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Laboratory Data Sheet

Product 5110

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PRODUCT DESCRIPTION

LOCTITE® 5110 Sealant is an electrical grade anaerobic sealant which cures to form a tough thermoset plastic. As a liquid, no solvents are present and ionic contaminants are minimized. As a polymer, the material is an excellent electrical insulator and may be used in harsh environments. The primary use of 5110 is to seal internal leak paths in molded electrical components and coils. Product 5110 is specifically optimized to cure in confined spaces of non-metallic components. This product is especially well suited to applications involving adverse temperatures and requiring long term resistance to solvents.

PROPERTIES OF UNCURED MATERIAL

	Typical Value
Chemical Type	Dimethacrylate
Appearance, in sunlight	Brown to amber
in black light (around 365 nm)	Fluorescent blue
Specific Gravity	1.01
Viscosity @ 25°, Brookfield RVT, Spindle #2 @ 50 RPM, cP	36 to 66

PROPERTIES OF CURED MATERIAL

	Typical Value
Base Polymer	Cross-linked acrylic
Dielectric Strength	1000 volts @ 0.010 inch thick
Dielectric Constant, @ 100 Hz	4.0
@ 1 kHz	4.0
@ 1 MHz	3.8
Volume Resistivity	$9 \times 10^{13} \Omega \cdot \text{cm}$
Operating Temperature, Continuous	400°F (205°C)
Intermittent	450°F (232°C)
Solvent Resistance	Excellent

PROCESS AND CURING PERFORMANCE

LOCTITE® 5110 is designed to be processed in Loctite Impregnation Systems. Parts are loaded into special process tanks and a differential pressure cycle causes the flow of liquid sealant into any open internal space. The batch vacuum process is automated and has no significant variation. The sealant adapts to fill voids ranging from micro-shrinkage porosity to common internal cavities.

LOCTITE® Sealant 5110 cures anaerobically. More specifically, the resin begins to polymerize soon after being denied access to freely moving oxygen. This means that sealant trapped in the leak path of an electrical connector will self cure reliably without additional heat or chemicals. Normal processing allows for immediate low pressure leak testing. Optimum properties are achieved after 24 hours.

LONG TERM DURABILITY

When compared to other available sealants, 5110 shows superb resistance to elevated temperatures and strong solvents. This product continues to seal at operating temperatures of 400°F (205°C) with intermittent exposure to 450°F (232° C). Initial solvent resistance testing in water, oil, automatic transmission fluid, alcohol, gasoline and blended fuels indicate excellent long term durability. Life cycle limits for specific applications vary according to porosity exposure at the surface of the part. Each specific application must be tested individually.

SAFETY DATA

Excessive or repeated skin contact with Loctite anaerobic adhesive/sealants may cause skin irritation in sensitive persons. In case of contact with sensitive skin, remove promptly by washing. In case of skin reaction, discontinue contact with product. If skin reaction persists, see a physician. To avoid skin contact use the appropriate applicator. Other applicators are available from Loctite Corporation.

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).

Storage Conditions

Maximum shelf life may be obtained when material is stored in a cool, dry location at a temperature of 70°F (\pm 20°F). **TO PREVENT CONTAMINATION OF UNUSED MATERIAL, DO NOT RETURN ANY PRODUCT TO ITS ORIGINAL CONTAINER.**

FOR SPECIFIC SHELF LIFE/RECERTIFICATION POLICY INFORMATION, CONTACT THE LOCTITE CORPORATION, QUALITY DEPARTMENT, ROCKY HILL, CT 06067. TELEPHONE (860) 571-5100.

Data Ranges

The data contained herein may be reported as a typical value and/or range. Values are based on actual test data and are verified on a periodic basis.

Note

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