WACKER® CATALYST T 77 PLUS

Room Temperature Curing Silicone Rubber (RTV-2)

WACKER® CATALYST T 77 PLUS is a standard curing agent for condensation curing RTV-2 silicones. When processed with a base compound of the product series ELASTOSIL® RT or ELASTOSIL® M, a durable and self bonding silicone rubber is formed after curing.

Properties

- Non-slump paste
- To be processed with base compounds of the ELASTOSIL® RT or ELASTOSIL® M series (recommended mixing ratio: 10:1)
- Very fast curing at room temperature
- Curing speed tunable by mixing ratio
- Provides condensation curing RTV-2 silicones with excellent adhesion to many substrates (glass, ceramics, wood, metals, plastics and powder coatings)

Specific features

- Condensation-curing
- Self-adhesive
- Shear thinning
- Thixotropic

Technical data

General Characteristics

Property	Condition	Value	Method
Colour	-	black	-
Density	23 °C | 1013 hPa	1.0 g/cm^3	EN/ISO 1183
Form	-	paste	-
Viscosity, dynamic	25 °C | 0.5 1/S	approx. 175000 mPa·s	DIN EN ISO 3219
Viscosity, dynamic	25 °C | 25 1/S	approx. 10000 mPa·s	DIN EN ISO 3219

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

Catalyzed

Processing with fast curing base compounds, e.g. ELASTOSIL® RT 426, RT 428, RT 771, RT 772, RT 773, RT 774 or RT 778 (curing conditions: 23 °C, 50 % rel. humidity; all mixing ratios by weight)

Property	Condition	Value	Method
Pot Life (10:1)	-	5 - 10 min	-
Pot Life (12:1)	-	8 - 12 min	-
Pot Life (8:1)	-	3 - 6 min	-
Curing time (10:1)	-	30 - 45 min	-
Curing time (12:1)	-	60 - 90 min	-
Curing time (8:1)	-	20 - 30 min	-

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Catalyzed

Processing with base compounds of medium curing speed, e.g. ELASTOSIL® RT K or ELASTOSIL® RT 563 (curing conditions: 23 °C, 50 % rel. humidity; all mixing ratios by weight)

Property	Condition	Value	Method
Pot Life (10:1)	-	15 - 45 min	-
Pot Life (12:1)	-	45 - 75 min	-
Pot Life (8:1)	-	5 - 15 min	-
Curing time (10:1)	-	1.5 - 2.5 h	-
Curing time (12:1)	-	2.5 - 3 h	-
Curing time (8:1)	-	45 - 90 min	-

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Catalyzed

Processing with slowly curing base compounds, e.g. ELASTOSIL® M 4503 or ELASTOSIL® M 4511 (curing conditions: 23 °C, 50 % rel. humidity; all mixing ratios by weight)

Property	Condition	Value	Method
Pot Life (10:1)	-	50 - 80 min	-
Pot Life (12:1)	-	> 80 min	-
Pot Life (8:1)	-	20 - 60 min	-
Curing time (10:1)	-	> 3 h	-
Curing time (12:1)	-	> 4 h	-
Curing time (8:1)	-	> 2 h	-

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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.

Application details

- General purpose curing agent for condensation curing RTV-2 silicone rubber bases
- Typical fields of application: household appliances, automotive, mechanical engineering, electrical industry.

Processing

Designated Use

WACKER® CATALYST T 77 PLUS is used as standard curing agent for ELASTOSIL® RTV-2 base compounds. The shear-thinning paste provides any product of the series ELASTOSIL® RT or ELASTOSIL® M with excellent adhesion properties. The adhesion strength of the cured rubber usually is independent of the type of base compound used. A general overview in regard to adhesion quality is given in adjacent table.

Substrate	Quality of Adhesion
Glass, Ceramic glass, Ceramics	Very good
Metals, e.g.	
aluminum, stainless steel, iron, brass, copper,…	Very good
Wood and engineered wood	Usually very good
Thermoplastic materials, e.g.	
Polyamide	Good to very good
PBT, PC, PPS	Variable
PMMA, PEEK	Poor
PE, PP, fluorinated polymers	None

Processing

The crosslinking reaction of condensation curing RTV-2 silicones is relatively robust in regard to curing inhibition. Amine containing materials, urethanes, organic compounds with sulfur-containing groups, organometallic compounds, plasticizers, lubricants, oils and grease usually do not impair the curing process itself. Nevertheless, for optimum adhesion results all substrates used should be clean, dry and free from grease, waxes, dust or other surface contaminations.

Mixing and curing:
To ensure uniform curing both components (rubber base and curing agent) have to 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 to curing agent. 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 is 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 self-bonding silicone rubber may continuously be exposed to constantly changing climatic conditions, UV radiation and high temperature without damage. For further details regarding specific silicone properties consult the technical datasheet of the respective RTV-2 base compound.

Removal:
If removal of silicone rubber 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 removed mechanically, if necessary in combination with a swelling agent (solvent).

Detailed information about processing RTV-2 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.

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

While curing WACKER® CATALYST T 77 PLUS releases a total of approx. 1.5 - 2 wt.% alcohol. These vapors 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 WACKER® CATALYST T 77 PLUS

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

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