

GUMOSIL® M

Two-component silicone rubber for making moulds and reproduction.

CHARACTERISTICS

Gumosil® M is a two-component silicone rubber with high flexibility and increased strength. Cures under the influence of Katalizator 81R (catalyst) at room temperature and relative air humidity of min. 35%.

TECHNICAL DATA

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PARAMETERS	Gumosil® M	Katalizator 81R
Appearance	viscous liquid	liquid
Colour	white	transparent
Density at 20°C	1,20 g/cm ³	0,95g/cm ³
Viscosity at 25°C	45 000 cP	-
Properties of the mixture after mixing the ingredients 100 parts by weight of Gumosil® M and 5 parts by weight of Katalizator 81R (catalyst)		
Colour	white	
Pot life at 23°C and humidity of min. 35%	min. 30 minutes	
Curing time at 23°C and humidity min. 35%	max 24 h	
Rubber parameters after seasoning at room temperature for at least 72 hours from the moment of hardening		
Thermal resistance	150 °C	
Hardness	21 °ShA	
Elongation at break	600 %	
Linear shrinkage (after 7 days of seasoning)	max.0,4 %	
Tensile strenght	4,7 MPa	

APPLICATION

The main areas of application of this type of rubber are:

- decoration, stucco: casts, ceiling rosettes, statuettes, decorative candles, figurines,
- renovation of monuments: making forms of monuments, archaeological fossils, etc.,
- patterns and forms for the artistic, home and industrial production of ceramics and porcelain,
- artistic elements: sculptures, masks, special decorative elements, statuettes, bas-reliefs,
- making molds for technical and industrial applications (eg. automotive, electronics, household appliances).

MATERIALS FOR REPRODUCTION

In the silicon moulds, many synthetic and natural materials can be cast and these include naturals or synthetic wax, concrete with fillers, plaster, decorative plasters works, and resins: filled polyester or epoxy.

PROCESSING/CATALYSIS

Mix rubber with a **Katalizator 81R** in adequate proportions in a mechanical or manual manner. The catalyst must be evenly distributed throughout the mass, since this depends on the quality of the moulds. It is recommended to vent the composition prior to pouring in order to remove the air bubbles

closed during the operation of mixing the ingredients. To do this, place the composition in a container with a capacity of approx. 5 times greater than the volume of aerated mixture and vent in the vacuum chamber under pressure of approx. 0.06 bars until all air has been removed, i.e. approx. 3-5 minutes. The venting process affects the increase of the mechanical resistance of elastomers.

VISCOSITY AND HARDNESS REGULATIONS

The rubber paste can be diluted by adding up to 10% solvent: Polastosil® M-200 or Polastosil® M-500 which will lower the viscosity of the rubber, but will not change the hardness after cross-linking. In order to reduce hardness, silicone oil Polsil® OM-50 or Polsil® OM-100 can be used. The dosage of Polsil depends on the hardness of the rubber we want to achieve (eg adding 10 parts by weight of Polsil® OM-50 per 100 parts by weight of Gumosil lowers the hardness from 21 to about 12° ShA).

CURING (CROSSLINKING)

Gumosil® M cures under the influence of Katalizator 81 R (catalyst) at room temperature and at a relative air humidity of min. 35%. Curing takes place within 24 hours. when using 5 parts by weight of Katalizator 81R-1 for 100 parts by weight of Gumosil®.

CAUTION!

Contact with certain materials can increase the time or even retard the curing of the rubber (inhibition effect), therefore, if in doubt, make an attempt to pour the mixture into a small section of the surface.

Typical inhibitors:

- natural vulcanized rubber with Sulphur,
- stabilizing agents PVC,
- polycondensation silicones RTV cured with metal salts,
- epoxy resins crosslinked with amine curing agent,
- plasticine containing sulphur additives.

PREPARATION OF THE MODEL

Silicone rubber moulds recreate from the original model everything very precisely, even fine dust particles, therefore, the model should be absolutely clean and free from dust and foreign objects. Rubbers recommended for forms production show the non-stick properties for most of the materials. In order to avoid "adhesion" of the rubber to the model's surface, it is recommended to cover the model's surface with the anti-adhesive agent using such as Vaseline, wax, paraffin etc. However, check if the separating agent does not damage the original model. To prevent adhesion of the poured composition to the form, it is recommended to protect the moulds with the separating agent Polsilform® from our company. The use of Polsilform® enables easier stripping and also extends the life of the moulds. (Note! Do not use where casting is intended to be painted).

CONNECTING THE COMPONENTS MADE OF RUBBER

Rubber parts can be joined or repaired with the same kind of rubber (e.g. cavities) or with silicone adhesive (e.g. tears) **Polastosil® AC-4A**. To connect parts of forms made of different types of rubber only Polastosil®AC-4A adhesive should be used.

THIXOTROPIC ADDITIVES

It is possible to apply the rubber to vertical surfaces, for this purpose it should be made non-liquid with the addition of Gumosil® PC-12 in the amount of 2 parts by weight per 100 parts by weight of rubber.

Caution! The thixotropic agent should be added to the rubber previously mixed with catalyst.

Liquidity of the rubber be adjusted individually by increasing or decreasing the amount of Gumosil® PC-12 from 0.5 parts by weight (semi-liquid) to 2 parts by weight (completely illiquid). Thixotropic additives accelerate the curing process of rubbers, therefore the composition should be prepared in such portions that they can be fully used.

STORAGE

Store in closed original packaging, in dry warehouses, at a temperature not higher than 30 °C.

WARRANTY PERIOD

12 months from the production date.

PACKAGING

1, 5, 15, 50 kg

Producer's notes:

The information contained in this document is given in good faith based on our current knowledge. However, this shall not constitute a guarantee for any specific product features. Each user bears the full responsibility for making its own determination as to the suitability of product for its own particular purpose. Because actual use of product by the user is beyond our control, such use is within the exclusive responsibility of the user, and we cannot be held responsible for any loss incurred through incorrect or faulty use of the product. For more detailed information please contact us in writing or by phone.



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