

LOCTITE[®] 5181H[™]

May 2005

PRODUCT DESCRIPTION

LOCTITE[®] 5181H[™] provides the following product characteristics:

Technology	Cyanoacrylate
Chemical Type	Ethyl cyanoacrylate
Appearance (uncured)	Black liquid
Components	One part - requires no mixing
Cure	Humidity
Application	Bonding
Key Substrates	Rubbers, Paper and Leather

LOCTITE[®] 5181H[™] is a high viscosity, slow curing, black ethyl cyanoacrylate adhesive. It is suitable for bonding porous substrates and materials with different coefficients of thermal expansion. The repositioning of parts and inspection of bonded assemblies is also possible.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Cone & Plate, mPa·s (cP):

Temperature: 22 °C, Shear Rate: 3,000 s⁻¹ 1,600 to 2,750

Flash Point - See SDS

TYPICAL CURING PERFORMANCE

Under normal conditions, the atmospheric moisture initiates the curing process. Although full functional strength is developed in a relatively short time, curing continues for at least 24 hours before full chemical/solvent resistance is developed.

Cure Speed vs. Substrate

The rate of cure will depend on the substrate used.

Fixture Time, seconds:

EPDM ≤75

TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 24 hours @ 22 °C

Physical Properties:

Coefficient of Thermal Expansion, ISO 11359-1, K⁻¹ 227×10⁻⁶

Softening Point, DIN EN 1427, °C 165

Refractive Index, nD20 1.49

Electrical Properties:

Dielectric Breakdown Strength, IEC 60243-1, kV/mm 11.6

Dielectric Constant, IEC 60250: 1kHz 5.4

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 24 hours @ 22 °C

Tensile Strength, ISO 6922:

Aluminum to Aluminum	N/mm ² 17
	(psi) (2,470)

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 Safety Data Sheet (SDS).

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 specifications for this product.

Storage

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

Optimal Storage: 2 °C to 8 °C. Storage below 2 °C or greater than 8 °C can adversely affect product properties. Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation 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 Technical Service Center or Customer Service Representative.

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

Note:

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.

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Reference 1.1