

ELASTOSIL® M 4511

RTV-2 Silicone Rubber / Mold Making

Supplied by

AMBERCOMPOSITES

Characteristics

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

Special characteristics

- Very low Shore A hardness (approx. 12)
- Very good flowability and self-deaeration
- High tear strength
- Extremely high elongation and flexibility
- Outstanding chemical resistance to attack by polyester and polyurethane resins. Mold life is significantly extended.

Application

ELASTOSIL® M 4511 is a high-performance mold-making compound, which is particularly suitable for the reproduction of models with extensive undercuts.

ELASTOSIL® M 4511 is especially suitable for the processing of polyester and polyurethane resins.

Due to its very high extensibility and low flexural modulus, ELASTOSIL® M 4511 is best suited for the reproduction of fine or fragile models, where the piece may be damaged by more rigid molding materials on demolding.

ELASTOSIL® M 4511 exhibits low hardness and high strength, plus excellent ink transfer characteristics. These make it a perfect base material for the production of printing pads.

Product data (uncured)

| Property | Test method | Unit | Value |
|------------------------------------|-------------|----------------------|--------|
| Color | | | White |
| Density at 23 °C | | [g/cm ³] | 1.23 |
| Viscosity at 23 °C, after stirring | ISO 3219 | [mPa s] | 25,000 |

Product data (catalyzed with 5 wt % Catalyst T 51)

| Property | Test method | Unit | Value |
|--------------------|-------------|---------|--------|
| Viscosity at 23 °C | ISO 3219 | [mPa s] | 20,000 |

Product data (cured)

| Property | Test method | Unit | Value |
|---------------------------|--------------|----------------------|-------|
| Density at 23 °C in water | ISO 2781 | [g/cm ³] | 1.22 |
| Hardness Shore A | ISO 868 | | 12 |
| Tensile strength | ISO 37 | [N/mm ²] | 3.5 |
| Elongation at break | ISO 37 | [%] | 600 |
| Tear strength | ASTM D 624 B | [N/mm] | > 18 |
| Linear shrinkage | | [%] | < 0.4 |

With 5 wt % Catalyst T 51, after 4 days at 23 °C / 50 % rel. humidity.

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

Processing

If molds for processing epoxy or **polyurethane resins** are to be made, ELASTOSIL® M 4511 is cured by adding 5 wt % Catalyst T 21 for long pot lives and curing times, or 5 wt % Catalyst T 26 for short pot lives and curing times.

For molds used to process other reproduction materials such as **polyester resins**, plaster, concrete, synthetic stone, wax or low-melting alloys, 5 wt % Catalyst T 51 for long pot lives and curing times, or 5 wt % Catalyst T 56 for short pot lives and curing times should be used.

| Catalyst | Pot life, [min] | Curing time (tack-free), [h] |
|----------|-----------------|------------------------------|
| 5 % T 21 | 60-90 | 8-10 |
| 5 % T 26 | 20-40 | 4-6 |
| 5 % T 51 | 60-90 | 8-10 |
| 5 % T 56 | 20-40 | 4-6 |

The pot life is the period of time at 23 °C / 50 % rel. humidity during which the catalyzed mix to attain a viscosity of 60,000 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".

Storage

ELASTOSIL® M 4511 should be stored between 5 °C and 30 °C in the tightly closed original container. The 'Best use before end' date of each batch appears on the product label.

Catalysts T 21, T 26, T 51 and T 56 should be 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 4511 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 21, T 26, T 51 and T 56 contain organotin compounds, are flammable (flash points > 50 °C) 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 visit our website www.wacker.com

Supplied by

AMBERCOMPOSITES

94 Station Road, Langley Mill
 Nottingham, NG16 4BP United Kingdom
 T: +44 (0)1773 530899 F: +44 (0)1773 768687
 E: sales@ambercomposites.com
www.ambercomposites.com

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

WACKER

and ELASTOSIL® are registered trademarks of Wacker Chemie AG.

Version 6.00 from 11-04-07 replaces Version 5.00 from 16-03-07

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

Wacker Chemie AG
 WACKER-SILICONES
 Hanns-Seidel-Platz 4
 D-81737 Munich, Germany

www.wacker.com
silicones@wacker.com