MAPEI

GEV-EMICODE EC 1 PLUS very low emission

Mapesil BM

CE EN 15651-1 CE EN 15651-2 CE EN 15651-4



Neutral silicone sealant for metal-work

WHERE TO USE

Mapesil BM is a solvent-free, neutral silicone sealant with a low modulus of elasticity, specific for sealing fillet joints between tinwork accessories and layers of waterproofing material.

It is particularly recommended for metals normally used on roofs and flat roofs such as steel, zinc and pre-painted sheet, anodised and pre-painted aluminium and copper. The chemical characteristics of the product also make it perfectly suitable for absorbent materials such as concrete, cellular concrete, brickwork, varnished and lacquered wood and various compact, non-absorbent materials such as glass, ceramic, clinker, enamelled surfaces, water and solvent-based paint and plastics, such as polycarbonate: we recommend always carrying out a preliminary test.

This product generally adheres well to the above substrates even if they haven't been primed beforehand (contact the MAPEI Technical Services Department).

Thanks to its broad spectrum of adhesion and low modulus of elasticity, **Mapesil BM** is also suitable for sealing fillet joints in tinwork accessories such as:

- downpipes;
- guttering;
- flashing;
- gables;
- metal flat roofs;
- corner guards;
- special shaped pieces;
- heads of rivets and fasteners.

TECHNICAL CHARACTERISTICS

Mapesil BM is a one-component, solvent-free odourless silicone sealant with neutral cross-linking, prepared as a thixotropic paste. It is easily applied both horizontal and vertical surfaces, cross-linking at ambient temperatures to form a flexible product.

Seals formed with **Mapesil BM** remain unchanged even after many years of exposure to climatic extremes, industrial pollution, sudden temperature change and water. It remains flexible at a temperatures from -40°C to +150°C.

The resistance of **Mapesil BM** to chemical agents is generally good; however, due to the numerous products and working conditions to which **Mapesil BM** can be applied, it is always advisable to make a preliminary test in cases of doubt.

Mapesil BM adheres perfectly to most surfaces used in building without needing a primer.

In cases of prolonged immersion **Primer FD** must be applied first.
If in doubt, refer to our Technical Services Department or make a preliminary test.

Mapesil BM



Extruding Mapesil BM on the lower sheet of metal before overlaying with another sheet

Mapesil BM is available in grey, copper, dark brown and transparent.

Mapesil BM complies with EN 15651-1 norm ("*Sealants for internal and external façade elements*") with performance rating F-EXT-INT-CC, with EN 15651-2 norm ("*Sealants for glazing applications, intended for use in cold climates*") type G-CC and EN 15651-4 norm ("*Sealants for pedestrian walkaways*") with performance rating PW-EXT-INT-CC.

RECOMMENDATIONS

- Do not apply **Mapesil BM** on rubber, highly plasticized plastic materials or bituminous surfaces, because oils and plasticisers could migrate to the surface compromising the adhesion and penetrating into the sealant altering its colour and resistance.

- For sealing floors use **Mapeflex PU21**, **Mapeflex PU20**, **Mapeflex PU45** or **Mapesil AC**.

- Use **Mapesil LM** for sealing expansion joints between natural stones (marbles, granites, agglomerates, etc.).

APPLICATION PROCEDURE

All surfaces to be sealed must be dry, solid and free from dust and loose particles, oil, grease, wax, old paint and rust.

In order to work as an elastic, waterproof adhesive correctly, **Mapesil BM** must be used both internally between the steel sheets before overlaying them and externally along the overlap between the sheets, as well as on the heads of the mechanical fasteners (rivets, fasteners, nails, etc.) used to fasten the sheets.

After cleaning and de-greasing the surfaces, extrude a continuous bead of **Mapesil BM** along the lower sheet up to around 3-4 cm from the ends and immediately place the upper sheet over the lower one so that the bead of adhesive is squashed and spreads out to cover as much of the surface as possible. Drill holes through the sheets, rivet them together and seal the heads of the rivets and the outer edge of the overlap with a layer of adhesive a few millimetres thick.

If **Mapesil BM** is used to seal expansion joints subject to movements when in service, it is necessary to:

- it adheres perfectly to the side walls of the joint and not to the bottom;

- the width of the joint is assessed correctly so that its length in operation is not in excess of 25% of the initial width (calculated at +23°C);

- **Mapesil BM** must comply the width/depth ratio (see. ref.table)

RATIO WIDTH/ DEPTH OF SEALANT	
width of joint	depth of sealant
up to 10 mm	same as width
from 11 to 20 mm	10 mm in all cases
more than 20 mm	half the width

To adjust the depth and prevent **Mapesil BM** from adhering to the base, the bottom of the joint should be filled with a special polyethylene foam such as **Mapefoam**.

Application of Primer FD

In cases where prolonged immersion in water is required, apply **Primer FD** with a small brush onto the edges of the joint and let dry for several minutes allowing the solvent to evaporate. Then apply **Mapesil BM**.

Application of Mapesil BM

Mapesil BM is packed in cartridges of 310 ml; to use, cut the cartridge above the end of the thread and screw on the nozzle, which should be cut at 45° to the corresponding size of the joint. Insert the cartridge into the gun and extrude the sealant.
The surface of **Mapesil BM** must be immediately finished off with a damp implement, preferably moistened with soapy water, before a superficial film has formed.

Cross-linking

Mapesil BM exposed to air crosslinks with humidity, becoming elastic.
The speed at which **Mapesil BM** crosslinks depends only slightly on temperature, but is fundamentally linked to humidity in the atmosphere. It is always recommended not to apply the product in temperatures below 0°C.

Cleaning

To clean partially cross-linked **Mapesil BM** from tools and contaminated surfaces, common solvents may be used (e.g. ethyl acetate, petrol, toluene). Once cross-linking is complete, silicone rubber can only be cleaned mechanically.

CONSUMPTION

The consumption varies depending on the size of the joint.

PACKAGING

Mapesil BM is available in 310 ml cartridges in grey, copper, dark brown and transparent in pack of 12 cartridges.

STORAGE

Mapesil BM is stable for at least 12 months when stored in a dry place in original cartridges.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapesil BM is not considered hazardous according to the current standards on the classification of mixtures. It is recommended to wear protective gloves and goggles and

TECHNICAL DATA (typical values) In compliance with:	– ISO 11600 - G - Class 25 LM – ISO 11600 - F - Class 25 LM
PRODUCT IDENTITY	
Classification according to EN 15651-1:	F-EXT-INT-CC
Classification according to EN 15651-2:	G-CC
Classification according to EN 15651-4:	PW-EXT-INT-CC
Type:	thixotropic paste
Colour:	grey, copper, dark brown and transparent
Density (g/cm^3):	1.03 transparent - 1.25 coloured
Dry solids content (%):	100
EMICODE:	EC1 Plus - very low emission
APPLICATION DATA (at +23°C and 50% R.H.)	
Application temperature range:	from +5°C to +40°C
Extrusion speed from a 3.5 mm nozzle at a pressure of 0.5 MPa (ml/minute):	120
Time for formation of skin (minutes):	10-20
Cross-linking speed (mm): **– after 1 day:** **– after 7 days:**	 4 10
FINAL PERFORMANCES	
Tensile strength according to ISO 8339 (N/mm^2):	0.6
Elongation at break according to ISO 8339 (%):	250 transparent - 400 coloured
Maximum permissible movement according to ISO 11600 (%):	25
Tear strength according to ISO 34 method C (N/mm^2):	4
Shore A hardness (DIN 53505):	25
Modulus of elongation measured according to ISO 8339 method A at 100% elongation (N/mm^2):	0.35
Resistance to water:	excellent
Resistance to ageing:	excellent
Resistance to atmospheric agents:	excellent
Resistance to chemical agents, acids and diluted alkalis:	good
Resistance to cleansing agents:	excellent
Resistance to temperature:	from –40°C to +150°C



Sealing overlaps



Sealing the heads of rivets

Mapesil BM



to take the usual precautions for handling chemical products.
For further and complete information about a safety use of our product please refer to our latest version of the Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

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

GEV-EMICODE EC 1 PLUS very low emission

This symbol is used to identify Mapei products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.

GREEN INNOVATION

Our Commitment To The Environment
MAPEI products assist Project Designers and Contractors create innovative LEED (The Leadership in Energy and Environmental Design) certified projects, in compliance with the U.S. Green Building Council.

All relevant references for the product are available upon request and from www.mapei.com

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BUILDING THE FUTURE