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Technical Information Sheet Product 3781

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PRODUCT DESCRIPTION

LOCTITETM Product 3781 is a single component, UV light curable sealant for LCD end-sealing application.

PROPERTIES OF UNCURED MATERIAL

	Typical Value
Chemical Type	Acrylate
Appearance	Transparent amber liquid
Viscosity @ 25°C, mPa.s	12,000
Brookfield RVT, Spindle 5 @20rpm	

TYPICAL CURING PERFORMANCE

LOCTITE® Product 3781 can be cured by irradiation with ultraviolet 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 at UV intensities of 100mW/cm² using high pressure mercury UV lamp.

NOTE: UV intensities where quoted are measured at 365nm using an USHIO UIT-101 UV meter.

Surface Cure Time

This is the time required to achieve a tack free surface.
Tack free time, s 2

Depth of Cure

Depth (cure time 20 s), mm 3.7

TYPICAL PROPERTIES OF CURED MATERIAL

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

Physical Properties

Coefficient of thermal expansion ASTM E831, @ 25°C, /°C	140 x 10 ⁻⁶
80 to 120°C, /°C	180 x 10 ⁻⁶
Hardness (Shore D), ASTM D2240	82
Water absorption, JIS K6911, 24 hrs @ 25°C, %	1.7
Glass transition temperature (DMTA), °C	68

Electrical Properties

	Constant	Loss
Dielectric constant & loss, ASTM D150 @ 10 kHz	3.9	0.03
@ 1 MHz	3.5	0.04
@ 10 MHz	3.3	0.05
Volume resistivity, ASTM D257, Ω.cm		1.3 x 10 ¹⁶
Surface resistivity, ASTM D257, Ω		4.0 x 10 ¹⁵
Dielectric strength, ASTM D149, kV/mm		27

PERFORMANCE OF CURED MATERIAL

(Cured using a high pressure mercury light source)

	Typical Value
Tensile strength, ASTM D2095, N/mm ²	11
Gritblasted mild steel pin bonded to glass, (Cured 40s @ 100mW/cm ² , 365nm UV)	
Bonded torque strength, ASTM D3658, Nm	150
Gritblasted aluminium hex buttons 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 oxidising materials.

Eye irritant; irritate to skin and skin sensitizer. Contains acrylic. In case of eye contact, flush with water for at least fifteen minutes; get medical attention. Wash with plenty of soap and water after skin contact.

Excessive or repeated skin contact may cause skin irritation and skin sensitizer. If skin reaction occurs, discontinue use and consult a physician. To avoid skin contact, use the applicator nozzle provided. Other applicators are available from Loctite.

KEEP MATERIAL AWAY FROM CHILDREN.

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 PRODUCT TO ITS ORIGINAL CONTAINER. FOR SPECIFIC SHELF LIFE INFORMATION, CONTACT THE HENKEL JAPAN LTD. LOCTITE DIVISION, QUALITY ASSURANCE DEPARTMENT; TELEPHONE 81-258-46-8473.

Note

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