



# Mapesil AC



**Pure, mould-resistant,  
acetic, silicone sealant  
available in 30 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  $\pm 25\%$  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**

- 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.
- Sealing portholes, windows, glazed frames.
- Sealing tanks, service pipes and boilers.
- Sealing materials of different thermal exposure coefficient.
- Adhesive and sealant for general use.

#### **TECHNICAL CHARACTERISTICS**

**Mapesil AC** is a one-component, acetic crosslinking, solvent-free silicone sealant, available coloured or transparent. It is a thixotropic paste which is easily trowellable both horizontally and vertically. It crosslinks



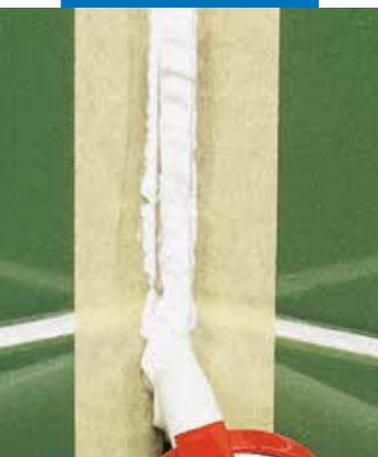
# Mapesil AC



Cutting the nozzle according to the size of the joints



Application of Primer FD



Application of Mapesil AC

following exposure to atmospheric humidity at ambient temperatures, and forms an elastic product with following properties:

- 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;
- flexible down to  $-40^{\circ}\text{C}$  and resistant to temperatures at  $+180^{\circ}\text{C}$ ;
- easily workable;
- in compliance with ISO 11600 norm, it is classified as F-25-LM.
- in compliance with numerous international standards.
- in compliance with EN 15651-1, EN 15651-2, EN 15651-3 and CE-marking.

## RECOMMENDATIONS

- Do not use **Mapesil AC** for exterior joints in exterior 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 excellent; however, due to the numerous products and working conditions to which **Mapesil AC** can be applied, it is always advisable to do a sample test in cases of doubt.
- Do not use **Mapesil AC** to seal aquariums.
- For sealing floor joints subject to heavy traffic, use a polyurethane (e.g. **Mapeflex PU45**) or epoxy-polyurethane (e.g. **Mapeflex PU20**) sealant.

## APPLICATION PROCEDURE

### 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. During application 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 25% of the initial width (calculated at  $+20^{\circ}\text{C}$ );
- when the width of the joint is 10 mm, the thickness must be equal to the width; for widths between 11 and 20 mm the thickness must always be equal to 10 mm; 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 310 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

When exposed to air and humidity, **Mapesil AC** crosslinks 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** 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

### Mapesil AC:

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.

### Primer FD:

100 g/m<sup>2</sup>.

## PACKAGING

**Mapesil AC:** 310 ml cartridges.

### Primer FD:

0.9 kg and 0.2 kg bottles.

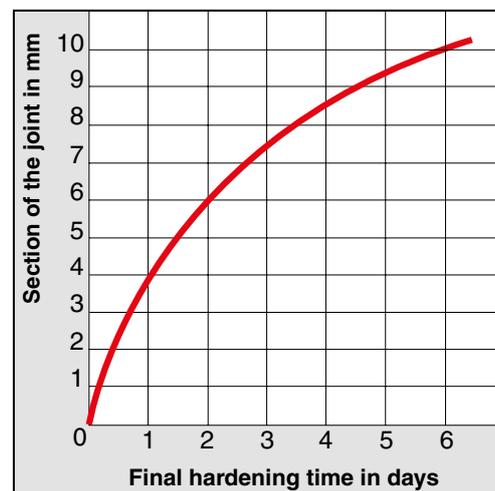
## COLOURS

**Mapesil AC** is available in 30 colours from the "MAPEI COLOURED GROUTS" range plus transparent.

## STORAGE

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

**Primer FD**, when stored in a cool and dry



## 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, CLASS E  
 ISO 11600, F-25-LM  
 EN 15651-1  
 EN 15651-2  
 EN 15651-3

### PRODUCT IDENTITY

Type:	thixotropic paste
Colour:	transparent + 30 colours
Density (g/cm <sup>3</sup> ):	1.03 (transparent colour)
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 +50°C
Extrusion speed from a 3.5 mm nozzle at a pressure of 0.5 N/mm <sup>2</sup> (g/minute):	120
Time for formation of skin (minutes):	10
Shrinkage during vulcanisation (%):	3.5
Speed of vulcanisation (mm):	4 in 1 day - 10 in 7 days

### FINAL PERFORMANCES

EN 15651-1: sealant for façade joints in interior and exterior, even with cold temperature:	F-EXT-INT-CC
Class:	25 LM
EN 15651-2: sealant for glazing, even with cold temperature:	G-CC
Class:	G 25 LM
EN 15651-3: sealant for sanitary fittings:	S
Class:	XS 1
Tensile strength - according to DIN 53 504-S3A (N/mm <sup>2</sup> ):	1.6
Elongation at breaking point - according to DIN 53 504-S3A (%):	800
Tear strength (ASTM D 624, Die C) (N/mm):	4
Shore-A-Hardness (DIN 53 505):	20
Density at +25°C (DIN 53 479) (g/cm <sup>3</sup> ):	1.02
Permeability to water vapour (DIN 53 122, 2 mm sheet) (g/m <sup>2</sup> /day):	23
Modulus of elongation measured according to ISO 8339 METHOD A (N/mm <sup>2</sup> ):	
- at 25% elongation:	0.20
- at 50% elongation:	0.27
- at 100% elongation:	0.35
Maximum movement allowed (%):	25
Resistance to water:	excellent
Resistance to ageing:	excellent
Resistance to atmospheric agents:	excellent
Resistance to chemical agents, acids and dilute alkali:	good
Resistance to soap and detergents:	excellent
Resistance to solvents:	limited
Resistance to temperature:	from -40°C to +180°C

## PRIMER FD - TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

Consistency:	transparent liquid
Color:	yellowish
Density (g/cm <sup>3</sup> ):	0.92
Brookfield viscosity (mPa·s):	1-2 (rotor 1 - rpm 100)



Smoothing the joint with soapy water and a small brush



Sealing ceramic tile floor with Mapesil AC



Sealing sanitary ware

