



TSE322

RTV6424, RTV6445, and TSE322 Heat-Curing Silicone Adhesives

Product Description

RTV6424, RTV6445 and TSE322 silicone adhesives are one-component heat curable silicone adhesive sealants which will bond to many substrates without a primer and which will cure rapidly at elevated temperatures. These products have a very long working time at room temperature but will not cure completely until exposed to elevated temperatures.

RTV6424 - is a white, paste like product with a small amount of vertical flow

RTV6445 - is a white, thixotropic paste consistency product which can be applied to vertical or overhead surfaces.

TSE322 - is a light blue, flowable material with self-leveling properties.

TSE322B - is a black, flowable material with self-leveling properties.

Key Performance Properties

- One component products - no mixing required
- Fast cure at elevated temperature
- Primerless adhesion to many types of substrates
- No cure by-products, low linear shrinkage
- Non-corrosive to metals and sensitive substrates
- Excellent dielectric properties
- Outstanding performance over a wide thermal range

Typical Product Data

Uncured Properties	RTV6424	RTV6445	TSE322	TSE322B
Color	White	White	Lt Blue	Black
Viscosity, cps	N/A	N/A	150,000	150,000
Specific Gravity	1.17	1.20	1.28	1.28
Vertical Flow, inches @ 5 mins	2	0.2	N/A	N/A
Application Rate, grams/minute	150	50	N/A	N/A
Cured Properties (cured 1 hour at 150°C)	RTV6424	RTV6445	TSE322	TSE322B
Durometer, Shore A	30	38	45	45
Elongation, %	550	625	200	200
Tensile Strength, psi	675	875	425	425
Tear Strength, lb./in, Die B	80	140	-	-
Adhesion, psi (al to al)	300	325	300	300
Dielectric Strength, volts/mil	500	500	500	500
Dielectric Constant	2.9	2.9	3.1	3.1
Dissipation Factor	0.003	0.003	0.006	0.006
Volume Resistivity, ohm-cm	1×10^{15}	1×10^{15}	1×10^{14}	1×10^{14}

Specifications

Typical product data values should not be used as specifications. Assistance and specifications are available by contacting GE Silicones at 800/255-8886.

Instructions for Use**Compatibility**

RTV6424, RTV6445 and TSE322 silicone adhesives will cure in contact with most clean, dry surfaces. However, certain materials, such as butyl and chlorinated rubber, sulfur-containing materials, amines, and certain metal soap cured RTV silicone rubber compounds can cause cure inhibition. Cure inhibition is characterized by a gummy appearance of the RTV6424, RTV6445 and TSE322 silicone adhesives at the interface between the adhesive and the substrate to be bonded. It is recommended that a sample patch test be performed with the RTV6424, RTV6445 and TSE322 silicone adhesives to determine substrate compatibility.

Surface Preparation

The adhesive performance of any polymer system is highly dependent upon proper surface preparation. In order to maximize the adhesion of RTV6424, RTV6445 and TSE322 silicone adhesives and minimize the potential for cure inhibition, all parts should be as clean and dry as possible prior to the application of the adhesive.

Bonding

RTV6424, RTV6445 and TSE322 silicone adhesives offer outstanding adhesion characteristics to a wide variety of different substrates without the need of a primer.

For difficult-to-bond-to substrates, or where more aggressive chemical adhesion is desired, the adhesion may be enhanced by using SS4155 silicone primer, available from GE Silicones. To apply the primer, thoroughly clean the surface and let dry. Then apply a uniform film (0.01-0.02 mm / 0.5-1.0 mil) of SS4155 silicone primer and allow the primer to air-dry for one hour or more. For more details on priming and adhesion, please refer to GE Silicones product data sheet on silicone primers (CDS1873).

Curing

RTV6424, RTV6445 and TSE322 silicone adhesives requires the use of elevated temperatures in order to achieve full cure. Typical cure times and temperatures are as follows:

Temperature	RTV6424/RTV6445	TSE322/TSE322B
100C/212F	N/A	3 hours
125C/257F	45 minutes	45 minutes
150C/302F	30 minutes	30 minutes

The actual cure time is affected by such things as cross-sectional thickness of the RTV6424, RTV6445 and TSE322 silicone adhesives, heat capacity of the overall assembly and efficiency and type of oven used (i.e. convection, infrared)

Handling and Safety

Material Safety Data Sheets are available upon request from GE Silicones. Similar information for solvents and other chemicals use with GE Products should be obtained from your suppliers. When solvents are used, proper safety precautions must be observed.

CAUTION

RTV6424, RTV6445 and TSE322 silicone adhesives can generate flammable hydrogen gas upon contact with acidic, basic, or oxidizing materials. Such contact should be avoided.

Storage and Warranty Period

The warranty period for RTV6424, RTV6445, TSE322 and TSE322B silicone adhesives is 6 months from date of shipment from GE Silicones if stored in the original unopened containers at temperatures between 35F and 50F (1C to 10C).

Availability

Products may be ordered from GE Silicones, Waterford, NY 12188, the GE Silicone sales office nearest you, or where appropriate, or an authorized GE Silicones product distributor.

Government Requirement

Prior to considering the use of a GE Silicones product in fulfilling any Government requirement, please contact the Government and Trade Compliance office at 413-448-4624.

CDS4939

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