

## TSE322

### TSE322

#### 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 Features and Benefits

- 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 Physical Properties

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
<b>Cured Properties (cured 1 hour at 150°C)</b>	<b>RTV6424</b>	<b>RTV6445</b>	<b>TSE322</b>	<b>TSE322B</b>
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	$1 \times 10^{15}$	$1 \times 10^{15}$	$1 \times 10^{14}$	$1 \times 10^{14}$

### Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

### Product Safety, Handling and Storage

#### 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.

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

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at [www.momentive.com](http://www.momentive.com) or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

## Processing Recommendations

### 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 Momentive Performance Materials. 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 Momentive Performance Materials product data sheet on silicone primers.

### 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:

<u>Temperature</u>	<u>RTV6424/RTV6445</u>	<u>TSE322/TSE322B</u>
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)

### **Limitations**

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

### **Contact Information**

For product prices, availability, or order placement, contact our customer service at [Momentive.com/contact/customer-service](http://Momentive.com/contact/customer-service)

For literature and technical assistance, visit our website at: [www.momentive.com](http://www.momentive.com)

### **DISCLAIMER:**

**THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC. AND ITS SUBSIDIARIES AND AFFILIATES (COLLECTIVELY “SUPPLIER”), ARE SOLD SUBJECT TO SUPPLIER’S STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SUPPLIER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING ITS PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. EXCEPT AS PROVIDED IN SUPPLIER’S STANDARD CONDITIONS OF SALE, SUPPLIER AND ITS REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN.**

Each user bears full responsibility for making its own determination as to the suitability of Supplier’s materials, services, recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating Supplier’s products, materials, or services will be safe and suitable for use under end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Supplier’s standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Supplier. No statement contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Supplier covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.

**Momentive and the Momentive logo are trademarks of Momentive Performance Materials Inc.**