LOCTITE® Superflex® Red High Temp RTV

July 2010

PRODUCT DESCRIPTION

LOCTITE® Superflex® Red High Temp RTV provides the following product characteristics:

Technology	Silicone
Chemical Type	Acetoxy silicone
Appearance (uncured)	Red homogeneous paste[LMS]
Components	One component - requires no mixing
Thixotropic	Reduced migration of liquid product after application to substrate
Cure	Room temperature vulcanizing (RTV)
Application	Gasketing or Sealing
Flexibility	Enhances load bearing & shock absorbing characteristics of the bond area.
Specific Application	Gasket dressing
Specific Benefit	Good temperature resistance.

LOCTITE® Superflex® Red High Temp RTV is used for gasketing and sealing applications for both plant maintenance and small, medium, and large-sized OEM. It is specially formulated to meet the low silicone volatiles requirements of the automotive industry for 315°C flange sealants. As a formed-in-place gasket/sealant, LOCTITE® Superflex® Red High Temp RTV has been designed to give outstanding performance in typical automotive gasketing applications including valve covers, rocker covers, oil pans, water pumps, end seals, intake manifolds, and rear axle housings. This product is also used as a sealant and adhesive for assembly and repair of industrial furnaces, ovens, boilers, exhaust stacks, high temperature ducting, and heating elements in electrical appliances. This product is typically used in applications up to 315 °C.

Mil-A-46106B

LOCTITE® Superflex® Red High Temp RTV is tested to the lot requirements of Military Specification Mil-A-46106B. **Note:** This is a regional approval. Please contact your local Technical Service Center for more information and clarification

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.05
Extrusion Rate, g/min:	
Pressure 0.62 MPa, time 15 seconds, temperature 25 °C:	
Semco Cartridge	≥250[LMS]
Flash Point - See MSDS	
Odor	Acetic Acid

TYPICAL CURING PERFORMANCE

LOCTITE® Superflex® Red High Temp RTV cures on exposure to moisture in the air. The product dries tack free in 1 hour and fully cures in 24 hours. Cure times will vary with temperature, humidity and gap.

TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 7 days @ 25 °C / 50% RH

Physical Properties:

Shore Hardness, ISO 868, Durometer A		≥18[LMS]
Elongation, ISO 37, %		≥300[LMS]
Tensile Strength, ISO 37	N/mm²	≥1.5[LMS]
	(psi)	(≥217)

Cured for 14 days @ 25 °C

180° Peel Strength :

Aluminum	N/mm	≥1.73[LMS]
	(lb/in)	(≥9.88)
Steel	N/mm	≥1.73[LMS]
	(lb/in)	(≥9.88)

TYPICAL ENVIRONMENTAL RESISTANCE

Cured @ 25 °C / 50±5 % RH for 7 days, tested @ 25 °C, 3.2 mm thick film

Heat Aging

Aged at temperature indicated and tested @ 22 °C

	Week(s) @ 204 °C			
	1	2	4	8
Shore Hardness, ISO 868, Durometer A	29	28	25	22
Tensile Strength, ISO 527-3, N/mm²	2.0	2.2	2.3	1.9
Elongation, ISO 527-2, %	370	450	490	500

	Week(s) @ 260 °C			
	1	2	4	7
Shore Hardness, ISO 868, Durometer A	23	16	15	17
Tensile Strength, ISO 527-3, N/mm²	1.3	0.7	0.4	0.3
Elongation, ISO 527-2, %	520	440	280	210

	Week(s) @ 316 °C		
	1	2	3
Shore Hardness, ISO 868, Durometer A	48	64	82
Tensile Strength, ISO 527-3, N/mm²	1.4	1.6	1.5
Elongation, ISO 527-2, %	175	70	25

At 260°C, softening is due to reversion and will occur regardless of how the sealant is cured. For flange sealing, this softening is usually an attribute.

At 315°C, hardening is due to thermal rearrangement of the polymer and also oxidation. Oxidation is retarded when the product is used as a flange sealant.

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 Material Safety Data Sheet (MSDS).

Directions for use:

1. For best performance bond surfaces should be clean and free from grease.
2. Full performance properties will develop over 24 hours.
3. Moisture curing begins immediately after the product is exposed to the atmosphere, therefore parts to be assembled should be mated within a few minutes after the product is dispensed.
4. Press or firmly clamp parts together. Do not slide parts together.
5. Excess material can be easily wiped away with non-polar solvents.
6. Excess cured material can be removed with a knife or single edge razor blade.

NOTE: *Do not use LOCTITE® Superflex® Red High Temp RTV for gasketing carburetors or fuel control devices where it will be in constant contact with hydrocarbon fuels. Material will develop excessive swell and loss of mechanical properties*.

Loctite Material Specification[LMS]
LMS dated July 06, 2005. 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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Trademark usage

Reference 1.2