

LOCTITE[®] UK 3364[™]

Known as LOCTITE[®] 3364[™]
January 2015

PRODUCT DESCRIPTION

LOCTITE[®] UK 3364[™] provides the following product characteristics:

Technology	Urethane
Chemical Type	Polyisocyanate
Appearance (Resin)	Dark brown liquid
Appearance (Hardener)	Black liquid
Appearance (cured)	Black Solid ^{LMS}
Components	Two part - Resin & Hardener
Viscosity	Low
Mix Ratio, by weight - Resin : Hardener	42 : 100
Mix Ratio, by volume - Resin : Hardener	1 : 2
Cure	Room temperature cure after mixing
Application	Potting or Bonding

LOCTITE[®] UK 3364[™] is a rigid two-component urethane designed for flame resistance and fast cure. Once mixed, the two component urethane cures rapidly at room temperature.

UL Classification

Classified by Underwriters Laboratories Inc.[®] E257711 - Plastics & Components. Please visit the UL website for additional information. **Note:** This is a regional approval. Please contact your local Technical Service Center for more information and clarification

ULC Classification

Classified by Underwriters Laboratories of Canada Inc.[®] . E257711 - Plastics & Components. Please visit the UL website for additional information. **Note:** This is a regional approval. Please contact your local Technical Service Center for more information and clarification

TYPICAL PROPERTIES OF UNCURED MATERIAL

Resin:

Specific Gravity @ 25 °C	1.49
Viscosity, Cone & Plate, 25 °C, mPa·s (cP): Cone CP50-1 @ shear rate 100 s ⁻¹	13,365
Flash Point - See SDS	

Hardener:

Specific Gravity @ 25 °C	1.25
Viscosity, Cone & Plate, 25 °C, mPa·s (cP): Cone CP50-1 @ shear rate 100 s ⁻¹	850
Flash Point - See SDS	

Mixed:

Specific Gravity @ 25 °C	1.31
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TYPICAL CURING PERFORMANCE

Gel Time

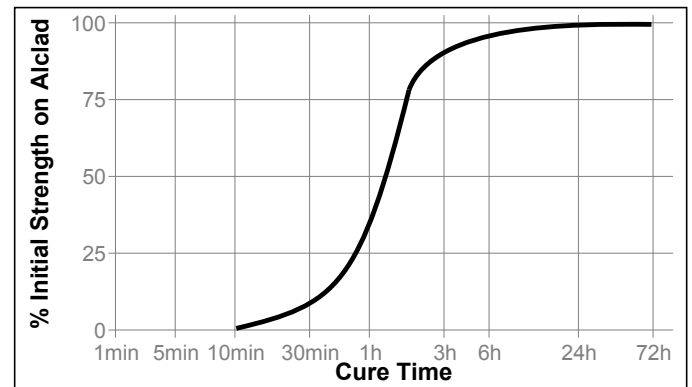
Gel time, 25 °C, seconds	60 to 120 ^{LMS}
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Tack Free Time

Tack Free Time is the time required to achieve a tack free surface	
Tack Free Time, seconds	330 to 360

Cure Speed vs. Time

The graph below shows shear strength developed with time on Alclad lapshears @ 25 °C with an average bondline gap of 0.127 mm and tested according to ISO 4587.



TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 60 minutes @ 65 °C

Physical Properties:Shore Hardness, ISO 868, Shore D ≥ 80 ^{LMS}

Cured for 7 days @ 22 °C

Physical Properties:

Linear Shrinkage, % 2.0
 Glass Transition Temperature (Tg), °C 50
 Coefficient of Thermal Expansion, ISO 11359-2, K⁻¹:
 Pre Tg 49×10^{-6}
 Post Tg 131×10^{-6}

Coefficient of Thermal Conductivity, ISO 8302, W/(m·K) 0.43
 Elongation, at break, ISO 527-3, % 1.7
 Tensile Strength, ISO 527-3
 N/mm² 26.7
 (psi) (3,870)
 Young's Modulus, ISO 527-3
 N/mm² 2,320
 (psi) (336,400)

Water Absorption, ISO 62, %:
 24 hours in water @ 22 °C 0.52

Electrical Properties:

Dielectric Breakdown Strength, IEC 60243-1, kV/mm 32
 Dielectric Constant / Dissipation Factor, IEC 60250:
 1 kHz 3.8 / 0.039
 1 MHz 3.5 / 0.015
 Volume Resistivity, IEC 60093, Ω·cm 2.3×10^{15}

TYPICAL PERFORMANCE OF CURED MATERIAL**Adhesive Properties**

Cured for 7 days @ 22 °C

Lap Shear Strength, ISO 4587:

Steel (grit blasted) N/mm² 19.3
 (psi) (2,800)
 Stainless steel N/mm² 3.8
 (psi) (550)
 Aluminum N/mm² 3.3
 (psi) (480)
 Aluminum (anodised) N/mm² 11
 (psi) (1,610)
 Wood (Pine) N/mm² 7.6
 (psi) (1,100)
 Polycarbonate N/mm² 1
 (psi) (145)
 Nylon N/mm² 1
 (psi) (145)
 Acrylic N/mm² 1.4
 (psi) (200)

Block Shear Strength, ISO 13445:

Glass N/mm² 5.0
 (psi) (715)
 ABS N/mm² 4.5
 (psi) (650)
 PVC N/mm² 1.4
 (psi) (200)
 Epoxyglass N/mm² 10.7
 (psi) (1,560)

TYPICAL ENVIRONMENTAL RESISTANCE

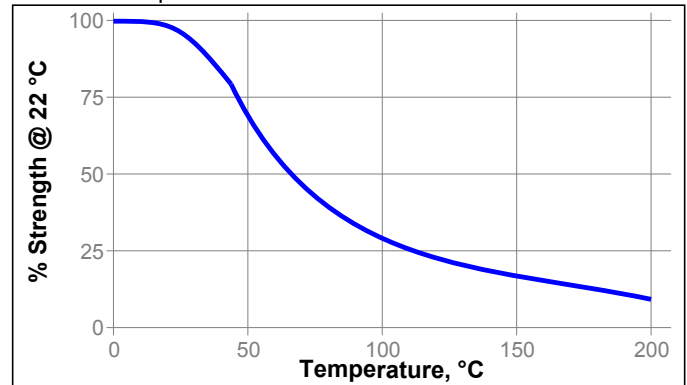
Cured for 7 hours @ 22 °C

Lap Shear Strength, ISO 4587:

Steel (grit blasted), 0.127 mm gap

Hot Strength

Tested at temperature

**Chemical/Solvent Resistance**

Aged under conditions indicated and tested @ 22 °C.

Environment	°C	% of initial strength	
		500 h	1000 h
Air	87	130	140
Motor oil (10W30)	87	115	140
Unleaded gasoline	22	90	75
Water/glycol 50/50	87	110	65
Salt fog	36	85	75
95% RH	38	120	110
Condensing Humidity	49	75	75
Water	22	120	125
Acetone	22	90	90

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).

Directions for use:

- For potting or high strength structural bonds, remove surface contaminants such as paint, oxide films, oils, dust, mold release agents and all other surface contaminants.
- Use gloves to minimize skin contact. DO NOT use solvents for cleaning hands.
- Dual Cartridges:** To begin using a new cartridge, remove cartridge cap and dispense a small amount of adhesive, making sure both parts A&B are extruding. Attach nozzle and dispense approximately 25 to 50mm, before applying onto part to be bonded. Partially used cartridges can be stored with the mixing nozzle attached. To reuse, remove and discard old nozzle, attach the new nozzle, dispense approximately 25 to 50mm, before applying onto part to be bonded.

Bulk Containers: Normally material is dispensed through volumetric metered mixing equipment, attached to static mix nozzles.

4. For maximum bond strength apply adhesive evenly to both surfaces to be joined. For potting applications fill cavity with material.
5. Application to the substrates should be made within 60 seconds. Larger quantities and/or higher temperatures will reduce this working time.
6. Join the adhesive coated surfaces and allow to cure at 25 °C for 24 hours for high strength. Heat up to 65 °C, will speed curing.
7. Keep parts from moving during cure. Contact pressure is necessary. Maximum shear strength is obtained with a 0.1 to 0.2 mm bond line.
8. Excessive uncured adhesive can be cleaned up with IPA alcohol.

Loctite Material Specification^{LMS}

LMS dated December 04, 2008. 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: 8 °C to 21 °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 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

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

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 0.1