

Multimastic C System

Mixed Penetration Seals

European
Technical Assessment
ETA 23/0050



Technical Data Sheet

MULCOL
INTERNATIONAL

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**Pragmatic, effective
and applicable
solutions**



Multimastic C System

Multimastic FB1/FB2 Firestop Board

Multimastic C Firestop Coating



Fire resistance
≤ 240 minutes

EPD
VERIFIED



Acoustic insulation
Rw 28 dB (1 x FB1)



Working life
25 years

Multimastic C System

Multimastic FB1 and Multimastic FB2 are firestop boards made of a high-density stone wool core, treated with Multimastic C firestop coating on one or both sides. Multimastic FB firestop boards make it possible to seal larger openings, creating a fire-resistant and smoke-proof seal to adjacent rooms.

Multimastic FB firestop boards form part of the Mulcol® Penetration Seal System. Multimastic FB firestop boards can be used in combination with the Multimastic SP firestop mastic and Multimastic C firestop coating.

Advantages

- ✓ Fire resistance ≤ 240 minutes
- ✓ CE-certified
- ✓ Easy to install
- ✓ Environmentally and user-friendly
- ✓ No lining required in the case of plasterboard partitions
- ✓ High sound insulation
- ✓ Permanently flexible

Application

- ✓ Rigid floors and walls
- ✓ CLT walls and floors
- ✓ Hollow core floors
- ✓ Flexible and shaft walls
- ✓ Sandwich panel walls
- ✓ Firestop boards
- ✓ Metal pipes up to Ø 324 mm with and without insulation
- ✓ Cable trays, cable ladders, electric cables and cable bundles
- ✓ Fire dampers
- ✓ Busbars
- ✓ Plastic and multilayer pipes

Packaging

	Panel thickness	Dimensions	Contents	Box	Pallet	Article number
Multimastic FB1	50 mm	1000 x 625 mm	-	-	60 pieces	204001051
Multimastic FB2	60 mm	1000 x 625 mm	-	-	50 pieces	204001062
Multimastic C coating	-	-	6 kilos	-	80 buckets	202001006
Multimastic C coating	-	-	12.5 kilos	-	40 buckets	202001125

1. Technical data

Multimastic FB fire stopping board

Product:	EAN-code
Multimastic FB1	8719324470100
Multimastic FB2	8719324470131
Colour	White surface, green core
Condition	Ready for use, pre-treated fire stopping board
Non- adhesive	After max. 75 minutes (in combination with Multimastic C coating)
Fully cured	3 to 5 days, depending on the thickness of Multimastic C and the temperature
Density	~ 160 kg/m ³
Thermal conductivity	0.039 W·m ⁻¹ ·K ⁻¹ in accordance with EN 12667
Category of use¹⁾	Type Z ₂ in accordance with EAD 350454-00-1104
Recoatable²⁾	Yes
Installation from 1 side possible	Yes
Air and smoke tight	S _a and S ₂₀₀ in accordance with NEN 6075
Acoustic properties	50 mm both sides coated: R _w (C;C _{tr}) = 28 (-1 ; -2) dB
Reaction to fire class	E in accordance with EN 13501-1
Approvals	ETA 23/0050, VKF 040067-00, VKF 033531-01
Tested combinations	Multicollar <i>Slim</i> , Multisealant GR, Multiwrap, Multidisc and Multitherm Bandage
Compatibility	Suitable for use with most materials
Function retention	25 years

¹⁾ Permissible environmental conditions

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

²⁾ Recoatable

The Mulcol® Multimastic C system can be painted with most emulsion or alkyd (gloss) paints.

Acoustic properties

The Multimastic C system has been tested according to EN ISO 10140. The same or higher sound insulation can be achieved with a thicker or double stone wool coated board. The sound insulation value only applies to the firestop system and not to other elements in the building structure.

With 1.0 mm Multimastic C WFT (wet film thickness) on both sides of at least 50 mm thick stone wool with a density of 160 kg/m³:

✓ Multimastic FB: dimensions 50 mm thick, coating on one side > R_w 28 dB

Sealings in flexible walls, rigid walls and floors

Seams and gaps around the Multimastic C system and the penetrations must be finished with Multimastic SP Firestop Mastic. Seams between the construction and the Multimastic C system and the Multimastic C system itself must at all times be provided with Multimastic SP Firestop Mastic. This ensures the bonding of the system. For more information, see ETA report 23/0050 and ETA 23/0060.

Multimastic C coating

Product:	EAN-code
Multimastic C - 6 kg	8719324470056
Multimastic C - 12.5 kg	8719324470063
Colour code	RAL 9002 / NCS S1002-Y
Shelf life	18 months in unopened packaging at a temperature between +5°C and +30°C
Transportation storage temp.	+5 °C to +30 °C
Application temperature	+10 °C to +30 °C
Temperature resistance	-30 °C to +80 °C
Non- adhesive	After max. 75 minutes
Fully cured	3 to 5 days, depending on the thickness and the temperature
Flexibility	± 7.5% (according to ISO 11600)
Specific weight	1.35 - 1.4 g/cm ³
Viscosity	10000 - 20000 mPa.s (20°C)
Category of use¹	Type Z ₂ in accordance with EAD 350454-00-1104
Recoatable²	Yes
Installation from 1 side possible	Yes
Reaction to fire class	E in accordance with EN 13501-1
VOC content	< 1 g/L
Approvals	ETA 23/0050, VKF 040067-00, VKF 033531-01
Tested combinations	Multicollar <i>Slim</i> , Multisealant GR, Multiwrap, Multidisc and Multitherm Bandage
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² Recoatable

Mulcol® Multimastic C can be painted with most emulsion or alkyd (gloss) paints.

Enviromental documents

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



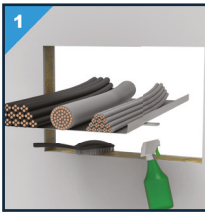
Find all of our enviromental documents easily on our downloadpage or via the QR code:

Enviromental databases

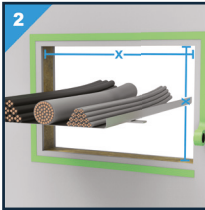
Multimastic C is listed in the enviromental databases:

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

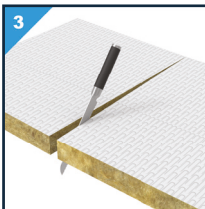
2. Installation manual



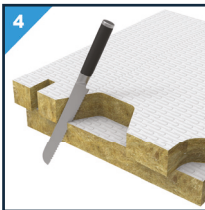
1 Make sure that the service penetrations and aperture are free from dust, dirt and grease. Moisten the construction, if necessary.



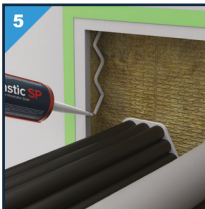
2 Measure the aperture and service penetrations and draw it on the rock wool Multimastic FB firestop board.



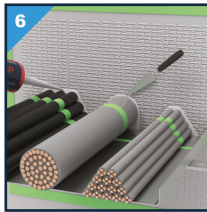
3 Cut or saw the Multimastic FB firestop board to the desired size.



4 Cut or saw the service penetrations from the Multimastic FB firestop board.



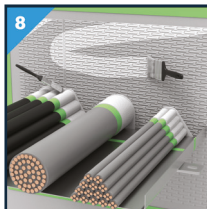
5 Glue Multimastic FB firestop board with Multimastic SP mastic into the construction and with the service penetrations.



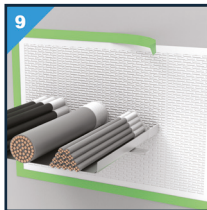
6 Fill the joints and openings around the service penetrations and the construction with Multimastic SP mastic and smooth the joint with a moist spatula or filler knife.



7 Take the bucket Multimastic C firestop coating and stir well before use.



8 For aesthetic reasons, paint the Multimastic FB completely with a brush or roller.



9 Remove the tape for a nice and tight appearance.



10 Fill in the conformity statement card and paste it next to the penetration seal.



MultiSelector



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

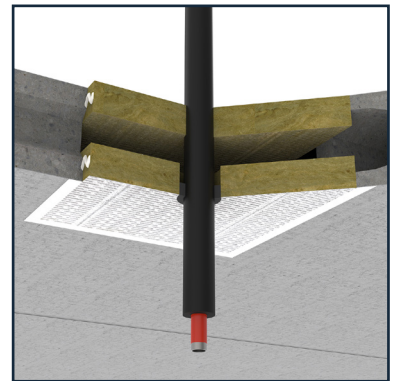
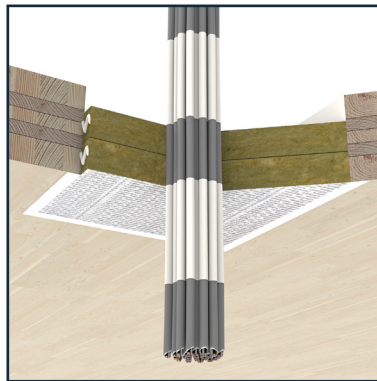
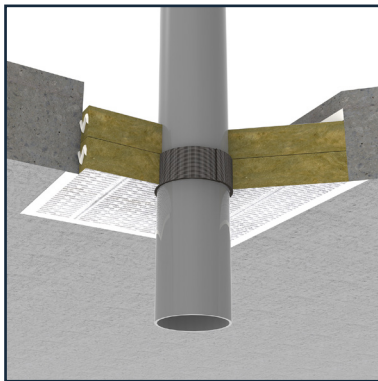
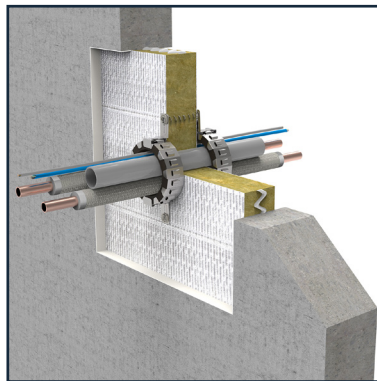
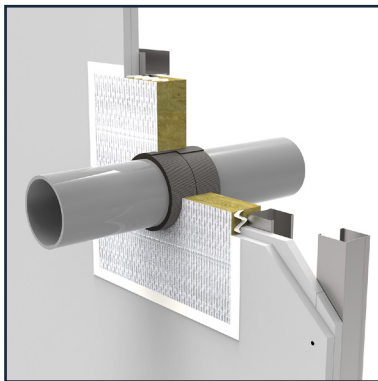
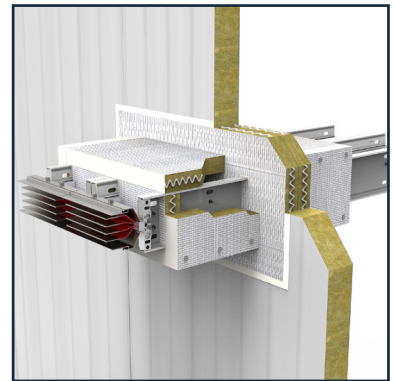
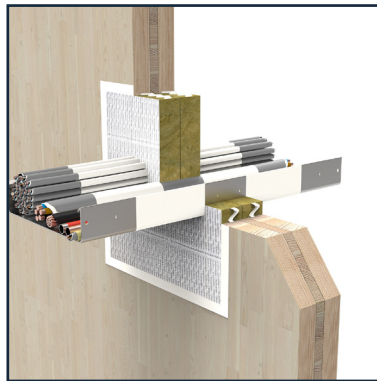
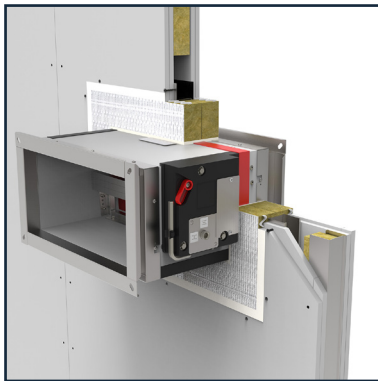
See the **Mulcol Fire Protection app** for the correct application in combination with fire resistance, or use our **selector** at www.mulcol.com.

3. Tested solutions

All the latest tested solutions with the Multimastic C 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.

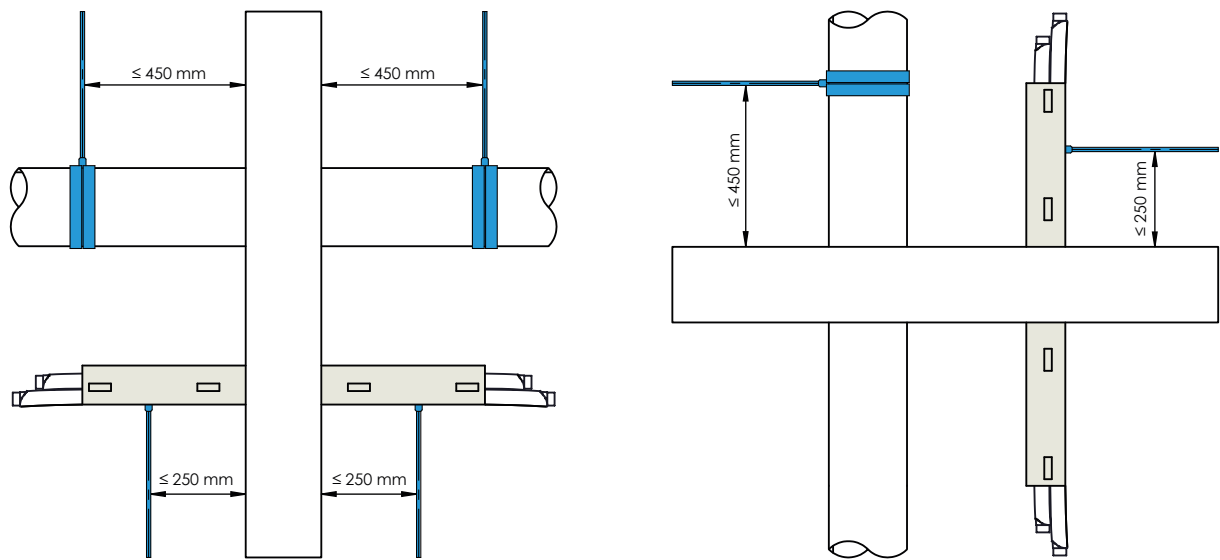


Our **Multiselector** can also be found in our **Mulcol Fire Protection App**. It can be downloaded from the **App Store** (iOS) or **Google Play Store** (Android).



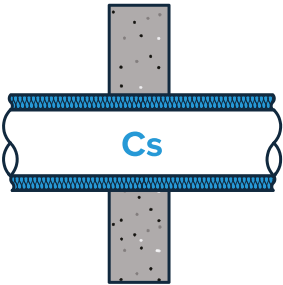
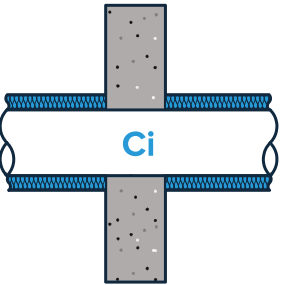
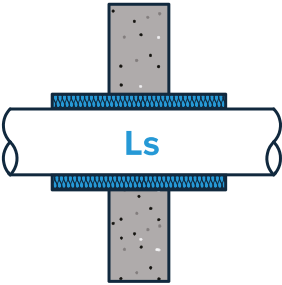
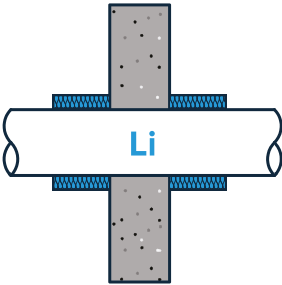
4. Service support

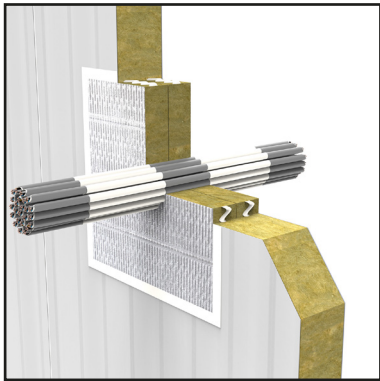
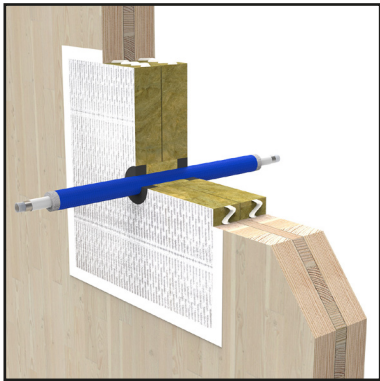
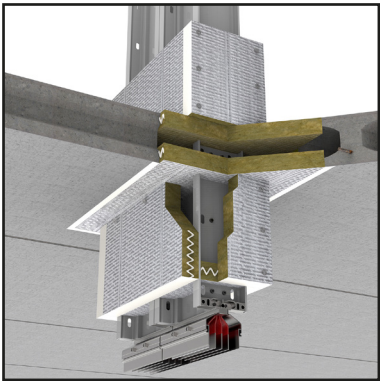
For all services (except cables and cable trays), the first support must be fitted ≤ 450 mm from the fire separating element, with cables and cable carriers at ≤ 250 mm. For floors the first support should be fitted at a distance of ≤ 450 mm from the top of the floor and for cables and cable carriers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

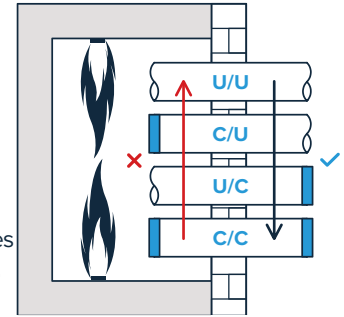


Table 1 - Test configuration plastic pipes

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.

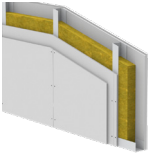
Non-combustible pipes (metal)

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



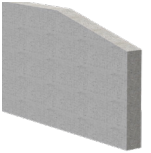
Flexible walls

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.



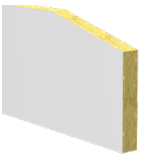
Rigid walls

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



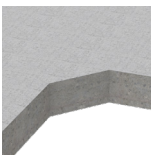
Cross laminated timber (CLT) walls

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.



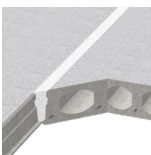
Rigid floors

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
- ✓ 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 23/0050 and 23/0060
- ✓ VKF 040067-00, VKF 033531-01
- ✓ Declaration of Performance (DoP)
- ✓ EPD certification

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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