



XE14-B7892

XE14-B7892

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 Features and Benefits

- 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

Typical Physical Properties

| Uncured Properties | | XE14-B7892 | |
|-------------------------------|-------|------------|-------|
| | | 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 | |

| Cured Properties (1 hour at 60°C) | | |
|-----------------------------------|---------|------------|
| MECHANICAL | | |
| Specific Gravity | g/cm³ | 1.39 |
| Hardness | shore A | 60 |
| Tensile Strength | MPa | 3.5 |
| Elongation | % | 100 |
| FLAMMABILITY | | |
| UL94-Classification 3.0mm | | V-0 |
| THERMAL | | |
| Useful Temperature Range | °C | -55 to 200 |
| Thermal Conductivity | W / m-K | 0.44 |
| Linear expansion | 1/K | 1.95x10E-4 |
| DIELECTRIC | | |
| Volume resistivity | ohm.cm | 2.0x10E15 |
| Dielectric strength | KV/mm | 27 |
| Dielectric constant (60 Hz) | | 3.1 |

| | | |
|----------------------------|--|------|
| Dissipation factor (60 Hz) | | 0.01 |
|----------------------------|--|------|

Potential Applications

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

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

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.

Customers should review the latest Material Safety Data Sheet (MSDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, and any special storage conditions required for safety. MSDS are available at www.momentive.com or, upon request, from any Momentive Performance Materials (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

XE14-B7892 silicone rubber compound will cure in contact with most clean and dry surfaces. However, certain materials, such as butyl and chlorinated rubber, sulfurcontaining 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 inhibitionpreventing 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 and dispensed through two component 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:

| Cure Temp | Cure Time |
|-----------|------------|
| 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.**

Limitations

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

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.

Availability

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

Contact Information

For product prices, availability, or order placement, contact our customer service by visiting momentive.com/ContactSilicones.

For literature and technical assistance, visit our website at: www.momentive.com

DISCLAIMER

The information provided herein was believed by Momentive Performance Materials Inc. (collectively with its subsidiaries, "Momentive") to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of the product, and to determine the suitability of the product for user's intended application or use. All products supplied by Momentive are subject to Momentive's standard terms and conditions of sale. **MOMENTIVE MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY MOMENTIVE**, except that the product shall conform to Momentive's specifications. Nothing contained herein constitutes an offer for the sale of any product.

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