Multidisc

Firestop Disc

European
Technical Assessment
ETA 20/1321

Technical Data Sheet

MULCOL
INTERNATIONAL

MULCOL
INTERNATIONAL

Pragmatic, effective and applicable solutions

Contents

Multidisc

Firestop Disc

Fire resistance
≤ 120 minutes

Working life
30 years

Speed
Fast installation

Firestop Disc

The Multidisc is a self-adhesive firestop disc that can be plastically shaped around small penetrations. The Multidisc expands when exposed to heat and creates a fire-resistant and smoke-proof seal to adjacent rooms.

The Multidisc forms part of the Mulcol® Penetration Seal System.

Advantages

- Fire resistance ≤ 120 minutes
- CE-certified
- Simple and fast installation
- Low installation costs
- A single solution for penetrations up to (2) 26 mm
- No waste
- Environmentally and user-friendly
- Permanently elastic
- Working life of 30 years

Applications

- Rigid walls and floors
- Flexible walls
- Firestop boards

- PVC pipes up to Ø 26 mm
- Multiple PVC pipes
- Electric cables, cable bundles up to Ø 26 mm
- Aluminium composite pipes

Packaging

	Dimensions	Box	Outer box	Pallet	Article number
Disc	Ø 65 mm, thickness 3 mm	32 pieces	384 pieces	12288 pieces	205002065

MULCOL INTERNATIONAL

1. Technical Data

EAN-code	8719324470261
Colour	Red/brown with a light gray top coat
Shelf life	Not applicable
Transportation - storage temperature	+5 °C to +30 °C (store dry and free of dust in the original packaging)
Application temperature	+5 °C to +30 °C
Temperature resistance	-20 °C to +60 °C
Expansion pressure	No expansion pressure measurable
Usage category[1)]	Type Z_1 in accordance with EAD 350454-00-1104
Paintable[2)]	Yes
Expansion factor[3]	6.0 x up to 9.0 x
Fire class	E in accordance with EN 13501-1
Approvals	ETA report 20/1321

[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 024:2019, 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 limited contact with chemicals will not cause any changes in the fire protection properties:

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

Remark

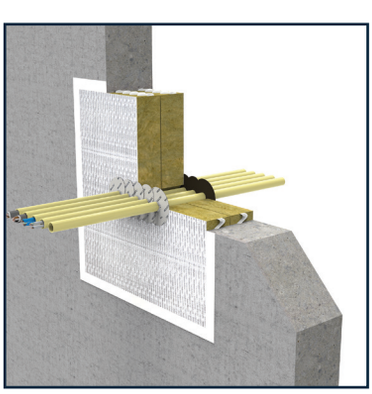
Environmental conditions with high humidity levels and/or some types of coating materials and chemicals may affect the colour or reduce colour changes.

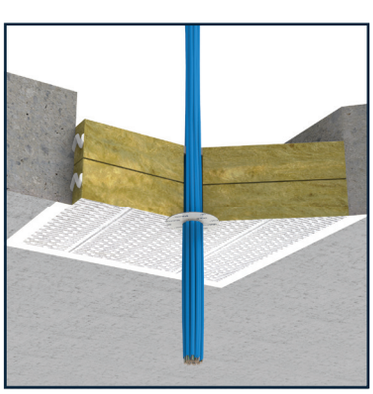
[3)]Expansion factor

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

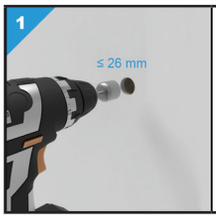
The surface consistency of aluminium, stainless steel, galvanised steel and polyethylene and polyvinyl chloride plastics is not adversely affected through contact with the Multidisc.





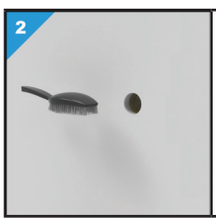
5. Installation Manual Multidisc

1



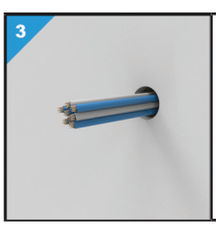
Drill the desired gap of up to 26 mm in the wall.

2



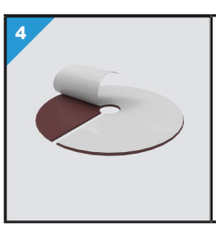
Make sure the surface of the wall is free from dust, dirt and grease.

3



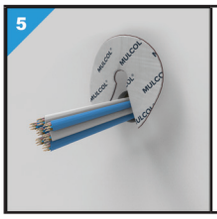
Feed the required installation components through.

4



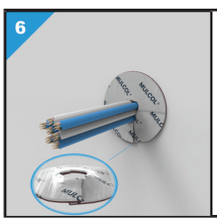
Remove the protective film on the back of the Multidisc.

5



Fold the Multidisc open so that it fits well around the service penetration.

6



Carefully apply the Multidisc and make sure that the sealing side overlaps. Press the Multidisc properly onto the structure and around the service penetration!

7

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**.

MULCOL INTERNATIONAL

6. Performance overview

Penetration through flexible walls, rigid walls and floors

EN 1366-3

Cables	Penetration Ø [mm]	Seal size Ø [mm]	Spacing	Construction			Classification minutes
				FW-100	RW-100	RF-150	
Cable bundle, Copper cont. ≤ 60 mm²	≤ 26	≤ 26	fig. 1 and 2	✓	✓	✓	≤ EI 120
Electric cable, Copper cont. ≤ 12,5 mm²	≤ 14	≤ 26	fig. 1 and 2	✓	✓	✓	≤ EI 120

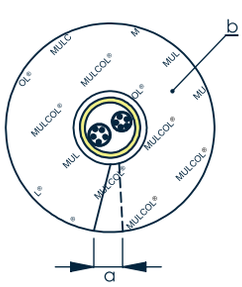
Multilayer pipes	Penetration Ø [mm]	Seal size Ø [mm]	Spacing	Construction			Classification minutes
				FW-100	RW-100	RF-150	
Aluminium composite pipes[1)]	≤ 16 x 2.0	≤ 26	fig. 1 and 2	✓	✓	✓	≤ EI 90-U/C

Plastic conduits	Penetration Ø [mm]	Seal size Ø [mm]	Spacing	Construction			Classification minutes
				FW-100	RW-100	RF-150	
PVC conduit with cable(s)	≤ 25	≤ 26	fig. 1 and 2	✓	✓	✓	≤ EI 120-U/U
PVC conduit without cable(s)	≤ 25	≤ 26	fig. 1 and 2	✓	✓	✓	≤ EI 120-U/U
PVC conduit with cable(s)	≤ 16 (5x)	≤ 26 (5x)	fig. 1 and 2	✓	✓	✓	≤ EI 90-U/U
PVC conduit without cable(s)	≤ 16 (5x)	≤ 26 (5x)	fig. 1 and 2	✓	✓	✓	≤ EI 90-U/U

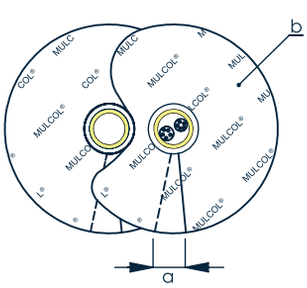
1) Types of pipe
– Alpex DUO, Valsir Pexal, Valsir Mixal and APE Plain (PE-Xb/AL/PE-Xb)
– Geberit Mepla and Uponor Unipipe (PE-RT/AL/PE-RT)
– Henco and Uponor (PE-Xc/AL/PE-Xc)
– Uponor, REHAU (PE-Xa) and REHAU (PE-Xc)
– SP Superpipe and POLYGON PEX (PE-X/AL/PE-X)
– Valsir Pexal and Valsir Mixal (PE/AL/PE-Xb)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

E: *Integrity*
I: *Thermal insulation*

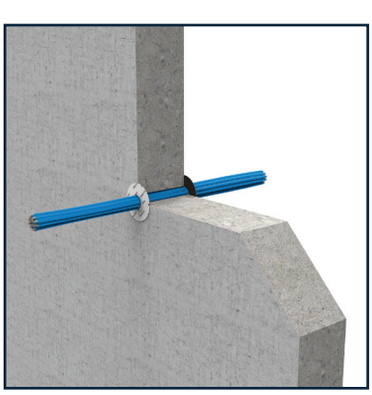
FW-100: *Flexible wall, 100 mm thick*
RW-100: *Rigid wall, 100 mm thick*
RF-150: *Rigid floor, 150 mm thick*



a: Overlap, at least 10 mm
b: Multidisc



a: Overlap, at least 10 mm
b: Multidisc



MULCOL INTERNATIONAL

Penetration through fire-stopping coated batts (2 x 50 mm) EN 1366-3

Cables	Penetration Ø [mm]	Seal size Ø [mm]	Spacing	Construction			Classification minutes
				FW-100	RW-100	RF-150	
Cable bundle, Copper cont. ≤ 60 mm²	≤ 26	≤ 26	fig. 3 and 4	✓	✓	✓	≤ EI 60
Electric cable, Copper cont. ≤ 12,5 mm²	≤ 14	≤ 26	fig. 3 and 4	✓	✓	✓	≤ EI 90

Multilayer pipes	Penetration Ø [mm]	Seal size Ø [mm]	Spacing	Construction			Classification minutes
				FW-100	RW-100	RF-150	
Aluminium composite pipes[1)]	≤ 16 x 2.0	≤ 26	fig. 3 and 4	✓	✓	✓	≤ EI 90-U/C

Plastic conduits	Penetration Ø [mm]	Seal size Ø [mm]	Spacing	Construction			Classification minutes
				FW-100	RW-100	RF-150	
PVC conduit with cable(s)	≤ 25	≤ 26	fig. 3 and 4	✓	✓	✓	≤ EI 90-U/U
PVC conduit without cable(s)	≤ 25	≤ 26	fig. 3 and 4	✓	✓	✓	≤ EI 90-U/U
PVC conduit with cable(s)	≤ 16 (5x)	≤ 26 (5x)	fig. 3 and 4	✓	✓	✓	≤ EI 90-U/U
PVC conduit without cable(s)	≤ 16 (5x)	≤ 26 (5x)	fig. 3 and 4	✓	✓	✓	≤ EI 90-U/U

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

E: Integrity
I: Thermal insulation

FW-100: Flexible wall, 100 mm thick
RW-100: Rigid wall, 100 mm thick
RF-150: Rigid floor, 150 mm thick

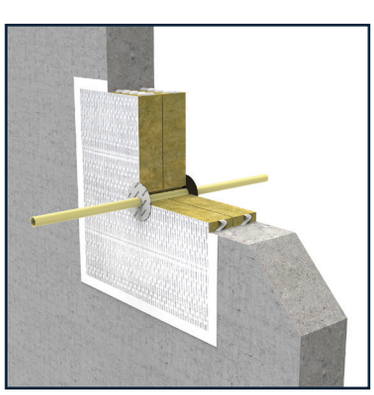
4. Actually tested solutions

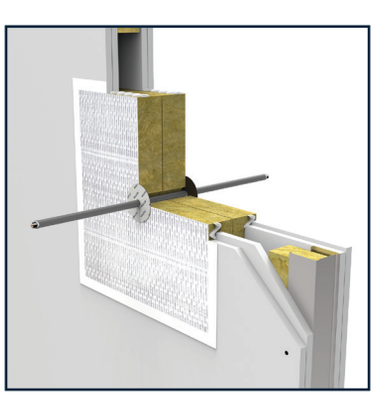
All the latest tested solutions with the Multidisc can be found in our **Multiselector**. Scan the QR code or press the Multiselector button to get directly to the tested solution for your project.

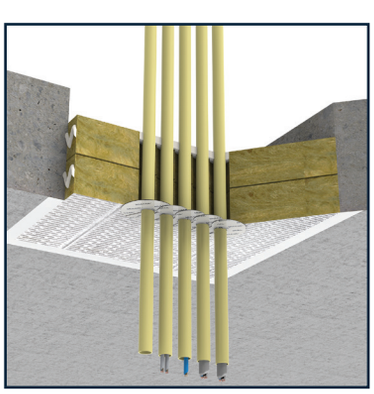
MultiSelector

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







MULCOL INTERNATIONAL

5. Spacing

Figure 1
A1: Distance between the seal and penetration ≥ 0 mm
A2: Spacing ≥ 20 mm

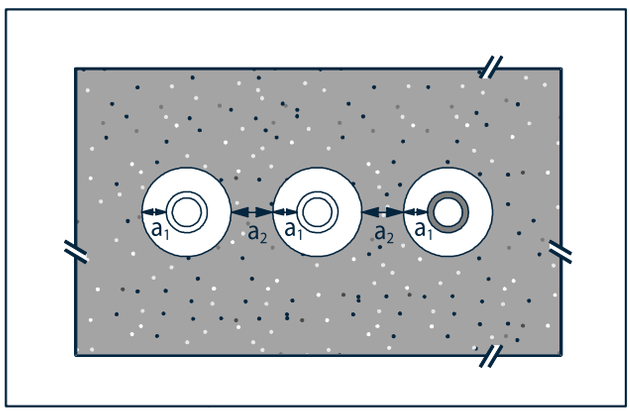


Figure 2
A1: Distance between the seal and penetration ≥ 0 mm
A2: Spacing ≥ 20 mm

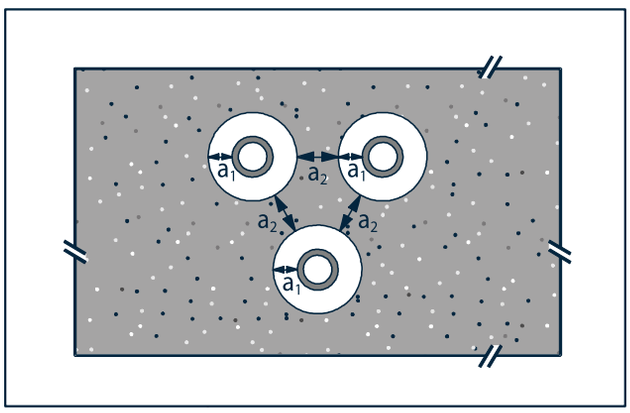


Figure 3
A1: Distance between the penetration and the top of the seal ≥ 10 mm
A2: Distance between the penetration and the side of the seal ≥ 10 mm
A3: Spacing ≥ 20 mm

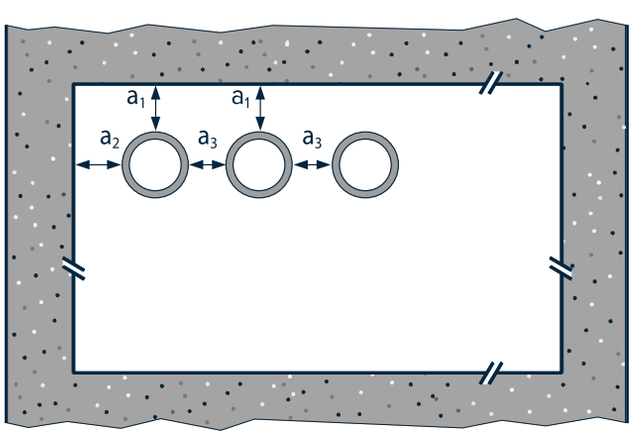
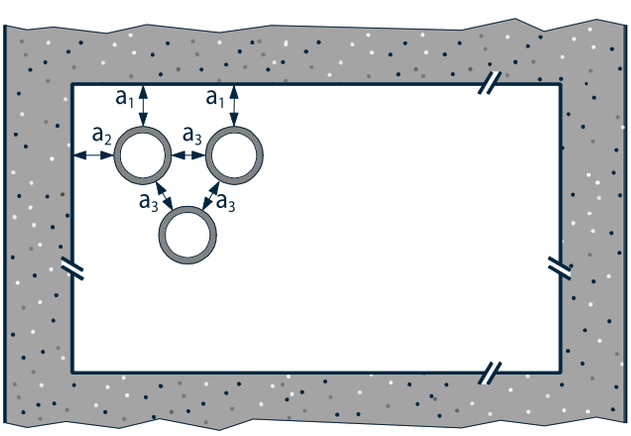


Figure 4
A1: Distance between the penetration and the top of the seal ≥ 10 mm
A2: Distance between the penetration and the side of the seal ≥ 10 mm
A3: Spacing ≥ 20 mm

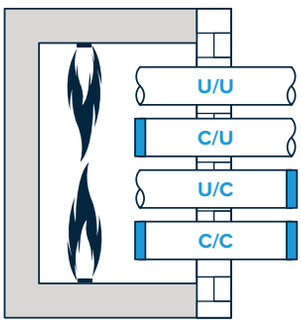


MULCOL INTERNATIONAL

6. 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 1366-3:2009 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 H1, 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
[a]confirmed by testing or calculations (e.g. Eurocodes)			

7. Building Element Properties

Flexible walls
The minimum wall thickness must be 100 mm and the wall must consist of metal or timber studs* with at least 2 layers of cladding on both sides with a thickness of 12.5 mm. Can also be used with fire-stopping stone wool boards, 2 x 50 mm Multimastic FB1, maximum seal size: unlimited width x 1200 mm height (uninterrupted partition styles required, with a centre distance of up to 2400 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 400 kg/m^3. Can also be used with fire-stopping stone wool, 2 x 50 mm Multimastic FB1, maximum seal size: unlimited width x 1200 mm height.

Rigid floors
The minimum floor thickness is 150 mm and the floor must consist of concrete or aerated concrete, with a minimum density of 400 kg/m^3. Can also be used with fire-stopping stone wool boards, 2 x 50 mm Multimastic FB1, maximum seal size: 2400 x 1200 mm (w x h).

**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.

8. Available Documents

Technical documents available
- Product Data Sheet (PDS)
- Technical Data Sheet (TDS)
- Safety Data Sheet (SDS)
- Installation Manual
- CE certificate

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 20/1321
- Declaration of Performance (DoP)

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

MultiSelector

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).

DataManager

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**.

Available for Apple App Store | Available for Android Google play | YouTube | VR Virtual Reality | AR Augmented Reality | MultiSelector | DataManager

MULCOL INTERNATIONAL

Multidisc -TDS- GB | Version 3.2 | 09/2023 | Mulcol International | PO Box 93 | 4330 AB | Middelburg | The Netherlands

Mulcol International
The Netherlands

PO Box 93
4330 AB Middelburg

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

www.mulcol.com

GB