

KE 3490 & KE 3494 RTV Silicones

**One-component, Non-flammable, Non-corrosive,
Adhesive/Sealants**

PRODUCT DESCRIPTION

- UL 94V-0 rating
- Five minute tack free time
- Low volatility
- Low odor
- Patented crosslinking system
- Excellent adhesion to many substrates
- Flowable or thixotropic

Shin-Etsu KE 3490 and KE 3494 RTV silicones are UL-94V-0 rated, non-corrosive adhesive/sealants developed for applications in consumer electronics, transportation, and aerospace.

Utilizing a patented crosslinking system, these materials offer a fast curing alternative to other electronic grade silicone sealants. In addition, rigorous processing of the base polymer in KE 3490 and KE 3494 ensures minimal volatilization of low molecular weight silicone constituents after cure and subsequent exposure

to high temperatures.

KE 3490 RTV adhesive/sealant is a non-sag thixotropic paste that may be applied overhead or on sidewall joints and surfaces. KE 3494 RTV adhesive/sealant is a self-leveling, medium viscosity material that is ideal for many potting, coating, and sealing applications.

Both KE 3490 and KE 3494 RTV adhesive/sealants are gray in color and each cure to a tough, flexible silicone elastomer upon exposure to atmospheric moisture at room temperature. Both materials will exhibit excellent adhesion to many substrates, including glass, wood, ceramics, clean metals, other silicone elastomers, and plastics like ABS, polycarbonate, and PVC.

APPLICATIONS

- Bonding and sealing applications on CRTs
- Form-in-place-gasketing
- Sealing appliance electronics
- Sealing electrical connections, control boxes
- Encapsulating and sealing heating elements

KE 3490 & KE 3494 RTV Silicones

DIRECTIONS FOR USE

Surface Preparations

Prior to potting all surfaces should be thoroughly cleaned with an environmentally suitable solvent to remove dirt, oil, and grease. The surface should be allowed to dry before applying a primer or the elastomer.

When solvents are used, proper safety precautions must be observed. All solvents should be considered toxic and should be used only in well ventilated areas. Exposure to high vapor concentration must be avoided. When flammable solvents are used, they should be stored, mixed, and applied in areas void of heat, sparks, open flames or other sources of ignition.

Priming

Both KE 3490 and KE 3494 will bond to many clean surfaces without the aid of a primer. It is easy, however, to improve the bonding of these materials by using a primer. Please consult the Shin-Etsu Silicones primer data sheet for the proper primer selection for your substrate.

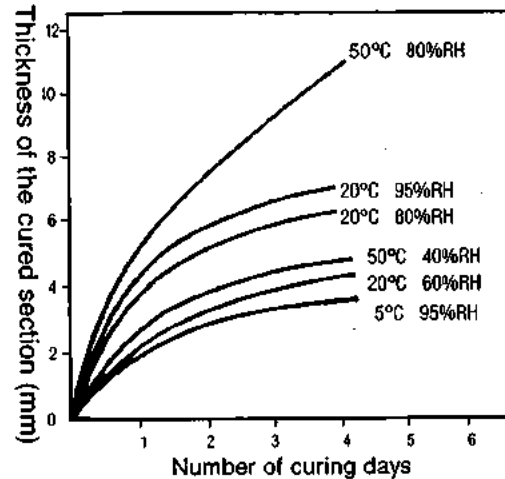
Curing

One component RTV rubbers cure once in contact with atmospheric moisture. Cure time therefore varies according to rubber thickness, cure temperature, and relative humidity.

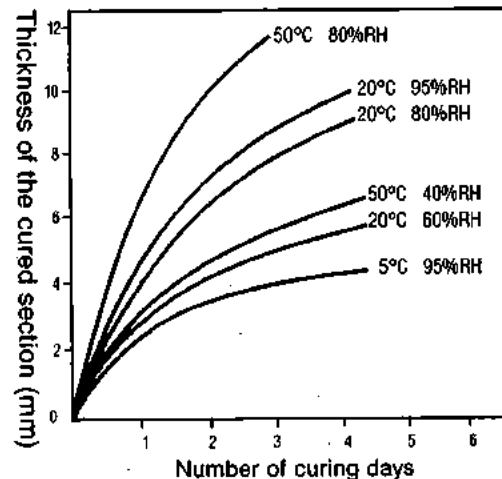
KE 3490 and KE 3494 RTVs utilize an acetone crosslinker, a chemistry patented by Shin-Etsu Silicones. This crosslinking system results in faster tack-free times, a quicker ultimate cure, and better adhesion than other electronic grade silicone RTVs. When left at 25°C and 50%RH, KE 3490 and KE 3494 RTVs will become tack free in 3-5 minutes. Optimum adhesion will develop over the next 24 to 72 hours. Cure starts from the surface and the thicker the rubber, the longer the cure time needed.

The relationship between the cure speed of the RTV and cure temperature and humidity is shown below.

KE 3494



KE 3490



Relationship between curing speed and temperature/humidity

Electronics Use

KE 3490 and KE 3494 RTVs are ideal for electronics applications because of their non-corrosive crosslinking system and because of their low volatility at high temperatures. Acetone is liberated during the cure of these products and as such will not harm sensitive components or lead paths. A typical silicone polymer contains unreacted polymer precursors (Dn) that, if left in the compounded RTV formulation, will volatilize at high temperatures even when the elastomer is fully cured. KE 3490 and KE 3494 RTVs undergo additional processing during their manufacture to minimize all low molecular weight silicone that might normally be present.

Handling and Safety

These products are manufactured and sold for industrial use only.

Uncured product contact irritates eyes. In case of contact with eyes, immediately flush eyes with water for 15 minutes. If irritation persists, get medical attention. Wearers of contact lenses should not handle lenses until all sealant has been cleaned from the fingertips; sealant will transfer to lenses and cause severe eye irritation. To clean from the skin, wipe very thoroughly with a dry cloth or paper towel before washing with soap and water.

Material Safety Data Sheets are available upon request from Shin-Etsu Silicones of America, Inc. Similar information for solvents and other chemicals used with our products may be obtained from your suppliers.

Clean Up and Removal

Before curing, use the same environmentally suitable solvent used to clean the substrate are most effective. After cure, selected chemical strippers which will remove the silicone rubber are available from other manufacturers. Specific product information may be obtained upon request.

UL Status

KE 3490 and KE 3494 RTV silicones are flame class rated 94V-1 by Underwriters' Laboratories, Inc. at thicknesses of 0.79 mm and 1.57 mm. They are flame class rated 94V-0 at 3.17 mm. A current yellow card is maintained under File No. E48923 and a copy is available upon request.

Storage

When stored in the original unopened containers in a dry location at temperatures less than 80°F (27°C), KE 3490 and KE 3494 RTV silicones offer a shelf life of up to six months from date of shipment.

To prevent curing of the unused portion of an opened container, reseal tightly.

SPECIFICATIONS

The information and data contained herein are believed to be accurate and reliable; however, it is the user's responsibility to determine suitability of use. Since Shin-Etsu Silicones cannot know all of the uses to which its products may be put or the conditions of use, it makes no warranties concerning the fitness or suitability of its products for a particular use or purpose.

You should thoroughly test any proposed use of our products and independently conclude satisfactory performance in your application. Likewise, if the manner in which our products are used requires governmental approval or clearance, you must obtain it.

Shin-Etsu Silicones warrants only that its products will meet its specifications. There is no warranty of merchantability of fitness for use, nor any other expressed or implied warranties. The user's exclusive remedy and Shin-Etsu Silicones' sole liability is limited to refund of the purchase price or replacement of any product shown to be otherwise than as warranted. Shin-Etsu Silicones will not be liable for incidental or consequential damages of any kind.

Suggestions of uses should not be taken as inducements to infringe any patents.

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TYPICAL PROPERTIES

These values are not intended for use in preparing specifications

		KE 3490	KE 3494
Uncured Properties	Appearance	Thixotropic paste	Flowable liquid
	Specific Gravity, 25°C	1.20	1.20
	Tack-Free Time, minutes	3	5
	Viscosity, cps at 25°C	—	35,000
	Color	Gray	Gray
Cured Properties (7 days/20°C and 55% RH)	Hardness, Shore-A	40	35
	Tensile Strength, psi	500	350
	Elongation, %	400	220
	Lap Shear, Al-Al, psi	150	100
Electrical Properties	Volume Resistivity, ohm-cm	4×10^{14}	3×10^{14}
	Dielectric Strength, volts/mil	600	600
	Dielectric Constant, 60 Hz	3.2	3.2
	Dissipation Factor, 60 Hz	0.01	0.01
Low Volatile Silicones (D_n), %		< 0.07	< 0.1
Flame Class (UL-94)	0.79 mm	V-1	V-1
	1.57 mm	V-1	V-1
	3.17 mm	V-0	V-0

AVAILABILITY

Shin-Etsu silicones are available from Shin-Etsu Silicones of America, Inc. or from its authorized silicone products distributors. For the name of your nearest distributor or for more information on these products contact:

RUDOLPH BROS. & CO.

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