

Multiwrap

Firestopping wrap

European
Technical Assessment
ETA 23/0054



Technical Data Sheet

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**Pragmatic, effective
and applicable
solutions**



Multiwrap

Firestopping wrap



Fire resistance
≤ 240 minutes



Working life
25 years

Fire wrap

Multiwrap is a graphite-based wrap on a roll, for firestopping of combustible pipes and insulation. The Multiwrap provides a fire-resistant seal to adjacent rooms. Multiwrap reacts to heat and it seals openings caused by the melting of plastic pipes or combustible insulation. The Multiwrap is available with and without adhesive layer.

Multiwrap forms part of the Mulcol® Penetration Seal System.

Advantages

- ✓ Fire resistance ≤ 240 minutes
- ✓ CE-certified
- ✓ Environmentally and user-friendly
- ✓ Quick and easy application
- ✓ Ideal for hard-to-reach locations
- ✓ Halogen-free
- ✓ Working life of 25 years

Application

- ✓ Rigid floors and walls
- ✓ CLT walls and floors
- ✓ Hollow core floors
- ✓ Flexible and shaft walls
- ✓ Sandwich panel walls
- ✓ In combination with Multimortar and Multimastic FB fireboards
- ✓ Plastic pipes with a diameter of up to Ø 160 mm
- ✓ Metal pipes with combustible insulation

Packaging

	Dimensions	Box	Outer box	Pallet	Article number
Roll, non-adhesive	10000 x 50 x 1,8 mm	1 piece	8 pieces	480 pieces	207001050
Roll, adhesive	10000 x 50 x 1,8 mm	1 piece	8 pieces	480 pieces	207001060

1. Technical data

EAN-code	8719324470209
Condition	Ready to use
Colour	Anthracite
Shelf life	Not applicable
Transportation- storage temperature	+5 °C to +30 °C (store dry and dustfree in the original packaging)
Temperature resistance	-20 °C to +50 °C
Graphite density	1300 kg/m ³
Usage category¹⁾	Type Y1 conform EAD 350454-00-1104
Acoustic properties	Rw 28 dB (on installation in combination with Multimastic FB system) Rw 37 dB (when installed in combination with Multimortar)
Fire class	C-s1,d0 in accordance with EN 13501-1
Approvals	ETA report 23/0054
Function retention	25 years
Seam finish	Multimastic SP, Multimortar or Multimastic C system
Finishing of large recesses	Multimastic C system or Multimortar

¹⁾ Permissible environmental conditions

Product intended for use at temperatures below 0 °C with exposure to UV (occasionally) but no exposure to rain (TR 024, type Y1).

Enviromental databases

Multivrap is listed in the enviromental databases:

- ✓ SundaHus
- ✓ BVB (Byggvarubedömningen)
- ✓ Nordic Swan Ecolabel

Acoustic properties

The sound insulation value only applies to the sealant and not to other elements in the building structure.

- ✓ Multiwrap installed in Multimastic C system (coated batt system): Rw 28 dB
- ✓ Multiwrap installed in Multimortar (firestopping mortar): Rw 37 dB

Consumption tables

Consumption table for plastic pipes, uninsulated (mm)

Plastic pipe Ø outer (mm)	1 layer	2 layers	3 layers	4 layers	5 layers	6 layers
40	136	273	421	581	751	934
50	167	335	515	706	908	1122
75	246	493	751	1020	1301	1593
110	356	712	1081	1460	1851	2253
125	403	807	1222	1649	2087	2536
160	513	1027	1552	2088	2636	3196

Consumption table for metal pipes insulated with 15 mm of insulation (mm)

Metal pipe Ø outer (mm)	1 layer	2 layers	3 layers	4 layers	5 layers	6 layers
22	161	323	496	681	877	1084
35	202	405	619	844	1081	1329
54	261	524	798	1083	1380	1688
114.3	451	903	1366	1841	2327	2824
168.3	620	1242	1875	2520	3175	3842
219.1	780	1561	2354	3158	3973	4800
324	1110	2220	3343	4476	5621	6777

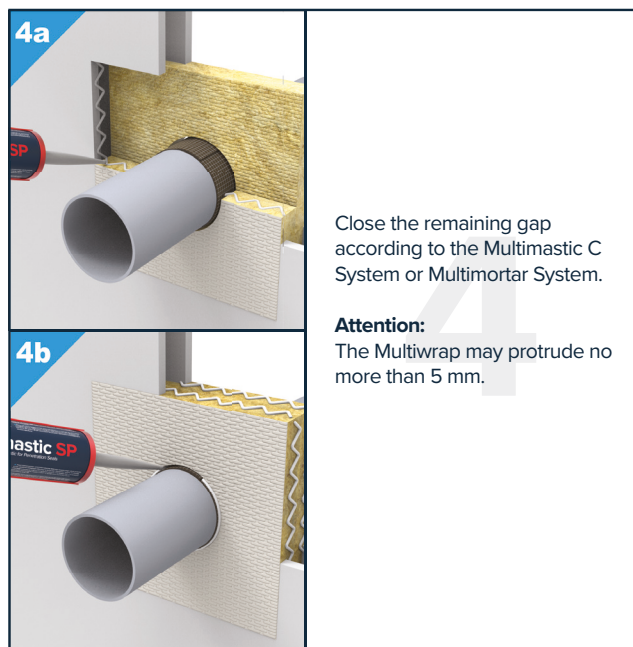
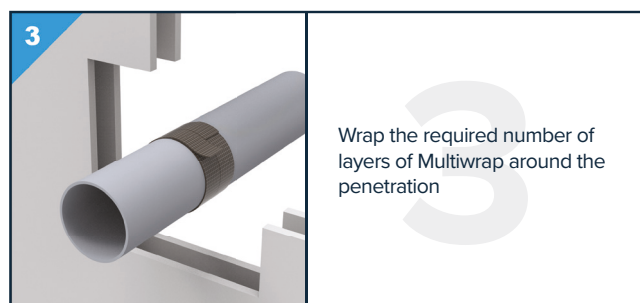
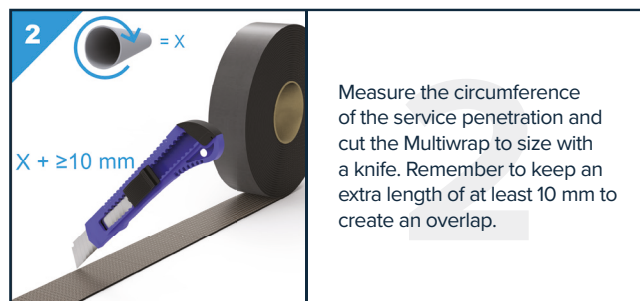
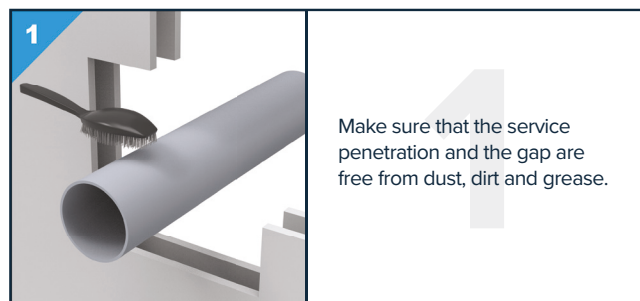
Consumption table for metal pipes insulated with 32 mm of insulation (mm)

Metal pipe Ø outer (mm)	1 layer	2 layers	3 layers	4 layers	5 layers	6 layers
22	280	562	854	1159	1474	1801
35	321	643	977	1322	1678	2046
54	381	763	1156	1561	1977	2404
114.3	570	1142	1724	2318	2924	3541
168.3	740	1481	2233	2997	3772	4558
219.1	899	1800	2712	3635	4570	5516
324	1229	2459	3701	4954	6218	7493

Consumption table for metal pipes insulated with 50 mm of insulation (mm)

Metal pipe Ø outer (mm)	1 layer	2 layers	3 layers	4 layers	5 layers	6 layers
22	393	788	1194	1611	2039	2479
35	434	870	1316	1774	2244	2724
54	494	989	1495	2013	2542	3082
114.3	683	1368	2064	2771	3489	4219
168.3	853	1707	2573	3449	4338	5237
219.1	1012	2026	3051	4088	5136	6195
324	1342	2685	4040	5406	6783	8172

2. Installation manual



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

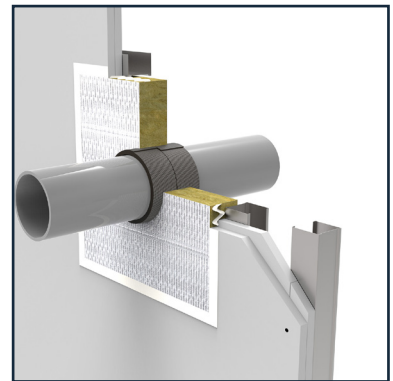
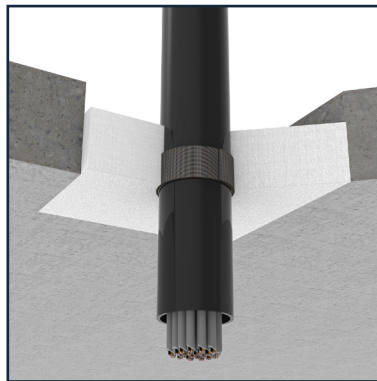
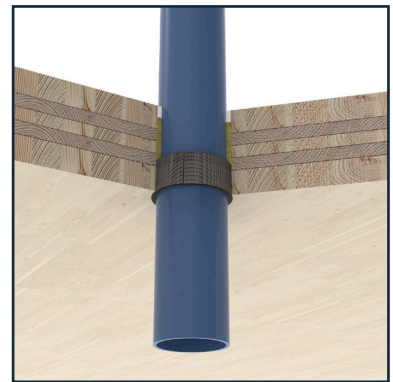
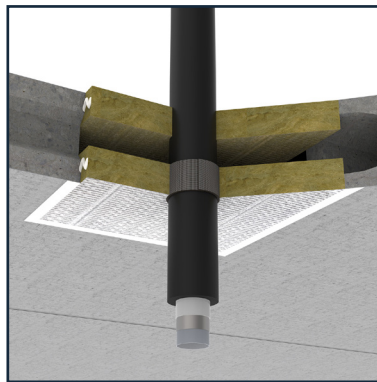
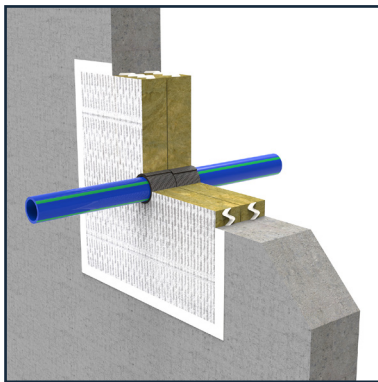
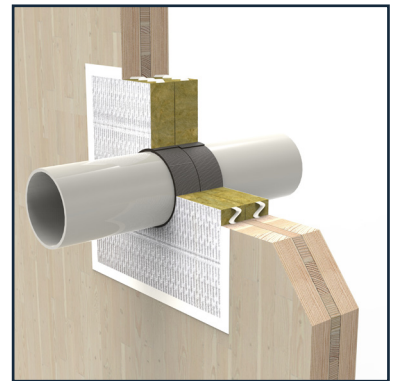
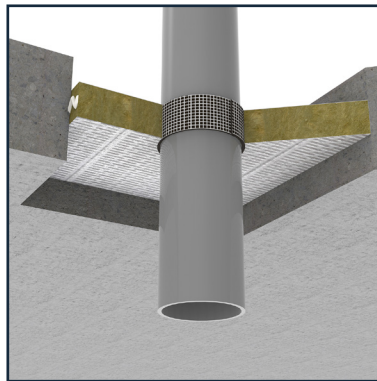
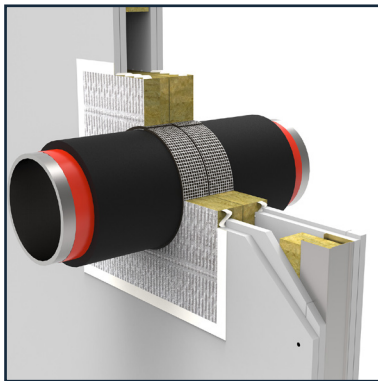
See the **Mulcol Fire Protection app** for the correct application in combination with fire resistance, or use our **selector** at www.mulcol.com.

3. Tested solutions

All the latest tested solutions with the Multiwrap 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.

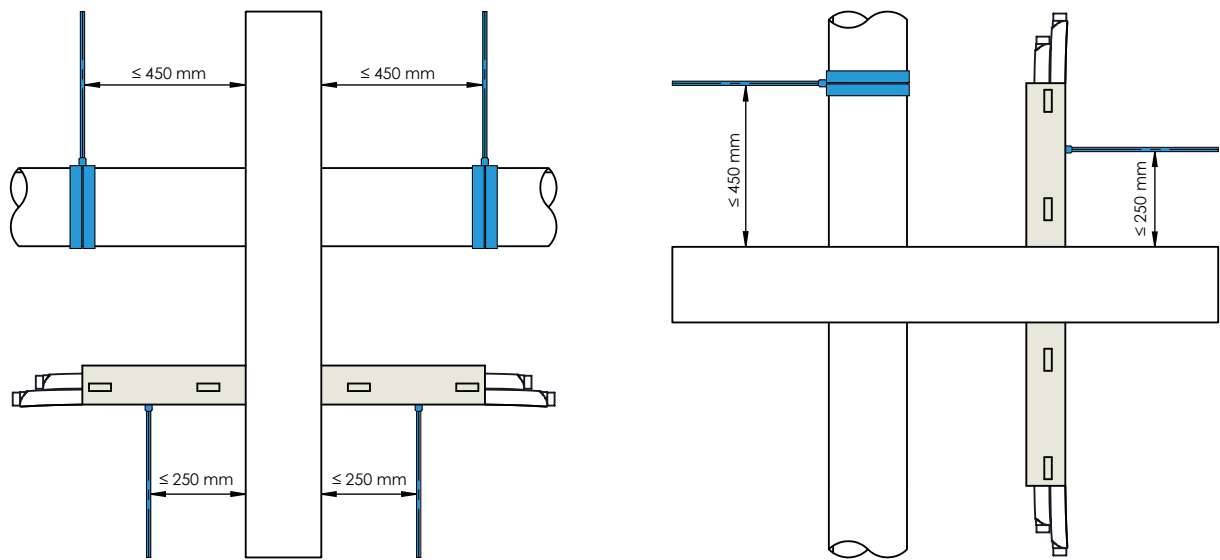


Our **Multiselector** can also be found in our **Mulcol Fire Protection App**. It can be downloaded from the **App Store** (iOS) or **Google Play Store** (Android).



4. Service support

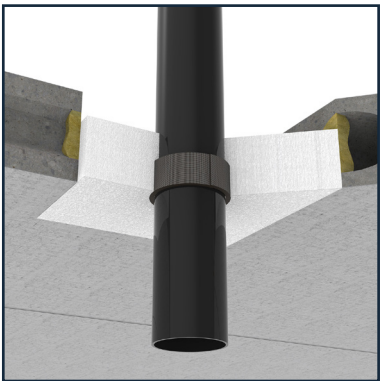
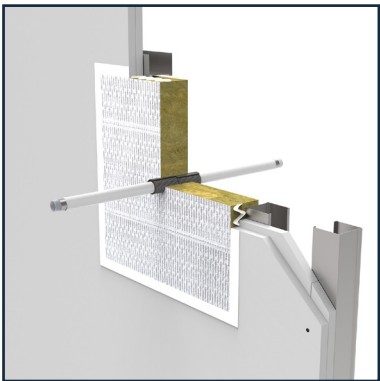
For all services (except cables and cable trays), the first support must be fitted ≤ 450 mm from the fire separating element, with cables and cable carriers at ≤ 250 mm. For floors the first support should be fitted at a distance of ≤ 450 mm from the top of the floor and for cables and cable carriers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



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.

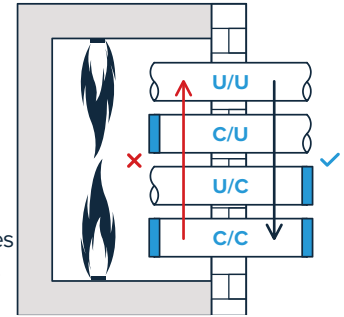


Table 1 - Test configuration plastic pipes

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.

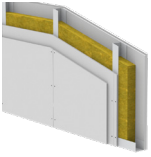
Non-combustible pipes (metal)

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



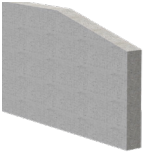
Flexible walls

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.



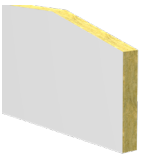
Rigid walls

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



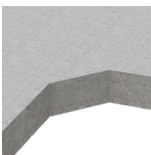
Cross laminated timber (CLT) walls

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.



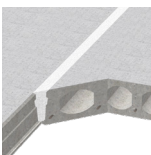
Rigid floors

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

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 23/0054
- ✓ VKF report 040068-00
- ✓ 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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