

PRODUCT DESCRIPTION

LOCTITE® 504 Sealant is a single component, instant sealing, gel-like anaerobic material intended for use in place of a wide variety of pre-formed, pre-cut gaskets.

PRODUCT FEATURES

- Instant seals to meet assembly line testing requirements
- Fills gaps up to .030" (0.763 mm)
- Does not migrate or drip, can be used on vertical surfaces
- Can be applied by manual or automatic equipment including stenciling and tracing
- Improves structural integrity of the assembly
- Eliminates gasket compression set
- Easy disassembly
- Excellent solvent resistance
- Allows immediate assembly and use
- Easy cleanup
- No offensive odors

DIRECTIONS FOR USE

1. In order to obtain best results, excessive contamination, such as grease, heavy oils and dirt should be removed.
2. Apply a continuous bead by suitable method, such as printing or extruding from a pressurized vessel with an appropriate nozzle directly to one surface. Once applied, the bead or pattern should not be disturbed to maintain the instant seal characteristics.
3. Assemble the mating part without lateral movement (preferably using a guide pin).
4. The adjacent graph can be used as a guide to selecting the proper material bead size. It relates material coverage or width of seal after assembly to gap size for various bead diameters.

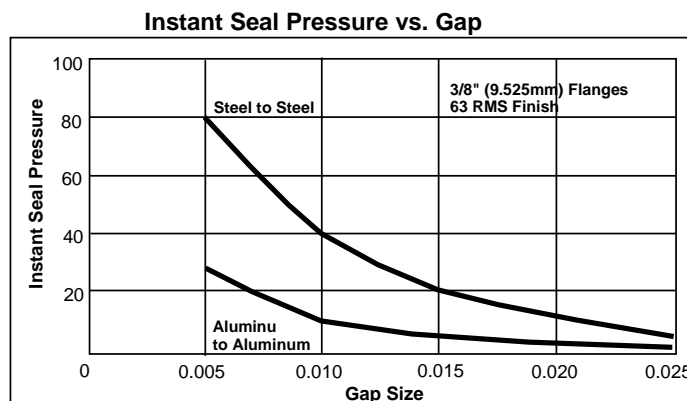
PROPERTIES OF UNCURED MATERIAL

Because of the anaerobic (meaning active in the absence of air) nature of LOCTITE® 504 Sealant, curing proceeds without evaporation of a solvent or the mixing of a catalyst. The material cures fully only when confined between mating surfaces which exclude air, or when exposed to high temperature.

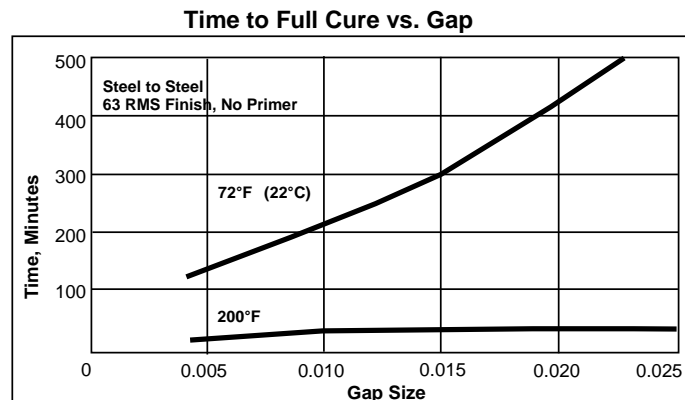
	Typical Value
Chemical Type	Polyacrylate
Appearance	Bright orange
Specific Gravity @ 25°C	1.09
Viscosity @ 25°C, Pa.s (cP)	
Brookfield @ 5 RPM	500 M to 1,200M

FUNCTIONAL PROPERTIES

A. Instant Sealing



B. Cure Time



C. Sealing Capability

Sealing capability is measured for steel to steel and aluminum to aluminum flanges varying in width from 1/8" (3.18 mm) to 3/4" (19.08 mm) with gaps varying from 0.005" (0.127 mm) to 0.025" (0.635 mm). For all combinations the fully cured pressure sealing capability exceeded 5,000 psi (351.5 kg/cm²)

D. Tensile Strength

1.5 in. (38.1 mm) Diameter Steel Tensile Buttons
 Area = 1.76 in.² (11.4 cm²)

Temperature Aging

1 hr. @ 250°F (93°C)
 1,000 hrs. @ 250°F (121°C)
 2,500 hrs. @ 250°F (121°C)

Tensile Strength

700 psi (49.3 kg./cm²)
 1350 psi (95.0 kg./cm²)
 900 psi (63.2 kg./cm²)

E. Shear Strength

1.0 in. (25.4 mm) 63 rms Steel Lap Shears
Area = 1 in² (6.45 cm²)

Temperature Cure Conditions

	Shear Strength
1 hr. @ 72°F (22°C)	100 psi (7.0 kg./cm ²)
1 hr. @ 200°F (93°C)	1,300 psi (91.4 kg./cm ²)
1 hr. @ 300°F (149°C)	1,100 psi (77.3 kg./cm ²)

Temperature Aging

	Shear Strength
2 hrs. @ 72°F (22°C)	1,200 psi (84.4 kg./cm ²)
2 hrs. @ 200°F (93°C)	1,100 psi (77.3 kg./cm ²)
2 hrs. @ 300°F (149°C)	800 psi (56.2 kg./cm ²)

SOLVENT RESISTANCE

Listed below are the changes in Barcol hardness values of Loctite Gasket Eliminator 504 Sealant after immersion in various fluids for 200 hours at 188°F (87°C). The data indicates excellent solvent resistance.

Fluid	% Hardness Change
Water	-3%
Water/Glycol	-6%
Type MS Engine Oil	+5%
90 wt. Hypoid Gear Oil	+5%
Gasoline	-6%
Diesel Fuel	+3%

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).

Where aqueous washing systems are used to clean the surfaces before bonding, it is important to check for compatibility of the washing solution with the adhesive. In some cases these aqueous washes can affect the cure and performance of the adhesive.

This product is not normally recommended for use on plastics (particularly thermoplastic materials where stress cracking of the plastic could result). It is recommended to confirm compatibility of the product with such substrates.

Storage

Products shall be ideally stored in a cool, dry location in unopened containers at a temperature between 8° to 28°C (46° to 82°F) unless otherwise labeled. To prevent contamination of unused product, do not return any material to its original container. For specific shelf-life information, contact your local Technical Service Center.

Data Ranges

The data contained herein may be reported as a typical value and/or range. Values are based on actual test data and are verified on a periodic basis.

Note

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