Technical Data Sheet

LOCTITE UK 8639/5639

September 2016

PRODUCT DESCRIPTION

LOCTITE UK 8639/5639 provides the following product characteristics:

Technology	Polyurethane
Chemical Type	Polyisocyanate
Appearance - Part A	Black[LMS]
Appearance - Part B	Light yellow paste[LMS]
Cure	Room temperature cure after mixing
Components	Two-components
Component A	Polyol
Component B	Isocyanate
Mix Ratio - Part A:Part B	2 : 1
Application	Structural adhesive
Viscosity	High, thixotropic
Specific Benefit	• Fast curing • High peel & impact strength • Environmentally resistant

LOCTITE UK 8639/5639 is a structural urethane adhesive that offers high impact and peel resistance. This product forms an excellent bond to fiberglass materials, as well as other structural substrates such as steel and aluminum.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A:

Specific Gravity @ 25 °C	1.1
Viscosity @ 23°C, mPa·s (cP) Cone & Plate Rheometer, Cone CP25-2 @ shear rate 10 s^{-1}	23,800
Viscosity @ 23°C, , mPa·s (cP) Cone & Plate Rheometer, Cone CP25-2 @ shear rate 20 s^{-1}	17,405
Flash Point - See SDS	

Part B:

Specific Gravity @ 25 °C	1.3
Viscosity @ 23°C, mPa·s (cP) Cone & Plate Rheometer, Cone CP25-2 @ shear rate 10 s^{-1}	37,385
Viscosity @ 23°C, , mPa·s (cP) Cone & Plate Rheometer, Cone CP25-2 @ shear rate 20 s^{-1}	22,390
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Curing Properties

Gel Time @ 25 °C, minutes	2 to 4[LMS]
Sag Flow, inches	0.0 to 0.1[LMS]

TYPICAL PROPERTIES OF CURED MATERIAL

Adhesive Properties

Physical Properties:

Tensile Strength, @ max load, ISO 527	N/mm²	17
	(psi)	(2,400)
Tensile Modulus, Chord-Cursor, ISO 527	N/mm²	577
	(psi)	(83,635)
Hardness (Shore D) , 2 hours @ 65°C		≥60[LMS]

TYPICAL PERFORMANCE OF CURED MATERIAL

Cured for 2 hours @ 65 °C, then conditioned at 23°C for ≥ 20 hours

Shear Strength

Lap Shear Strength, ISO 4587:

Aluminum (etched)	N/mm²	18.4
	(psi)	(2,667)
Mild Steel (grit blasted)	N/mm²	20.3
	(psi)	(2,945)
Polycarbonate	N/mm²	8.5
	(psi)	(1,238)
Polyarylamide	N/mm²	8.2
	(psi)	(1,192)

Impact Strength, ISO 9653 J:

Grit Blasted Mild Steel (GBMS)	6 to 7

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be used with chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Safety Data Sheet (SDS).

Directions for use:

1. For high strength structural bonds, remove surface contaminants such as paint, oxide films, oils, dust, mold release agents and all other surface contaminants.
2. Use gloves to minimize skin contact. DO NOT use solvents for cleaning hands.
3. **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 mm, 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 mm, 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.
5. Application to the substrates should be made within 3 to 5 minutes. Larger quantities and/or higher temperatures will reduce this working time.
6. Join the adhesive coated surfaces and allow to cure at 25 °C (77 °F) for 24 hours for high strength. Heat up to 93 °C (200°F), will speed curing.
7. Keep parts from moving during cure. Contact pressure is neccesary. Maximum shear strength is obtained with a 0.1 to 0.25 mm bond line.
8. Excessive uncured adhesive can be cleaned up with ketone type solvents.
9. Product can separate if not freshly mixed. If separation is noted, do not use, have product remixed before use.

Loctite Material Specification[LMS]

LMS dated August 19, 2014. 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

(°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

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Reference 0.0