

## XE14-B7892

### Flame Retardant Silicone Potting Compound

#### Product Description

**XE14-B7892** is a two-component, heat curable silicone rubber designed for electrical and electronic potting. It provides excellent flame retardant properties (UL94 V-0) and very stable dielectric properties over a broad temperature range. In addition, XE14-B7892 silicone rubber compound also offers superior thermal conductivity properties when compared to other conventional silicone encapsulants.

#### Key Performance Properties

- Convenient 1:1 mix ratio by weight
- Low viscosity allows for superior flowability
- Excellent flammability properties;UL94 V-0 (3mm) recognized (file No. E56745)
- Excellent thermal conductivity properties
- Non-corrosive to metals

#### Applications

- Potting of electronic parts requiring flammability and use under temperature extremes
- Potting of high voltage parts

#### Typical Product Data

Uncured Properties		A	B
Colour		Black	White
Viscosity (23°C)	mPa·s	1500	1200
Colour		Black	
After mixing ratio 1:1 (25°C)	mPa·s	1300	
Pot Life (23°C)	hr	2	

#### Typical Product Data

Cured Properties (1 hour at 60°C)		
<b>MECHANICAL</b>		
Specific Gravity	g/cm <sup>3</sup>	1.39
Hardness	shore A	60
Tensile Strength	MPa	3.5
Elongation	%	100
<b>FLAMMABILITY</b>		
UL94-Classification	3.0mm	V-0
<b>THERMAL</b>		
Useful Temperature Range	°C	-55 to 200
Thermal Conductivity	W / m·K	0.44
Linear expansion	1/K	1.95x10E-4
<b>DIELECTRIC</b>		
Volume resistivity	ohm.cm	2.0x10E15
Dielectric strength	KV/mm	27
Dielectric constant (60 Hz)		3.1
Dissipation factor (60 Hz)		0.01

## Specifications

Typical product data values should not be used as specification. Assistance and specifications are available by contacting Momentive Performance Materials Technical Service RTV1 and RTV2.

## Instructions for Use

### Compatibility

XE14-B7892 silicone rubber compound will cure in contact with most clean and dry surfaces. However, certain materials, such as butyl and chlorinated rubber, sulfur-containing materials, amines and certain metal soap-cure RTV silicone rubber compounds can cause cure inhibition. Cure inhibition is characterized by a gummy appearance of the silicone rubber compound at the interface between it and the substrate.

It is recommended that a sample patch test be performed with XE14-B7892 silicone rubber compound to determine if a barrier coating or other inhibition-preventing measures are necessary before using the material.

### Surface Preparation

The performance of any polymer system is highly dependent upon surface preparation. In order to maximize the properties of XE14-B7892 silicone rubber compound and minimize the potential for cure inhibition, all parts should be as clean and dry as possible prior to the application of the silicone rubber compound. Particular attention should be paid to those areas, which will come in direct contact with the XE14-B7892 during the curing process.

### Bonding

XE14-B7892 silicone rubber compound requires a primer to bond to non-silicone surfaces. Thoroughly clean the substrates with a non-oily solvent such as naphtha or methyl ethyl ketone (MEK), and let dry. Then apply a uniform thin film of SS4155 silicone primer and allow the primer to air dry for one hour or more. Finally, apply freshly catalyzed XE14-B7892 silicone rubber compound to the primed surface and cure as recommended.

### Mixing

**Since settling of filler occurs during storage, XE14-B7892 base and curing agent compound each should be thoroughly stirred before mixing together.**

To hand mix, select a clean mixing container 4-5 times larger than the volume of silicone rubber compound to be used. Weigh out equal amounts of the A & B components. With clean tools, thoroughly mix the A & B components together, scraping the sides and bottom of the container carefully to produce a homogeneous mixture. Care should be taken to minimize the amount of air entrapment.

For best results, XE14-B7892 silicone rubber compound may be either pumped or dispensed through two components automated mixing equipment, or, given the very long catalyzed pot life of the product, it can be premixed in power mixing equipment and applied as a one-component. When using power mixing equipment care should be taken to avoid high mixing speeds, which can generate heat and cause premature curing of the material.

### Deaeration

When XE14-B7892 silicone rubber compound is hand mixed, or mixed with power mixing equipment, air entrapped during the mixing process should be removed to eliminate the formation of voids in the cured product. Expose the mixed material to a vacuum of 10-20 mbar. The material will expand, crest, and recede to about the original level as the bubbles break. Deaeration is usually complete about two minutes after frothing ceases.

### **Curing**

XE14-B7892 silicone rubber compound cures very rapidly when exposed to elevated temperatures. Typical cure times are as follows:

<u>Cure Temp</u>	<u>Cure Time</u>
100°C	10 minutes
150°C	5 minutes
200°C	2 minutes

The actual cure time will depend on the cross-sectional thickness of the XE14-B7892 silicone rubber compound, the thermal properties of the overall assembly, and type and efficiency of oven.

**XE14-B7892 must be cured in a well ventilated oven.**

### **Handling and Safety**

Material Safety Data Sheets 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 below 25° C.

### **Availability**

XE14-B7892 A-component and B-component are available in 1 kg containers and in 20 kg drums.

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