

ELASTOSIL® M 4503

RTV-2 Silicone Rubber / Mold Making

Characteristics

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

Special characteristics

- Low Shore A hardness (approx. 25)
- Good flowability
- High tear strength
- Great extensibility and elasticity
- Excellent long-term stability of the mechanical properties of the vulcanizate
- High resistance to casting resins, particularly polyesters

Application

Due to its good mechanical properties of the cured material as well as its high resistance to polyester resins, ELASTOSIL® M 4503 is particularly suitable as a mold-making material for reproducing models with very pronounced undercuts in polyester resins.

Other materials, such as plaster or wax, may also be cast without any problems from molds made of ELASTOSIL® M 4503.

Processing

ELASTOSIL® M 4503 is cured by adding either Catalyst T 35 for long pot lives and curing times, or Catalyst T 46 for short pot lives and curing times.

Catalyst	Pot life, approx. [min]	Curing time (tack-free), approx. [h]
5 % T 35	90	15-20
5 % T 46	30	10-12

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.

Comprehensive instructions are given in our leaflet "WACKER RTV-2 Silicone Rubber - Processing."

Detailed information on other mold-making compounds in the ELASTOSIL® M range is contained in our brochure "ELASTOSIL® M. Mold-Making Compounds For Maximum Precision".

Product data (uncured)

Property	Test method	Unit	Value
Color			White
Density at 23 °C		[g/cm ³]	1.17
Viscosity at 23 °C, after stirring	ISO 3219	[mPa s]	45,000

Product data (catalyzed with 5 wt % Catalyst T 35 or T 46)

Property	Test method	Unit	Value
Viscosity at 23 °C	ISO 3219	[mPa s]	40,000

Product data (cured)

Property	Test method	Unit	Value
Density at 23 °C in water	ISO 2781	[g/cm ³]	1.16
Hardness, Shore A	ISO 867		25
Tensile strength	ISO 37	[N/mm ²]	5.0
Elongation at break	ISO 37	[%]	350
Tear strength	ASTM D 624 B	[N/mm]	> 20
Linear shrinkage		[%]	0.5

With 5 wt % Catalyst T 35, after 7 days at 23 °C / 50 % rel. humidity

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

Storage

ELASTOSIL® M 4503 has a shelf life of at least 12 months when stored between 5°C and 30°C in the originally sealed container. The 'Best use before end' date of each batch appears on the product label.

Catalysts T 35 and T 46 have shelf lives of at least 12 month if stored in the sealed original bottles between 5 °C and 25 °C.

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 information

Being a condensation-curing silicone rubber, ELASTOSIL® M 4503 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 35 and T 46 contain a tetraorganotin compound, are flammable (flash points 50 °C and 34 °C respectively) and may cause irritation in contact with eyes and skin. Adequate protective measures are required.

Detailed safety information is contained in each Material Safety Data Sheet, which can be obtained from our sales offices.

Additional information

Please contact your nearest WACKER subsidiary.

The data presented in this leaflet are in accordance with the present state of our knowledge, but do not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this leaflet should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The recommendations do not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the products for a particular purpose.

The management system has been certified according to DIN EN ISO 9001 and DIN EN ISO 14001. The Business Unit Elastomers of the Division Silicones is QS-9000 certified.

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