Technical Data Sheet

LOCTITE® DSP 190024/S

August 2023

PRODUCT DESCRIPTION

LOCTITE® DSP 190024/S provides the following product characteristics:

Technology	Acrylate
Appearance	Bone-white to beige translucent paste
Components	One component – requires no mixing
Cure	Ultraviolet (UV) light / Visible light
Application	Edgebond
Typical assembly applications	Bonding electronic components on a PCB
Product benefits	• Thixotropic • Medium viscosity • Fast UV cure • No post cure required • Good adhesion to a variety of substrates

LOCTITE® DSP 190024/S UV cure adhesive is designed for high throughput assembly operations. Its thixotropic nature reduced migration of liquid product after application to substrate.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity - Brookfield - HBT, 25°C, mPa·s (cP)	
Spindle TB, Helipath, speed 10 rpm	44,000
Specific gravity @ 25°C	1.1
Flash point - see SDS	

TYPICAL CURING PERFORMANCE

Recommended UV Cure

Light Source and Condition:	
Zeta 7411 UV Flood System	
Light intensity, mW/cm²	30
UV Wavelength, nm	365
Time, seconds	80

LOCTITE® DSP 190024/S can be cured by exposure to UV and/or visible light of sufficient intensity. Cure rate and ultimate depth of cure depend on light intensity, spectral distribution of light source, exposure time and light transmittance of the substrate through which the light must pass.

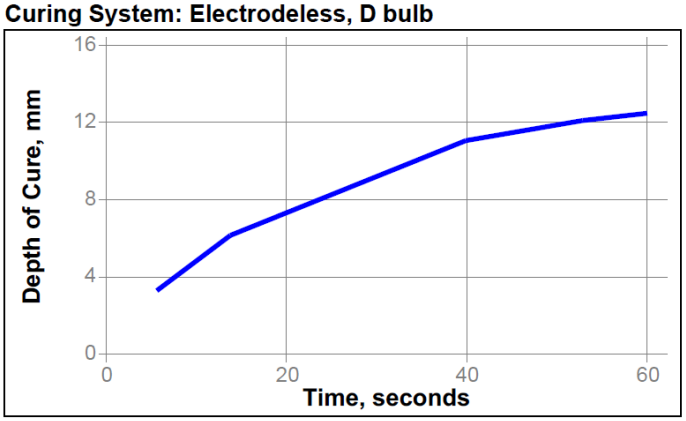
Fixture Time

UV fixture time is defined as the light exposure time required to develop a shear strength of 0.1 N/mm².

UV fixture time, Glass microscope slides, 0 gap, seconds:	
6 mW/cm², measured @ 365 nm	≤10

Depth of Cure

Curing System: Electrodeless, D bulb



TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Coefficient of Thermal Expansion, ASTM E831-86, µm/m/K		
alpha 1		66
alpha 2		151
alpha 3		217
Glass transition temperature, ASTM D 1640, °C		
Tg 1		-39
Tg 2		77
Thermal conductivity, ASTM E1530, W/(m-K)		0.17
Elongation, %		186
Tensile modulus, ASTM D882	N/mm^2 (psi)	175 (25,381)
Tensile strength, ASTM D882	N/mm^2 (psi)	15.6 (2,262)

Electrical properties

Dielectric Constant, ASTM D150	
@ 100Hz	4.584
@ 1KHz	4.799
@ 10KHz	4.633
@ 100KHz	4.221
@ 1MHz	4.312
Dissipation Factor, ASTM D150	
@ 100Hz	0.0319
@ 1KHz	0.0222
@ 10KHz	0.0189
@ 100KHz	0.0200
@ 1MHz	0.0343
Volume resistivity, ohm-cm	
@ 100 volts	1.13×10^{17}
Surface Resistivity, ohms	
@ 100 volts	1.53×10^{16}

TYPICAL PERFORMANCE OF CURED MATERIAL

Shear strength

Block Shear Strength, ASTM 700		
Polycarbonate to polycarbonate	N/mm^2 (psi)	12.56 (1,822)

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.
Use only in a well-ventilated area.

Directions for use

1. Product is shipped at 2 to 8ºC with ice packs to prevent excessive temperature exposure during shipping.
2. This product is light sensitive; exposure to daylight, UV light and artificial lighting should be kept to a minimum during storage and handling.
3. The product should be dispensed from application with black feedlines.
4. For best performance bond surfaces should be clean and free from grease.
5. Apply adhesive to one of the bond surfaces and assemble immediately.
6. Cure rate is dependent on lamp intensity, distance from light source, depth of cure needed or bondline gap and light transmission of the substrate through which the radiation must pass.
7. Cooling should be provided for temperature sensitive substrate ssuch as thermoplastics.
8. Crystalline and semi-crystalline thermoplastics should be checked for risk of stress cracking when exposed to liquid adhesive.
9. Excess uncured adhesive can be wiped away with organic solvent (e.g. Acetone).
10. Bonds should be allowed to cool before subjecting to any service loads.

Storage:
Store product in an unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 8 to 28°C. Storage below 8°C or greater than 28°C can adversely affect product properties.

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel 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 Henkel 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 the specifications of this product.

Conversions
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm^2 x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

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