

TSE3380

Thermally Conductive Silicone Adhesive

Product Description TSE3380 is a two-component, heat curable silicone rubber designed for thermally conductive applications. TSE3380 cures with heat to form an elastic, thermally conductive rubber and adheres well to various types of materials such as metals, plastics, glass and ceramics without the use of primers.

Key Performance Properties

- Convenient 1:1 mix ratio by weight
- Heat accelerated cure
- Excellent thermal conductivity
- Excellent adhesive properties; primerless adhesion to many types of substrates
- Resistance to temperature extremes
- Non-corrosive to metal

Applications Sealing and bonding for thermal conductive applications like Heat generating elements, Regulators, Rectifier, Thyristor, etc

Typical Product Data

Typical uncured Properties		A-part	B-part
Appearance		Grey	White
Viscosity (23°C)	Pa·s	30	50
Viscosity after mixing (23°C)	Pa·s	40	
Mix ratio by weight		1 : 1	

Typical Product Data

Cured Properties(0.5 hr@ 150°C)		TSE 3380
Appearance		Elastic rubber, grey
Density	g/cm ³	2.70
Hardness	Shore A	70
Tensile strength	MPa	2.5
Elongation	%	100
Adhesive strength*	MPa	1.5
Thermal conductivity	W/m·K	1.68
Linear expansion	1/K	1.4 x 10 ⁻⁴
Volume resistivity	Ω·cm	2.1 x 10 ¹⁴
Dielectric strength	kV/mm	15
Dielectric constant (60 Hz)		5.7
Dielectric loss (60 Hz)		0.002

*Aluminium Lap Shear

Specifications

Typical product data values should not be used as specification. Assistance and specification are available by contacting Momentive performance materials Technical Service RTV1/RTV2.

Instructions for use

Compatibility

TSE3380 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 inhibition. Cure inhibition is characterized by a lack of cure of the TSE at the interface of the silicone rubber and the substrate.

It is recommended that a sample patch test be performed with TSE3380 to determine if a barrier coating or other inhibition preventing measures are necessary before pouring the TSE.

Mixing

Select a mixing container 4-5 times larger than the volume of TSE silicone to be used. Mix the A as well as the B part thoroughly before use as sedimentary contents may have settled to the bottom of the container. Weight out 100 parts of A component and 100 parts of B component. With clean tools, thoroughly mix the A and B components together, scraping the sides and bottom of the container carefully to produce a homogeneous mixture.

When using power mixers, avoid excessive speeds, which could entrap large amounts of air or cause overheating of the mixture, resulting in a shorter pot life.

Deaeration

Air entrapped during mixing should be removed to eliminate voids in the cured product. The mixed material should be exposed to a vacuum of 20 mbar. The material will expand, crest and recede to about the original level as the bubbles break. Degassing is usually complete about 2 minutes after frothing ceases.

Curing

TSE3380 silicone rubber adhesive cures very rapidly when exposed to elevated temperatures. Typical cure times as are as follows:

Cure Temperature	Cure Time
100° C	120 minutes
125° C	45 minutes
150° C	30 minutes

The actual cure time will depend on the cross-sectional thickness of the TSE3380 silicone rubber adhesive, the thermal properties of the overall assembly and type and efficiency of oven. Cure temperatures below 100°C are not recommended.

Bonding

To achieve optimum adhesion, substrates should be cleaned with a non-oily solvent such as a naphtha, methyl ethyl ketone (MEK) or isopropyl alcohol. Apply freshly catalyzed TSE3380 to the surface and cure at minimum 100°C to obtain optimum adhesion. The heating time is depending on the heat capacity of the substrates, the ovens and the amount of TSE3380 to be used.

Handling and Safety

Material Safety Datasheets are available upon request from Momentive performance materials. Similar information for solvents and other chemicals used with the Momentive performance materials products should be obtained from your supplier. When solvents are used, proper safety precautions must be observed.

Storage and Warranty Period

The shelf life will be indicated by the 'use before date' on the associated documents with a minimum of 4 months when stored in the original unopened containers at a temperature below 27°C.

Availability

TSE3380 (A) and TSE3380 (B) are each available in 1 kg cans.



PRINCIPAL LOCATIONS – Regional Information

North America	World Headquarters 187 Danbury Road Wilton, CT 06897, USA	T 800.295.2392	F 607.754.7517
Latin America	Rodovia Eng. Constâncio Cintra, Km 78,5 Itatiba, SP – 13255-700, Brazil	T +55.11.4534.9650	F +55.11.4534.9660
Europe, Middle East, Africa and India	D-51368 Leverkusen Germany	T 00.800.4321.1000 T +31.164.293.276	F +31.164.241.750
Pacific	Akasaka Park Building - 5-2-20 Akasaka Minato-ku, Tokyo 107-6112 Japan	T +81.3.5544.3100	F +81.3.5544.3101

CUSTOMER SERVICE CENTERS

North America	Charleston, WV 25314, USA E cs-na.silicones@momentive.com		
	• Specialty Fluids	T 800.523.5862	F 304.746.1654
	• UA, Silanes, Resins, and Specialties	T 800.334.4674	F 304.746.1623
	• RTV Products-Elastomers • Sealants and Adhesives & Construction	T 800.332.3390 T 877.943.7325	F 304.746.1623 F 304.746.1654
Latin America	E cs-la.silicones@momentive.com		
	• Argentina & Chile	T +54.11.4862.9544	F +54.11.4862.9544
	• Brazil	T +55.11.4534.9650	F +55.11.4534.9660
	• Mexico & Central America • Venezuela, Ecuador, Peru, Colombia, & Caribbean	T +52.55.5899.5135 T +58.212.285.2149	F +52.55.5899.5138 F +58.212.285.2149
Europe, Middle East, Africa and India	E cs-eur.silicones@momentive.com	T 00.800.4321.1000 T +31.164.293.276	F +31.164.241750
	E cs-ap.silicones@momentive.com		
Pacific	• Japan	T +81.276.20.6182	
	• China	T +86.21.5050.4666 (ext. 1523)	
	• Korea	T +82.2.6201.4600	
	• Singapore	T +65.6220.7022	
Worldwide Hotline	Worldwide Web www.momentive.com	T 800.295.2392 T +607.786.8131	F +607.786.8309

DISCLAIMER: THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC., MOMENTIVE PERFORMANCE MATERIALS USA INC., MOMENTIVE PERFORMANCE MATERIALS ASIA PACIFIC PTE. LTD., MOMENTIVE PERFORMANCE MATERIALS WORLDWIDE INC., MOMENTIVE PERFORMANCE MATERIALS GmbH, MOMENTIVE PERFORMANCE MATERIALS SUISSE Sarl, THEIR SUBSIDIARIES AND AFFILIATES DOING BUSINESS IN LOCAL JURISDICTIONS (collectively "SUPPLIERS"), ARE SOLD BY THE RESPECTIVE LEGAL ENTITY OF THE SUPPLIER SUBJECT TO SUPPLIERS' 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, SUPPLIERS MAKE 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 SUPPLIERS' PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. AFOREMENTIONED EXCLUSIONS OR LIMITATION OF LIABILITY ARE NOT APPLICABLE TO THE EXTENT THAT THE END-USE CONDITIONS AND/OR INCORPORATION CONDITIONS CORRESPOND TO THE RECOMMENDED CONDITIONS OF USE AND/OR OF INCORPORATION AS DESCRIBED BY SUPPLIER IN ITS PRODUCT DATA SHEET AND/OR PRODUCT SPECIFICATIONS. EXCEPT AS PROVIDED IN SUPPLIERS' STANDARD CONDITIONS OF SALE, SUPPLIERS AND THEIR 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 Suppliers' 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 Suppliers' 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 Suppliers' Standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Suppliers. 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 Suppliers or any of its subsidiaries or affiliates 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.