Technical Data Sheet

LOCTITE® ABLESTIK 546S04

November 2024

PRODUCT DESCRIPTION

LOCTITE® ABLESTIK 546S04 provides the following product characteristics:

Technology	Acrylate
Color	Off white liquid
Color (mixed)	Cream
Color (cured)	Light gray
Cure	Ultraviolet (UV) light followed by heat cure
Product benefits	• Thixotropic
Application	Component assembly, NCA

LOCTITE® ABLESTIK 546S04 is ideal for general optics bonding, mounting of lenses and glob top applications. This adhesive exhibits bond strength retention after 85°C / 85% relative humidity exposure.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, CP52, mPa·s (cP):	
Speed @ 10 rpm	11,400
Specific gravity, cured	1.7
Pot life, days	5
Flash point - see SDS	

TYPICAL CURING PERFORMANCE

Recommended UV cure condition

Light source and condition:

Ultraviolet (UV) light

Exposure time, minutes	1.25
Light intensity, mW/cm	30

Secondary thermal cure condition

15 minutes @ 120°C

The above cure profile is a guideline recommendation. Actual cure time will vary depending on equipment used, focal distance and light intensity.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical properties

Hardness, Shore D	88
Coefficient of thermal expansion, ppm/°C	
Below Tg, (-30 to 0°C)	$2.30\times10^{+01}$
Above Tg, (100 to 150°C)	$1.23\times10^{+02}$
Glass transition temperature, by DSC, ultimate, °C	48

TYPICAL PERFORMANCE OF CURED MATERIAL

Shear strength

Lap shear strength alum to alum, sample cured 15 minutes @ 120°C	N/mm^2	9.65
	(psi)	(1,400)

GENERAL INFORMATION

Please consult the Safety Data Sheet (SDS) for safe handling information of this product.

Directions for use

1. Carefully clean and dry all surfaces to be bonded.
2. If packaged in BIPAX, remove clamp and thoroughly mix the LOCTITE® ABLESTIK 546S04 epoxy adhesive system components in the handy BIPAX mixing-dispenser package until color is uniform throughout.
3. If pre-mixed and frozen, thaw adhesive to room temperature. A 25°C water bath is recommended.
4. Apply this completely mixed adhesive to the prepared surfaces, and gently press these surfaces together. Contact pressure is adequate for strong, reliable bonds ;however, maintain contact until adhesive is completely cured.
5. Cure at recommended cure schedules.

Storage

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

Optimal storage: 27°C for BIPAX package, -40°C or colder for pre-mixed package

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.

The expiration date for pre-mixed and frozen materials is based upon dry storage conditions at or below the temperature indicated on each package.

Contents may separate during storage. Resin or hardener in bulk containers (e.g., quarts, gallons) should be thoroughly mixed prior to combining them to obtain all the benefits of the properties designed into the formulation.

Some ingredients in this formulation provided in BIPAX,TRA-PAX and bulk packaging may crystallize when subjected to low temperature storage. Merely returning the product back to room temperature will not always redissolve the crystals and a gentle warming cycle of 50°C for 30 minutes prior to mixing the resin and hardener components may be necessary to return the product to its best condition. Crystallized epoxy components do not react as well as liquid components and should be redissolved prior to use for best result.

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/mm² 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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Reference 2