

Liquid Optical Clear Adhesive (LOCA)

PRODUCT DESCRIPTION

Devcon® Tru-Bond™ PSA LOCA products provide a unique patent pending chemistry engineered to bond the glass cover lens to a touch panel sensors and touch panel assemblies to the LCD or OLED module. The product is applied as a liquid and cured using a single exposure step to form a fully polymerized pressure sensitive adhesive (PSA). The pressure sensitive adhesive can then be laminated to the mating surface. This single light exposure design delivers consistent strengths under the inked glass areas and through to the clear lens portions of the assembly. The Devcon® Tru-Bond™ PSA LOCA product line can bond to a wide range of materials including glass, PMMA, ABS, PP, PE, PC and many more surfaces. They are suitable for use with single component dispensing machines and R2R equipment.

PHYSICAL PROPERTIES (uncured)

Chemical Class	Acrylic	After 240 hours @ 85°C/85% RH	
Appearance(uncured)	Clear Liquid	L*	>99
Components	Single-Requires no Mixing	a*	-0.21
Viscosity @25°C, Brookfield RV Spindle 2, 10 rpm, cps	800	b*	0.31
Specific gravity @25°C	1.03	Transmission @550nm, ASTM D1003, %	>99.5
		Haze, ASTM D1003, %	<0.4

PHYSICAL PROPERTIES (cured)

Curing condition: LED365 lamp, illumination intensity=100 mW/cm ² , total energy=5,000 mJ/cm ² .		After 240 hours @ 85°C	
Shore hardness, ASTM D2240	3400	L*	>99
Specific gravity @25°C	1.07	a*	-0.13
Volume shrinkage, %	3.61	b*	0.30
Refractive Index @ 25°C, ISO 489	1.48	Transmission @550nm, ASTM D1003, %	>99.5
Tg, °C	-36	Haze, ASTM D1003, %	<0.4
Elongation, ASTM D638, %	>1000	After 240 cycles @ -40°C (30min) to 85°C (30min)	
Tensile strength, ASTM D638, MPa	0.1	L*	>99
Dielectric constant @ 1MHz	5.2	a*	-0.05
Storage modulus @ 25°C, Kpa	19	b*	0.12
		Transmission @550nm, ASTM D1003, %	>99.5
		Haze, ASTM D1003, %	<0.4

OPTICAL PROPERTIES OF CURED MATERIALS

Optical testing specimen: 0.1 mm thick layer adhesive between 2 pcs 1 mm thick panel glass

Curing condition: LED365 lamp, illumination intensity=100 mW/cm², total energy=5,000 mJ/cm²

Equipment: Konica Minolta CA3600

L* a* b*, ASTM E308	
L*	>99
a*	-0.04
b*	0.10
Transmission @550nm, ASTM D1003, %	>99.5
Haze, ASTM D1003, %	<0.4

After 240 hours exposure to 0.89 W/m² UV light @ 50°C

L*	>99
a*	-0.05
b*	0.15
Transmission @550nm, ASTM D1003, %	>99.5
Haze, ASTM D1003, %	<0.4

MECHANICAL PROPERTIES OF CURED MATERIALS

Cross bonding tensile test can show the bonding strength on the vertical direction. The specimen is 0.15 mm thick 6 mm diameter layer adhesive between 2 pcs 25.4*76.2*1 mm panel glass. The 2 pcs panel glass were cross bonded together. The specimens were cured on LED365 lamp, with 100 mW/cm² illumination intensity and 5,000 mJ/cm² total energy.

Cross bond tensile strength	
N/mm ²	0.23
psi	33.4

PRECAUTIONS

Please refer to the appropriate material safety data sheet (MSDS) prior to using this product.

STORAGE

Store the unopened product in a cool, dry, well ventilated location away from sources of heat. Optimal storage temperatures should range between **10 °C (50 °F) and 32 °C (90 °F)**. **Do not expose the product to light.** It may polymerize upon prolonged



Tru-Bond™
PSA LOCA 800
UV/Visible Light Cure Adhesive

Technical Data Sheet

Rev01, JUN 2016

Preliminary

exposure to ambient or artificial light. Product removed from the containers during use should not be returned to original containers in order to avoid potential contamination.

CONVERSIONS

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\mu\text{m} / 25.4 = \text{mil}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{Cp}$

WARRANTY

ITW will replace any material found to be defective. Because the storage, handling and application of this material are beyond our control, we can accept no liability for the results obtained.

NOTE

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