

# UV 165-183

## Technical Data Sheet

UV 165-183 is a fast curing urethane acrylate that bonds well to a wide variety of different substrates. This product requires direct UV exposure during cure. The ability of this product to fluoresce under black light facilitates inspection of bonded assemblies for adhesive presence. Due to the variability of different UV light sources it is suggested that the user test and specify UV intensity and exposure time. This product will cure in the presence of UV/Visible light as defined in the cure recommendations below. UV 165-183 has passed UL94 V0 standards for flame resistance. The adhesive is in full compliance with RoHS Directive 2011/65/EU and RoHS Directive EU 2015/863.

APPLICATIONS	FEATURES	SUBSTRATES
<ul style="list-style-type: none"> <li>UL rated electronic encapsulation</li> </ul>	<ul style="list-style-type: none"> <li>Thixotropic</li> </ul>	<ul style="list-style-type: none"> <li>Aluminum</li> </ul>
<ul style="list-style-type: none"> <li>Wire tacking</li> </ul>	<ul style="list-style-type: none"> <li>Good Surface Wetting</li> </ul>	<ul style="list-style-type: none"> <li>Plastics</li> </ul>
<ul style="list-style-type: none"> <li>Connector sealing</li> </ul>	<ul style="list-style-type: none"> <li>Fluorescing</li> </ul>	<ul style="list-style-type: none"> <li>Glass</li> </ul>
<ul style="list-style-type: none"> <li>Tamper proofing</li> </ul>	<ul style="list-style-type: none"> <li>UL94 V0 certified</li> </ul>	
	<ul style="list-style-type: none"> <li>RoHS Compliant</li> </ul>	

### Typical Properties of Uncured Material\*

Chemical Class	Acrylated Urethane
Color	Thixotropic translucent pink liquid
Specific Gravity	1.29
Viscosity @ 25C, SSA @ 10 RPM, cps	30,000 - 90,000
Viscosity @ 25C, SSA @ 20 RPM, cps	18,000 - 36,000
Viscosity @ 25C, SSA @ 50 RPM, cps	7,000 - 20,000
Thixotropic index (SSA)	7.0 - 9.0
Flow Rate @ 25° C, g/sec.	0.40 - 0.80
Cleanup Solvent	Isopropyl alcohol

### UV Light Cure Guidelines\*

CURE RECOMMENDATIONS - 2 MM THICKNESS					
Uvitron Intelliray 600			Fusion H Bulb		
Exposure Time	25 seconds		Conveyor Speed	2' /MIN	
Distance from Source	2.25"				
Dosage (J/cm2)	UVA	4.746	Dosage (J/cm2)	UVA	3.820
	UVB	0.000		UVB	4.104
	UVC	0.280		UVC	0.963
	UVV	5.079		UVV	5.809
Intensity (W/cm2)	UVA	0.184	Intensity (W/cm2)	UVA	0.805
	UVB	0.000		UVB	0.893
	UVC	0.011		UVC	0.216
	UVV	0.202		UVV	1.230



Heat is also an important component with UV cure, and different systems produce different heat outputs. Higher heat levels allow UV cure at lower dose/irradiance levels. Consequently, Resin Designs recommends that curing is discussed with our Technical staff to ensure the exact customer process being used will meet the coating cure requirements. After UV exposure and return to room temperature the coating should be tack free.

UV 165-183 was designed to be cured using a microwave UV oven. Arc and LED systems can cure UV 165-183; however, care must be taken during the equipment selection process to ensure minimum dosage and irradiance values obtained will properly cure the coating. Because of the variations possible in curing equipment type and configuration, it is strongly recommended that you contact Resin Designs Technical Support to discuss your equipment and process in detail.

### Typical Properties of Cured Material\*

Durometer, Shore D	70-85
Operating Temperature Range, °C	-50 to 125
Lap Shear Strength, Acrylic/Acrylic, psi	120
Tensile Strength, MPa [psi]	0.76 [110]
Elongation, %	>10
Dielectric Withstand Voltage, per MIL-I-46058C	>1500 volts

**\*All properties given are typical values and are not intended for use in preparing specifications.**

### Storage

Store material between 8°C and 28°C in tightly closed, light-blocking containers away from direct sunlight. Keep from freezing. Please refer to product labeling for shelf-life information. Consult SDS for safe handling recommendations.

**RESIN DESIGNS MAKES NO EXPRESSED OR IMPLIED REPRESENTATIONS OR WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, WITH RESPECT TO THIS PRODUCT AND GUARANTEES NO PARTICULAR OUTCOME OR RESULT FROM ITS USE. RESIN DESIGNS' LIABILITY TO CUSTOMER WITH RESPECT TO THIS PRODUCT SHALL IN NO EVENT EXCEED THE AMOUNT PAID BY CUSTOMER FOR IT. APPLICATION OF THIS MATERIAL SHOULD COMPLY WITH LOCAL AND NATIONAL HEALTH AND SAFETY REGULATIONS.**

Resin Designs 11 State Street, Woburn, MA 01801

[www.resindesigns.com](http://www.resindesigns.com)

781-935-3133