FIRESTOP BANDAGE CFS-B

Technical Manual

European Technical Assessment
ETA-20/0993

FIRESTOP BANDAGE CFS-B

Applications

- Firestopping around insulated (hot/cold) non-flammable pipes
- Pipe materials: copper, steel and other metals with heat conductivity lower than that of copper (e.g. cast iron, stainless steel etc.)
- Various insulation materials
- Suitable for use in openings in concrete, masonry block or drywall

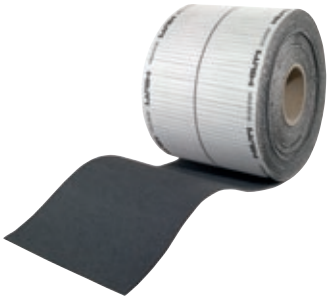
Advantages

- Highly versatile – one product for a variety of insulation materials, pipe materials and pipe diameters
- Quick and easy to install – no drilling or additional tools needed
- No need to interrupt the pipe insulation material within the wall/floor penetration
- Minimal thickness for easy installation in narrow gaps
- Good elasticity for optimum flexibility
- Good acoustic insulation properties

Technical Data

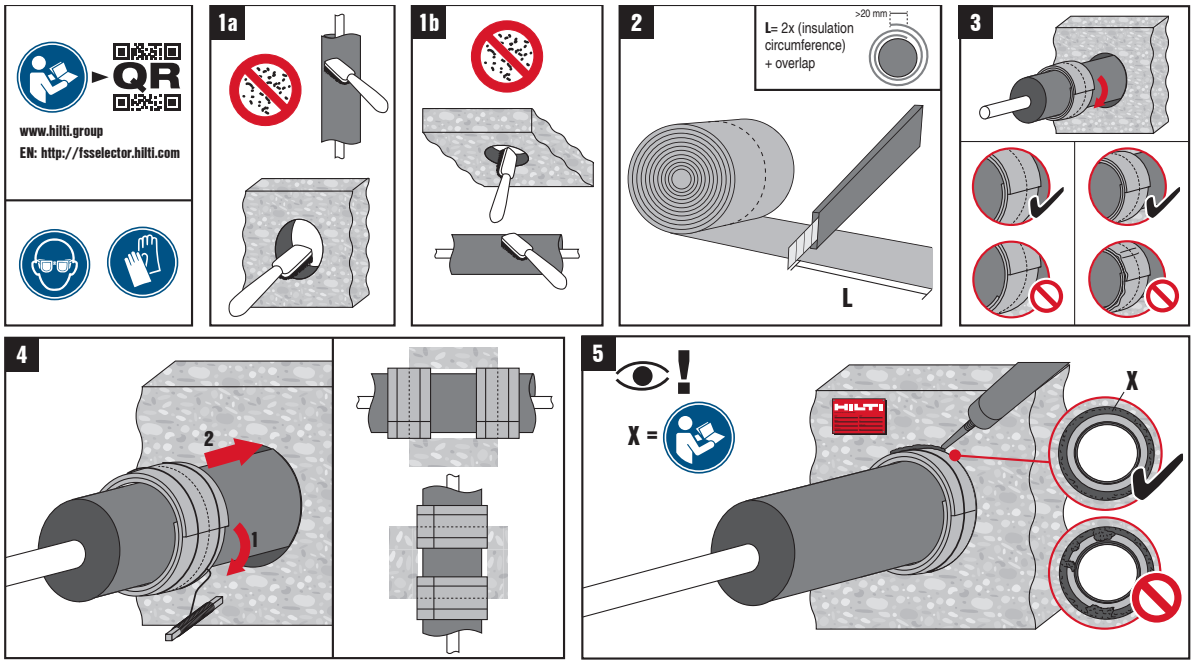
Base materials	Concrete, Masonry, Drywall
Application temperature range	–5 to 50 °C
Temperature resistance range	–20 to 100 °C
Reaction to fire class (EN 13501-1)	E
Dimensions (L × W × H)	10000 × 125 × 2 mm
Shelf life[1)]	Not relevant
Can be painted	No
LEED VOC	9.2 g/L (LEED 3.0)
Mold and mildew performance	Class 0 (EN ISO 846)

1) at 77 °F/25 °C and 50% relative humidity; from date of manufacture



Ordering designation	Height	Sales pack quantity	Item number
CFS-B	2 mm	1 pc	429557

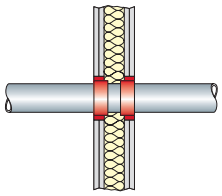
INSTRUCTIONS FOR USE: CFS-B

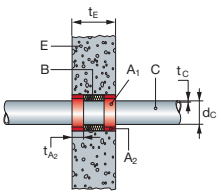


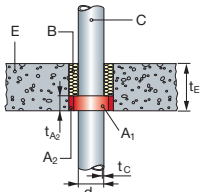
CONSUMPTION GUIDE

Pipe Ø mm	Insulation thickness (tDE) mm	CFS-B length mm per side	# Penetrations per roll (2 sides of wall)	# Penetrations per roll (1 side for floor)
10	8	196	25	51
	15	284	17	35
15	9	240	20	41
	30	504	9	19
30	10	347	14	28
	20	472	10	21
	30	596	8	16
50	10	472	10	21
	20	598	8	16
	30	724	6	13
75	10	629	7	15
	20	755	6	13
	40	1006	4	9
150	20	1226	4	8
	45	1541	3	6

GENERAL INFORMATION

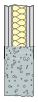






Partition	Flexible Wall		Rigid Wall		Rigid Floor
Base material thickness (t_E)	≥ 100 mm		≥ 200 mm		≥ 150 mm
Annular gap	0–15 mm	3–40 mm	0–15 mm	3–40 mm	3–40 mm
Gap filler	CFS-S ACR	Gypsum or mortar	CFS-S ACR	Gypsum or mortar	Gypsum or mortar
Penetrant	Combustible and non-combustible pipes. Pipe material: copper, steel, stainless steel, aluminium composite, PVC, PE,PP				
Approved elastomeric combustible insulation	Armaflex AF ®, Armaflex SH ®, Armaflex Ultima ®, Armaflex HT ®, Insul-Tube (nmc) ®, Insul-Tube H-Plus (nmc) ®, Kaiflex KK plus ®, Kaiflex KK ®, l'Isolante K-Flex HT ®, l'Isolante K-Flex ECO ®, l'Isolante K-Flex ST ®, l'Isolante K-Flex H ®, l'Isolante K-Flex ST Plus ®				

MAIN APPROVED APPLICATIONS



Application	Pipe material	Pipe Ø mm	Insulation thickness mm	Flexible & rigid wall ≥ 100 mm	Rigid wall ≥ 200 mm	Rigid floor
Potable water	PE (EN 12201-2) e.g. Wavin TS PE 100	50–110	9–42.5	EI 120 U/C		EI 180 U/C
	PE-Xa (EN ISO 15875) e.g. Rehai Rautitan Flex	16–63	8–39			
Potable water, refrigeration, industry, heating	Aluminum composite pipes*	10–75	6–40.5	EI 60 C/U – EI 90 C/U***	EI 90 C/U – EI 120 C/U***	EI 60 C/U – EI 120 C/U**
Refrigeration, heating	Copper pipes	10–88.9	6–36.5	EI 60 C/U – EI 90 C/U***	EI 90 C/U – EI 120 C/U***	EI 60 C/U – EI 120 C/U***
Potable water, refrigeration, heating	Steel and stainless steel	10.2–159	7.5–45	EI 120 C/U***	EI 90 C/U – EI 120 C/U***	EI 60 C/U – EI 120 C/U***

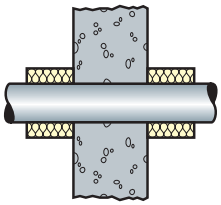
* Geberit Mepla ®, KeKelit KELOX KM 110 ®, Fränkische Rohrwerke Alpex F50 Profi ®, Rehau Rautitan stabil ®, Georg Fischer Sanipex ®, IVT PRINETO Stabilrohr ®,Viega SANIFIX Fosta-Rohr ®, Uponor Unipipe MLC ®, TECEflex ®.

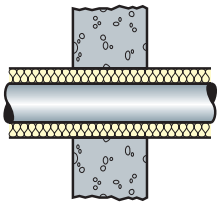
** Fire rating depends on substrate type, pipe type, insulation thickness, pipe diameter and pipe wall thickness.

*** Refer to ETA-20/0993 to validate the fire resistance rating.

OTHER APPROVED APPLICATIONS

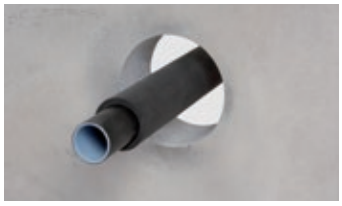
Local/continued and sustained/interrupted insulation affects EI classification





See ETA-20/0993 for the exact insulation configuration, length and thickness which will conform to the desired EI rating

Even wider range of insulated aluminium composite pipes (non regulated) covered by ETA-20/0993

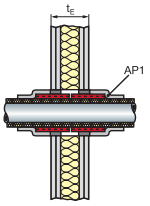


See ETA-20/0993 for the list of pipes brands, size and insulation sizes to find the fire rating achieveable with Firestop Bandage CFS-B

Pipe manufacturers: Geberit, KeKelit, Fränkische Rohrwerke, Rehau, Georg Fischer, IVT, Viega, Uponor, TECE. Ratings from EI 60 U/C – EI 180 U/C

Pipe diameter 16 to 75 mm, Insulation thickness 8 mm to 40.5 mm

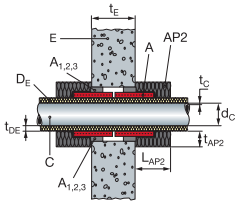
In some cases, EI rating can be improved with additional protection (AP1)



Armaflex AF elastomeric material for thermal insulation 19 mm thick, 250 mm length, local interrupted configuration

See ETA-20/0993 for additional options around copper and steel pipes in drywall to reach EI 90 C/U

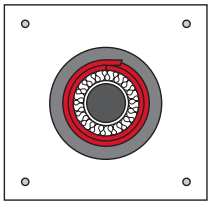
In some cases, EI rating can be improved with additional protection (AP2)

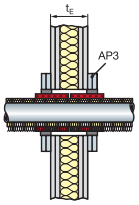


Mineral wool, Rockwool Klimarock, 40 mm thick, 250 mm in length; density approximately 40 kg/m³, local interrupted configuration

See ETA-20/0993 for additional options around steel pipes in rigid walls and floors to reach EI 120 C/U

In some cases, EI rating can be improved with additional protection (AP3) in drywall

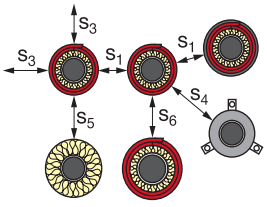


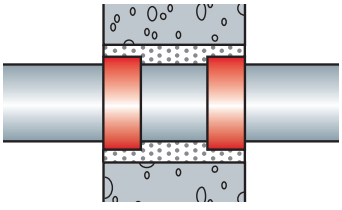


See ETA-20/0993 for copper and aluminium composite pipes improved ratings

For < 150 mm walls. 2 additional layers of boards on each side fixed with drywall screws

Reduced distance often allowed towards other pipes with CFS-B (S_1)





See ETA-20/0993 for more precise configuration options

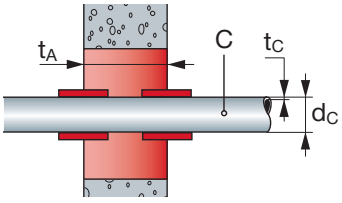
Reduced distance to CFS-C EL, Conlit, CFS-B

For pipes Ø ≤ 110 mm

See ETA 14/0085 (of Firestop Endless Collar) for details of approved pipes and configurations

Large (≥ 50 mm) plastic pipes

PVC/PE (EN ISO 15494, DIN 8074/8075, EN ISO 1452-2, EN ISO 15493 and DIN 8061/8062)



See ETA 10/0109 (of Firestop Flexible Foam) for various configurations where CFS-F FX and CFS-B are used together

CHARACTERISTICS OF CFS-B

Characteristics	Assessment of characteristics	Norm, standard, test
Dangerous substances	Hilti Firestop bandage CFS-B was tested for SVOC and VOC according EAD 350454-00-1104, clause 2.2.5.1, in accordance with EN 16516 with a loading factor of 0.007m^2/m^3. Release scenario IA1 and IA2 have been tested. The concentration of SVOC after 3 days and after 28 days was <0.005 mg/m^3. The concentration of the total emission of VOC after 3 days and after 28 days was, as well, <0.005 mg/m^3	Material safety data sheet
Durability	Category Z_2 (suitable for use in internal conditions with humidity lower than 85 % RH excluding temperatures below 0 °C, without exposure to rain or UV	EAD 350454-00-1104, clause 1.2.1
Reaction to fire	Class E	EN 13501-1

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