Multitherm Bandage

Thermal Insulation

European
Technical Assessment
ETA 24/0329

Technical Data Sheet

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Pragmatic, effective and applicable solutions

Contents

Multitherm Bandage

Thermal Insulation

CE ETA

Fire resistance
≤ 120 minutes

EPD VERIFIED

25 **Working life**
25 years

Speed
Fast installation

Thermal Insulation

Multitherm Bandage is a self-adhesive thermal insulation product on a roll, especially developed for the thermal and firestopping insulation of, for instance, metal pipes at short distances from the fire-resistant construction.
Multitherm Bandage absorbs the temperature of the pipe, so that thermal conductivity to adjacent rooms is reduced.

Multitherm Bandage forms part of the Mulcol® Penetration Seal System.

Advantages

- Fire resistance ≤ 120 minutes
- CE-certified
- Simple and fast installation
- Insulation length from 150 mm
- A single product of pipes up to Ø 114,3 mm
- No waste
- Environmentally and user-friendly
- Permanently elastic
- Working life of 25 years

Application

- Rigid floors
- Rigid walls
- Flexible walls
- Firestop boards and mortar
- Metal pipes up to Ø 114,3 mm
- Copper pipes up to Ø 88,9 mm
- Aluminium composite pipes up to Ø 75 mm

Packaging

	Dimensions	Box	Outer box	Pallet	Article number
Roll	3000 x 150 x 3 mm	1 piece	8 pieces	100 pieces	205001300

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1. Technical data

EAN-code	8719324470148
Colour	Red/brown with light grey topcoat
Shelf life	Not applicable
Transportation - storage temperature	+5 °C to +30 °C (store dry and dustfree in the original packaging)
Application temperature	+5 °C to +30 °C
Temperature resistance	-20 °C to +60 °C
Expansion pressure	No expansion pressure measurable
Expansion factor[3)]	6.0 x to 9.0 x
Usage category	Type Z_1 in accordance with EAD 350454-00-1104
Recoatable[1)]	Yes
Fire class[2)]	E in accordance with EN 13501-1
Approvals	ETA 24/0329, VKF report 031327

[1)] Permissible environmental conditions

Product intended for use in conditions with > 85% RV, protected from temperatures below 0 °C, and without exposure to rain and/or UV (TR024:2019, type Z_1). Limited contact with splash water tolerated. Lasting wetness, stagnant water and water pressure must be avoided.

[2)] Influence of finishing materials and chemicals

The following paints and occasional brief influences from chemicals will not change the fire protection properties:

Coating materials:	Dispersion paint, alkyd paint, polyurethane acrylic paint, epoxy resin paint (prior treatment with a primer is not obligatory, but it is recommended)
Solvent / oil:	Butyl acetate, butanol
Gaseous chemicals:	Brief storage with concentrated ammonium hydroxide solution

Remark

Environmental conditions with high humidity levels and/or some coating materials and chemicals may change the colour or reduce colour changes.

[3)]Expansion factor

Tested on samples at +450 °C for 25 minutes with overload. The expansion factor is a laboratory characteristic value. The expansion factor in an installed state depends on the existing preconditions.

Contact with metals and plastics

The surface consistency of aluminium, stainless steel, galvanised steel and plastics of polyethylene and polyvinyl chloride is not negatively affected by contact with Multitherm Bandage.

Enviromental documents

- ✓ EPD (Environmental Product Declaration)

Find all of our enviromental documents easily on our downloadpage or via the QR code:

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Consumption tables

Multitherm Bandage has been specially developed for the thermal insulation of pipe penetrations through lightweight partitions, solid walls and floors. The following tables show the total cut-off length per line diameter. See the pages that follow for the images (1 to 4).

Metal pipes & Multilayer pipes

Pipe Ø		Total length Multitherm Bandage			
		Fig. 1	Fig. 2	Fig. 3	Fig. 4
[mm]	["]	1x150 mm	2x150 mm	3x150 mm	2x150 mm + 1x150 mm
		[mm]	[mm]	[mm]	[mm]
10.2	1⁄8	66	151	241	217
13.5	1⁄4	76	171	272	248
17.2	3⁄8	88	195	307	283
21.3	1⁄2	101	215	341	316
26.9	3⁄4	115	248	n.a.	363
33.7	1	137	288		425
42.4	1 ¼	n.a.	341		505
48.3	1 ½		378		561
60.3	2		453		674
76.1	2 ½		552		822
88.9	3		632		942
114.3	4		792		1182

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2. Installation manual

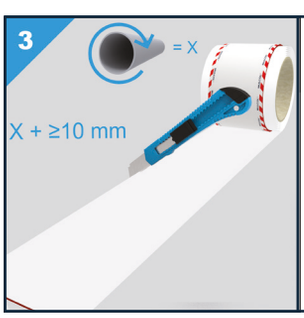
1

Seal the opening around the service penetration, according to the sealing method installation instructions. Openings up to 20 mm can easily be sealed with Multimastic SP firestop mastic, over a depth of 10 mm.

2

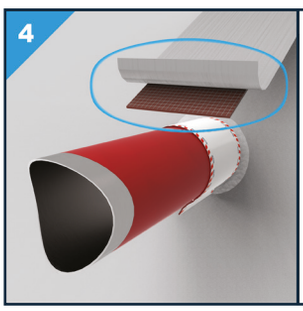
Make sure the service penetration is free from dust, dirt and grease.

3



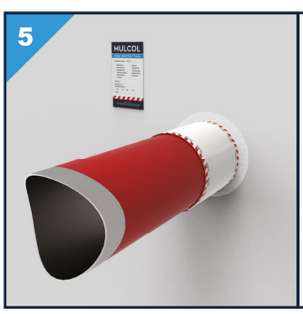
Measure the circumference of the service penetration and cut the Multitherm Bandage to size with a knife, as per the installation overview in the box. Remember to keep an extra length of at least 10 mm to create an overlap.

4



Remove the protective film at the back and wrap the Multitherm Bandage around the service penetration. Make sure that the closing side is at the bottom of the service penetration and that the Bandage has a minimum overlap of 10 mm. Press everything down firmly.

5



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

MultiSelector

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**.

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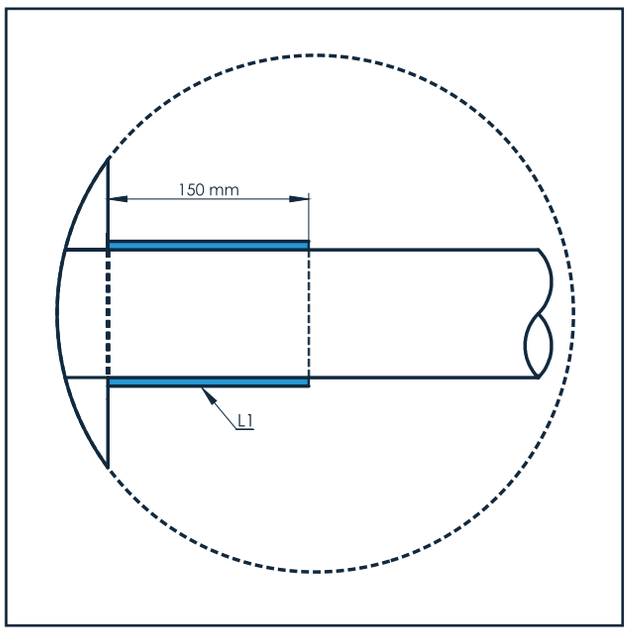
Overlap and multiple turns

Multitherm Bandage has been specially developed for the thermal insulation of pipe penetrations through lightweight partitions, solid walls and floors. The following tables show the total cut-off length per line diameter. See the pages that follow for the images (1 to 4).

Figure 1 (1x150 mm)
a: Minimum of 10 mm overlap
b: Mulcol Multitherm Bandage



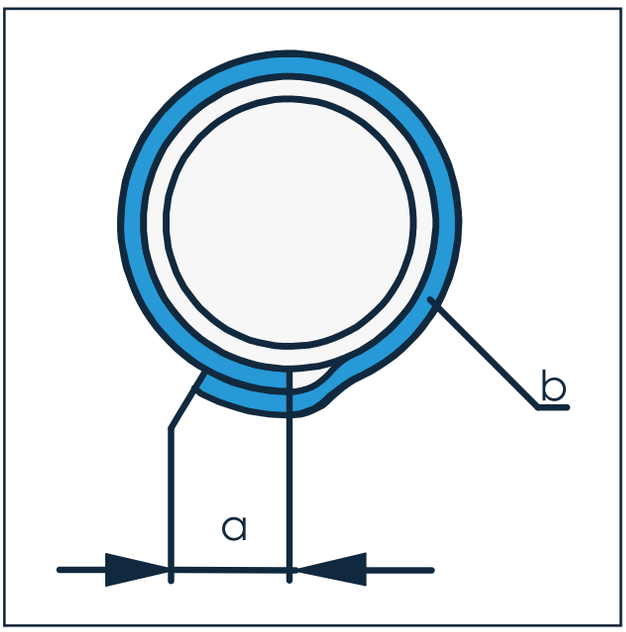
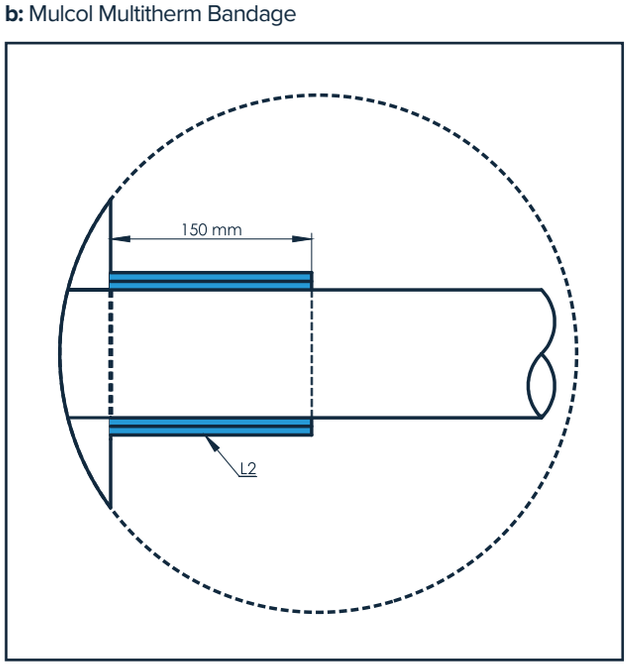


Figure 2 (2x150 mm)
a: Minimum of 10 mm overlap
b: Mulcol Multitherm Bandage



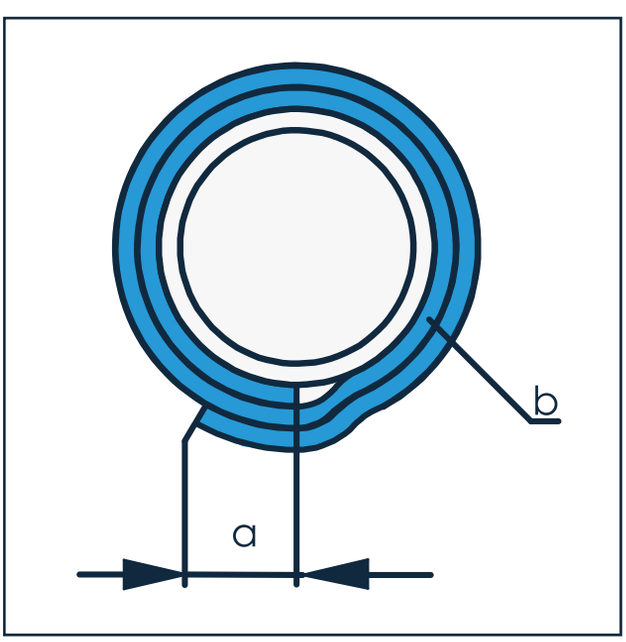


Figure 3 (1x350 mm)
a: Minimum of 10 mm overlay
b: Mulcol Multitherm Bandage

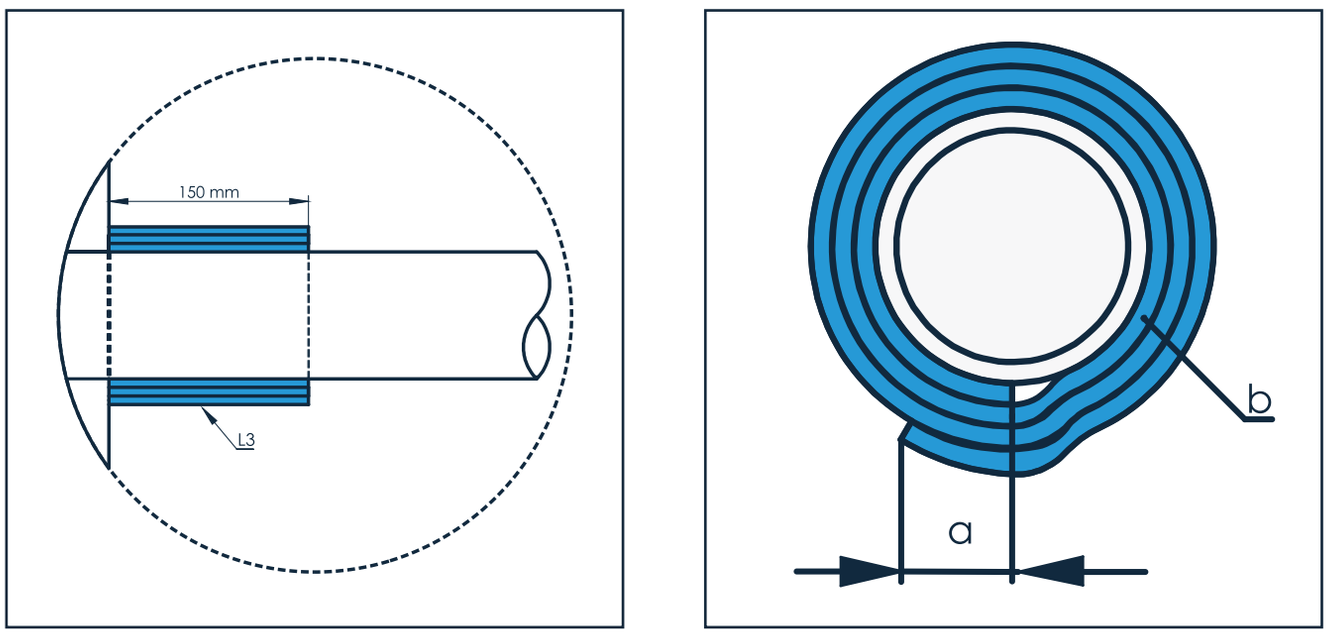
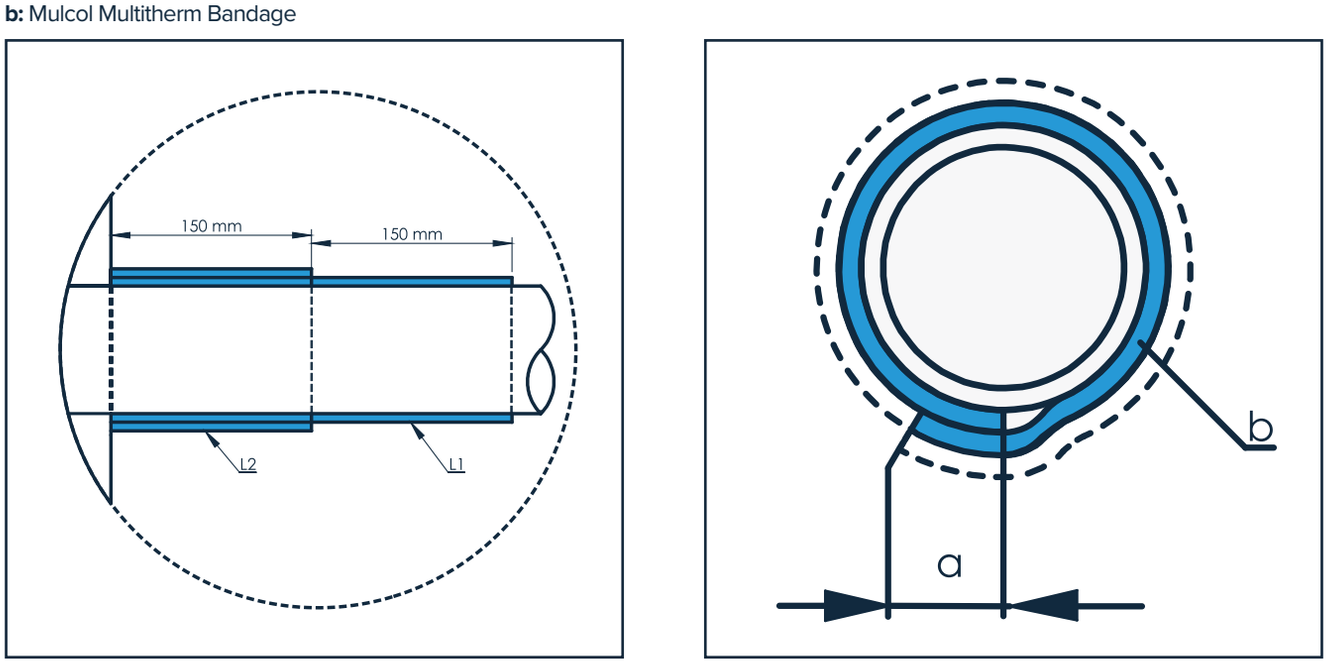


Figure 4 (2x150 mm + 1x150)
a: Minimum of 10 mm overlay
b: Mulcol Multitherm Bandage



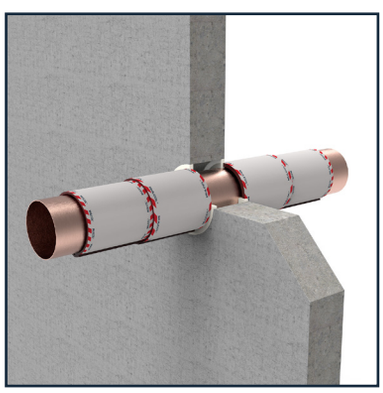
3. Tested solutions

All the latest tested solutions with the Multitherm Bandage 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.

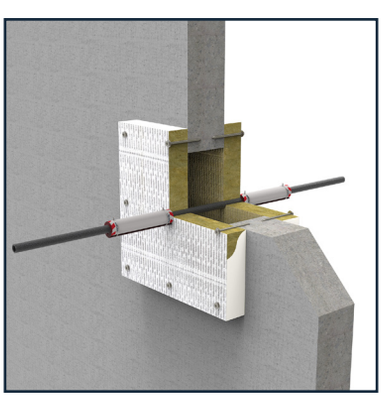
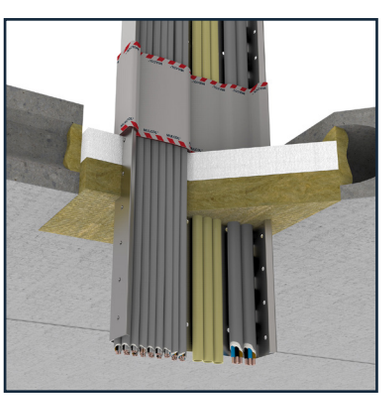
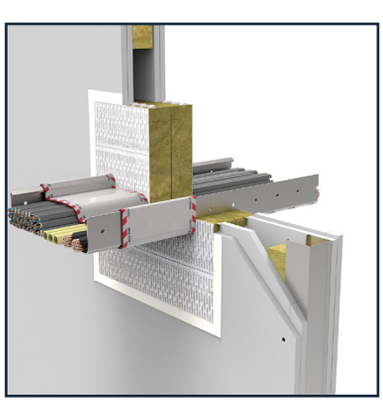
MultiSelector

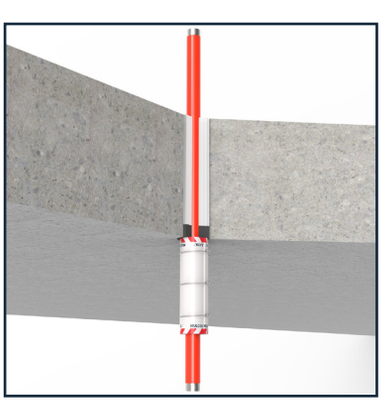
Our **Multiselector** can also be found in our **Mulcol Fire Protection App**.
It can be downloaded from the **App Store (iOS)** or **Google Play Store (Android)**.

App Store Google Play







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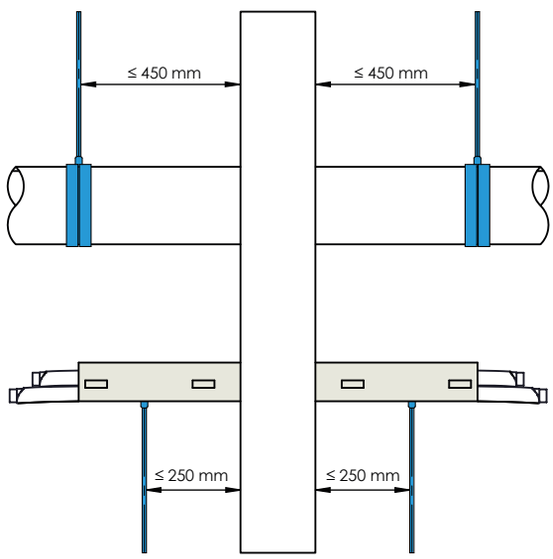
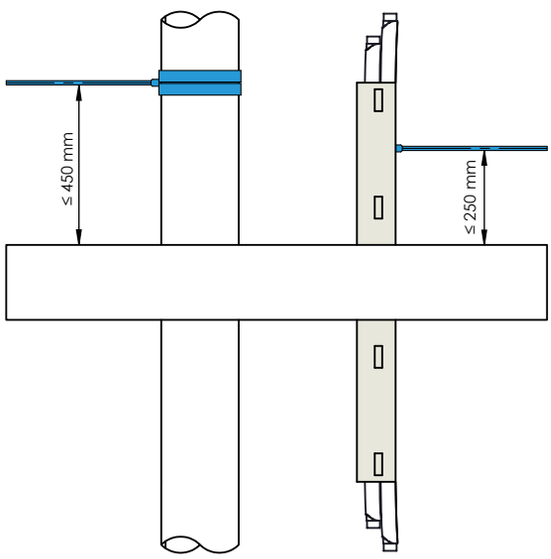
4. Service support

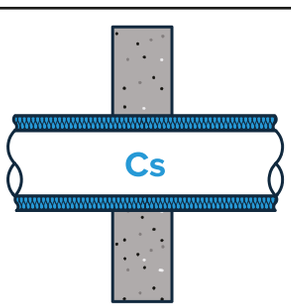
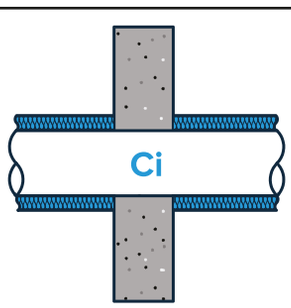
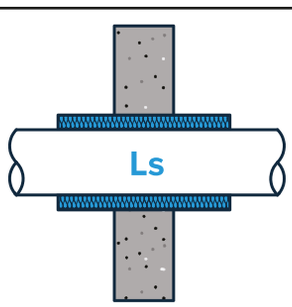
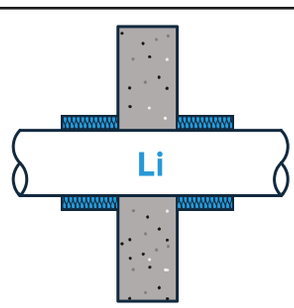
For all services (except cables and cable trays), the first support must be fitted ≤ 450 mm from the fire seperating element, with cables and cable carriers at ≤ 250 mm. For floors the first support should be fitted at a distance of ≤ 450 mm from the top of the floor and for cables and cable carriers at ≤ 250 mm.

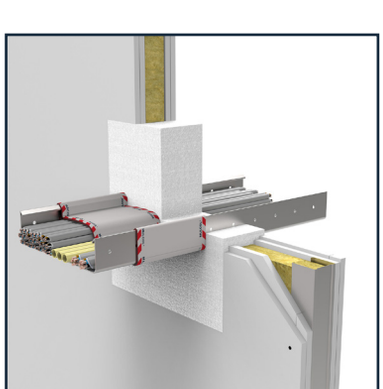


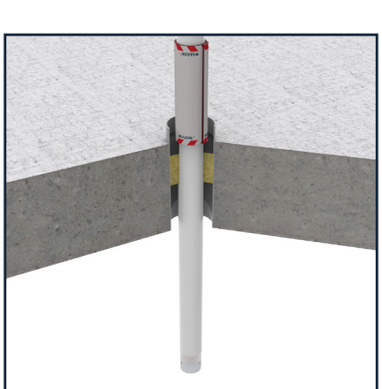


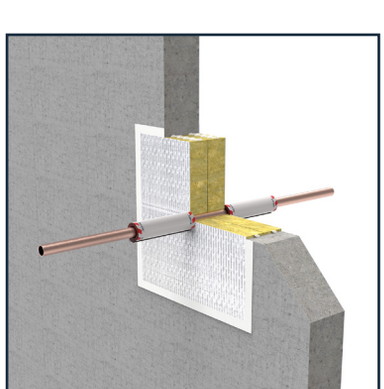
5. Pipe insulation (configuration)

Insulations serve different funtions and can therefor 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 Insulated		Locally Insulated	
Continued Sustained	Continued Interrupted	Locally Sustained	Locally interrupted
			



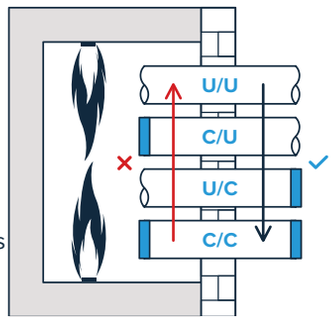




6. Test configuration

Introduction

The test configuration determines the application of service penetrations. Before testing a combustible or non-combustible pipe, the inteded use 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 pipe 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	✗	✗	✓

Combustible pipes (plastic)

Table below shows a few examples of pipe types 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 the table below, follow the regulations.

Table - Test configuration plastic pipe by 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 EN 1366-3.

Non-combustible pipes (metal)

Metal pipes will normally be closed in the furnace as no open end is to be expected in the event of a fire, due ot the high meltingpoint of metal. With this, it is assumed that the service supporting construction remains in place. If the pipes are supported by a non fire resistant support system, the pipes are not closed in the furnace, as shown in the table below.

Table - Test configuration metal pipe by application

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

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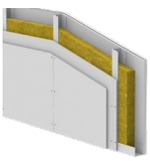
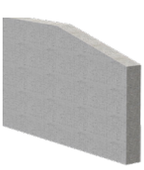
7. Constructions

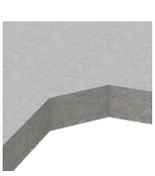


Flexible walls
The minimum wall thickness is 100 mm and consists of steel or timber studs* with at least 2 layers of cladding on both sides with a thickness of 12.5 mm per layer.

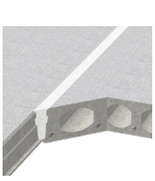
Flexible shaft walls
The minimum wall thickness is 100 mm and consists of steel or timber studs* with at least 2 layers of cladding on one side with a thickness of 15 (A2) or 20 (A1) mm per layer.



Rigid walls
The minimum wall thickness is 100 mm and consists of concrete, aerated concrete or brickwork with a minimum density of 400 kg/m^3.



Rigid floors
The minimum floor thickness is 150 mm and consists of concrete or aerated concrete with a minimum density of 400 kg/m^3.



Hollow core floors
The minimum floor thickness is 150 mm.

**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 construction must be classified in accordance with EN 13501-2 for the specified fire resistance.

We have tested different constructions with a variety of our products, check for specifc allowed constructions Annex C in the respective ETA or find the specific solution via our Multiselector.

8. Available documents

Technical documents available
- ✓ Technical Data Sheet (TDS)
- ✓ Safety Data Sheet (SDS)
- ✓ 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 24/0329
- ✓ VKF report 031327
- ✓ Declaration of Performance (DoP)
- ✓ EPD certificate

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

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9. Tools

MultiSelector

For help in finding the right firestopping solution 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).

DataManager

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

ProjectManager

Make your project unique with the help of **Mulcol Project Manager**. In order to save costs, you can create a clear Project Book in the design phase, with cut-off details and relevant data for all firestop penetration seals on your construction project.

App Store Google Play YouTube MultiSelector DataManager ProjectManager

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