WACKER® RTV-S 691 A/B

ELASTOSIL®

Room Temperature Curing Silicone Rubber (RTV-2)

WACKER® RTV-S 691 A/B is a self levelling, two-part addition curing silicone rubber which can be vulcanised at room temperature. Due to its low outgassing rate and low temperature flexibility it is recommended especially for space applications.
It has been designed and is used as adhesive for solar cells on solar generators for space applications such as satellites.

Properties

- resistant to low temperatures
- glass transition temperature: < -100 °C / -148 °F
- particularly low volatile contents
- admitted for aerospace applications by ESTEC (European Space Research and technology Centre) according to specification ECSS-Q-70-02A (corresponds to former ESA PSS-01-701)

Specific features

- Regulation: Low volatile
- Resistance: Heat resistant
- Resistance: Low-temperature flexible
- Resistance: UV stable
- Resistance: UV stable
- Specific Features: Heat resistant
- Specific Features: Low volatile

Technical data

Properties Uncured

Property	Condition	A	B	Method
Color	-	red	colourless, clear	-
Density	-	1.55 - 1.65 g/cm^3	0.98 g/cm^3	DIN EN ISO 2811
Viscosity, dynamic spindle 5, 2.5 rpm	23.0 °C	55000.0 - 70000.0 mPa·s	-	Brookfield
Viscosity	25 °C	-	200 - 240	ISO 3219

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

Catalyzed

Property	Condition	Value	Method
Viscosity, dynamic (ca. 5 min after mixing the 2 components, shear rate 16 1/s)	23.0 °C	18000.0 - 26000.0 mPa·s	Brookfield
Mix ratio[(1)]	-	9 : 1	A : B
Pot life[(2)]	-	90 - 110 min	-

[1](p.b.w.)
[2](time to 200,000 mPa s at 16 1/s)

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Properties Cured

Property	Condition	Value	Method
Density in water	23.0 °C	1.52 g/cm^3	DIN EN ISO 1183-1 A
Hardness Shore A	-	50 - 60	DIN ISO 48-4
Tensile strength	-	4.0 - 6.0 N/mm^2	ISO 37
Elongation at break	-	100 - 160 %	ISO 37
Modulus at 100 % elongation elasticity	100.0 % | 23.0 °C | 50.0 % r. h	1.33 - 1.53 N/mm^2	ISO 37
Volume resistivity	100.0 V | 1.0 min	> 1.0 x 10^{14} Ohmcm	IEC 62631-3-1
Surface resistivity	100.0 V	> 1.0 x 10^{12} OHM	-
Collected volatile condensable material CVCM (1)	-	< 0.1 %	-
Tear resistance	-	4.0 - 6.0 N/mm	ASTM D 624 B
Total mass loss TML	-	< 1.0 %	ESA ECSS-Q-70-02A

[1]ESA ECSS-Q-70-02A

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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

- Aerospace

Application details

Mixing ratio is 9:1 p.b.w Before taking component A out of the container or adding the catalyst, stir the material thoroughly. Components A and B can be mixed by hand or with metering equipment. The material must be evacuated before application to remove enclosed the bubbles. For detailed information refer to our leaflet "Wacker RTV-2 Silicone Rubber Processing". Important: The platinum catalyst is contained in component A. Caution! Only components A and B that have the same lot numer may be processed together! Mixing of the components It is ablolutely imperative that any equipment, such as mixing vessels, spatulas and stirres, that is used to process Component A (which contains the platinum catalyst) or the mixture of both components does not come into contact with Component B (which contains the crosslinker). Therefore, all equipment should be clearly labeled.

WACKER® RTV-S 691 A/B is used as silicone adhesive with minimum outgassing behaviour for space projects, e. g. bonding for solar cells in satellites.
RTV-S691 can be applied by silk screen printing or by dispensing equipment. In order to make the rubber adhere to other materials (e. g. glass, aluminium, silver, epoxy resin, polyester resin), it is necessary to pretreat the surface with Primer G 790.

Packaging and storage

Storage

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

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® RTV-S 691 A/B

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

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