance with HD 604.5				120	90		

A3 cables  $-5 \times 1.5$  mm<sup>2</sup> core, XPLE insulation, EVA sheath C3 cables  $-4 \times 95$  mm<sup>2</sup> core, XPLE insulation, EVA sheath



<sup>\$</sup> Pipe insulation is continuous and passes through the seal (CS)

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Firebreak FX200 Pipe Wraps / Firebreak FX200 Sealstrip: Service Penetration Seals in Concrete Floors									
Substrate	Minimum Floor Thickness (mm)	Penetrating Services	Seal Position	Wrap Inlay	Service insulation	Fire Resistance (mins.)*			
						E	EI		
	150	PVC-U pipe according to EN 1329-1, EN 1452-2 and EN 1453-1							
		Diameter 20-40 mm, wall thickness 3 mm	Cast into soffit	50 x 1.8 mm	None	240	240		
		Diameter 41-50 mm, wall thickness 3 mm		50 x 3.6 mm					
		Diameter 20-55 mm, wall thickness 2 mm		50 x 1.8 mm		120	0		
		Diameter 82 mm, wall thickness 3.3 mm		50 x 3.6 mm		60	60		
		Diameter 41-100 mm, wall thickness 3 mm		50 x 5.4 mm		240^	240^		
		Diameter 20-160 mm, wall thickness 3.2 mm		75 x 10.8					
Concrete		PE pipe according to EN 1519-1, EN 12201-2 and EN 1266-1, ABS pipe according to EN 1455-1 and SAN+PVC pipe according to EN 1565-1							
		Diameter 20-40 mm, wall thickness 3.7 mm	Cast into soffit	50 x 1.8 mm	None	240	240		
		Diameter 20-55 mm, wall thickness 2 mm							
		Diameter 20-110 mm, wall thickness 6.6 mm		50 x 3.6 mm					
		Diameter 20-125 mm, wall thickness 6.2							
		Copper/steel <sup>16</sup>							
		Diameter 25 mm, wall thickness 2-14.2 mm	Both Sides	50 x 1.8 mm	25 mm Armaflex <sup>§</sup>	240	240		

<sup>\*</sup> all pipe classifications are pipe end configuration U/U, C/U, U/C, C/C (U=Uncapped, C=Capped) (except copper/steel pipes and pipes marked $^{\wedge}$ )



<sup>&</sup>lt;sup>\$</sup> Pipe insulation is continuous and passes through the seal (CS)

<sup>%</sup> C/U pipe configuration for copper/steel pipe

<sup>^</sup> C/U, U/C, C/C pipe configuration

#### Appendix UL-EU Certificate

Certification Mark UL-EU mark

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