

ELASTOSIL[®] CAT UV



Room Temperature Curing Silicone Rubber (RTV-2)

Organometallic catalyst for addition-curing two-part silicone rubber grades (RTV-2).

Technical data

Properties Uncured

Property	Condition	B	Method
Color	-	transparent	-
Density	23 °C	0.97 g/cm ³	DIN EN ISO 2811-2
Viscosity, dynamic	25 °C	1000 mPa·s	ISO 3219
Pot life ⁽¹⁾	-	≥ 1 d	-

¹Typical Value for 25°C for which doubling of mix viscosity in static mixing tube is referred to, [not exposed to UV light or ambient light, depending on addition curing silicone grade]; No processing with premix recommended

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

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

- Measurement & Control, Sensor Technology

- Automotive Electronics
- Power Electronics
- Electrics & Electronics
- Connector Encapsulation
- Potting & Encapsulation with Soft Gels

Application details

ELASTOSIL® CAT UV is a suitable catalyst component for addition-curing silicone elastomers SEMICOSIL® UV enabling fast UV curing at room temperature in combination with long pot-life.

The correct mixing ratio of addition curing silicone component SEMICOSIL® UV and ELASTOSIL® CAT UV (typically 10:1) is given in the datasheet of the addition-curing silicone elastomer.

ELASTOSIL® CAT UV is intended to be used only for processing in dispensing equipment configurations with direct mixing of SEMICOSIL® UV and ELASTOSIL® CAT UV in the mixing tube (i.e. after the dispensing head). It is not intended to be applied in premixes that are stored in separate reservoirs or distribution systems.

Surface preparation

All surfaces must be clean and free of contaminants that will inhibit the cure of the 10:1 mixture of SEMICOSIL® UV / ELASTOSIL® CAT UV.

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.

Handling

ELASTOSIL® CAT UV is supplied in specific packagings allowing the material transfer to reservoirs of state-of-the-art dispensing equipment without exposure to ambient light. For this purpose a reusable opening fixture is mounted on the can closure. Informations can be provided by the regional sales managers.

To ensure homogeneity of the corresponding A component (addition curing silicone SEMICOSIL® UV) must be stirred thoroughly before processing. Typically also ELASTOSIL® CAT UV is stirred in the reservoir of the dispensing machine. Dissolved air is removed by standard degassing of reservoir contents.

After exposure to ambient light or daylight ELASTOSIL® CAT UV should be immediately processed and not stored any longer.

Mixing

ELASTOSIL® CAT UV contains the organometallic UV active catalyst, the corresponding components A the crosslinker. Even traces of the catalyst may cause gelling of the component containing the crosslinker. Therefore tools (spatula, stirrers, etc.) used for handling the catalyst-containing component or the catalyzed compound must not come into contact with this component.

SEMICOSIL® UV grades should be thoroughly mixed with ELASTOSIL® CAT UV at a 10 : 1 ratio by weight or volume. Typically static mixing with tube configurations 24/6 or higher (increased no. helical turnings or lower diameter) are sufficient.

To eliminate any air introduced during dispensing or trapped under components or devices a subsequent vacuum encapsulation may be recommended.

Curing

UV Irradiation on ELASTOSIL® CAT UV activates the UV-active catalyst. In combination with SEMICOSIL® UV grades a very fast cure can be achieved. Cure speed can be tuned in typical ranges between minutes and < 10 sec depending on UV Intensity and dose.

Reaction proceeds after end of UV irradiation. Cure is achieved for those areas irradiated with UV light. In case shadow cure is required a suitable alternative catalyst can be used.

For the curing an UV lamp (Fe-lamp, D-bulb) with an emission between 250 and 350 nm can be used. It is recommended not to use lamp systems that emit light with wavelengths below 250 nm. An high power UV-LED may also be used (365 nm) for applications allowing minimum distance to the light source. As light penetration depth is reduced 365 nm in UV-LED in comparison with discharge lamp pretests are recommendable to check feasibility for specific application.

Curing time of SEMICOSIL® UV / ELASTOSIL® CAT UV (10:1) is highly dependent on UV-activation. Significant differences in curing time are obtained for curing different layer thicknesses and for using different substrate materials.

Processing

General

ELASTOSIL® CAT UV is a suitable catalyst component for addition-curing silicone elastomers SEMICOSIL® UV enabling fast UV curing at room temperature in combination with long pot-life.

The correct mixing ratio of addition curing silicone component SEMICOSIL® UV and ELASTOSIL® CAT UV (typically 10:1) is given in the datasheet of the addition-curing silicone elastomer.

ELASTOSIL® CAT UV is intended to be used only for processing in dispensing equipment configurations with direct mixing of SEMICOSIL® UV and ELASTOSIL® CAT UV in the mixing tube (.i.e. after the dispensing head). It is not intended to be applied in premixes that are stored in separate reservoirs or distribution systems.

Surface Considerations

Surface preparation

All surfaces must be clean and free of contaminants that will inhibit the cure of the 10:1 mixture of SEMICOSIL® UV / ELASTOSIL® CAT UV.

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.

Handling

Handling

ELASTOSIL® CAT UV is supplied in specific packagings allowing the material transfer to reservoirs of state-of-the-art dispensing equipment without exposure to ambient light. For this purpose a reusable opening fixture is mounted on the can closure. Informations can be provided by the regional sales managers.

To ensure homogeneity of the corresponding A component, usually the addition curing silicone SEMICOSIL® UV must be stirred thoroughly before processing. Typically also ELASTOSIL® CAT UV is stirred in the reservoir of the dispensing machine. Dissolved air is removed by standard degassing of reservoir contents.

After exposure to ambient light or daylight ELASTOSIL® CAT UV should be immediately processed and not stored any longer.

Mixing

Mixing

ELASTOSIL® CAT UV contains the organometallic UV active catalyst, the corresponding components A the crosslinker.

Even traces of the catalyst may cause gelling of the component containing the crosslinker. Therefore tools (spatula, stirrers, etc.) used for handling the catalyst-containing component or the catalyzed compound must not come into contact with this component.

SEMICOSIL® UV grades should be thoroughly mixed with ELASTOSIL® CAT UV at a 10 : 1 ratio by weight or volume.

Typically static mixing with tube configurations 24/6 or higher (increased no. helical turnings or lower diameter) are sufficient.

To eliminate any air introduced during dispensing or trapped under components or devices a subsequent vacuum encapsulation may be recommended.

UV Cure

Curing

UV Irradiation on ELASTOSIL® CAT UV activates the UV-active catalyst. In combination with SEMICOSIL® UV grades a very fast cure can be achieved. Cure speed can be tuned in typical ranges between minutes and < 10 sec depending on UV Intensity and dose.

Reaction proceeds after end of UV irradiation. Cure is achieved for those areas irradiated with UV light. In case shadow cure is required a suitable alternative catalyst can be used.

For the curing an UV lamp (Fe-lamp, D-bulb) with an emission between 250 and 350 nm can be used. It is recommended not to use lamp systems that emit light with wavelengths below 250 nm. An high power UV-LED may also be used (365 nm) for applications allowing minimum distance to the light source. As light penetration depth is reduced 365 nm in UV-LED in comparison with discharge lamp pretests are recommendable to check feasibility for specific application.

Curing time of SEMICOSIL® UV / ELASTOSIL® CAT UV (10:1) is highly dependent on UV-activation. Significant differences in curing time are obtained for curing different layer thicknesses and for using different substrate materials.

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. After exposure to daylight or UV-light ELASTOSIL® CAT UV should be immediately processed and not stored any longer.

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 ELASTOSIL® CAT UV



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

Wacker Chemie AG, Hanns-Seidel-Platz 4, 81737 Munich, Germany
info@wacker.com, www.wacker.com

The data presented in this medium 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 medium 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 information provided by us does 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 product for a particular purpose.