



# Product 561 Pipe Sealant Stick

March 2003

## PRODUCT DESCRIPTION

LOCTITE® Product 561 Pipe Sealant Stick is a single component, semi-solid anaerobic pipe sealant compound. It is supplied in a self-feeding applicator stick that facilitates application of the material where a conventional liquid or paste product would be difficult to use. This is an anaerobic product and cures when confined in the absence of air between close fitting metal surfaces. This industrial grade sealant develops controlled low strength to facilitate disassembly. This product also fluoresces for easy coverage inspection.

## TYPICAL APPLICATIONS

This product is recommended for sealing metal tapered pipe threads and fittings, National Pipe Thread (NPT) for industrial applications in the chemical processing, petroleum refining, pulp/paper, waste treatment, textile, utilities/power generation, marine, automotive, industrial equipment, gas compression and distribution industries. It is also recommended for industrial plant fluid power systems.

## PROPERTIES OF UNCURED MATERIAL

	<b>Typical Value</b>
Chemical Type	Methacrylate Ester
Appearance	Off-White Wax Consistency
	Semi-Solid
Specific Gravity (25°C)	1.14
Softening Point	>80°C

## PERFORMANCE OF CURED MATERIAL

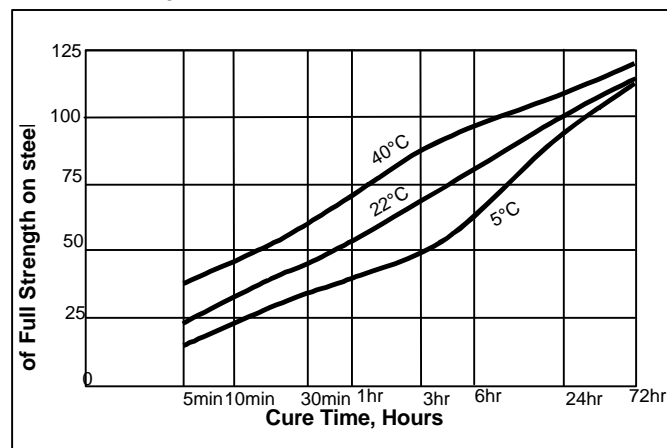
After 72 hrs @ 22 °C on degreased 3/8" malleable iron pipe tees and steel plugs, pretorqued to 27 N.m. (240 in lbs), ASTM D 6396-99

	<b>Typical Value</b>
Breakloose torque, ISO 10964,	N.m 46
	(lb.in) (410)

## TYPICAL CURING PERFORMANCE

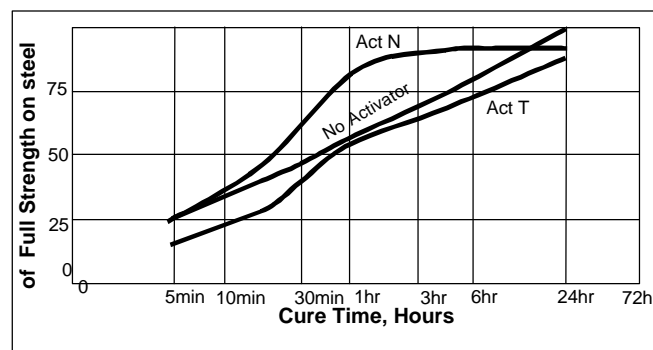
### Cure speed vs. temperature

The rate of cure will depend on the temperature. The graph below shows the shear strength developed over time on 3/8 inch NPT fittings.



### Cure speed vs. activator

With inactive metal surfaces, or when large gaps are present, applying activator N to the surface will improve cure speed. The graph below shows the torque strength developed over time on 3/8 inch malleable iron and steel NPT fittings. Primer applied to pipe tee only.



### Pressure Resistance

Loctite PST Stick was successfully tested for instant sealability at 100 psi. 3/8" NPT maleable iron pipe tees and steel plugs were assembled, torqued to 27 N.m (240 in. lbs), and allowed to cure for 5 minutes at 22°C prior to testing.

## TYPICAL ENVIRONMENTAL RESISTANCE

Test Procedure : Breakloose torque, fittings seated to 27 N.m. (240 in lbs), ASTM D 6396-99

Substrate: Degreased 3/8" malleable iron pipe tees and steel plugs

Cure procedure: 72 hours at 22°C

### Chemical / Solvent Resistance

Aged under conditions indicated and tested at 22°C

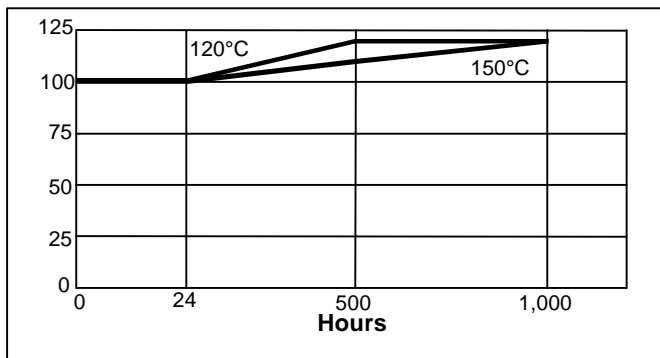
Solvent	Temp.	% Initial Strength Retained After 500 hrs	% Initial Strength Retained After 1000 hrs	Pressure Test 100 psi 1000 hrs
Motor Oil	125°C	137	143	Pass
Unleaded Gasoline	22°C	100	100	Pass
Brake fluid	22°C	102	103	Pass
Auto trans fluid	87°C	127	133	Pass
Water/Glycol (1:1)	87°C	122	122	Pass
Ethanol	22°C	95	91	Pass
Acetone	22°C	90	87	Pass
Isopropyl alcohol	22°C	103	100	Pass

NOT FOR PRODUCT SPECIFICATIONS  
 THE TECHNICAL CONTAINED HEREIN ARE INTENDED AS REFERENCE ONLY. PLEASE CONTACT LOCTITE CORPORATION  
 QUALITY DEPARTMENT FOR ASSISTANCE AND RECOMMENDATIONS ON SPECIFICATIONS FOR THIS PRODUCT.



**Heat Aging**

Aged at temperature indicated and tested at 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 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.

**Directions for use**

For best performance surfaces should be clean and free of grease. Advance only enough stick product to use at the time of application. Using the stick applicator, wipe product into the thread area in sufficient quantity to fill all engaged threads. Use accepted trade practices to assemble and wrench-tighten fittings until proper alignment is obtained. Recap product after use. This product performs best in thin bond gaps. Very large thread sizes may create large gaps which will affect cure speed and strength.

**NOTE:** For maximum pressure and solvent resistance, allow at least 24 hours for product to fully cure before filling and pressurizing the system.

This product is designed to provide lubricity during assembly. In critical tightening applications the specific torque/tension ratio, should be confirmed.

**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 (based on the mean value  $\pm 2$  standard deviations). Values are based on actual test data and are verified on a periodic basis.

**Note**

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, **Loctite Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loctite Corporation's products. Loctite 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 Loctite 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.



**Loctite Industrial**

Henkel Loctite Corporation, 1001 Trout Brook Crossing, Rocky Hill, CT 06067, U.S.A.  
Loctite is a Trademark of Henkel Loctite Corp. U.S.A. 860.751.5100