

Multisealant GR

Firestop Intumescent Graphite

European
Technical Assessment
ETA 23/0055



Technical Data Sheet

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**Pragmatic, effective
and applicable
solutions**

Multisealant GR

Firestop Intumescent Graphite



Fire resistance
≤ 240 minutes

EPD
VERIFIED



Acoustic insulation
Rw 55 dB



Working life
25 years

Firestop Intumescent Graphite

Multisealant GR is a graphite-based sealant that foams and insulates when heated up for the fire-resistant sealing of gaps around cable and pipe penetrations. In the event of fire, this sealant prevents fire and smoke from spreading through fire-resistant walls and floors. Multisealant GR was developed to seal inaccessible penetrations and for places where traditional fire-resistant sealants are insufficient, for instance in the case of large plastic pipes.

Multisealant GR forms part of the Mulcol® Penetration Seal System.

Advantages

- ✓ Fire resistance ≤ 240 minutes
- ✓ CE-certified
- ✓ High acoustic insulation
- ✓ Environmentally and user-friendly
- ✓ Quick and easy application
- ✓ Fast-drying
- ✓ Halogen-free
- ✓ Working life of 25 years

Application

- ✓ Extensive application possibilities; Shaft wall, CLT, Sandwich panel, Flexible wall, Rigid floor, Hollow core floor
- ✓ Firestop boards
- ✓ Cable trays, cable ladders, electric cables and cable bundles
- ✓ Electrical room services
- ✓ Plastic pipes
- ✓ Multilayer and metal pipes
- ✓ Gas and air-conditioning pipes

Packaging

	Contents	Box	Pallet	Article number
Cartridge	310 ml	12 pieces	1536 pieces	201012310
Foil-packed	300 ml	18 pieces	1764 pieces	201018300
Foil-packed	600 ml	12 pieces	1092 pieces	201012600

1. Technical data

EAN-code	8719324470032
Condition	Ready to use, water-based sealant
Colour	Dark grey (may become darker after hardening)
Shelf life	18 months in unopened packaging at a temperature between +5°C and +30°C
Transportation- storage temperature	+5 °C to +30 °C
Application temperature	+5 °C to +30 °C
Temperature resistance	-15 °C to +75 °C
Film formation	After max. 30 minutes
Non- adhesive	After max. 60 minutes
Completely hardened	3 to 5 days, depending on the thickness and the temperature
Density	1.47 - 1.57 g/cm ³
Reaction temperature	Approx. +150 °C
Category of use¹⁾	Type Z ₂ conform EAD 350454-00-1104
Recoatable²⁾	Yes
Suitable for smoke-tight sealing of penetrations	S _a en S ₂₀₀ conform NEN 6075
Acoustic properties	12mm depth + 15mm backing: R _{s,w} (C;Ctr) = 55 (-2 ; -9) dB and R _{s,max,w} (C;C _{tr}) = 58 (-5 ; -13) dB
Fire class	E in accordance with EN 13501-1
VOC content	< 1 g/L
Approvals	ETA 23/0055, VKF 040070-00
Compatibility	Suitable for use with most material
Function retention	25 years

¹⁾ Permissible environmental conditions

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

²⁾ Recoatable

Multisealant GR firestop sealant is paintable with most water-based paint systems.

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

Multisealant GR is listed in the enviromental databases:

- ✓ SundaHus
- ✓ BVB (Byggvarubedomningen)
- ✓ Nordic Swan Ecolabel
- ✓ EcoBau

Consumption table for cartridge of 310 ml & foil-packed of 300ml

Joint width	10 mm	15 mm	20 mm	25 mm	30 mm	40 mm	50 mm	60 mm	80 mm	100 mm
Joint depth 12.5 mm	2.45 m ¹	1.65 m ¹	1.20 m ¹	1.00 m ¹	0.80 m ¹	0.60 m ¹	0.50 m ¹	0.40 m ¹	0.30 m ¹	0.25 m ¹
Joint depth 15 mm	2.05 m ¹	1.35 m ¹	1.00 m ¹	0.80 m ¹	0.65 m ¹	0.50 m ¹	0.40 m ¹	0.30 m ¹	0.25 m ¹	0.20 m ¹
Joint depth 25 mm	1.20 m ¹	0.80 m ¹	0.60 m ¹	0.50 m ¹	0.40 m ¹	0.30 m ¹	0.25 m ¹	0.20 m ¹	0.15 m ¹	0.10 m ¹

Consumption table for foil-packed of 600 ml

Joint width	10 mm	15 mm	20 mm	25 mm	30 mm	40 mm	50 mm	60 mm	80 mm	100 mm
Joint depth 12.5 mm	4.80 m ¹	3.20 m ¹	2.40 m ¹	1.90 m ¹	1.60 m ¹	1.20 m ¹	0.95 m ¹	0.80 m ¹	0.60 m ¹	0.45 m ¹
Joint depth 15 mm	4.00 m ¹	2.65 m ¹	2.00 m ¹	1.60 m ¹	1.30 m ¹	1.00 m ¹	0.80 m ¹	0.65 m ¹	0.50 m ¹	0.40 m ¹
Joint depth 25 mm	2.40 m ¹	1.60 m ¹	1.20 m ¹	0.95 m ¹	0.80 m ¹	0.60 m ¹	0.45 m ¹	0.40 m ¹	0.30 m ¹	0.20 m ¹

Acoustic performance

Multisealant GR has been tested EN ISO 10140-2. The same or higher sound insulation can be achieved with a deeper or double-sided seal or by applying backing material. The sound insulation value only applies to the sealant and not to other elements in the building structure.

- ✓ With one-sided seal 12 mm deep and 15 mm of backing: Rw 55 dB

Accessories



MultiFill ECO

Reusable cartridge - 300ml

Packaging unit: 12

Article number: 803012300

2. Installation manual



¹⁾ When using backing, cut it slightly wider than the joint width and make sure it is applied to the correct depth in the joint.



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

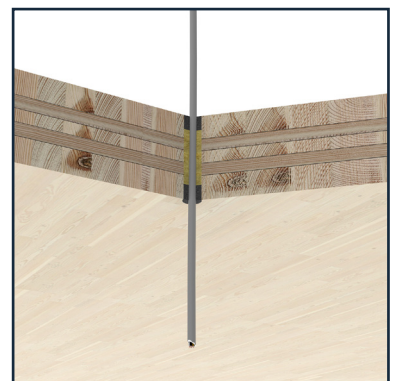
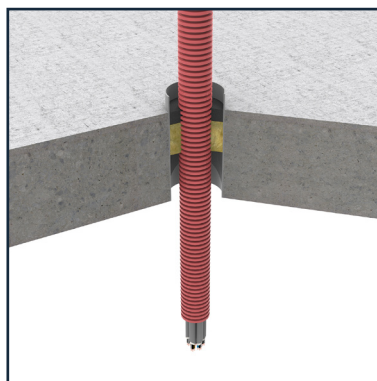
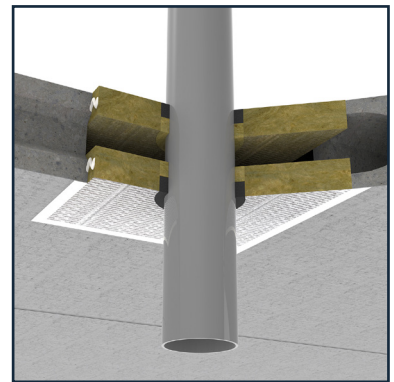
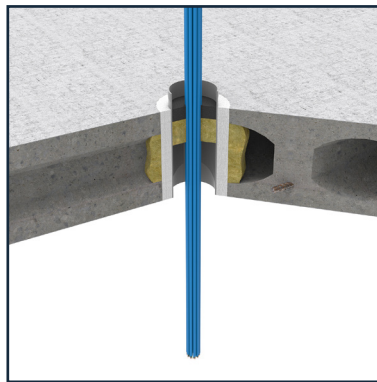
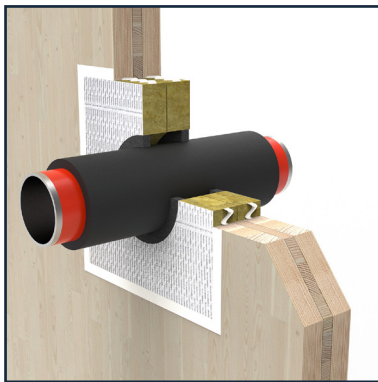
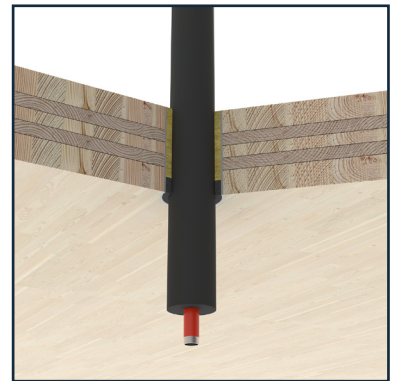
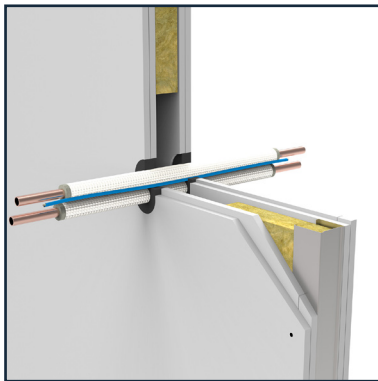
See the **Mulcol Fire Protection app** for the correct application in combination with fire resistance, or use our **selector** at www.mulcol.com.

3. Tested solutions

All the latest tested solutions with the Multisealant GR 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.

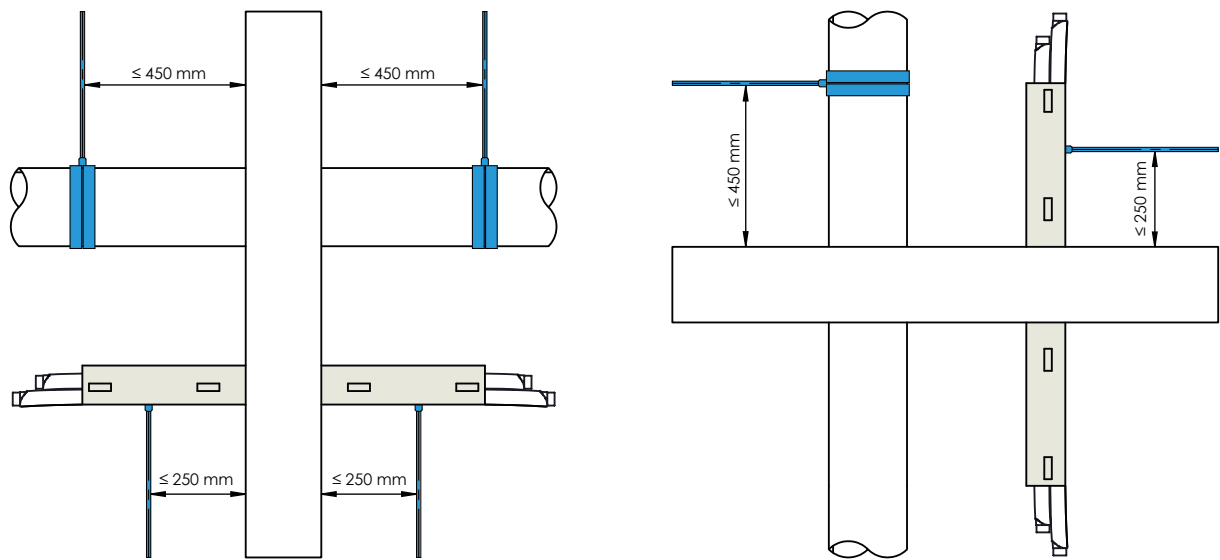


Our **Multiselector** can also be found in our **Mulcol Fire Protection App**. It can be downloaded from the **App Store** (iOS) or **Google Play Store** (Android).



4. Service support

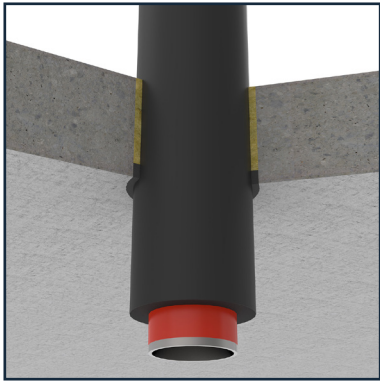
For all services (except cables and cable trays), the first support must be fitted ≤ 450 mm from the fire separating element, with cables and cable carriers at ≤ 250 mm. For floors the first support should be fitted at a distance of ≤ 450 mm from the top of the floor and for cables and cable carriers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



6. Test configuration

Introduction

The test configuration determines the application of service penetrations. Before testing a combustible or non-combustible pipe, the intended 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.

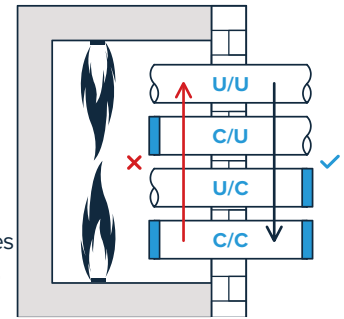


Table 1 - Test configuration plastic pipes

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.

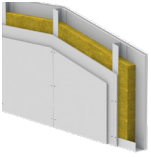
Non-combustible pipes (metal)

Metal pipes will normally be closed in the furnace as no open end is to be expected in the event of a fire, due to the high melting point 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

7. Constructions



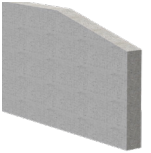
Flexible walls

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.



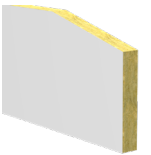
Rigid walls

The minimum wall thickness is 100 mm and consists of concrete, aerated concrete or brickwork with a minimum density of 400 kg/m³.



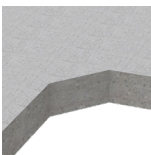
Cross laminated timber (CLT) walls

The minimum wall thickness is 100 mm and has a minimum density of 376 kg/m³.



Sandwich panel walls

The minimum wall thickness is 100 mm and consists of metal sheets with a stone wool core with a minimum density of 115 kg/m³.



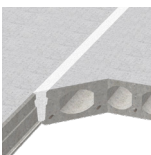
Rigid floors

The minimum floor thickness is 150 mm and consists of concrete or aerated concrete with a minimum density of 400 kg/m³.



Cross laminated timber (CLT) floors

The minimum floor thickness is 140 mm and has minimum density of 350 kg/m³.



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 specific 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 23/0055
- ✓ 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



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).



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**.



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.



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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