

MAPESIL AC

Pure, mould-resistant, acetic, silicone sealant available in 40 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, **MAPESIL AC** 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, according to the standard EN 15651.
- Forming a perfectly elastic gasket between different elements in the building, mechanical engineering, shipbuilding, 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 Mapei coloured grout ranges.
- Sealing expansion joints in swimming pools.
- Assembling compositions of glass tiles and artistic stained glass windows.
- Sealing glazing, door, and window frames portholes, windows, and glass.
- Sealing air ducts, and water pipes.
- Sealing tanks, service pipes, and boilers.
- Sealing of joints subject to high chemical and thermal stress.
- Sealing materials of different thermal exposure coefficients.

ADVANTAGES

- wide colour range
- high elasticity
- mildew and mould resistant (BioBlock® technology)
- solvent-free
- long lasting performances
- high adhesion to substrates
- smooth and matt finish
- high thermal and chemical resistance

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 easy to extrude both horizontally and vertically. It crosslinks following exposure to atmospheric humidity at ambient temperatures.

Seals remain unchanged even after many years exposure to climatic extremes, industrial pollution, sudden temperature changes and immersion in water. **Mapesil AC** forms an elastic barrier with the following properties;

- excellent durability;
- 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°C and resistant to temperatures at +180°C;
- easily workable;
- in compliance with ISO 11600 norm, it is classified as F-25-LM.
- in compliance with EN 15651-1, EN 15651-2, EN 15651-3 and CE-marking
- in compliance with numerous international standards.

RECOMMENDATIONS

- Do not use **Mapesil AC** for joints in exterior between ceramic tiles and light-coloured natural stone because dirt could accumulate by the joints. In such cases, please contact Mapei Technical Service to identify the most suitable solution.
- For sealing surfaces sensitive to acids such as limestone, 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 PU 45 FT**) or epoxy-polyurethane (e.g. **Mapeflex E-PU 21 SL**) sealant.
- Where **Mapesil AC** is to be applied in areas of continuous immersion, i.e. inside a swimming pool tank, the joints must be primed using **Primer FD**.

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°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 greater widths 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 a few minutes to allow the solvent to evaporate. Then apply **Mapesil AC**.

Application of Mapesil AC

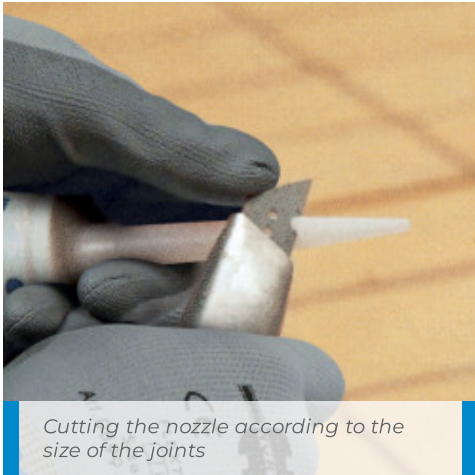
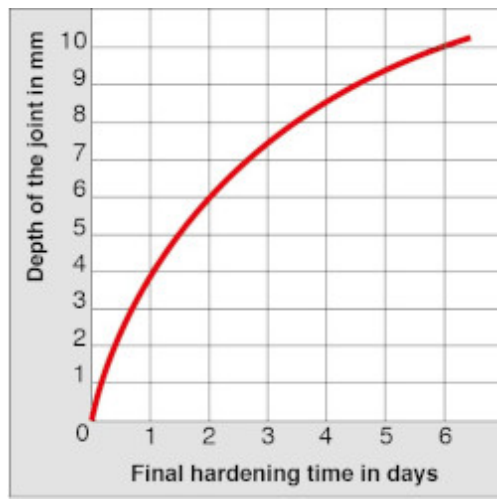
Mapesil AC is packed in cartridges of 310 ml; to use, cut the cartridge above the end of the thread and screw on the nozzle, which should be cut at 45° to produce a hole corresponding to the size of the joint. Insert the cartridge into the gun and extrude the sealant.

The surface of **Mapesil AC** must be finished off with a tool moistened with soapy water before a superficial film has formed (e.g. **UltraCare Smooth Silicon**).

Curing

When exposed to air and humidity, **Mapesil AC** cures and becomes elastic. The speed at which **Mapesil AC** cures depends only slightly on temperature, but is fundamentally linked to humidity in the atmosphere.

The graph A shows the curing at +23°C and 50% humidity in the atmosphere.



Cutting the nozzle according to the size of the joints



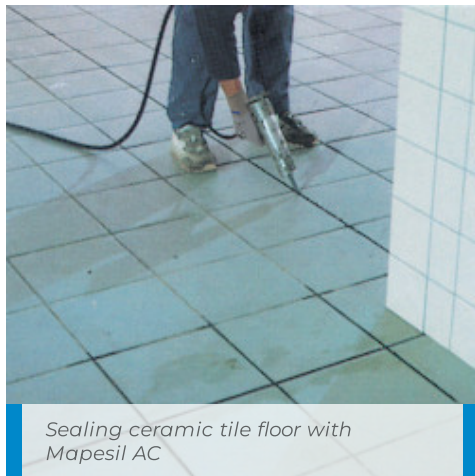
Application of Primer FD



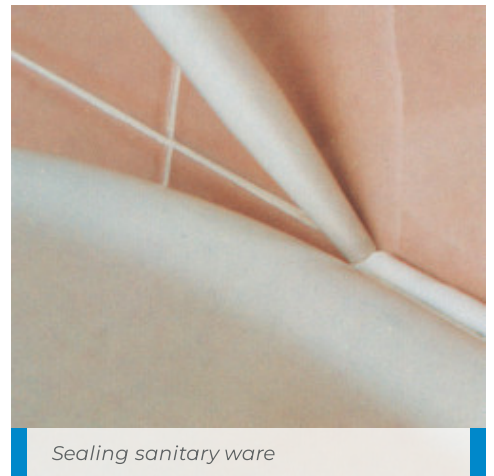
Application of Mapesil AC



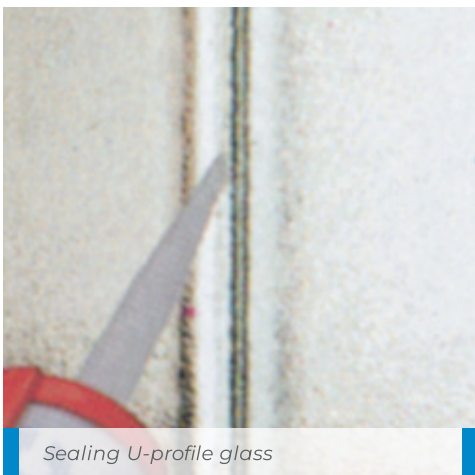
Smoothing the joint with UltraCare Smooth Silicon and a small brush



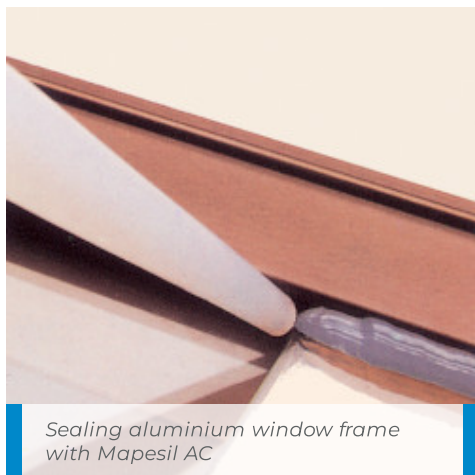
Sealing ceramic tile floor with Mapesil AC



Sealing sanitary ware



Sealing U-profile glass



Sealing aluminium window frame with Mapesil AC

CLEANING

Traces of uncured **Mapesil AC** may be removed with common solvents (ethyl acetate, petrol, toluene); after complete curing, the silicone rubber may only be removed mechanically. Avoid contact between **Mapesil AC** not yet polymerised and any type of solvent, to avoid delays or inhibition of the final hardening process.

CONSUMPTION

Mapesil AC:

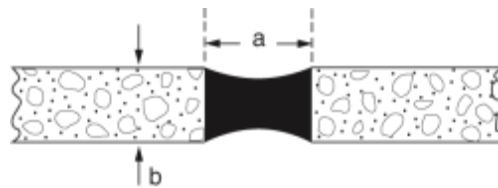
Consumption of **Mapesil AC** varies depending on the width of the joints. Some examples of consumption for end joints and fillet joint /s are shown in the following chart.

Primer FD:

0.2kg bottle of **Primer FD** will cover approximately 100m of both sides of a 10 mm deep movement joint, this figure may decrease dependent on the porosity of the tile applied to.

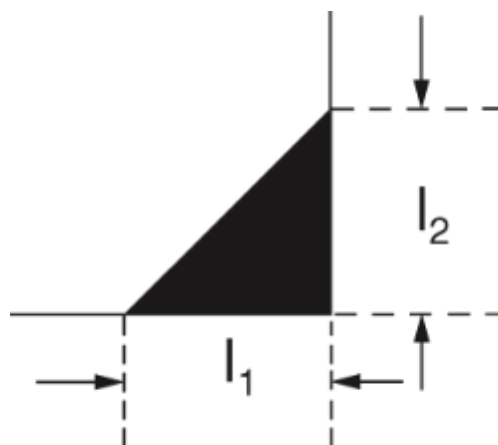
CONSUMPTION TABLE
(linear metres per cartridge)

END JOINT



Joint size in mm (a x b)	Linear metres per cartridge
5x5	12
10x5	6
10x10	3
15x10	2
20x10	1.5
25x10	1.25
30x15	0.7
40x20	0.4

FILLET JOINT



Joint size in mm ($l_1 \times l_2$)	Linear metres per cartridge
5x5	25
10x10	6
10x15	3

PACKAGING

Mapesil AC: 310 ml cartridges.
Primer FD: 0.9 kg and 0.2 kg bottles.

COLOURS

Mapesil AC is available in 40 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 place (at a temperature not higher than +25°C) has a storage life of 6 months.

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.co.uk.

PRODUCT FOR PROFESSIONAL USE.

MAPESIL AC - TECHNICAL DATA (typical values) In compliance with: EN 15651-1 EN 15651-2 EN 15651-3	
PRODUCT IDENTITY	
Type:	thixotropic paste
Colour:	transparent + 40 colours
Density (g/cm ³):	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 ² (g/minute):	120
Skin time (minutes):	10
Shrinkage during vulcanisation (%):	3.5
Curing time:	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 ISO 37 (N/mm ²):	1.6
Elongation at breaking point – according to ISO 37 (%):	800
Tear strength (ISO 34-1, Die C) (N/mm):	4
Shore-A-Hardness (ISO 868):	20
Density at +25°C (ISO 1183-1 A) (g/cm ³):	1.02
Modulus of elongation measured according to ISO 8339 METHOD A (N/mm ²): – at 25% elongation: – at 50% elongation: – at 100% elongation:	0.20 0.27 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

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.co.uk

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.co.uk.

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

Mapesil AC		
100	WHITE	
103	MOON WHITE	
111	SILVER GREY	
123	ANCIENT WHITE	
112	MEDIUM GREY	
113	CEMENT GREY	
114	ANTHRACITE	
127	ARCTIC GREY	
110	MANHATTAN 2000	
187	LINEN	
176	GREEN-GREY	
174	TORNADO	
125	CASTLE GREY	
119	LONDON GREY	
163	LIGHT LILAC	
168	CERULEAN	
167	AVIO	
169	STEEL BLUE	
172	SPACE BLUE	
177	SAGE	
130	JASMINE	
131	VANILLA	
137	CARIBBEAN	
132	BEIGE 2000	
138	ALMOND	

141	CARAMEL	
142	BROWN	
189	SPELT	
133	SAND	
134	SILK	
188	BISCUIT	
135	GOLDEN DUST	
152	BROWN	
144	CHOCOLATE	
149	VOLCANO SAND	
145	TERRA DI SIENA	
143	TERRACOTTA	
136	MUD	
120	BLACK	
150	YELLOW	
999	TRANSPARENT	

N.B.: Due to the printing processes involved, the colours should be taken as merely indicative of the shades of the actual product

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