



# Mapesil AC

**Solvent-free,  
acetic-crosslinking  
mildew-resistant  
silicone sealant,  
available in 26 colours  
and transparent**

## **WHERE TO USE**

**Mapesil AC** is an acetic-crosslinking silicone sealant suitable for sealing glass, ceramic and anodised aluminium. After first having used a bonding enhancer, **Primer FD** can also be used on concrete, wood, metal, painted surfaces, plastic and rubber.

**Mapesil AC** is used for:

- Sealing expansion joints of  $\pm 20\%$  expansion of the initial size.
- Forming a perfectly elastic gasket between different elements in building, mechanical engineering, ship-building, automobile manufacturing, etc.

## **Some application examples**

*In building:*

- Sealing joints in wall and floor coverings of ceramic and cement, provided they are not subject to heavy abrasion.
- Sealing joints between sinks or sanitary ware and ceramic tiles in kitchens, bathrooms and showers with colours coordinated with the grouts.
- Sealing expansion joints in swimming pools.
- Assembling compositions of glass tiles and artistic stained glass windows.
- Sealing glazing of door and window frames.
- Sealing air ducts, water pipes, etc.
- Sealing portholes, windows, glazed frames, etc.



# Mapesil AC



Cutting the nozzle according to the size of the joints



Application of Primer FD



Application of Mapesil AC

- Sealing tanks, service pipes and boilers.
- Sealing materials of different exposure coefficient.
- Adhesive and sealant for general use.

## TECHNICAL CHARACTERISTICS

**Mapesil AC** is a coloured or transparent single-component solvent-free silicone sealant with acetic cross-linking at normal temperatures; prepared as an elastic thixotropic paste, it is easily applied onto both horizontal and vertical surfaces, having the following features:

- Excellent durability. Seals remain unchanged even after many years exposure to climatic extremes, industrial pollution, sudden temperature changes and immersion in water.
- High elasticity.
- Excellent bonding to glass, ceramic and anodised aluminium.
- Mildew resistant.
- Waterproof and permeable to vapour.
- Resistant to chemical agents.
- Flexibility up to  $-40^{\circ}\text{C}$  and resistant to temperatures at  $+180^{\circ}\text{C}$ .
- Easily workable.

## RECOMMENDATIONS

- Do not use **Mapesil AC** for joints between ceramic tiles and light-coloured natural stone because dirt could accumulate by the joints. Use **Mapesil LM**.
- For sealing surfaces sensitive to acids such as lime stone, use a neutral silicone sealant (e.g. **Mapesil LM**).
- The use of **Mapesil AC** is not recommended on highly plasticised material or on bituminous surfaces because of the release of substances that reduce bonding and penetrate into the sealant, altering the colour and resistance.
- The resistance of **Mapesil AC** to chemical agents is generally good; however, due to the numerous products and working conditions to which **Mapesil AC** can be applied, it is always advisable to make a preliminary sample test in cases of doubt.
- Do not use **Mapesil AC** to seal aquariums because it contains a biocide.
- For sealing floors subject to heavy traffic, use a polyurethane sealant (e.g. **Mapeflex PU21**).

## APPLICATION PROCEDURE AS AN ACID-RESISTANT GROUT

### Preparing and calculating joints size

All the surfaces to receive the sealant must be dry solid and free from dust and loose particles, oils, grease, wax, old paint and rust. In order that the seal can carry out its function, provision must be made for it to

elongate and compress freely.

It is therefore necessary that:

- it adheres only to the side of the walls of the joint and not to the base of the joint;
- the joint is sized so that the estimated maximum extension is not greater than 20% of the initial width (calculated at  $+20^{\circ}\text{C}$ );
- the width of the joint is 5 mm the thickness must be equal to the width; for widths greater than the thickness must be equal to half the width.

To control the depth of the joint and to prevent **Mapesil AC** from adhering to the base, the bottom of the joint should be filled with a sized **Mapefoam**, a polyethylene cord.

## Application of Primer FD

Where the use of **Primer FD** is necessary, it must be applied with a small brush onto the appropriate areas of the joints and left to dry for several minutes to allow the solvent to evaporate. Then apply **Mapesil AC**.

## Application of Mapesil AC

**Mapesil AC** is packed in cartridges of 315 ml; to use, cut the cartridge above the end of the thread and screw on the nozzle, which should be cut at  $45^{\circ}$  to produce a hole corresponding to the size of the joint. Insert the cartridge into the gun and extrude the sealant.

The surface of **Mapesil AC** must be finished off with a damp tool, preferably moistened with soapy water, before a superficial film has formed.

## Crosslinking

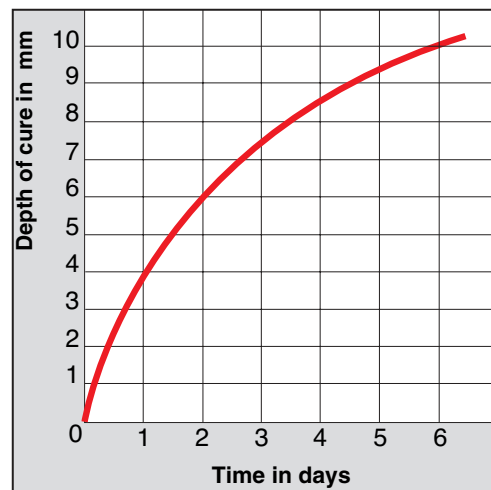
**Mapesil AC** exposed to air crosslinks as a result of the humidity, and becomes elastic.

The speed at which **Mapesil AC** crosslinks depends only slightly on temperature, but is fundamentally linked to humidity in the atmosphere.

The graph shows the cross linking at  $+23^{\circ}\text{C}$  and 50% humidity in the atmosphere.

## Cleaning

To clean partially cross-linked **Mapesil AC**



**TECHNICAL DATA (typical values):**

In compliance with:

BS 5889 type B  
 ASTM C920  
 TT -S-00230 C  
 TT -S-001543 A  
 DIN 18540, T. 2, KLASSE E

**PRODUCT IDENTITY**

<b>Type:</b>	thixotropic paste
<b>Colour:</b>	transparent + 26 colours
<b>Density:</b>	1.03 g/cm <sup>3</sup>
<b>Dry solid content:</b>	100%
<b>Storage:</b>	24 months in a dry cool place (max. +25°C) in original sealed cartridges.
<b>Health hazard acc. to EEC 88/379:</b>	no
<b>Inflammability:</b>	no
<b>Customs class:</b>	3214 90 00

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

<b>Application temperature range:</b>	from +5°C to +50°C
<b>Extrusion speed from a 3.5 mm nozzle at a pressure of 0.5 MPa:</b>	120 g/minute
<b>Time for formation of skin:</b>	10 minutes
<b>Shrinkage during vulcanisation:</b>	3.5%
<b>Speed of vulcanisation:</b>	4 mm in 1 day 10 mm in 7 days

**FINAL PERFORMANCES**

<b>Tensile strength - according to DIN 53 504-S3A:</b>	1.6 N/mm <sup>2</sup>
<b>Elongation at breaking point - according to DIN 53 504-S3A:</b>	800%
<b>Tear strength (ASTM D 624, Die C):</b>	8 N/mm
<b>Shore-A-Hardness (DIN 53 505):</b>	20
<b>Density at +25°C (DIN 53 479):</b>	1.02 g/cm <sup>3</sup>
<b>Permeability to water vapour (DIN 53 122, 2 mm sheet):</b>	23 g/m <sup>2</sup> /day
<b>Modulus of elongation measured according to ISO 8339 METHOD A</b>	
- at 25% elongation:	0.20 N/mm <sup>2</sup>
- at 50% elongation:	0.27 N/mm <sup>2</sup>
- at 100% elongation:	0.35 N/mm <sup>2</sup>
<b>Maximum movement allowed:</b>	20%
<b>Resistance to water:</b>	excellent
<b>Resistance to ageing:</b>	excellent
<b>Resistance to atmospheric agents:</b>	excellent
<b>Resistance to chemical agents, acids and dilute alkali:</b>	good
<b>Resistance to soap and detergents:</b>	excellent
<b>Resistance to solvents:</b>	limited
<b>Resistance to temperature:</b>	from -40°C to +180°C



*Smoothing the joint with soapy water and a small brush*



*Sealing ceramic tile floor with Mapesil AC*



*Sealing sanitary ware*

# Mapesil AC

COVERAGE TABLE (linear metres per cartridge)	
END JOINT	
Joint size in mm (axb)	Linear metres per cartridge
5x5	12
5x10	6
10x10	3
15x10	2
20x10	1.5
25x10	1.25
30x15	0.7
40x20	0.4
TRIANGULAR JOINT	
Joint size in mm (l <sub>1</sub> x l <sub>2</sub> )	Linear metres per cartridge
5	25
10	6
15	3
20	1.5

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.

#### COVERAGE

Coverage of **Mapesil AC** varies depending on the width of the joints. Some examples of coverage for end joints and triangular joints are shown in the chart.

#### PACKAGING

310 ml cartridges.

#### COLOURS

**Mapesil AC** is available in 26 colours from

the "THE COLOURED GROUTS 2000" range plus transparent.

#### STORAGE

**Mapesil AC** can be stored 24 months in a dry cool place in original cartridges.

#### WARNING

*N.B. - Although the technical details and recommendations contained in this product report 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 applications: 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.*

#### SPECIFICATIONS

Sealing of expansion joints or fitting different building elements in construction, with acetic-crosslinking coloured or transparent silicone sealant (e.g. MAPEI S.p.A. **Mapesil AC** or equivalent), which is able to absorb joint movements up to 20% of the width, after having first, if necessary, applied a fixing primer (e.g. MAPEI S.p.A. **Primer FD** or equivalent). The seal must be mildew-resistant and must remain unchanged even after many years of exposure to climatic extremes, industrial pollution, sudden temperature changes and immersion in water. A closed cell polyethylene foam cord (e.g. MAPEI S.p.A. **Mafoam** or equivalent) must be inserted into the joint.



Sealing U profiled glass



Sealing aluminium window frame with Mapesil AC

**All relevant references of the product are available upon request.**



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