Technical Data Sheet

LOCTITE® MR Flex 80

Known as LOCTITE® Fixmaster® Flex 80 Liquid
December 2013

PRODUCT DESCRIPTION

LOCTITE® MR Flex 80 provides the following product characteristics:

Technology	Urethane
Appearance (uncured)	Thick black liquid
Components	Two components - requires mixing
Mix Ratio, by volume - Resin : Hardener	100 : 13.3
Mix Ratio, by weight - Resin : Hardener	77 : 23
Cure	Room temperature cure
Application	Belt repair
Specific Benefit	• Resists abrasion • Impact resistant • Easy to mix and use • Lifelong flexibility • Application versatility • Tough and resilient • Build wear parts fast • Pourable consistency for molding cast parts • Unaffected by oil, grease and water

LOCTITE® MR Flex 80 is a urethane liquid that combines the properties of rubber and urethane to form a unique, tough, and pourable system. It is ideal for casting parts that are subjected to corrosion, wear, and impact. Typical applications include casting wear parts, repairing rubber or urethane parts, making flexible fixtures, making vibration and isolation pads, and coating pumps and impellers. This product is typically used in applications with an operating range of -30 °C to 80 °C (-20F to 180F).

TYPICAL PROPERTIES OF UNCURED MATERIAL

Resin:

Density @ 23 °C, g/cm³	1.04
Flash Point - See SDS	

Hardener:

Density @ 23 °C, g/cm³	0.999
Flash Point - See SDS	

Mixed:

Coverage	442 cm³ per 0.45 kg (27 in³ per 1 lb)

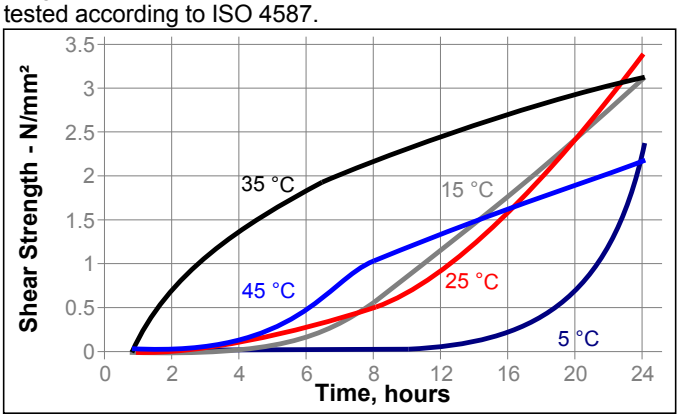
TYPICAL CURING PERFORMANCE

Curing Properties

Cure Time @ 25 °C, hours	8
Gel Time @ 21 °C, minutes	25 to 30
Working life, minutes	20

Cure Speed vs. Temperature

The graph below shows the shear strength developed with time on grit blasted steel lap shears at different temperatures and tested according to ISO 4587.



TYPICAL PROPERTIES OF CURED MATERIAL

Cured @ 25 °C except where noted

Physical Properties:

Abrasion Resistance, ASTM D4060: mg 1 Kg load, CS-10 wheels, Weight of Material Lost		19
Shore Hardness, ISO 868, Durometer A		87
Tensile Strength, ISO 527-2	N/mm² (psi)	7.5 (1,090)
Elongation, ISO 527-2, %		237
Coefficient of Thermal Conductivity ASTM F 433, W/(m·K)		0.16
Glass Transition Temperature, ASTM E 1640, °C		<-50
Coefficient of Thermal Expansion, ISO 11359-2 K^{-1}		150×10^{-06}

Electrical Properties:

Volume Resistivity, IEC 60093, ohm-cm	15×10^{12}
Surface Resistivity, IEC 60093, ohms	196×10^{12}

TYPICAL PERFORMANCE OF CURED MATERIAL

Shear Strength

Lap Shear Strength, ISO 4587:

Grit Blasted Mild Steel (GBMS)	N/mm²	3.6
	(psi)	(525)

TYPICAL ENVIRONMENTAL RESISTANCE

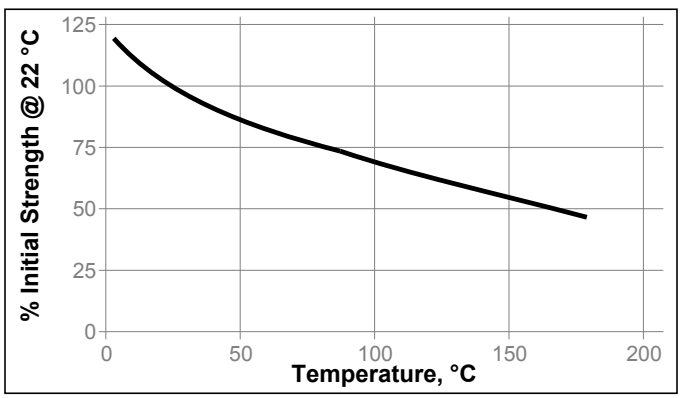
Cured for 72 hours @ 21 °C

Lap Shear Strength, ISO 4587:

Grit Blasted Mild Steel (GBMS)

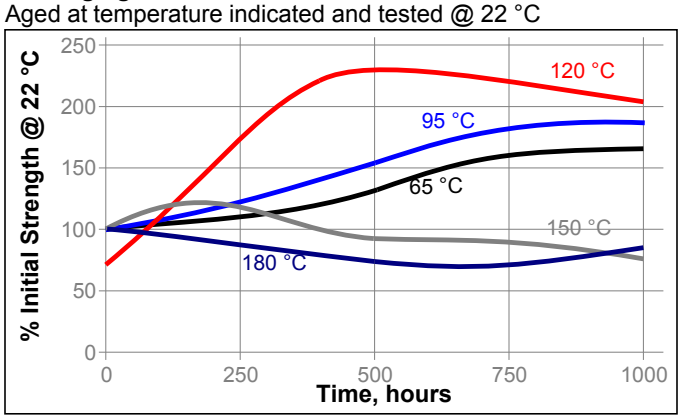
Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 22 °C



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:

1. Abrade application surface and apply Loctite® Fixmaster® Flex Cleaner
2. If casting a part, prepare mold with wax or other suitable mold release agent to prevent adhesion
3. Shake hardener container thoroughly to mix contents
4. Add hardener contents to resin container. Mix material thoroughly until a uniform color is achieved, being sure to mix along the bottom and sides
5. Brush onto prepared surface
6. If molding a part, pour mixed product into cavity. Pour material slowly to avoid bubble entrapment
7. At 25°C, the working time is 20 minutes and functional cure time is 8 hours
8. See warning labels on packages for safe handling procedures

Technical Tips for Working With Urethanes

Working time and cure depends on temperature and mass:

- The higher the temperature, the faster the cure.
- The larger the mass of material mixed, the faster the cure.

To speed the cure of urethanes at low temperatures:

- Store urethane at room temperature.
- Pre-heat repair surface until warm to the touch.

To slow the cure of urethanes at high temperatures:

- Mix urethane in small masses to prevent rapid curing.
- Cool resin/hardener component(s).

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: 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 0.1