

ELASTOSIL[®] M 4470

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Room Temperature Curing Silicone Rubber (RTV-2)

Pourable, condensation-curing, two-component silicone rubber that vulcanizes at room temperature.

Main application: Making molds for casting of low melting metal alloys.



Properties

- Good flowability and self-deaeration
- High Shore A hardness (approx. 60)
- Outstanding resistance to common casting resins
- Low viscosity

Specific features

- Condensation-curing
- Flowable
- Heat resistant
- Low viscosity
- Thermally conductive
- Two-component

Technical data

Properties Uncured

| Property | Condition | Value | Method |
|-----------------------------------|------------------|--------------------------------|-----------|
| Color | - | reddish brown | - |
| Viscosity, dynamic after stirring | 23 °C | 15000 mPa·s | ISO 3219 |
| Density | 20 °C 1013 hPa | approx. 1.44 g/cm ³ | DIN 53217 |

These figures are only intended as a guide and should not be used in preparing specifications.

Catalyzed

With 3 wt % Catalyst T 37, after 4 days at 23 °C / 50 % rel. humidity.

| Property | Condition | Value | Method |
|--------------------|-----------|-------------|----------|
| Viscosity, dynamic | 23 °C | 10000 mPa·s | ISO 3219 |

These figures are only intended as a guide and should not be used in preparing specifications.

Properties Cured

Cure conditions: 190°C 10min

| Property | Condition | Value | Method |
|---------------------|-----------|------------------------|--------------|
| Density in water | 23 °C | 1.44 g/cm ³ | ISO 2781 |
| Tear strength | - | > 4 N/mm | ASTM D 624 B |
| Hardness Shore A | - | 60 | ISO 868 |
| Tensile strength | - | 4.5 N/mm ² | ISO 37 |
| Elongation at break | - | 120 % | ISO 37 |
| Linear shrinkage | - | 0.8 % | - |

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All the information provided is in accordance with the present state of our knowledge. Nonetheless, we disclaim any warranty or liability whatsoever and reserve the right, at any time, to effect technical alterations. The information provided, as well as the product's fitness for an intended application, should be checked by the buyer in preliminary trials. Contractual terms and conditions always take precedence. This disclaimer of warranty and liability also applies particularly in foreign countries with respect to third parties' rights.

Applications

- Reproduction Molding

Application details

ELASTOSIL® M 4470 is particularly suitable for molding applications in which high elongation and tear strength can be sacrificed in favor of excellent deformation resistance and thermal stability, e. g., for making molds of models of models with nor or only minor undercuts if good heat dissipation and high rigidity are required.

Typical applications are molds with

- high rigidity for foaming resins (for foaming polyurethanes, it is advisable to use a barrier coat!)
- high swelling resistance to components of casting resins, such as styrene in the case of polyesters
- high thermal stability and heat dissipation for casting low-melting metal alloys

Processing

ELASTOSIL® M 4470 is cured by adding Catalyst T37 for long pot lives and curing times, or Catalyst T40 for short pot lives and curing times.

Thin-walled molds are best suited for casting low-melting metal alloys (melting point: 300 °C max.) and should be placed on a sheet of aluminum or other material with high thermal conductivity. Before the casting process, the old should be post-cured for a few hours at about 150 °C. In order to improve wetting by the molten metal, a thin layer of extremely fine silicon carbide, graphite powder or acetylene black should be applied to the mold surface.

The first castings have normally to be discarded since the rubber still emits gases, giving the surface of the casting a pockmarked appearance.

The pot life is the period of time at 23 °C / 50 % rel. humidity during which the catalyzed mix to attain a viscosity of 100,000 mPa s and still be just pourable

| Catalyst | Pot life, approx. [min] | Curing time (tack-free), approx. [h] |
|----------|-------------------------|--------------------------------------|
| 3 % T 37 | 90 | 20-24 |
| 2 % T 40 | 40 | 3-4 |

Please check also our brochures and info sheets.

Packaging and storage

Storage

The 'Best use before end' date of each batch is shown on the product label.

Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

Safety notes

Being a condensation-curing silicone rubber, ELASTOSIL® M 4470 contains only constituents that over many years have proved to be neither toxic nor aggressive. Special handling precautions are therefore not required, i.e., only the general industrial hygiene regulations apply.

Catalysts T 37 and T 40 contain a tetraorganotin compound, are flammable and may cause irritation in contact with eyes and skin. Adequate protective measures are required.

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER subsidiaries or may be printed via WACKER web site <http://www.wacker.com>.

QR Code ELASTOSIL® M 4470



For technical, quality or product safety questions, please contact:

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