

MAPESIL GP

Neutral mould-resistant silicone sealant for building work for movements up to 20%.



WHERE TO USE

Mapesil GP is a neutral mould-resistant silicone sealant specifically created for sealing fillet and expansion joints in pre-fabricated and traditional civil and industrial construction work.

Mapesil GP is particularly recommended for sealing joints, cracks and gaps subject to movement and deformation, fillets joints in wooden, metal and plastic* window and door fittings, tinwork and waterproofing systems and sandwich panels used for covering surfaces and making buffer walls.

Mapesil GP adheres to all types of compact and absorbent building materials such as cementitious substrates (concrete, mortar, render, lightweight elements and pre-fabricated elements fibre-cement), ceramic, glass, enamelled surfaces, metals (aluminium, zinc or pre-painted sheet, copper), rough and painted wood and many types of rigid plastic*.

** This product generally forms a good bond on this type of material even if a primer is not applied beforehand: please contact MAPEI Technical Services Department prior to using the product.*

Thanks to its broad spectrum of adhesion and low modulus of elasticity, **Mapesil GP** is also suitable for making elastic seals in fillet and expansion joints for:

- façades;
- window and door fittings;
- flat roofs and coverings in groundwater;
- ceramic flooring for foot traffic and light vehicles;
- bathrooms, kitchens and damp environments.

TECHNICAL CHARACTERISTICS

Mapesil GP is a one-component, mould-resistant, neutral-curing silicone sealant supplied in the form of a thixotropic paste that gives off no unpleasant odours which is easy to apply by extrusion on vertical and horizontal surfaces without slumping, including in wide joints and at high temperatures.

Mapesil GP cures upon contact with the surrounding humidity and temperature in the air to form an elastic product that adheres well to all suitable substrates.

Seals made using **Mapesil GP** maintain their stability over the years, even if exposed to inclement weather, industrial atmospheres, temperature variations or water and remain flexible at temperatures of between -40°C and $+120^{\circ}\text{C}$.

Mapesil GP generally offers good resistance to chemical agents. However, because of the wide range of products and service conditions, if in doubt, carry out preliminary tests beforehand.

Mapesil GP complies with EN 15651-1 norm ("Sealants for internal and external façade elements") with performance rating F-EXT-INT, with EN 15651-2 norm ("Sealants for glazing") with type G and with EN 15651-3 norm ("Sealants for joints in sanitary areas") type S1.

Mapesil GP bonds perfectly to most types of substrate used in the building industry without applying a primer beforehand.

Primer FD must be applied beforehand in the case of prolonged immersion in water or severe service conditions.

Primer P may also be applied beforehand when used on plastics (without necessarily sanding the plastic prior to application).

If in doubt, please contact MAPEI Technical Services Department or carry out preliminary tests beforehand.

RECOMMENDATIONS

- Do not apply **Mapesil GP** on rubber, flexible plastics or bitumen. The oil and plasticising agents in the substrate may migrate to the surface and compromise adhesion, and penetrate into the sealant and alter its colour and mechanical properties.
- Do not use **Mapesil GP** for sealing floors subject to intense vehicle traffic (use **Mapeflex PU20**, **Mapeflex PU21** or **Mapeflex PU45**).
- Use **Mapesil LM** to seal expansion joints in natural stone (marble, granite, agglomerates, etc.).

APPLICATION PROCEDURE FOR SEALING JOINTS

Substrate preparation

Surfaces to be sealed must be clean, dry and solid and free of dust, loose parts, oil, grease, wax, rust and old paint.

When **Mapesil GP** is used to seal fillet or expansion joints subject to movements when in service, it must only bond perfectly to the sides and not to the bottom of the joint. Therefore, place a suitable diameter (10-20% more than the average width) of **Mapefoam** compressible, closed-cell foam polyethylene cord into the joint to leave a depth in the joint according to the table below:

width/depth ratio of sealant	
width of joint	depth of sealant
up to 10 mm	equal to the width
from 11 to 19 mm	10 mm in all cases
from 20 to 40 mm	half the width

Mapesil GP withstands expansive and compressive movements of up to 20% of the average width of the sealed joint when in service. For larger movements, use **Mapesil LM**, **Mapesil AC** or **Mapeflex PU40**.

To prevent the product dirtying the sides of the joint when applying it and finishing it off, we recommend applying masking tape that will be removed after sealing.

Application of the primer

In those cases where it is required, brush-apply **Primer FD** or **Primer P** on the sides of the joint and wait until it is touch-dry before applying **Mapesil GP**; the time required depends on the surrounding temperature and the wind conditions.

Applying and finishing the sealant

Immediately after preparing the substrate, apply the sealant in the joint. Insert the cartridge in a sealant extrusion gun, cut off the tip of the threaded part of the cartridge, screw on the extrusion nozzle, trim the nozzle at an angle of 45° and according to the extruded width required and squeeze out the sealant in a continuous flow into the joint while avoiding entraining air into the joint. Immediately after extruding the product, smooth over the surface of the sealant while it is still fresh with a suitable tool while keeping it continuously wet with soap and water in order to create a perfect finish. After smoothing over the sealant, remove the masking tape from along the sides of the joint.

APPLICATION PROCEDURE FOR BONDING SHEET METAL

Substrate preparation

Clean, de-grease and dry the sheets before bonding and sealing them. It is particularly important to remove all traces of oil and grease from the surfaces.

Application of the primer

In those cases where it is required, brush-apply **Primer FD** on the sheets and wait until it is touch-dry before applying **Mapesil GP**; the time required depends on the surrounding temperature and the wind conditions.

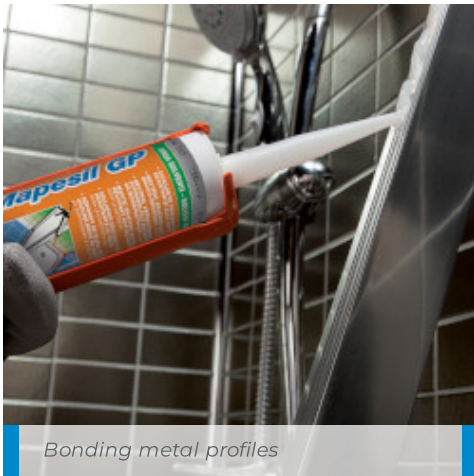
Applying and finishing the sealant

When overlapping two steel sheets, extrude a bead of the product on the lower sheet around 30 to 40 mm from the edge. Then lay the upper sheet over the lower sheet and press them together while the product is still fresh to spread the sealant over as wide an area as possible. Drill holes through the jointed area of the two sheets and fasten them together with rivets. Seal the heads of the rivets and the outer edge of the jointed sheets with a sufficiently wide layer of sealant. Smooth over the surface of the sealant while it is still fresh with a small trowel or brush before it starts to polymerise.

Hardening of the sealant

When exposed to the air, **Mapesil GP** cures and turns into an elastic rubber due to the effect of the humidity in the atmosphere or in the substrate if it is an absorbent material.

The surrounding temperature only has a small impact on the curing rate of **Mapesil GP**, while the level of humidity in the surrounding air has the most influence. In all cases, however, we recommend never applying the product if the temperature is below 0°C or on wet substrates.



Bonding metal profiles



Sealing fillets between different types of material

CLEANING

Traces of partially cured **Mapesil GP** may be removed from tools and the surface of substrates with common solvents such as ethyl acetate, benzene or toluene. Once the product has completely cured, the silicone rubber may only be removed mechanically.

CONSUMPTION

According to the size of the joint; see table below:

Size of joint in mm	Meters 280 ml cartridge
5 x 5	11.2
10 x 10	2.8

15 x 10	1.9
20 x 10	1.4
25 x 12.5	0.9
30 x 15	0.6
40 x 15	0.5

PACKAGING

Mapesil GP is available in 280 ml cartridges in the colours transparent, white, grey-white, grey, copper, dark brown and black in boxes containing 12 cartridges.

STORAGE

Mapesil GP remains stable for at least 18 months stored in a dry area in its original, sealed packaging at a temperature between +5°C and +25°C.

If only part of the contents of the cartridge has been used, leave the extrusion nozzle screwed to the cartridge and wrap cling film around the end to prevent air entering into the cartridge. This will allow the remaining sealant to be used again several weeks after it has been opened.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapesil GP is not considered a hazardous according to current norms and guidelines regarding the classification of mixtures. However, we recommend using protective gloves and goggles, and to take the usual precautions for handling chemical products.

For further and complete information about the safe use of our product please refer to the latest version of our Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Classification according to EN 15651-1:	F-EXT-INT
Classification according to EN 15651-2:	G
Classification according to EN 15651-3:	S1
Consistency:	thixotropic paste
Colours:	transparent, white, grey-white, grey, copper, dark brown and black
Density (g/cm³):	0.99 (transparent)
EMICODE:	EC1 Plus - very low emission

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

Application temperature range:	from +5°C to +40°C
Extrusion rate from 3.5 mm nozzle at a pressure of 0.5 MPa (ml/minute):	80

Time to form surface skin (mins.):	35
Reticulation rate (mm): – after 1 day:	2

FINAL PERFORMANCE

Tensile strength according to ISO 8339 (N/mm ²):	0.5
Elongation at failure according to ISO 8339 (%):	250
Maximum permitted movement in service according to ISO 9047 (%):	12.5
Tear strength according to ISO 34 method C (N/mm ²):	3
Shore A hardness according to ISO 868:	24
Extension modulus measured according to ISO 8339 method A at 100% extension (N/mm ²):	0.37
Resistance to water:	excellent
Resistance to ageing:	excellent
Resistance to atmospheric agents:	excellent
Resistance to chemical agents, acids and diluted alkalis:	good
Resistance to soap and detergents:	excellent
Resistance to temperatures:	from -40°C to +120°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. 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.

Mapei S.p.A.

Via Cafiero, 22, 20158, Milano

 +39-02-376731

 www.mapei.com

 mapei@mapei.it

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