

MAPESIL LM

Neutral mould-resistant silicone sealant with very low emission level of volatile organic compounds (VOC) for stone and marble



BENEFITS AND FEATURES

- Does not stain, ideal for sealing stone
- Mould-resistant (BioBlock® technology)
- Seals remain stable over the years
- Solvent-free, odourless
- Wide range of certifications
- Suitable for external façades
- Highly adhesive
- Wide range of colours

WHERE TO USE

Mapesil LM is a solvent-free sealant with a low modulus of elasticity, specifically formulated for sealing materials sensitive to acids and plasticising agents, including marble, granite, sandstone, and quartz. Its chemical formulation prevents surface bleeding or the migration of plasticisers that could otherwise stain the substrate. The chemical characteristics of the product also make it perfectly suitable for particularly delicate materials such as bricks, cellular concrete, and varnished or enamelled wood.

Mapesil LM generally forms an excellent bond even with non-absorbent substrates, such as glass, ceramic, clinker, enamelled surfaces, water and solvent-based varnishes, metals in general, and various types of plastic. It is also suitable for contact with absorbent mineral substrates such as concrete, render, and fibre-cement. The product generally has a good bond strength on these substrates even without a primer (consult MAPEI Technical Services Department beforehand). It performs well in sanitized water, typical of swimming pools.

Some application examples

Thanks to its low modulus of elasticity, **Mapesil LM** is suitable for sealing expansion and fillet joints, even when subjected to significant movement, both indoors and outdoors, such as:

- prefabricated panels;
- window or door frames and wall openings;
- pipes and vertical walls;
- similar and/or different covering elements.

It is also suitable for sealing joints in floors with limited pedestrian traffic.

TECHNICAL CHARACTERISTICS

Mapesil LM is a one-component, solvent-free, odourless, neutral-curing silicone sealant in the form of a thixotropic paste that can be easily applied horizontally and vertically. It hardens with atmospheric moisture at room temperature to form a flexible and waterproof product.

Seals made with **Mapesil LM** do not deteriorate over time, even when exposed to weathering, industrial environments, thermal shock, or water. They remain flexible at temperatures from -40°C up to +150°C.

Mapesil LM delays the onset of surface mould.

The resistance of **Mapesil LM** to chemicals is generally good; however, due to the variety of products and working conditions under which it can be used, it is necessary to carry out preliminary tests in cases of doubt.

Mapesil LM bonds perfectly to most of the substrates used in the building industry without priming (glass, ceramic, marble, aluminium, galvanized steel sheets, concrete, stainless steel, PVC).

In case of prolonged immersion in water, use **Mapei Primerseal A** on absorbent substrates and **Mapei Primerseal M** on non-absorbent substrates.

In case of doubt, please consult MAPEI Technical Services Department or carry out preliminary tests.

Mapesil LM is particularly suitable for surfaces sensitive to acids, on which conventional neutral or acid sealants often cause discoloration or staining of the substrate.

Mapesil LM complies with EN 15651-1 ("*Sealants for façade elements*") with performance rating F-EXT-INT-CC; EN 15651-2 ("*Sealants for glazing*") type G-CC; EN 15651-3 ("*Sealants for sanitary joints*") type XS1; and EN 15651-4 norm ("*Sealants for pedestrian walkways*") with performance rating PW-EXT-INT-CC.

RECOMMENDATIONS

- Do not apply **Mapesil LM** on rubber, heavily-plasticised plastics, or bitumen: the oil and plasticising agents in the substrate may migrate to the surface, compromising adhesion or penetrating into the sealant, causing changes in colour and mechanical properties.
- When **Mapesil LM** is constantly immersed in sanitized water, typically found in swimming pools, its physical-mechanical properties may be affected prematurely. Given the wide range of products used to treat water and the varying concentrations employed, long-term performance can only be guaranteed following specific laboratory tests.
- Do not use **Mapesil LM** for sealing floors subject to intense traffic (use **Mapeflex PU45 FT** or **Mapeflex E-PU 21 SL**).
- Under certain conditions, **Mapesil LM** may exhibit a water-repellent effect along the edges of joints. This effect is only noticeable when surfaces are wet and disappears when they are dry. However, this phenomenon does not affect the product's performance characteristics.
- Do not use a primer when sealing stone or marble surfaces.

APPLICATION PROCEDURE

Preparation of the substrate

All the surfaces to be sealed must be dry, sound, and free of dust, crumbling parts, oil, grease, wax, old paint, and rust.

To ensure the sealant performs correctly, it must be free to expand and compress within the joint.

Therefore, it is necessary that:

- it bonds perfectly only to the side walls of the joint, not to the bottom;
- the width of the joint is properly calculated so that the expected movement does not exceed 25% of the initial joint width;
- The applied thickness of **Mapesil LM** must comply with the values indicated in the following table.

To protect the substrate from staining, apply masking tape along the edges of the joint before extruding **Mapesil LM**.

Regulate the depth of the joint to prevent **Mapesil LM** from adhering to the bottom by inserting **Mapefoam** polyethylene foam cord into the joint.

Application of the primer

Where the use of **Mapei Primerseal A** or **Mapei Primerseal M** is required, they must be applied with a brush on the relevant areas of the joints and allowed to dry before applying **Mapesil LM**.

Application of Mapesil LM

Mapesil LM is supplied in 310 ml recycled plastic cartridges. Cut the cartridge above the end of the thread, attach the nozzle, and cut it at a 45° angle to produce an opening corresponding to the joint size. Insert the cartridge into the gun and extrude the sealant.

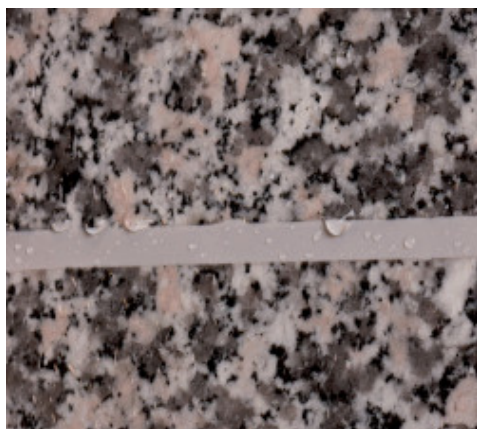
The surface of **Mapesil LM** must be finished off with a tool (e.g. **Mapei Perfect Seal**) moistened with **UltraCare Smooth Silicone** by MAPEI, before the surface film forms. Check the relevant Technical Data Sheet before use. Alternatively, dry smoothing is possible after protecting the joint edges with adhesive paper masking tapes, which must be removed immediately after surface finishing.

In any case, preliminary tests are recommended to verify the surface finish of the sealant.

Crosslinking

When **Mapesil LM** is exposed to air, it cures and becomes elastic due to moisture.

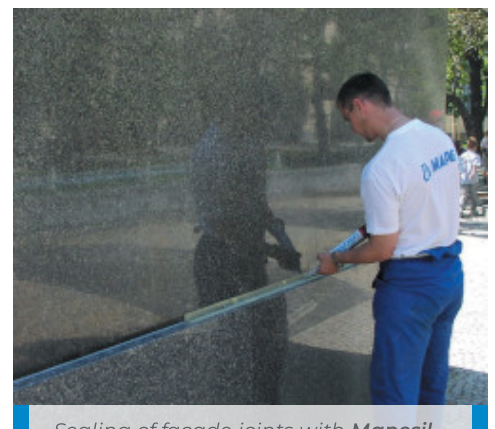
The curing rate of **Mapesil LM** is only slightly affected by temperature, whereas moisture levels have a greater influence. However, the product should not be applied at temperatures below 0°C.



Sealing of exterior stone cladding



Sealing of exterior stone cladding



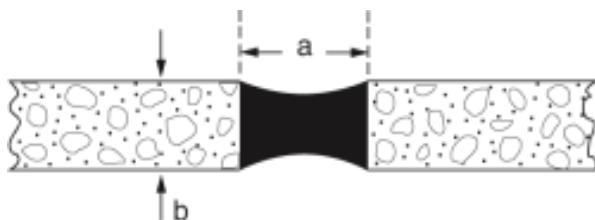
Sealing of façade joints with **Mapesil LM**

CLEANING

To clean partially cured **Mapesil LM** from tools and soiled surfaces, common solvents such as ethyl acetate, white spirit, or toluene can be used. Once fully cured, the silicone rubber can only be removed mechanically.

JOINT SIZING AND CONSUMPTION

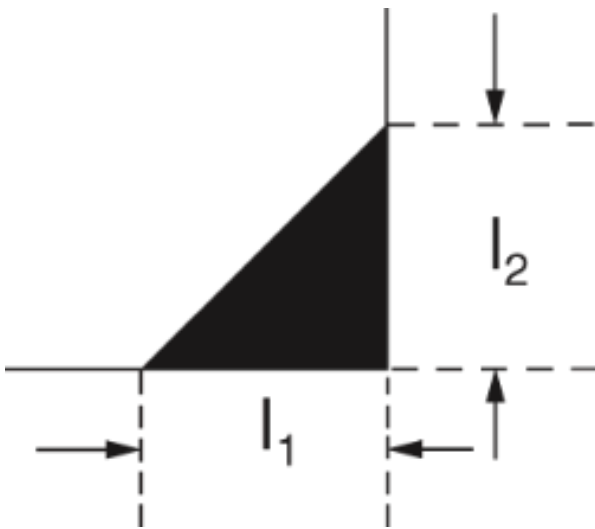
Butt joint



Joint size in mm (axb)	Metres of product per cartridge
5x5	12
5x10	6

10x10	3
15x10	2
20x10	1.5
25x10	1.25
30x15	0.7
40x20	0.4

Fillet joint



Joint size in mm ($l_1 \times l_2$)	Linear metres
5	25
10	6
15	3
20	1.5

PACKAGING

Mapesil LM is available in 310 ml cartridges in the following colours: White 100, Grey 110, Grey 111, Grey 112, Grey 113, Anthracite 114, Black 120, Jasmine 130, Beige 132, and Transparent, packed in self-supporting boxes of 12 cartridges

Mapesil LM	
100	WHITE
110	MANHATTAN 2000

111	SILVER GREY	
112	MEDIUM GREY	
113	CEMENT GREY	
114	ANTHRACITE	
120	BLACK	
130	JASMINE	
132	BEIGE 2000	
999	TRANSPARENT	

STORAGE

Mapesil LM can be stored up to 18 months in its original cartridges, in a dry and clean place.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the SDS available from our website www.mapei.com.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Classification according to EN 15651-1:	F-EXT-INT-CC
Classification according to EN 15651-2:	G-CC
Classification according to EN 15651-3:	XSI
Classification according to EN 15651-4:	PW-EXT-INT-CC
Certification for staining on absorbent substrates:	no staining according to ASTM C1248
Consistency:	thixotropic paste
Colour:	White 100, Grey 110, Grey 111, Grey 112, Grey 113, Anthracite 114, Black 120, Jasmine 130, Beige 132, Transparent
Density ISO 1183 Met. B:	1.02 g/cm ³
Dry solids content:	100%
EMICODE:	EC1 Plus - very low emissions

APPLICATION DATA (at +23°C - 50% R.H.)

Recommended application temperature:	from +5°C to +40°C
Extrusion rate from a 3.5 mm nozzle at a pressure of 0.5 MPa:	50-70 ml/min.
Time to form surface skin:	15 minutes
Cross-linking rate from the outside to the inside: - 1 day: - 7 days:	4 mm 10 mm

FINAL PERFORMANCE

Tensile strength - according to ISO 8339:	0.5 N/mm ²
Elongation at break according to ISO 8339:	250%
Tear strength (ISO 34):	4 N/mm ²
Shore A hardness (DIN 53505):	21
Elongation modulus measured according to ISO 8339 Method A at 100% elongation:	0.35 N/mm ²
Maximum service movement:	25%
Resistance to water:	excellent
Resistance to ageing:	excellent
Resistance to weather:	excellent
Resistance to chemicals, acids and diluted alkalis:	good
Resistance to soap and detergents:	excellent
Resistance to solvents:	limited
Resistance to temperature:	from -40°C to +150°C

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation.

The most up-to-date TDS can be downloaded from our website www.mapei.com. www.mapei.com.

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS
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