

Multimastic C System

Mixed Penetration Seals

European
Technical Assessment
ETA 23/0050
ETA 23/0060



Technical Data Sheet

MULCOL
INTERNATIONAL

Contents

Product specification	3
■ Advantages	
■ Applications	
■ Packaging	
1. Technical Data	4
2. Acoustic properties	6
3. Installation Manual	7
4. Pipe Insulation (Configuration)	8
5. Permitted Insulation Materials	8
6. Tested combinations	9
■ Multicollar <i>Slim</i> , Universal Fire Collar	
■ Multisealant GR, Firestop Intumescent Graphite	
■ Multiwrap, Fire Wrap	
■ Multidisc, Firestop Disc	
■ Multitherm Bandage, Thermal Insulation	
7. Performance	11
8. Latest tested solutions	13
9. Pipe Support	14
10. Joint Sealings	14
11. Specific properties	14
12. Test Configuration	15
13. Building Element Properties	16
14. Available Documents	16

MULCOL
INTERNATIONAL

Pragmatic, effective
and applicable
solutions

Multimastic C System

Multimastic FB1/FB2 Firestop Board

Multimastic C Firestop Coating

Multimastic SP Firestop Mastic



Fire resistance
≤ 240 minutes



Acoustic insulation
Rw 28 dB



Working life
25 years

Multimastic C System

Multimastic FB1 and Multimastic FB2 are firestop boards made of a high-density rock wool core, treated with Multimastic C firestop coating on one or both sides. Multimastic FB firestop boards make it possible to seal off larger openings, creating a fire-resistant and smoke-proof seal to adjacent rooms.

Multimastic FB firestop boards form part of the Mulcol® Penetration Seal System. Multimastic FB firestop boards can also be used in combination with the Multimastic SP firestop mastic and Multimastic C firestop coating.

Advantages

- ✓ Fire resistance ≤ 240 minutes
- ✓ CE-certified
- ✓ Easy to install
- ✓ Environmentally and user-friendly
- ✓ No lining required in the case of plasterboard partitions
- ✓ High sound insulation
- ✓ Permanently flexible

Application

- ✓ Rigid walls, stone and wood
- ✓ Rigid floors, stone and wood
- ✓ Flexible walls
- ✓ Opening size walls: max. 1500 x 2500 mm (b x h), 3 m²
- ✓ Opening size floors: 1200 x 1200 mm; max. 9000 x 900 mm

Packaging

	Panel thickness	Dimensions	Contents	Box	Pallet	Article number
Multimastic FB1	50 mm	1000 x 625 mm	-	-	60 pieces	204001051
Multimastic FB2	60 mm	1000 x 625 mm	-	-	50 pieces	204001062
Multimastic C paint	-	-	6 kilos	-	80 buckets	202001006
Multimastic C paint	-	-	12.5 kilos	-	40 buckets	202001125
Multimastic SP cartridge	-	-	310 ml	12 pieces	128 boxes	203012310
Multimastic SP bucket	-	-	6 kilos	-	80 buckets	203001006
Multimastic SP bucket	-	-	12.5 kilos	-	40 buckets	203001125

1. Technical Data

A. Multimastic FB fire stopping board

Product:	EAN-code
Multimastic FB1	8719324470100
Multimastic FB2	8719324470131
Colour	White surface, green core
Condition	Ready for use, pre-treated fire stopping board
Non- adhesive	After max. 75 minutes (in combination with Multimastic C coating)
Fully cured	3 to 5 days, depending on the thickness of Multimastic C and the temperature
Flexibility	$\pm 12.5\%$ (according to ISO 11600)
Density	$\sim 160 \text{ kg/m}^3$
Thermal conductivity	$0.039 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ in accordance with EN 12667
Category of use¹⁾	Type Z ₂ in accordance with EAD 350454-00-1104
Recoatable²⁾	Yes
Installation from 1 side possible	Yes
Air and smoke tight	S _a and S ₂₀₀ in accordance with NEN 6075
Acoustic properties	50 mm both sides coated: R _w (C;C _{tr}) = 28 (-1 ; -2) dB
Reaction to fire class	E in accordance with EN 13501-1
Approvals	ETA 23/0050
Tested combinations	Multicollar <i>Slim</i> , Multisealant GR, Multiwrap, Multidisc and Multitherm Bandage
Compatibility	Suitable for use with most materials
Function retention	25 years when used as recommended

¹⁾ Permissible environmental conditions

Intended for use in indoor conditions with humidity < 85 % RV, without temperatures below 0 °C and without exposure to rain and/or UV (TR 024, type Z₂).

²⁾ Recoatable

The Mulcol® Multimastic C system can be painted with most emulsion or alkyd (gloss) paints.

B. Multimastic C coating

Product:	EAN-code
Multimastic C - 6 kg	8719324470056
Multimastic C - 12.5 kg	8719324470063
Colour code	RAL 9002 / NCS S1002-Y
Shelf life	12 months in unopened packaging at a temperature between +5°C and +30°C
Transportation storage temp.	+5 °C to +30 °C
Application temperature	+10 °C to +30 °C
Temperature resistance	-30 °C to +80 °C
Non- adhesive	After max. 75 minutes
Fully cured	3 to 5 days, depending on the thickness and the temperature
Flexibility	± 12.5% (according to ISO 11600)
Specific weight	1.3 - 1.4 g/cm ³
Viscosity	12000 - 16000 mPa.s (20°C)
Category of use₁	Type Z ₂ in accordance with EAD 350454-00-1104
Recoat₂	Yes
Installation from 1 side possible	Yes
Reaction to fire class	E in accordance with EN 13501-1
VOC content	< 1 g/L
Approvals	ETA 23/0050
Tested combinations	Multicollar <i>Slim</i> , Multisealant GR, Multiwrap, Multidisc and Multitherm Bandage
Compatibility	Suitable for use with most materials
Function retention	25 years when used as recommended

¹ Permissible environmental conditions

Intended for use in indoor conditions with humidity < 85 % RV, without temperatures below 0 °C and without exposure to rain and/or UV (TR 024, type Z₂).

² Recoatable

Mulcol® Multimastic SP can be painted with most emulsion or alkyd (gloss) paints.

C. Multimastic SP Mastic

Product:	EAN-code
Multimastic SP cartridge - 310 ml	8719324470087
Multimastic SP bucket - 6 kg	8719324470445
Multimastic SP bucket - 12.5 kg	8719324470650
Condition	Ready for use on acrylic base
Colour	White
Colour code	RAL 9002 / NCS S1002-Y
Shelf life	18 months in unopened packaging at a temperature between +5°C and +30°C
Transportation storage temp.	+5 °C to +30 °C
Application temperature	+5 °C to +30 °C
Temperature resistance	-20 °C to +70 °C
Film formation	After max. 25 minutes
Non- adhesive	After max. 75 minutes
Fully cured	3 to 5 days, depending on the thickness and the temperature
Specific weight	1.56 - 1.60 g/cm ³
Electrical conductivity	None, after complete curing
Category of use₁	Type Z ₂ in accordance with EAD 350454-00-1104
Recoatable₂	Yes
Installation from 1 side possible	Yes
Air and smoke tight	S _a and S ₂₀₀ compliant NEN 6075
Acoustic properties	12mm depth + 15mm backing: R _{sw} (C;C _{tr}) = 54 (-3 ; -10) dB and R _{s'max'w} (C;C _{tr}) = 58 (-5 ; -13) dB
Reaction to fire class	E in accordance with EN 13501-1
VOC content	12 g/L
Approvals	ETA 23/0060
Compatibility	Suitable for use with most materials, but should not be used in direct contact with bituminous materials.
Function retention	30 years

¹ Permissible environmental conditions

Conduit seal for use in conditions with < 85% RV, protected from temperatures below 0 °C, and without exposure to rain and/or UV (TR 024, type Z₂)

² Recoatable

Mulcol® Multimastic SP can be painted with most emulsion or alkyd (gloss) paints.

2. Acoustic properties

The Multimastic C system has been tested according to EN ISO 10140. The same or higher sound insulation can be achieved with a thicker or double stone wool coated board. The sound insulation value only applies to the firestop system and not to other elements in the building structure.

With 1.0 mm Multimastic C WFT (wet film thickness) on both sides of at least 50 mm thick rockwool with a density of 160 kg/m³:

✓ Multimastic FB: dimensions 50 mm thick, coating on one side > Rw 28 dB

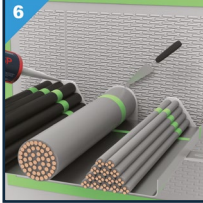
3. Installation Manual

1



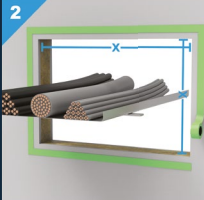
Make sure that the service penetrations and aperture are free from dust, dirt and grease. Moisten the construction, if necessary.

6




Fill the joints and openings around the service penetrations and the construction with Multimastic SP mastic and smooth the joint with a moist spatula or filler knife.

2



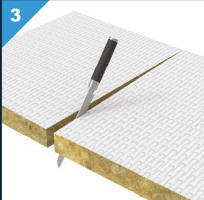
Measure the aperture and service penetrations and draw it on the rock wool Multimastic FB firestop board.

7



Take the bucket Multimastic C firestop coating and stir well before use.

3




Cut or saw the Multimastic FB firestop board to the desired size.

8




For aesthetic reasons, paint the Multimastic FB completely with a brush or roller.

4



Cut or saw the service penetrations from the Multimastic FB firestop board.

9




Remove the tape for a nice and tight appearance.

5



Glue Multimastic FB firestop board with Multimastic SP mastic into the construction and with the service penetrations.

10



Fill in the conformity statement card and paste it next to the penetration seal.



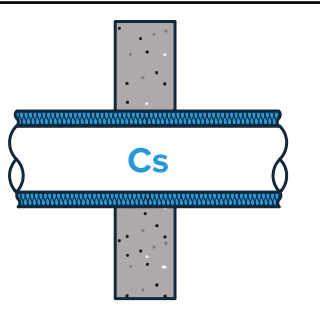
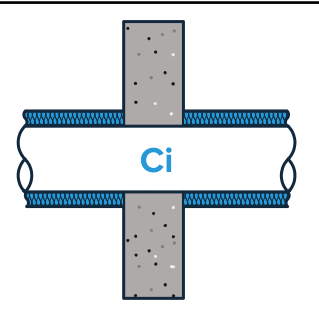
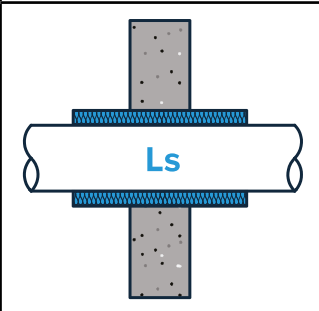
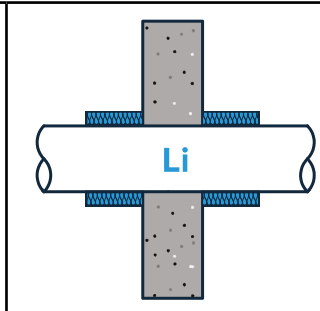
For use and for more information about an application, refer to the Mulcol documentation, local and international approvals.

See the **Mulcol Fire Protection app** for the correct application in combination with fire resistance, or use our **selector** at www.mulcol.com.

4. Pipe Insulation (Configuration)

Insulations serve different functions and can therefore be arranged around pipes in different manners. This must be taken into account when applying fire stopping seals on these pipes.

Possible configurations are shown below:

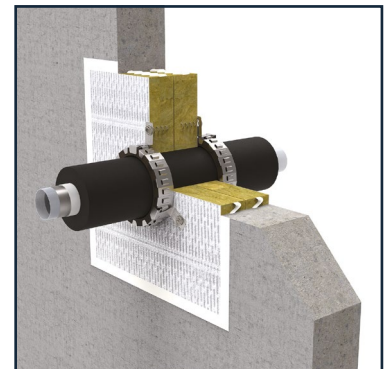
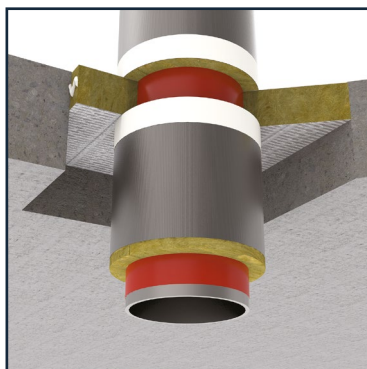
Continued insulation		Local insulation	
Continued sustained	Continued interrupted	Local sustained	Local interrupted
 <p>Cs</p>	 <p>Ci</p>	 <p>Ls</p>	 <p>Li</p>

5. Permitted Insulation Materials

Multimastic FB coated batts are part of the Mulcol® Penetration Seal System. Multimastic FB coated batts should be used in combination with the Multimastic SP Firestop Mastic and the Multimastic C Firestop Coating. This system has been extensively tested in combination with penetrations which are provided with various insulating materials; the permitted insulation materials are shown in the table below. For the principle details, please refer to the Multiselector and our test reports: ETA 23/0050 and ETA 23/0060.

Insulation types	Pipe types	Permitted ¹⁾
Stone wool insulation <i>Fire class A1, in accordance with EN 13501-1</i>	<ul style="list-style-type: none"> ✓ Copper pipes ✓ (Stainless) steel pipes ✓ Cast iron pipes 	<ul style="list-style-type: none"> ✓ Rockwool, min. 80 kg / m³ or equal
Elastomeric insulation <i>Fire class BL-s3,d0 of B-s3,d0 to D-s3,d0 or DL-s3,d0 in accordance with EN 13501-1</i>	<ul style="list-style-type: none"> ✓ (Stainless) steel pipes ✓ Cast iron pipes ✓ Fibre composite pipes ✓ Multilayer pipes 	<ul style="list-style-type: none"> ✓ ArmaFlex AF (EVO) / XG / SH / NH / HT / Ultima ✓ Kaiflex KK Plus S1 / S2 / ST / HT ✓ K-Flex EC (AD) / ST / SK / SRC (Eco) ✓ Or equal

¹⁾ Insulation materials must have at least the same fire class as tested in accordance with EN 13501-1.



6. Tested combinations

Always consult ETA 23/0050 for the appropriate application and classification.

Mulcol product	Services	Size Ø [mm]	Insulation type	Construction			Classification minutes
				FW-100	MW-100	MV-150	
Multicollar Slim Universal Fire Collar	Plastic pipes	≤ 110	n.a.	✓	✓	✓	≤ EI 120-U/U
		≤ 125				✓	≤ EI 120-U/C
	Sound-proofing pipes	≤ 110				✓	≤ EI 90-U/U
	Fibre composite pipes	≤ 110	Elastomeric	✓	✓	✓	≤ EI 120-U/C
		≤ 50		✓	✓		
	Multilayer pipes	≤ 50	Elastomeric	✓	✓		
		≤ 32	PE-foam	✓	✓		
		≤ 63	Phenolic	✓	✓		
	Copper, cast iron and steel pipes	≤ 114.3	Elastomeric			✓	≤ EI 90-C/U
		≤ 139.7	Glass wool	✓	✓		
Drinks tubing system	≤ 145	Elastomeric	✓	✓	✓	≤ EI 120-U/C	

Mulcol product	Services	Size Ø [mm]	Insulation type	Construction			Classification minutes
				FW-100	MW-100	MV-150	
Multisealant GR Firestop Intumescent Graphite	Plastic pipes with/without cable(s)	≤ 25	n.a.	✓	✓	✓	≤ EI 90-U/U
	Plastic pipes	≤ 110		✓	✓	✓	≤ EI 120-U/U
	Fibre composite pipes	≤ 90			✓	✓	
			Elastomeric	✓	✓		
	Multilayer pipes	≤ 40	n.a.	✓	✓	✓	≤ EI 120-U/C
		≤ 32	PE-foam	✓	✓	✓	
		≤ 75	Elastomeric	✓	✓	✓	
	Copper, cast iron and steel pipes	≤ 114.3	Elastomeric	✓	✓	✓	
			PIR	✓	✓		
	Cast iron and steel pipes	≤ 60.3	Multisealant GR	✓	✓		≤ EI 90-C/U
Gas pipes	≤ 32	Multitherm Bandage	✓	✓	✓	≤ EI 120-U/C	

Permitted plastic pipes (or equivalent)

- PE(-HD), PE-X, ABS, SAN+PVC, PP, PVC(-U/-C) buizen

Permitted sound-proofing pipes (or equivalent)

- Coes PhoNoFire, Coestilen BluePower, Geberit Silent PP, Geberit Silent dB 20
- Girpi Friaphon, Marley Silent, Pipelife Master 3, PhonEX AS
- Poloplast POLO-KAL NG, Poloplast POLO-KAL 3S, Skolan dB, Raupiano Plus
- Valsir Triplus, Wavin SiTech+, Wavin AS, DykaSono, Uponor Decibel

Permitted multilayer pipes (or equivalent)

- Alpex DUO, Valsir Pexal, Valsir Mixal en APE Plain (PE-Xb/AL/PE-Xb)
- Geberit Mepla en Uponor Unipipe (PE-RT/AL/PE-RT)
- Henco en Uponor (PE-Xc/AL/PE-Xc)
- Uponor, REHAU (PE-Xa) en REHAU (PE-Xc)
- SP Superpipe en POLYGON PEX (PE-X/AL/PE-X)
- Valsir Pexal en Valsir Mixal (PE/AL/PE-Xb)
- Wavin Tigris, Protecta-Line System en Alpex F50 Profi (PE-X/AL/PE)

Permitted fibre composite pipes (or equivalent)

- Aquatechnik Fusio PP-R 80, Aquatechnik Fusio PP-RCT,
- Aquatherm Blue-S, Aquatherm Blue-MF, Aquatherm Red-MF, Aquatherm Green-MF, Aquatherm Green-MS,
- Aquatherm Green-S, Aquatherm Lilac-S, Aquatherm Grey-MS en Aquatherm Orange M,
- Bänninger PP-R, Bänninger Climatic PP-RCT en Bänninger Watertec PP-RCT

Permitted elastomeric insulation type (or equivalent)

- Reaction to fire class ≤ B-s1, d0 - e.g. ArmaFlex Ultima, Kaiflex KK Plus S1
- Reaction to fire class ≤ B-s2, d0 - e.g. ArmaFlex AF EVO, Kaiflex KK Plus S2 / ST, K-Flex ST
- Reaction to fire class ≤ B-s3, d0 - e.g. ArmaFlex AF / XG / SH, K-Flex H
- Reaction to fire class ≤ C-s2, d0 - e.g. Kaiflex HT S2
- Reaction to fire class ≤ D-s3, d0 - e.g. ArmaFlex NH / SH / HT
- De isolaties mogen ook een BL, CL or DL classificatie hebben (linear insulation).

FW-100: Light partition wall, thickness 100 mm

MW-100: Solid wall, thickness 100 mm

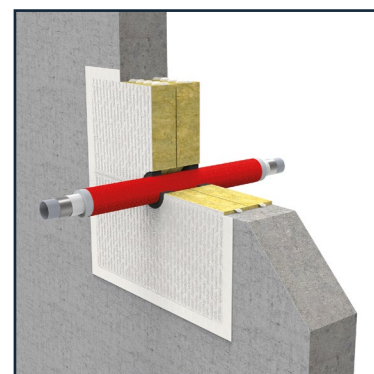
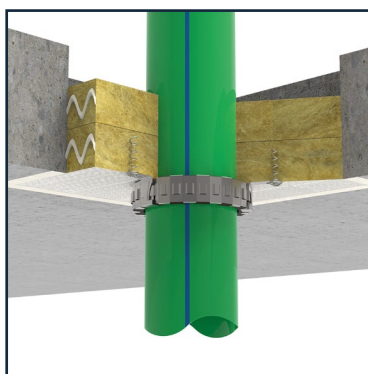
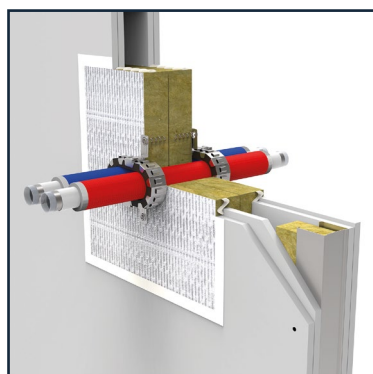
MV-150: Solid floor, thickness 150 mm

Ø [mm] Diameter of the penetration

Mulcol product	Services	Size Ø [mm]	Insulation type	Construction			Classification minutes
				FW-100	MW-100	MV-150	
Multiwrap Fire Wrap	Plastic pipes	≤ 110	n.a.			✓	≤ EI 120-U/C
		≤ 125		✓	✓		≤ EI 120-U/U
		≤ 160		✓	✓		≤ EI 90-U/C
	Sound-proofing pipes	≤ 110				✓	≤ EI 240-U/U
		≤ 125				✓	≤ EI 240-U/C
		≤ 160		✓	✓		≤ EI 120-U/U
	Fibre composite pipes	≤ 110	✓	✓		≤ EI 120-U/C	
	Copper, cast iron and steel pipes	≤ 324	Elastomeric	✓	✓		≤ EI 120-C/U
		≤ 168				✓	

Mulcol product	Services	Size Ø [mm]	Insulation type	Construction			Classification minutes
				FW-100	MW-100	MV-150	
Multidisc Firestop Disc	Plastic pipes with/without cable(s)	≤ 16 (5x)	n.a.	✓	✓	✓	≤ EI 90-U/U
	Plastic pipes with/without cable(s)	≤ 25		✓	✓	✓	≤ EI 90-U/U
	Cable	≤ 21		✓	✓	✓	≤ EI 90
		≤ 12				✓	≤ EI 120
	Cable bundle	≤ 25		✓	✓	✓	≤ EI 60
	Multilayer pipes	≤ 16		✓	✓	✓	≤ EI 90-U/C
	Copper, cast iron and steel pipes	≤ 15		✓	✓		≤ EI 45-C/U
							✓
Cast iron and steel pipes	≤ 17,2	✓	✓		≤ EI 90-C/U		

Mulcol product	Services	Size Ø [mm]	Insulation type	Construction			Classification minutes
				FW-100	MW-100	MV-150	
Multitherm Bandage Thermal Insulation	Cables and cable trays	≤ 21	n.a.	✓	✓		≤ EI 120
						✓	≤ EI 90
	Multilayer pipes	≤ 26		✓	✓		≤ EI 120-U/C
	Copper, cast iron and steel pipes	≤ 88,9		✓	✓		≤ EI 60-C/U
≤ 54					✓	≤ EI 90-C/U	



7. Performance

Cables and cable trays in lightweight partition walls and solid walls

Always consult ETA 23/0050 for the appropriate application and classification.

Cable (trays)	Multimastic C system	Coating		Wall		Classification minuten
		Length 50 mm $\geq 1 \text{ mm}^{(1)}$ Multimastic C	Length 150 mm $\geq 1.5 \text{ mm}^{(1)}$ Multimastic C	FW-100	MW-150	
Cable ladders, (un)perforated (wire) trays	FB1 2 x 50 mm	✓		✓	✓	≤ EI 60
			✓	✓	✓	≤ EI 120
					✓	≤ EI 240
Cables $\leq \varnothing 80 \text{ mm}$, bundles $\leq \varnothing 100 \text{ mm}$		✓		✓	✓	≤ EI 120
			✓	✓	✓	≤ EI 90
Cables without sheath $\leq \varnothing 24 \text{ mm}$		✓		✓	✓	≤ EI 45
			✓	✓	✓	≤ EI 60
Plastic pipes $\leq \varnothing 16 \text{ mm}$		✓		✓	✓	≤ EI 60
			✓	✓	✓	≤ EI 120
					✓	≤ EI 180
Copper pipes $\leq \varnothing 16 \text{ mm}$		✓		✓	✓	≤ EI 45
			✓	✓	✓	≤ EI 45
Steel pipes $\leq \varnothing 16 \text{ mm}$	✓		✓	✓	≤ EI 60	
		✓	✓	✓	≤ EI 90	

¹⁾ Wet layer thickness

Cable (trays)	Multimastic C system	Coating		Wall		Classification minuten
		Length 150 mm $\geq 1 \text{ mm}^{(1)}$ Multimastic C		FW-100	MW-150	
Cable ladders, (un)perforated (wire) trays	FB2 1 x 60 mm			✓	✓	≤ EI 60
Cables $\leq \varnothing 80 \text{ mm}$, bundles $\leq \varnothing 100 \text{ mm}$		✓		✓	✓	≤ EI 60
Cables without sheath $\leq \varnothing 24 \text{ mm}$		✓		✓	✓	≤ EI 45
Plastic pipes $\leq \varnothing 16 \text{ mm}$		✓		✓	✓	≤ EI 60
Copper pipes $\leq \varnothing 16 \text{ mm}$		✓		✓	✓	≤ EI 45
Steel pipes $\leq \varnothing 16 \text{ mm}$		✓		✓	✓	≤ EI 60
			✓		✓	✓

¹⁾ Wet layer thickness

Cables and cable trays in solid floors

Cable (trays)	Multimastic C system	Coating		Floor MV-150	Classification minuten
		Length 50 mm ≥ 1 mm ¹⁾ Multimastic C	Length 150 mm ≥ 1.5 mm ¹⁾ Multimastic C		
Cable ladders, (un)perforated (wire) trays	FB2 - 1 x 60 mm	✓		✓	≤ EI 90
			✓	✓	≤ EI 120
Cables ≤ Ø 50 mm, bundles ≤ Ø 100 mm		✓		✓	≤ EI 90
Cables ≤ Ø 80 mm, bundles ≤ Ø 100 mm			✓	✓	≤ EI 120
Cables without sheath ≤ Ø 24 mm		✓		✓	≤ EI 45
			✓	✓	≤ EI 90
Copper pipes ≤ Ø 16 mm		✓		✓	≤ EI 90
				✓	≤ EI 120

¹⁾ Wet layer thickness

Cable (trays)	Multimastic C system	Coating	Floor MV-150	Classification minuten
		Length 150 mm ≥ 1 mm ¹⁾ Multimastic C		
Cable ladders, (un)perforated (wire) trays	FB2 - 1 x 60 mm	✓	✓	≤ EI 90
Cables ≤ Ø 50 mm, bundles ≤ Ø 100 mm		✓	✓	≤ EI 60
Cables without sheath ≤ Ø 24 mm		✓	✓	≤ EI 45
Copper pipes ≤ Ø 16 mm		✓	✓	≤ EI 90

¹⁾ Wet layer thickness

Seal sizes in lightweight partitions and solid walls

Spar size [mm]	Multimastic C system	Construction			Classification minuten
		FW-100		MW-150	
		No fraying	Fraying		
1500 x 2500 (w x h), max. 3 m ² , ≤ Ø 1954	FB1 - 2 x 50 mm	✓	✓	✓	≤ EI 60
625 x 475 (w x h), max. 0.24 m ² , ≤ Ø 550		✓	✓	✓	≤ E 120
1500 x 2500 (w x h), max. 3 m ² , ≤ Ø 1954			✓	✓	≤ EI 120
1200 x 2000 (w x h), max. 2.5 m ² , ≤ Ø 1748			✓	✓	≤ EI 180
750 x 1250 (w x h), max. 0.75 m ² , ≤ Ø 1093	FB1 - 2 x 50 mm pattress	✓	✓	✓	≤ EI 120
1200 x 2000 (w x h), max. 2.4 m ² , ≤ Ø 1748	FB2 - 1 x 60 mm		✓	✓	≤ EI 60
1500 x 1500 (w x h), max. 1.72 m ² , ≤ Ø 1354			✓	✓	≤ EI 60
563 x 525 (w x h), max. 0.24 m ² , ≤ Ø 548			✓	✓	≤ EI 90
450 x 420 (w x h), max. 0.19 m ² , ≤ Ø 491			✓	✓	≤ EI 120
1200 x 1200 (w x h), max. 1.44 m ² , ≤ Ø 1354	FB2 - 2 x 60 mm			✓	≤ EI 240
750 x 600 (w x h), max. 0.45 m ² , ≤ Ø 757	FB2 - 2 x 60 mm pattress			✓	≤ EI 240

Seal dimensions in solid floors

Cable (trays)	Multimastic C system	Construction MW-150 ⁽¹⁾	Classification minuten
1200 x 1200, ≤Ø 1354 9000 x 900	FB1 2 x 50 mm	✓	≤ EI 90
600 x 400, ≤Ø 553		✓	≤ EI 120
450 x 450, ≤Ø 508		✓	≤ EI 240
1200 x 1200, ≤Ø 1354 9000 x 900	FB2 1 x 60 mm	✓	≤ EI 90

FW-100: Light partition wall, thickness 100 mm

MW-100: Solid wall, thickness 100 mm

MV-150: Solid floor, thickness 150 mm

8. Latest tested solutions

All the latest tested solutions with the Multimastic C can be found in our Multiselector. Scan the QR code or press the Multiselector button to get directly to the tested solution for your project.



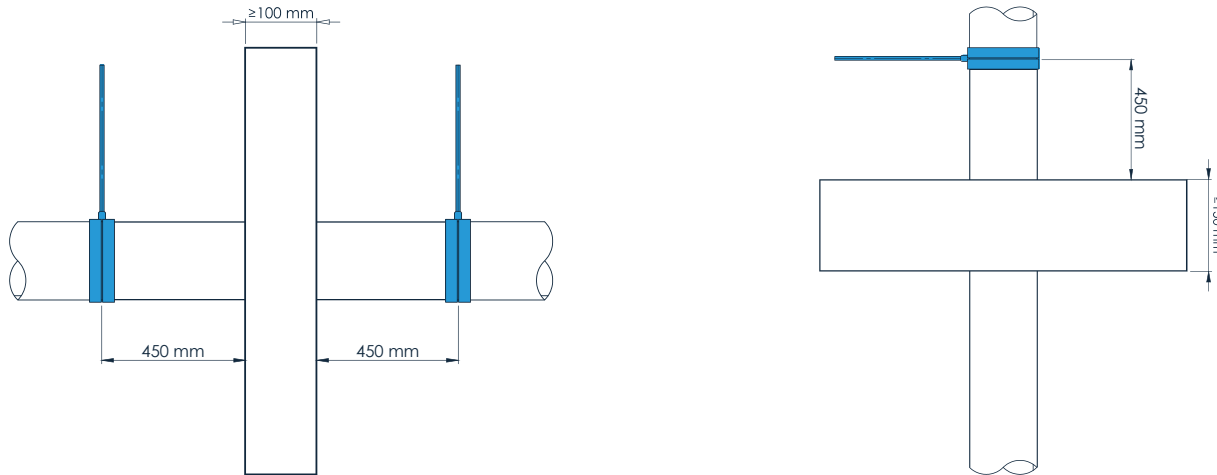
Our **Multiselector** can also be found in our **Mulcol Fire Protection App**.

It can be downloaded from the **App Store** (iOS) or **Google Play Store** (Android).



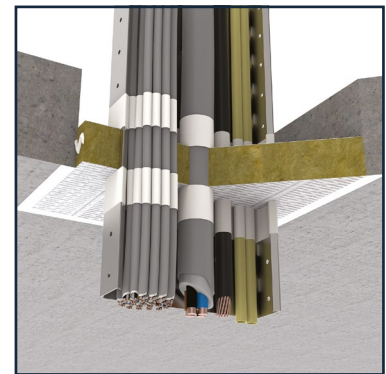
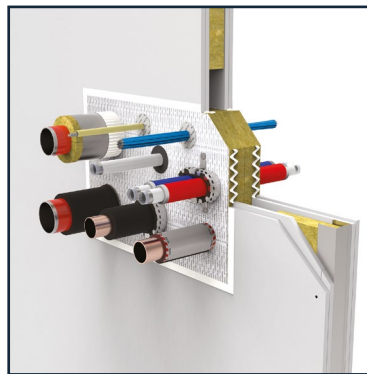
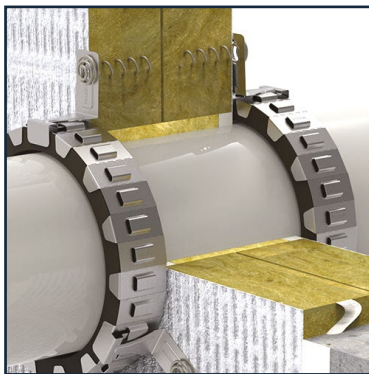
9. Pipe Support Penetrations

For pipes, the first bracket must be fitted at ≤ 450 mm from the fire separation, with cables and cable trays at ≤ 250 mm. For floors, the first bracket should be fitted at a distance of ≤ 450 mm from the top of the floor, for cables and cable trays at ≤ 250 mm.



10. Joint Sealings in Flexible Walls, Rigid Walls and Floors

Seams and gaps around the Multimastic C system and the penetrations must be finished with Multimastic SP Firestop Mastic. Seams between the construction and the Multimastic C system and the Multimastic C system itself must at all times be provided with Multimastic SP Firestop Mastic. This ensures the bonding of the system. For more information, see ETA report 23/0050 and ETA 23/0060.



11. Specific properties

The Multimastic C system has a number of specific properties. This makes the system easy and efficient to use. This system makes it possible to omit the installation of e.g. reveals in the case of lightweight partitions. The table below shows the maximum recess dimensions.

System	Thickness [mm]	Maximum gap	
		Light ¹⁾ and solid partition wall ≥ 100 mm	Rigid Floor ≥ 150 mm
Multimastic FB1	2 x 50	1500 x 2500, max. 3 m ²	1200 x 1200 mm; 9000 x 900 mm
Multimastic FB2	1 x 60		

¹⁾ Not required for installation in lightweight partitions, trimming joints and reveals

Multimastic FB fire stopping board(s) should be glued with Multimastic SP mastic in the structure.

12. Test Configuration

Introduction

The test configuration determines the application of plastic pipes. Before testing a pipeline type, the intended use of the pipeline must be considered. Where will it be used in practice? Standard EN 1366-3 sets requirements in this regard. The end of the pipe must be capped or uncapped, based on this. See the test configuration in table 1 and 2.

In a test, the conditions to which the pipeline and the sealing system are exposed to are determined by asking whether one or both pipe ends are capped in practice. The pressure and flowrate of hot gases will be different in a pipe that is in contact with the outside air than in a capped pipe. It is important to ensure that the sealing system is tested under appropriate conditions.

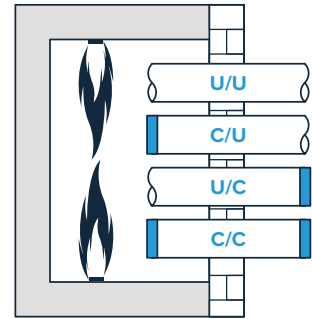


Table 1 - Test configuration plastic pipes

Test setup	Pipe end		Permitted use			
	In the oven	Outside the oven	U/U	C/U	U/C	C/C
U/U	Uncapped	Uncapped	✓	✓	✓	✓
C/U	Capped	Uncapped	✗	✓	✓	✓
U/C	Uncapped	Capped	✗	✗	✓	✓
C/C	Capped	Capped	✗	✗	✗	✓

Table 2 - Test configuration metal pipes

Test setup	Pipe end		Permitted use		
	In the oven	Outside the oven	U/C	C/U	C/C
U/C *	Uncapped	Capped	✓	✓	✓
C/U	Capped	Uncapped	✗	✓	✓
C/C	Capped	Capped	✗	✗	✓

* U/C tested and therefore U/U is covered

Plastic Pipes

Table H.1 shows a few examples of types of pipes and the intended use, where the end of the pipe is capped or uncapped. The table does not take all possible applications into account. The choice of whether to close the end or leave it open depends on a number of aspects: is the system under pressure and it is ventilated or unventilated? Consider the intended use of the pipe to determine whether it should be capped or left uncapped. If national regulations set different requirements than those contained in table H.1, follow the regulations.

Table H.1 - Plastic Pipe Test Configuration per Application

Type of pipe	Pipe end		Test setup
	In the oven	Outside the oven	
Rainwater drainage	Uncapped	Uncapped	U/U
Sewage, Ventilated	Uncapped	Uncapped	U/U
Sewage, Unventilated	Uncapped	Capped	U/C
Gas pipe, drinking water pipe, hot water pipe	Uncapped	Capped	U/C

There is no application for a plastic pipe penetration with a test classification of C/U or C/C, according to table H.1 from EN 1366-3.

Metal Pipes

Metal pipes will normally be closed in the furnace as no open end is to be expected in the event of a fire, this due to the melting away of metal. Herewith is assumed that the suspension system remains in place. If the pipes are supported by a non fire resistant suspension system or are waste disposal shafts, the pipes are not sealed in the furnace, as shown in Table H.2.

Table H.2 - Test Configuration Metal Pipe by Application

Type of pipe	Construction		Test setup
	In the oven	Outside the oven	
Supported by a fire resistant ^a suspension	Capped	Uncapped	C/U
Supported by a non fire resistant suspension system	Uncapped	Capped	U/C
Shafts for waste disposal	Uncapped	Capped	U/C

^aconfirmed by testing or calculations (e.g. Eurocodes)

13. Building Element Properties

Flexible walls

The minimum wall thickness should be 100 mm and the wall should consist of steel or wooden studs* with at least 2 layers of cladding on each side with a thickness of 12.5 mm.

Rigid walls

The minimum wall thickness is 100 mm and the wall must consist of concrete, aerated concrete or brickwork, with a minimum density of 650 kg/m³ or wood (CLT) with a minimum density of 400 kg/m³.

Rigid floors

The minimum floor thickness is 150 mm and the floor must consist of concrete or aerated concrete, with a minimum density of 650 kg/m³ or wood (CLT) with a minimum thickness of 140 mm and a density of 400 kg/m³.

**There must be a minimum distance of 100 mm from each part of the conduit seal to a timber stud and the gap between the conduit seal and the stud must be capped. The cavity between the conduit seal and the stud must have at least 100 mm class A1 or A2 insulation (according to EN 13501-1).*

The support structure must be classified in accordance with EN 13501-2 for the specified fire resistance.

14. Available Documents

Technical documents available

- ✓ Product Data Sheet (PDS)
- ✓ Technical Data Sheet (TDS)
- ✓ Safety Data Sheet (SDS)
- ✓ Installation Manual
- ✓ CE certificate
- ✓ Emission reports
- ✓ Acoustic report

Approvals

- ✓ Tested in accordance with EN 1366-3
- ✓ Classification in accordance with EN 13501-2
- ✓ Certified in accordance with EAD 350454-00-1104
- ✓ ETA report 23/0050 and 23/0060
- ✓ Declaration of Performance (DoP)

The above documents are available from your Mulcol contact or via www.mulcol.com



For help in finding the right fire-stopping finish for penetrations, see our **Multiselector** at www.mulcol.com or download the **Mulcol Fire Protection App** in the **App Store** (iOS) or **Google Play Store** (Android).



For the digital registration of firestopping in your buildings, you can use the **Mulcol Data Manager** free of charge. For registration on site, use our **Mulcol Fire Protection App**.



Mulcol International
The Netherlands

PO Box 93
4330 AB Middelburg

T. +31 (0)118 72 61 40
info@mulcol.com

www.mulcol.com



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