

PRODUCT DESCRIPTION

LOCTITE® 192005 improves flange sealing reliability by overcoming the problems of pre-cut gaskets and other formed-in-place gasket products. A smooth, homogeneous, single-component material, it can be dispensed through the Loctite Pump-A-Bead® Dispenser. It is an anaerobic ready-to-use, gel-like material that cures at room temperature through gaps of up to 0.050" (1.27 mm) when used with Loctite® SF 7649 on active metal surfaces. While uncured, the product provides excellent instant-seal properties for low-pressure production line testing. After curing between mating metal flanges and filling surface imperfections, it provides a tough, resilient, solvent-resistant seal that resists flange movements, vibration, pressurization and thermal changes up to 300°F (149°C).

PROPERTIES OF UNCURED MATERIAL

	Typical Value
Chemical Type	Methacrylate ester
Appearance	Thixotropic fluorescent purple paste-like gel
Specific Gravity @ 25°C	1.1
Viscosity, cP	
Brookfield HBT (Helipath)	
Spindle TB @ 0.5 rpm	690,000
@ 5.0 rpm	170,000
Flash Point (TCC), °C	>93

CURING INFORMATION

Data was obtained on 0.375" (9.5 mm) wide steel flanges with gaps between mating parts held at 0.000" (0.00 mm), 0.005" (0.13 mm) and 0.010" (0.25 mm). Test pressurization was limited to 300 psig (2.7 Mpa).

High pressure test fixtures could be sealed at 1000 psi with a 0.050" (1.27 mm) gap. Cure was assured by using Loctite® SF 7649 and waiting 48 hours at 72°F.

Use of Primer or Activators

Time to reach a given pressure can be reduced by up to 50% by using Loctite® SF 7649. Parts should be assembled within three minutes after the resin contacts the primed surface.

This data was obtained on steel parts which are surface active. Other parts may be inactive to LOCTITE® 192005 and will require at least one surface be activated with Loctite® SF 7649 to insure reliable results. Note the following examples:

Active surfaces – Loctite SF 7649 not required:

Steel	Manganese
Iron	Bronze
Copper	Nickel
Brass	Commercial Aluminum

Note: Iron, steel and aluminum surfaces treated with rust preventing washes may require Loctite® SF 7649.

Commercial aluminum contains copper which makes it active. Some commercial aluminum, especially from Europe, is low in copper and requires Loctite® SF 7649.

Inactive Surfaces - Loctite® SF 7649 required:

Zinc	Bright Platings
Pure Aluminum	Anodized Surfaces
Stainless Steel	Passivated Surfaces
Cadmium	Titanium
Magnesium	

Gaps Over .010" (0.25 mm) up to 0.050" (1.27 mm)

On larger gaps, Loctite® SF 7649 must be used on both surfaces. Partial cure is obtained in four hours and full cure in 48 hours at 72°F. Parts should not be pressurized until full cure has been obtained.

Cold Cure

For temperatures below room temperature, Loctite® SF 7649 should be used. At 0°F, full cure time is about 48 hours through zero gap.

TYPICAL PROPERTIES OF CURED MATERIAL

Tensile Strength (ASTM D2095)	
2" x .5" grit blasted, round steel pins	
- Cured 96 hrs. at 72°F (22°C), psi	1,700
- Cured one hr. at 158°F (70°C), psi	2,100
Shear Strength (ASTM D4562), steel pins and collars	
- Cured one hr. at 72°F (22°C), psi	1,700

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). Users are recommended to confirm compatibility of the product with such substrates.

USE AND APPLICATION

Apply a continuous bead of product and assemble the mating part(s) without excessive lateral movement. LOCTITE® 192005 can be used to seal rough or non-machined metal surfaces and pre-cut gaskets. To obtain best results, excessive contamination such as grease, heavy oils and dirt should be removed with Loctite SF 7070 or similar solvent.

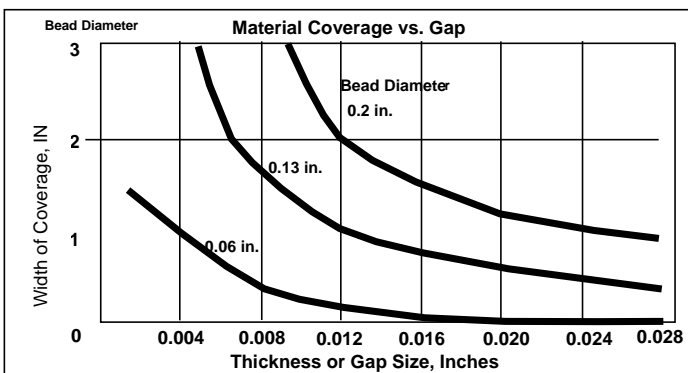
Unless a pre-cut or fabricated gasket is required for spacing, LOCTITE® 192005 sealant can entirely eliminate most gaskets. It can also be used to coat hard or soft-cut gaskets to obtain good reliability. It reduces soft gasket creep and the need of bolt retorquing.

The cured sealant remains flexible at temperature up to 250°F (121°C) and will maintain static seals up to 300°F (149°C).

APPLICATION TECHNIQUES

LOCTITE® 192005 is an easily workable tacky gel which can be extruded onto one side of a flange surface from a caulking cartridge. Breaks in the bead are easily repaired by manipulation. Small parts can be covered adequately by pressing them into a saturated polyester urethane sponge or by toll-coating them with a short-nap roller.

The following graph is a guide to selecting the proper amount of material. It relates width of coverage after assembly to gap size for various bead diameters. For example, material will cover a 1" width when a .06" bead is applied to a 0.003" gap.



Storage

Product shall be ideally stored in a cool, dry location in unopened containers at a temperature between 8°C to 28°C (46°F to 82°F) unless otherwise labeled. Optimal storage is at the lower half of this temperature range. To prevent contamination of unused product, do not return any material to its original container. For further 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

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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, Resin Technology Group, Inc., or Henkel Canada, Inc. the following disclaimer is applicable:

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:

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. Henkel is 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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.