

ELASTOSIL® RT 705 F



1-part heat-curing silicone rubber

ELASTOSIL® RT 705 F is a self-levelling, slightly thixotropic, one-part heat-curing silicone for potting and coating applications. When applied in thin layer, e.g. by silk-screen printing, it also can be used as surface adhesive.

Cured ELASTOSIL® RT 705 F shows very good adhesion to many substrates and long-term stability against weathering, moisture and UV light. The cured silicone rubber may continuously be exposed to constantly changing climatic conditions, UV radiation and temperatures as high as 230 °C (446 °F) without damage.

Properties

Uncured:

- High extrusion rate
- Self-levelling
- Fast curing at elevated temperature

Cured:

- medium hardness
- recommended service temperature range: -50 °C to +230 °C

Specific features

- Electrically insulating
- Heat resistant
- Low viscosity
- One-component
- Self-adhesive
- Thixotropic
- UV & weathering-resistant

Technical data

Properties Uncured

Property	Condition	Value	Method
Colour	-	black	-
Density	23 °C	approx. 1.23 g/cm ³	calculated
Pot Life	23 °C	6 month	-
Viscosity, dynamic	25 °C 0.5 1/S	30000 mPa·s	DIN EN ISO 3219
Viscosity, dynamic	25 °C 25 1/S	17000 mPa·s	DIN EN ISO 3219

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

Properties Cured

Curing Conditions: 10 min. at 165 °C in a circulating air oven, 2 mm sheet, pressed, no post-curing.

Property	Condition	Value	Method
Hardness Shore A	-	35	DIN ISO 48-4
Tensile strength	-	2.9 N/mm ²	ISO 37 type 1
Elongation at break	-	250 %	ISO 37 type 1
Tear strength	-	5.1	ASTM D 624 B
Color	-	black	-
Density	23 °C	1.24 g/cm ³	DIN EN ISO 1183-1 A

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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

- Automotive Electronics
- E-Drives (xEV/EV)
- Industrial Assembly

Application details

- Multipurpose potting and coating grade

- Surface adhesive
- Typical fields of application: automotive, e-mobility and mechanical engineering

Processing

Preparation:

All surfaces must be clean and free of contaminants that will inhibit the cure of ELASTOSIL® RT 705 F. Examples of inhibiting contaminants are sulfur containing materials, plasticizers, urethanes, amine containing materials and organometallic compounds – especially organotin compounds. If a substrate’s ability to inhibit cure is unknown, a small scale test should be run to determine compatibility.

Temperature	Curing rate
140 °C	10 min
200 °C	2 min

To eliminate any air introduced during dispensing or trapped under components or devices a vacuum encapsulation is recommended. Alternatively, ELASTOSIL® RT 705 F can be de-aerated prior to use; applying a vacuum of 25-50 mbar for 10-15 min is recommended.

Curing:

ELASTOSIL® RT 705 F is a one-part heat-curing silicone, the curing time of which is highly dependent on temperature and on both the size and the heat sink properties of the components being potted. ELASTOSIL® RT 705 F is usually cured between 140 °C and 200 °C in order to secure a quick build-up of adhesion to the respective substrate. Typical curing temperatures and resulting curing times are given in adjacent table.

Detailed information about processing one-part heat-curing silicones is given in our brochure “ROOM TEMPERATURE VULCANIZING (RTV) SILICONES - MATERIAL AND PROCESSING GUIDELINES”. We recommend running preliminary tests to optimize conditions for the particular application.

Removal:

If removal of the silicone from machines or dispensing equipment is necessary, white spirit or similar nonpolar solvents are recommended. However, cleaning ideally should take place before the silicone is fully vulcanized. Cured silicone rubber needs to be rubbed off or removed mechanically, if necessary in combination with a swelling agent (solvent) or a chemical silicone remover.

Packaging and storage

Storage

Store in a dry and cool place (max. 25°C).

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

According to the latest findings, the addition-curing silicone rubber ELASTOSIL® RT 705 F contains neither toxic or corrosive substances which would require special handling precautions.

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® RT 705 F



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

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