



LOCTITE[®] PMS-50E[™]

December 2006

PRODUCT DESCRIPTION

LOCTITE[®] PMS-50E[™] provides the following product characteristics:

Technology	Acrylic
Chemical Type	Methacrylate
Appearance (uncured)	Transparent liquid ^{LMS}
Emulsification	Disperses out in water ^{LMS}
Fluorescence	Positive under UV light ^{LMS}
Components	One component - requires no mixing
Viscosity	Low
Cure	Anaerobic
Application	Sealing

LOCTITE[®] PMS-50E[™] is a penetrating sealant which is designed to seal metal porosity in applications which demand maximum resistance to elevated temperatures and solvents. No solvents are present in the sealant. Differential pressure equipment is used to force the sealant into the microscopic pores of cast or powder metal components. The absence of air and presence of metal cause the cure. As a solid, this product is a cross-linked thermoset polymer which may be used in harsh environments. LOCTITE[®] PMS-50E[™] is used exclusively in batch impregnation equipment to seal parts which, in general, must hold differential pressure. This product is especially well suited to applications involving design temperatures between 93°C to 204°C and/or requiring long term resistance to strong solvents such as gasoline. Engine and powertrain components, fuel handling systems, refrigeration components and other harsh environments are typical applications.

UL Classification

Classified by Underwriters Laboratories Inc.[®] MH15585 as a casting impregnation material for exposure to gasoline, kerosene, fuel oils, naphtha and alcohol blended gasoline mixtures with concentrations up to and including 100% ethanol and methanol

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.09
Flash Point - See MSDS	
Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP):	
Spindle 2, speed 50 rpm	40 to 65 ^{LMS}

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties:

Coefficient of Thermal Expansion, ISO 11359-2, K ⁻¹	1.2×10 ⁻⁴
Coefficient of Thermal Conductivity, ISO 8302, W/(m·K)	0.15
Shore Hardness, ISO 868, Durometer D	8

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Material Safety Data Sheet (MSDS).

Directions for use

1. Use any of the following vacuum impregnation methods to impregnate parts in LOCTITE[®] PMS-50E[™]: Dry vacuum/pressure, wet vacuum/pressure, wet vacuum, pressure impregnation.
2. After the impregnation procedure, put parts in drip station or centrifuge to remove excess surface resin.
3. Clean parts by vertically oscillating in soapy water.
4. Soak parts in activator rinse to initiate catalytic cure of sealant at porosity surface sites.
5. Soak parts in a final rinse at 43 °C to remove activator, rinse and warm the parts for quick drying upon removal.

Loctite Material Specification^{LMS}

LMS dated April 29, 1996. Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Special customer specification requirements may be coordinated through Henkel Quality.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 8 °C to 21 °C. Storage below 8 °C or greater than 28 °C can adversely affect product properties.

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions

(°C x 1.8) + 32 = °F
 kV/mm x 25.4 = V/mil
 mm / 25.4 = inches
 μm / 25.4 = mil
 N x 0.225 = lb
 N/mm x 5.71 = lb/in
 N/mm² x 145 = psi
 MPa x 145 = psi
 N·m x 8.851 = lb·in
 N·m x 0.738 = lb·ft
 N·mm x 0.142 = oz·in
 mPa·s = cP

Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.0