

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	<ul style="list-style-type: none"> • 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/cm ²	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.

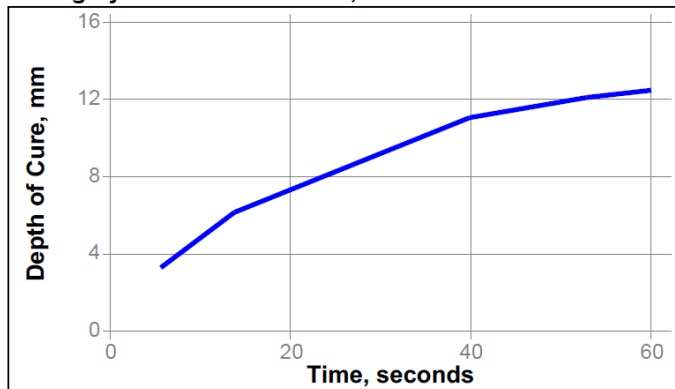
Fixture Time

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/cm ² , 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 ² 175
	(psi) (25,381)
Tensile strength, ASTM D882	N/mm ² 15.6
	(psi) (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	12.56
	(psi)	(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 8°C 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 such 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

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



Disclaimer

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. Any liability in respect of the information in the Technical data sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:

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. 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. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, or Henkel Canada Corporation, the following disclaimer is applicable:

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office."

Reference 1