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Technical Data Sheet

Product 190950(LPD-4057)

Electronics Products, January 2004

PRODUCT DESCRIPTION

LOCTITE® Product 190950 (LPD-4057) is a single component, UV/Visible light curable adhesive.

TYPICAL APPLICATIONS

Wire protection of ear/head phone
Bonding parts of multi-actor
Lens bonding of image sensor

PROPERTIES OF UNCURED MATERIAL

	Typical Value
Chemical Type	Acrylate
Appearance	Translucent amber liquid
Specific gravity @ 25°C	1.1
Viscosity @ 25°C, mPa·s (cP)	9,000
HAAKE viscometer, PK1, 2°	
Constant shear rate @ 36 s ⁻¹	
Refractive Index, ASTM D1218, N _D	1.48

TYPICAL CURING PERFORMANCE

LOCTITE® Product 190950 can be cured by irradiation with ultraviolet and/or visible light of sufficient intensity. To obtain full cure on surfaces exposed to air, the intensity of UV radiation at 220 to 260 nm will accelerate the tack free cure of surface. The cure rate and ultimate depth of cure will depend on light intensity, the spectral distribution of the light source, the exposure time and the light transmittance of the substrates. Following data are measured using high pressure mercury UV lamp.

NOTE: UV intensities where quoted are measured at 365nm using USHIO UIT-101 UV meter.
(UV intensity indicated by OAI 306 UV meter at 365nm is 10% higher than that of USHIO UIT-101 UV meter's.)

Surface Cure Time

Tack free time, s
@ 100mW/cm² 15

Depth of Cure

Depth (cure time 15 s), mm
@ 100mW/cm² 8.1

Fixture Time

Fixture time, glass/glass, s
@ 6mW/cm² 5

TYPICAL PROPERTIES OF CURED MATERIAL

(Cured 120 seconds @ 100 mW/cm² using a high pressure mercury light source)

Physical Properties

Density	1.2
Shrinkage, %	9
Coefficient of thermal expansion ASTM E831, Pre Tg, K ⁻¹	140 x 10 ⁻⁶
Post Tg, K ⁻¹	190 x 10 ⁻⁶
Glass transition temperature (Tg) via DMA, ASTM E1640, °C	90
Hardness (Shore D), ASTM D2240	70
Water absorption, ASTM D570, 24 hrs @ 23°C, %	2.4
Tensile strength at break, ASTM D882, N/mm ²	25
Elongation at break, ASTM D882, %	210

Tensile Modulus, ASTM D882, N/mm² 320
Refractive Index, ASTM D542, N_D 1.52

Electrical Properties

Dielectric constant, ASTM D150	
@ 10 kHz	4.9
@ 1 MHz	4.4
@ 10 MHz	4.2
Dissipation factor, ASTM D150	
@ 10 kHz	0.04
@ 1 MHz	0.04
@ 10 MHz	0.06
Volume resistivity, ASTM D257, Ω·cm	1.8 x 10 ¹⁵
Surface resistivity, ASTM D257, Ω	3.6 x 10 ¹⁴

PERFORMANCE OF CURED MATERIAL

(Cured using a high pressure mercury light source)

	Typical Value
Tensile strength, ASTM D2095, N/mm ²	17
Grit blasted mild steel pin bonded to glass, (Cured 40s @ 100mW/cm ² , 365nm UV)	
Bonded torque strength, ASTM D3658, N·m	120
Grit blasted aluminium hex button bonded to glass, (Cured 300s @ 6mW/cm ² , 365nm UV)	

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

Maximum shelf life may be obtained when product is stored in a cool, dry location at a temperature between 10°C to 27°C. To prevent contamination of unused product, do not return any material to its original container. For specific shelf-life information, contact your Technical Service Center.

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, Loctite specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loctite's products. Loctite 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 Loctite patents which may cover such processes or compositions. We recommend that each prospective user test his proposed applications before repetitive use, using this data as a guide. This product may be covered by one or more patents or patent applications.

NOT FOR PRODUCT SPECIFICATIONS

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