Multimortar

Firestop Mortar

European
Technical Assessment
ETA 23/0057



Technical Data Sheet

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Pragmatic, effective and applicable solutions

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Multimortar

Firestop mortar



Fire resistance
≤ 240 minutes

EPD VERIFIED

Acoustic insulation
Rw 37 dB

Working life
25 years

Firestop Mortar

Composed of perlite and non-organic compounds, Multimortar is a dry white powder that when mixed with water creates a durable, thermally insulating and firestopping mass. When used to seal openings in walls or floors, it prevents the spread of fire and smoke through fire-resistant structures, while maintaining their acoustic properties.

Multimortar is part of the Mulcol® Penetration Seal System. The Multimortar can be used in combination with the Multicollar *Slim*, Multidisc, Multiwrap, Multitherm Bandage and Multimastic FB firestop boards.

Advantages

- Fire resistance ≤ 240 minutes
- CE-certified
- High acoustic insulation
- Easy to install
- Smooth finish
- Suitable for most surfaces
- Hardened in less than 1 hour

Application

- Cable trays, ladders, cables and cable bundles
- Plastic pipes up to Ø 40 mm without fire collar
- Plastic pipes up to Ø 160 mm with fire collar or wrap
- Multilayer pipes with or without insulation
- Metal pipes up to Ø 324 mm with elastomeric or rock wool insulation
- Firestopping around fire and butterfly valves
- Gas pipes, drinkpipes, meter box penetrations, etc.
- Blank seals
- Extensive application possbilities; Walls, Rigid floor, Hollow core floor

Packaging

	Contents	Pallet	Pallet	Article number
Bag	15 kilos	60 bags	900 kilos	209001020

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1. Technical data

EAN-code	8719324470223
Condition	Powder ready to mix with water
Colour	Off-white
Shelf life	12 months or longer if stored in an unopened bag in a dry place above +5 °C
Transportation- storage temperature	+5 °C to +30 °C (store dry and dustfree in the original packaging)
Application temperature	0 °C to +40 °C
Temperature resistance	-20 °C to +70 °C
Hardened	Less than 1 hour, depending on the local climate
Fully cured	Till 30 days depending on the thickness and the temperature
Flexibility	None
Dry density	Approx. 1300 kg/m^3 when fully hardened
Category of use[1)]	Type Z_2 in accordance with EAD 350454-00-1104
Recoatable[2)]	Yes
Fire class	A1 in accordance with EN 13501-1
VOC content	< 1 g/L
Approvals	ETA 23/0057
Compatibility	Suitable for use with most materials, but should not be used in direct contact with metals that can corrode.
Restrictions	Must not be used in permanently humid areas or in parts that regularly move. Metals that make contact with Multimortar must be resistant, or protected from corrosion.
Function retention	25 years
Product consumption at mixing ratio 2:1	Approx. 3.42 bags per m^2 (with a depth of 50 mm) Approx. 6.83 bags per m^2 (with depth of 100 mm)

[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 (TR 024, type Z_2).

Enviromental documents

- EPD (Environmental Product Declaration)
- Indoor Air Comfort Gold (IAC Gold)
- LEED (Leadership in Energy and Environmental Design)
- VOC: CDPH, SCAQMD

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

Enviromental databases

Multimortar is listed in the enviromental databases:

- SundaHus
- BVB (Byggvarubedömningen)
- Nordic Swan Ecolabel

Product description & curing times

Multimortar is a dry white powder that consists of inorganic substances. After curing of the mortar, it will have an off-white colour, which can be painted over. Multimortar is easy to sand and can also be drilled in. When mixed with water, the Multimortar compounds form a highly thermal, insulating and firestopping compound to prevent the spread of fire, flammable gases and smoke. This applies to use in combination with floors, walls and seals of openings around penetrations. Multimortar restores the acoustic values of separation structures.

Toepassing	Temperature	Drying time
As a filler Mixing ratio powder water: 3.5 - 1 (by weight)	0 °C	19 minutes
	10 °C	18 minutes
	20 °C	17 minutes
	30 °C	16 minutes
	40 °C	15 minutes
As a casting agent Mixing ratio powder water: 2 - 1 (by weight)	0 °C	40 minutes
	10 °C	35 minutes
	20 °C	30 minutes
	30 °C	25 minutes
	40 °C	20 minutes

The Multimortar is mixed by an electric mixer with a 100 mm diameter mixer for 90 seconds at 750 rpm. Note, the greater the agitation in the mixing process, the faster the mortar will dry. The Multimortar is designed as a fast curing system for professional installers where fast assembly times are of great importance.

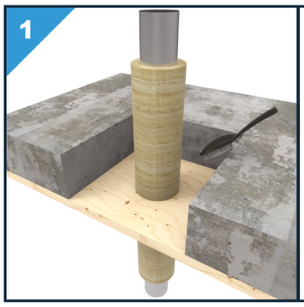
Acoustic properties

Multimortar has been tested according to EN ISO 10140-2. The same or higher sound insulation can be achieved by applying Multimortar with more depth. The sound insulation value only applies to the sealant and not to other elements in the building structure.

- ✓ Single-sided application over a depth of at least 50 mm as a linear seal: Rw 37 dB

2. Installation manual

1



Make sure that the service penetration and the gap are free from dust, dirt and grease. Wet the gap with water for better adhesion.

2



Pour clean water into a suitable mixing container and add sufficient Multimortar fire stop mortar to obtain the required consistency. See the package for the correct mixing ratio.

3



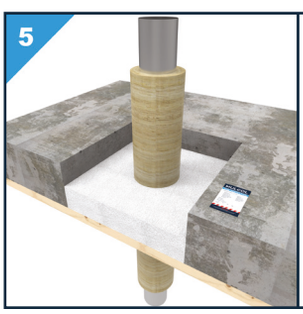
Mix the Multimortar for 1-2 minutes at 750 rpm (the higher the mixing speed, the faster the Multimortar cures).

4



When the desired consistency has been reached, apply the Multimortar with a trowel or pump, and make sure that it runs into all corners and around the service penetration. Firmly push the mortar into the gap to eliminate any air bubbles.

5



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

The Multimortar has been tested in many applications i.a. in combination with the Multicollar *Slim*, Multidisc, Multiwrap, Multitherm Bandage and Multimastic FB firestop board. For more information about all the solutions available, see our website at **www.mulcol.com**

Attention:
If the mortar seal is required to have bearing capacity, please make precautions. Untreated metal service penetrations that pass through a fireproof seal must be protected against corrosion with a suitable primer/protection system.

Combined with stone wool Multimastic FB firestop boards the firestop board (with or without), outside fire resistance, serves as a formwork. The Multimastic FB firestop boards must be applied carefully. Small openings can be sealed with Multimastic SP firestop mastic. If you need to apply Multimortar in hollow floorboards, the cavity can be fitted with a formwork or it can be closed off with stone wool.



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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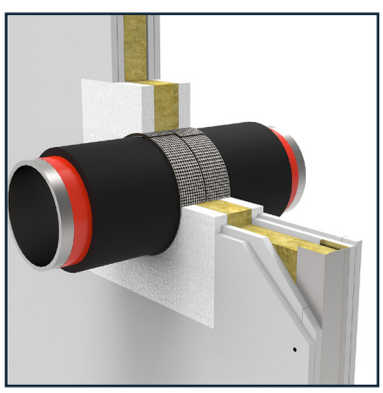
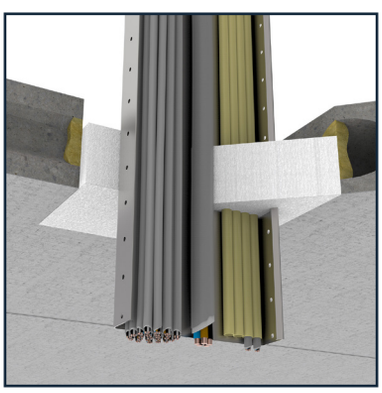
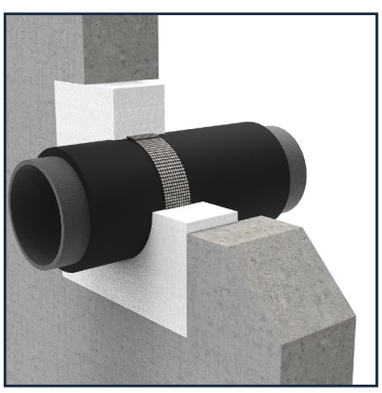
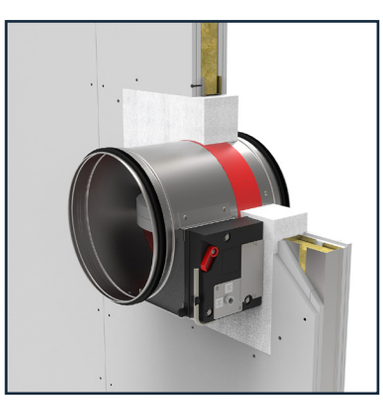
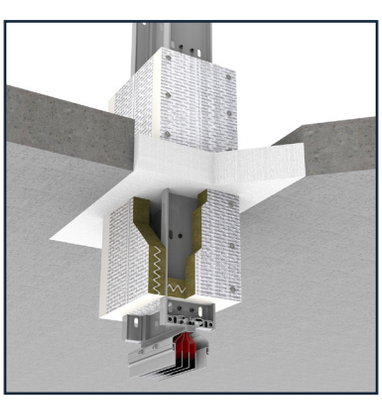
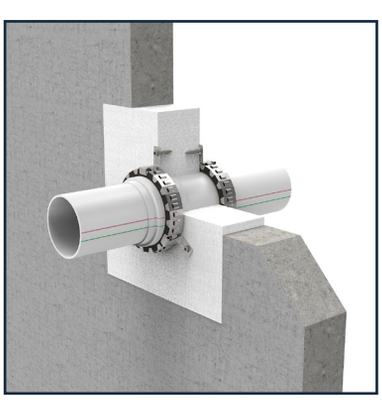
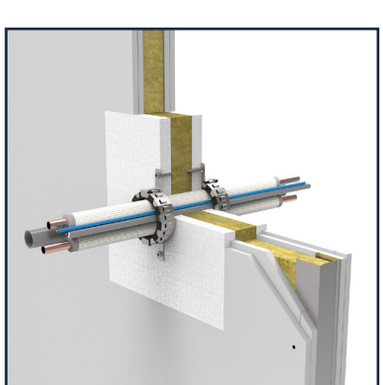
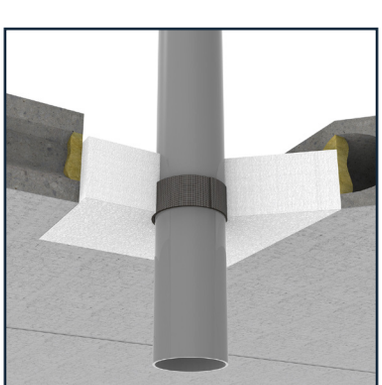
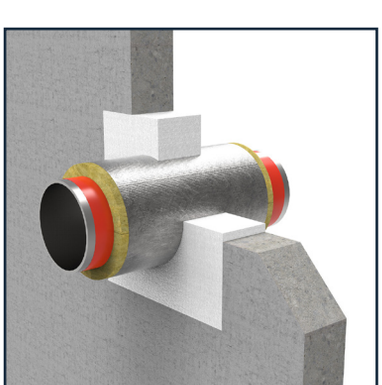
3. Tested solutions

All the latest tested solutions with the Multimortar 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).

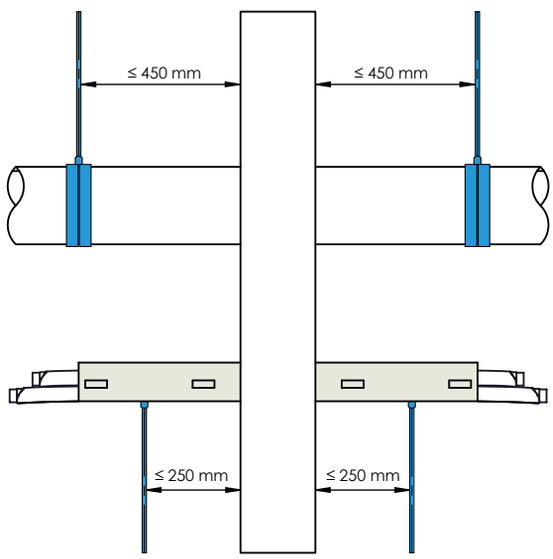
App Store Google Play

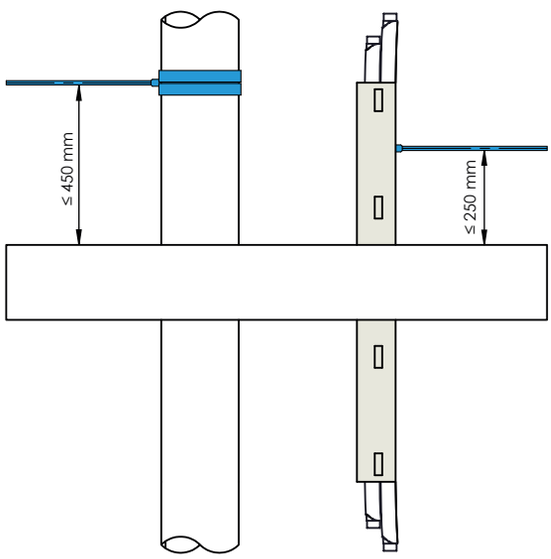










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4. Service support

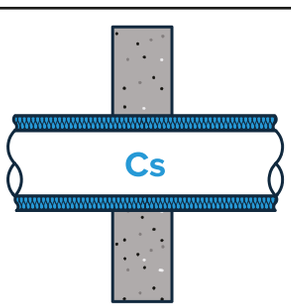
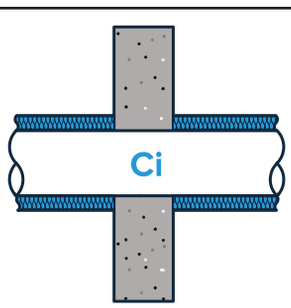
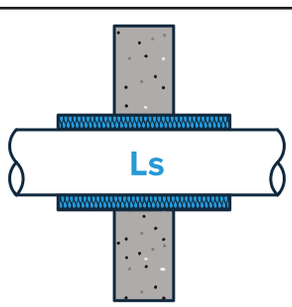
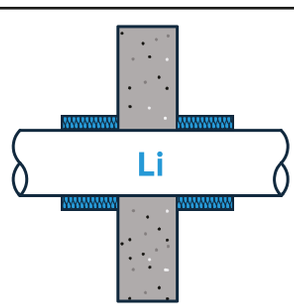
For all services (except cables and cable trays), the first support must be fitted ≤ 450 mm from the fire seperating element, with cables and cable carriers at ≤ 250 mm. For floors the first support should be fitted at a distance of ≤ 450 mm from the top of the floor and for cables and cable carriers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

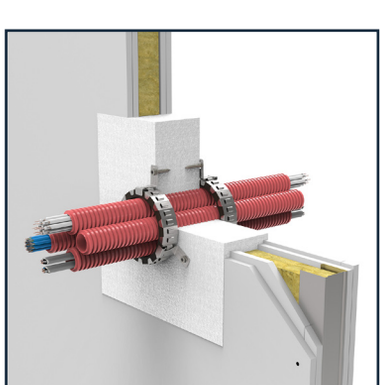


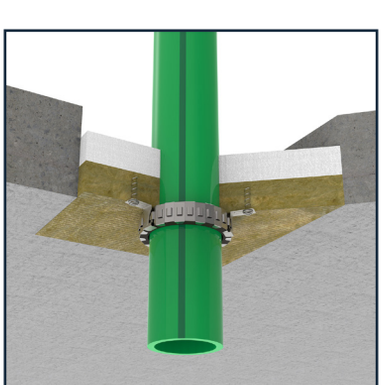


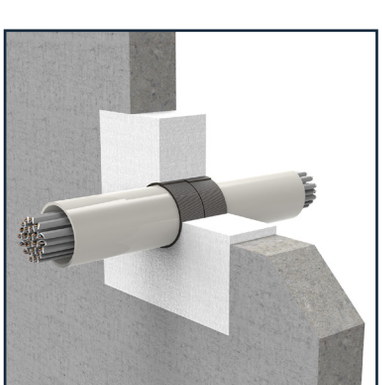
5. Pipe insulation (configuration)

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
			





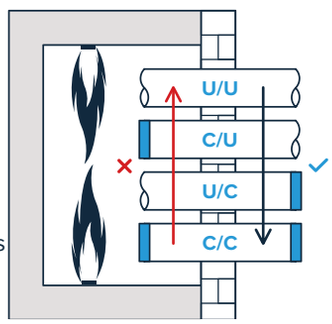


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6. Test configuration

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)

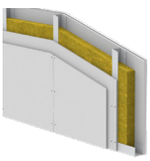
Metal pipes will normally be closed in the furnace as no open end is to be expected in the event of a fire, due ot the high meltingpoint of metal. With this, it is assumed that the service supporting construction remains in place. If the pipes are supported by a non fire resistant support system, the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

Table - Test configuration metal pipe by application

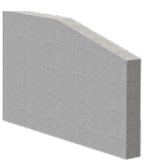
Type of pipe	Construction		Test setup
	In the oven	Outside the oven	
Supported by a fire supporting construction	Capped	Uncapped	C/U
Supported by a non fire supporting construction	Uncapped	Capped	U/C
Shafts for waste disposal	Uncapped	Capped	U/C

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7. Constructions



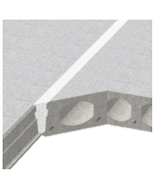
Flexible walls
The minimum wall thickness is 100 mm and consists of steel or timber studs* with at least 2 layers of cladding on both sides with a thickness of 12.5 mm per layer.



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)
- 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 23/0057
- VKF report 040070-00
- Declaration of Performance (DoP)
- EPD certificate

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

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 Projectmanager**. 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

Mulcol International BV has compiled the technical data of this sheet with the utmost care and reserves the right to change product properties without prior notice. The user of this data remains responsible at all times for its correct application. In case of ambiguities or doubts, we advise you to consult with Mulcol International BV to ascertain whether this data meets the required application.

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