

MAPESIL Z PLUS

Mould-resistant acetic silicone sealant for sanitary fittings



WHERE TO USE

Mapesil Z Plus is used to form waterproof seals and joints between construction elements in the building, mechanical, naval, automobile and industrial sectors, including when elements are permanently exposed to damp. After polymerisation has taken place, it forms a perfect, flexible seal which bonds well to glass, ceramic and painted metal surfaces and which is highly resistant to the formation of mould.

Some application examples

- Mould resistant seals in bathrooms, kitchens, laundry rooms and damp environments.
- Sealing sanitary fittings, bath-tubs, showers and saunas.
- Sealing greenhouses.
- Sealing glass with a U profile (U-glass).
- Sealing between glass and window frames.
- Sealing air and water vents.
- For making general seals in the building, automobile, naval and industrial sectors (portholes, window frames, etc.).

TECHNICAL CHARACTERISTICS

Mapesil Z Plus is an acetic-reticulation silicone sealant with mould-resistant agents. It is supplied in soft, thixotropic paste form and is easy to apply on vertical and horizontal surfaces. Reticulation takes place at room temperature through the humidity present in the air to form a flexible sealant which allows joints to expand and contract by up to 20% of their original size.

Mapesil Z Plus offers permanent resistance to inclement weather, industrial environments, thermal shocks, immersion in water and exposure to damp environments. It adheres perfectly to glass, ceramic, enamelled surfaces, aluminium, certain types of plastic and impregnated, coated and varnished wood without the use of primer.

In any case, to increase adhesion and durability, use **Mapei Primerseal A** on absorbent substrates and **Mapei Primerseal M** on non-absorbent substrates. MAPEI Technical Services Department is also available for further details.

Mapesil Z Plus complies with EN 15651-1 standard ("*Sealants for internal and external façade elements*") with performance rating F-EXT-INT-CC, and with EN 15651-3 standard ("*Sealants for sanitary joints*"), type XSl.

RECOMMENDATIONS

- Do not apply **Mapesil Z Plus** on alkaline substrates without treating them beforehand with **Mapei Primerseal M**.
- Do not use **Mapesil Z Plus** for joints between light-coloured external coatings (ceramic, natural stone, etc.); marks may form or there could be a build up of dirt at the edges of joints exposed to atmospheric agents and dust.
- Do not apply **Mapesil Z Plus** on rubber, highly deformable plastics or bitumen. The oil and plasticisers may migrate to the surface and compromise the bond, and penetrate into the sealant leading to a change in its colour and mechanical characteristics.
- Do not use **Mapesil Z Plus** to seal aquariums or other types of container used to house aquatic life.

Crosslinking

When **Mapesil Z Plus** is exposed to the air, the surrounding humidity sets off the crosslinking reaction. This reaction also takes place at low temperatures. The temperature of the surrounding air only has a slight influence on the reticulation rate of **Mapesil Z Plus**, while crosslinking depends heavily on the level of humidity in the air. The graph in Fig. 1 illustrates the crosslinking rate at +23°C and 50% humidity.

N.B. When crosslinking takes place, 4.0% of acetic acid is given off (TLV: 25 mg/m³), which then evaporates. Do not inhale the vapours given off for long periods or in high concentration levels. Always make sure the environment where it is used and applied is well ventilated. Non-vulcanised silicone rubber irritates the eyes and mucous membranes. In case of contact, wash off with plenty of clean water and seek medical attention.

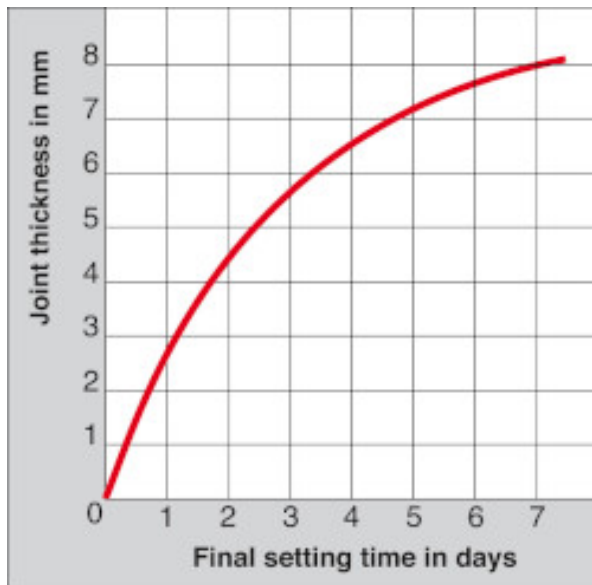


Fig.1

APPLICATION PROCEDURE

Preparation and correct dimensioning of the joint

Surfaces to be sealed must be clean, dry, sound and free of dust, loose parts, oil, grease, wax, rust and old paint. In order to function correctly, the sealant must be able to expand and contract freely once it has been applied in the joint. It is important, therefore, that:

- it only bonds to the side walls of the joint and not to the bottom;
- the width of the joint is calculated correctly so that the product does not expand more than 20% of the initial width of the joint (at +23°C);
- the thickness of the **Mapesil Z Plus** seal is always less or, at most, equal to the width of the joint. The depth of the joint is regulated to avoid **Mapesil Z Plus** sticking to the bottom by inserting **Mapefoam** special closed-cell, expanded polyethylene cord in the joint.

Application of the primer

Where the use of **Mapei Primerseal A** or **Mapei Primerseal M** is necessary, they must be applied with a brush on the relevant areas of the joints and left to dry for some minutes to allow the solvent to evaporate. Then apply **Mapesil Z Plus**.

Only on metal substrates, is it possible to degrease the surfaces and increase adhesion at the same time by using **Mapei Actiprimer M** alone.

Application of Mapesil Z Plus

Mapesil Z Plus is available in 280 ml cartridges. Cut off the tip of the cartridge near the thread and screw on the nozzle. Trim the tip of the nozzle at 45° according to the width of joint required and insert the cartridge into a suitable extrusion gun from the **Mapei Gun** range. Apply masking tape along the edges of the joint to get a perfect finish and use the gun to apply the sealant in the joint. The surface finishing of **Mapesil Z Plus** must be carried out using a tool (e.g. **Mapei Perfect Seal**) moistened with Mapei **UltraCare Smooth Silicone** by Mapei, before the surface film forms. Read the corresponding technical data sheet before use. Alternatively, dry smoothing can be performed, provided that the joint edges are protected with specific adhesive paper masking tapes.

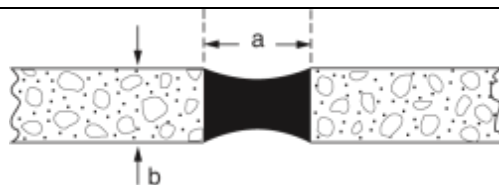
In any case, it is always recommended to carry out preliminary tests to check the surface finish of the sealant.

CLEANING

Traces of **Mapesil Z Plus** may be removed from tools while it is still fresh using a normal solvent such as ethyl acetate, benzene or toluene. Once the product has completely reticulated, the silicon rubber it forms may only be removed mechanically.

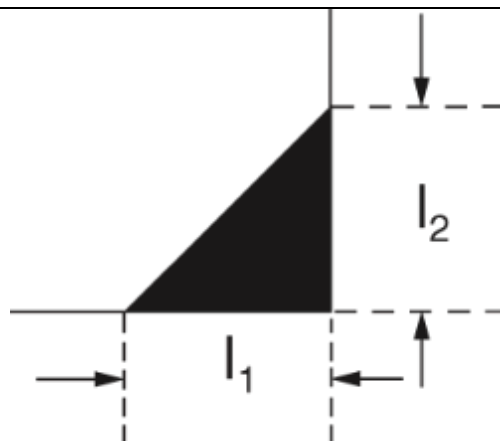
COVERAGE TABLE
(linear metres per cartridge)

BUTT JOINT



Joint size in mm (a x b)	Linear metres per cartridge
5x5	11
10x10	2.8
15x10	1.8
20x10	1.4
25x12.5	0.9
30x15	0.6
40x20	0.4

TRIANGULAR JOINT



Joint size in mm ($l_1 \times l_2$)	Linear metres per cartridge
5	22
10	5.5
15	2.4
20	1.4

PACKAGING

Mapesil Z Plus is available in transparent, white, 113 grey and 130 jasmine in 12 pieces boxes containing 280 ml cartridges.

STORAGE

18 months in its original packaging in a dry place at a temperature between +5°C/+25°C.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, 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 15651-3:	XS1
Consistency:	thixotropic paste
Colour:	transparent, white, 113 grey and 130 jasmine
Density:	1.00 g/cm ³
EMICODE:	EC1 Plus - very low emission

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

Application temperature range:	from +5°C to +40°C
Extraction rate from a 3.5 mm nozzle at a pressure of 0.5 MPa:	80-130 g/min.
Open time (formation of skin):	25 minutes
Reticulation rate:	1 day: 3 mm 7 days: 8 mm

FINAL PERFORMANCE

Tensile strength:	0.6 N/mm ² (according to ISO 8339)
Elongation at failure:	200% (according to ISO 8339)
Tear strength ISO 34-1 mould C:	4.0 N/mm
Maximum permitted movement in service:	12.5%
Shore A hardness (ISO 868):	18
Modulus of elongation at 100%:	0.36 N/mm ² (according to ISO 8339)
Density at +23°C (DIN 53 476):	1.01 g/cm ³
Resistance to water:	excellent
Resistance to ageing:	good
Resistance to atmospheric agents:	good
Resistance to temperatures:	from -30°C to +120°C
Resistance to the formation of mould:	good

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. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

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.

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.



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