

# LOCTITE 3780

December 2016

## PRODUCT DESCRIPTION

LOCTITE 3780 provides the following product characteristics:

<b>Technology</b>	Acrylate
<b>Appearance</b>	Transparent, green liquid
<b>Cure</b>	Ultraviolet (UV) light
<b>Application</b>	Sealant
<b>Typical Assembly Applications</b>	LCD end sealing

LOCTITE 3780 is a single component, UV light curable sealant for LCD end-sealing applications.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity @ 25 °C, mPa·s (cP):

Brookfield - RVT Spindle 5, Speed 20 rpm	11,000
Haake , PK, 2° , Constant shear @ 36 s <sup>-1</sup>	11,000

## TYPICAL UV IRRADIATION

Light Source and Condition

High pressure mercury UV lamp	
UV Wavelength, nm	365
Light Intensity, mW/cm <sup>2</sup>	100
Exposure Time	20
Tack Free Time @ 220 to 260 nm wavelength, seconds	8
Depth of cure , mm	1.9

LOCTITE 3780 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.

UV intensity quoted are measured using USHIO UIT-101 UV meter.

## TYPICAL PROPERTIES OF CURED MATERIAL

**Physical Properties :**

Hardness, Shore D, ASTM D2240	73
Coefficient of Thermal Expansion, ASTM E 831: @ 30°C, ppm/°C	145
Glass Transition Temperature, DMA, °C	92
Moisture Absorption, ASTM D570, %: 24 hours @ @ 25°C	1.5

## Electrical Properties:

Dielectric Strength , ASTM D149, kV/mm	18
Dielectric Constant / Loss, ASTM D150: @ 10KHz	3.5/0.02
@ 1MHz	3.3/0.03
@ 10MHz	3/0.04
Volume Resistivity, ASTM D257, ohm-cm	2.8×10 <sup>15</sup>
Surface Resistivity, ASTM D257, ohms	3.5×10 <sup>15</sup>

## TYPICAL PERFORMANCE OF CURED MATERIAL

### Miscellaneous

Tensile Strength , ASTM D2095

Sample cured for 100 mW/cm<sup>2</sup> @ 365 nm for 40 seconds:

Grit blasted mild steel pin to Glass	N/mm <sup>2</sup>	10
	(psi)	(1,450)

Bonded Torque Strength , ASTM-D3658

Sample cured for 6 mW/cm<sup>2</sup> @ 365 nm for 300 seconds:

Grit blasted aluminum hex button to Glass	N/mm <sup>2</sup>	88
	(psi)	(12,763)

## 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.**

Eye irritant, irritate to skin and skin sensitizer. Contains acrylic. In case of eye contact, flush with water for at least 15 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 sensitization. If skin reaction occurs, discontinue use and consult a physician. To avoid skin contact, use the applicator nozzle provided.

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## KEEP MATERIAL AWAY FROM CHILDREN

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

**STORAGE:**

Store in original, tightly covered containers in clean, dry areas. Storage information may be indicated on the product container labeling. Usable shelf life may vary depending on method of application and storage conditions

**Optimal Storage : 10 to 27 °C**

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.

**Not for product specifications**

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

**Conversions**

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$

$\text{kV/mm} \times 25.4 = \text{V/mil}$

$\text{mm} / 25.4 = \text{inches}$

$\text{N} \times 0.225 = \text{lb/F}$

$\text{N/mm} \times 5.71 = \text{lb/in}$

$\text{psi} \times 145 = \text{N/mm}^2$

$\text{MPa} = \text{N/mm}^2$

$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$

$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$

$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$

$\text{mPa}\cdot\text{s} = \text{cP}$

**Disclaimer****Note:**

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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