

# LOCTITE® 40H™

May 2005

## PRODUCT DESCRIPTION

LOCTITE® 40H™ provides the following product characteristics:

|                             |   |
|-----------------------------|---|
| <b>Technology</b>           | Cyanoacrylate   |
| <b>Chemical Type</b>        | Ethyl cyanoacrylate   |
| <b>Appearance (uncured)</b> | Transparent, colorless to straw colored liquid <sup>LMS</sup> |
| <b>Components</b>           | One part - requires no mixing                                 |
| <b>Cure</b>                 | Humidity  |
| <b>Application</b>          | Bonding   |
| <b>Key Substrates</b>       | Plastics  |

LOCTITE® 40H™ is a wicking grade ethyl cyanoacrylate adhesive designed for bonding preassembled plastic parts. The product features a very fast setting time with good wetting on difficult to bond plastics. The product has also been useful for bonding transformer laminates and for the locking of fitted parts.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

|   |                       |
|---|-----------------------|
| Viscosity, Cone & Plate, mPa·s (cP):                  |                       |
| Temperature: 22 °C, Shear Rate: 3,000 s <sup>-1</sup> | 2 to 9 <sup>LMS</sup> |
| Color, APHA   | ≤15                   |
| 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                   | ≤5 <sup>LMS</sup> |

## TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 24 hours @ 22 °C

### Physical Properties:

|   |                      |
|---|----------------------|
| Coefficient of Thermal Expansion, , K <sup>-1</sup> | 227×10 <sup>-6</sup> |
| Softening Point, DIN EN 1427, °C                    | 165                  |
| Refractive Index, nD20                              | 1.49                 |

### Electrical Properties:

|   |      |
|---|------|
| Dielectric Constant , IEC 60250:                  |      |
| 1kC   | 5.4  |
| Dielectric Breakdown Strength, IEC 60243-1, kV/mm | 11.6 |

## TYPICAL PERFORMANCE OF CURED MATERIAL

### Adhesive Properties

|                             |   |
|-----------------------------|---|
| Cured for 24 hours @ 22 °C  |   |
| Tensile Strength, ISO 6922: |   |
| Aluminum to Aluminum        | N/mm <sup>2</sup> 25.5<br>(psi) (3,710) |

## 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).**

### Loctite Material Specification<sup>LMS</sup>

LMS dated February 03, 2000. Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Special customer specification requirements may be coordinated through Henkel Quality.

### 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/mm<sup>2</sup> 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