

ELASTOSIL[®] SOLAR 1200



Room Temperature Curing Silicone Rubber (RTV-2)

ELASTOSIL[®] SOLAR 1200 is a non-slump, condensation curing RTV-2 silicone adhesive for the solar industry. When processed with a curing agent of the WACKER[®] Catalyst T 77 series, a self bonding and durable silicone rubber is formed.

Cured ELASTOSIL[®] SOLAR 1200 shows long-term stability against weathering, moisture and UV light. The silicone elastomer may continuously be exposed to constantly changing climatic conditions, UV radiation and temperatures as high as 180 °C (356 °F) without damage.

Properties

Uncured:

- Non-slump paste
- Fast curing at room temperature
- To be cured with WACKER[®] Catalyst T 77 or WACKER[®] Catalyst T 77 PLUS (recommended mixing ratio: 10:1)

Cured:

- Medium hardness
- Primerless adhesion to many substrates (glass, ceramics, metals, plastics and powder coatings)
- Recommended service temperature range: -50 °C to +180 °C
- Suitable for bonding applications

Specific features

- Condensation-curing
- Electrically insulating
- Non-slump
- Self-adhesive
- Shear thinning
- Thixotropic
- Two-component
- UV & weathering-resistant

Technical data

Properties Uncured

Property	Condition	Value	Method
Colour	-	creamy	-
Density	23 °C	1.34 g/cm ³	ISO 1183-1 A
Viscosity, dynamic	25 °C 0.5 1/S	1250000 mPa·s	DIN EN ISO 3219
Viscosity, dynamic	25 °C 25 1/S	80000 mPa·s	DIN EN ISO 3219

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

Catalyzed

Mixed with WACKER Catalyst T 77 (mixing ratio in parts by weight)

Property	Condition	Value	Method
Pot Life (10:1)	23 °C	10 - 15 min	DIN EN ISO 3219
Pot Life (12:1)	23 °C	20 - 30 min	DIN EN ISO 3219
Pot Life (8:1)	23 °C	5 - 10 min	DIN EN ISO 3219
Tack-free time (10:1)	23 °C	approx. 60 min	-
Tack-free time (12:1)	23 °C	approx. 90 min	-
Tack-free time (8:1)	23 °C	approx. 45 min	-

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Catalyzed

Mixed with WACKER Catalyst T 77 PLUS (mixing ratio in parts by weight)

Property	Condition	Value	Method
Pot Life (10:1)	23 °C	5 - 10 min	DIN EN ISO 3219
Pot Life (12:1)	23 °C	10 - 15 min	DIN EN ISO 3219
Pot Life (8:1)	23 °C	4 - 6 min	DIN EN ISO 3219
Tack-free time (10:1)	23 °C	approx. 30 min	-
Tack-free time (12:1)	23 °C	approx. 45 min	-
Tack-free time (8:1)	23 °C	approx. 25 min	-

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Properties Cured

Cured with WACKER Catalyst T 77 or WACKER Catalyst T 77 PLUS, mixing ratio 10:1 (by weight). Curing Conditions: 14 days at 23 °C and 50 % rel. humidity, 2 mm sheet, no post-curing.

Property	Condition	Value	Method
Color	-	black	-
Density (in water)	23 °C	1.34 g/cm ³	DIN EN ISO 1183-1 A
Tear strength	-	7.1	ASTM D 624 B
Hardness Shore A	-	35	DIN ISO 48-4
Tensile strength	-	2.1 N/mm ²	ISO 37 type 1
Elongation at break	-	250 %	ISO 37 type 1
Dielectric strength	23 °C	14 kV/mm	IEC 60243-1

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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

- Frame Bonding
- Production of CPV Modules
- Solar Thermal Energy

Application details

- Fast-curing multi-purpose adhesive for the solar energy industry
- Typical fields of application: frame sealing, bonding of junction boxes, fixation of backrails and mirror elements.

Processing

Mixing and curing:

ELASTOSIL® SOLAR 1200 is processed in combination with a curing agent, such as WACKER® Catalyst T 77 or WACKER® Catalyst T 77 PLUS. Prior to application the two compounds should be thoroughly mixed, either manually or by automatic metering lines equipped with static or dynamic mixing devices. The recommended mixing ratio is 10:1 by weight.

Potlife and curing speed can be modified within limits by adjusting the ratio of base compound (ELASTOSIL® SOLAR 1200) to curing agent (WACKER® Catalyst T 77 or WACKER® Catalyst T 77 PLUS). Varying the mixing ratio between 8:1 and 12:1 usually has a small effect on the properties of the cured rubber. However, if the mixing ratio differs substantially from the recommended scope, preliminary tests should be carried out to check the cured material's suitability. General information about pot life and resulting curing times are given in the respective tables "Catalyzed".

Moreover Curing speed can be slightly accelerated by raising the temperature. Heating, however, must not exceed 60 °C before curing is completed.

After completion of the vulcanization process the product may continuously be exposed to constantly changing climatic conditions, UV radiation and high temperature without damage. Cured ELASTOSIL® SOLAR 1200 usually shows good primerless adhesion to many substrates, in particular to those materials which are typical of the solar industry (glass, anodized aluminium, Tedlar® films, PVF, PVDF, PPO, PPS etc.).

Detailed information about processing and modifying curing speed 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 needs to be removed mechanically, if necessary in combination with a swelling agent (solvent).

Packaging and storage

Storage

Store in a dry and cool place.

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

During cure ELASTOSIL® SOLAR 1200 releases a total of 1.5 % alcohol. These vapours should not be inhaled for long periods or in high concentrations. Hence ventilation of the work place is recommended.

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® SOLAR 1200



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

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