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## Technical Data Sheet

# High Temperature Thread Sealant

INDUSTRIAL

### PRODUCT DESCRIPTION

Permatex® High Temperature Thread Sealant is a medium strength anaerobic sealant with PTFE for tapered pipe threads. This sealing compound is of a white, creamy paste consistency. The high lubricating properties of this compound prevents galling on pipe threads and fittings. It will provide immediate low pressure sealing and allow for the readjustment of fittings shortly after assembly. After 72 hours the joint is sealed to pipe burst pressure. This product has a medium solvent resistance and will withstand temperatures to 204°C (400°F). **This product is not recommended for use on plastic piping.**

### PRODUCT BENEFITS

- Resists leakage, vibration loosening, moisture, hydraulic fluids, diesel fuels.
- Lubricates threads for easy assembly and disassembly.
- Will not shred or wear like tapes.
- Parts may be repositioned for up to 24 hours after application.
- Suited for temperatures up to 204°C (400°F)
- Contains PTFE

### TYPICAL APPLICATIONS

- Head bolts into through holes
- Oil PSI sending units/sensors
- Oil and coolant lines
- Fuel fittings
- Rear axle fill plug
- Brake and power steering fittings

### DIRECTIONS FOR USE

1. For best performance, surfaces should be clean and free of grease.
2. Product should be applied to the thread engagement area in sufficient quantity to fill all engaged threads.
3. Use accepted trade practices to assemble and wrench-tighten fittings until proper alignment is obtained.
4. Very large thread sizes may create large gaps, which will affect cure speed and strength.
5. For maximum pressure and solvent resistance, allow at least 24 hours for the product to fully cure before filling and pressurizing system.
6. Fittings assembled with Permatex® High Temperature Thread Sealant may be disassembled with normal hand tools.
7. For large pipe diameters (over 1"), heat may be required to disassemble fittings.
8. Fittings may be reused by removing loose sealant residue with a wire brush and reapplying sealant.

### FOR CLEANUP

1. Wipe off any material outside the joint with a dry cloth.
2. Clean hands with Permatex® Fast Orange® hand cleaner or soap and water.
3. Cured material must be removed with Permatex® Gasket Remover.

### PHYSICAL PROPERTIES OF UNCURED MATERIAL

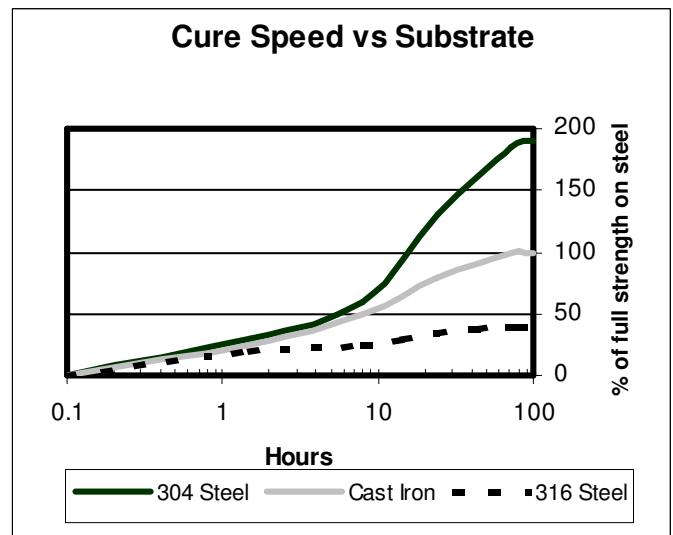
	Typical Value
Chemical Type	Dimethacrylate ester
Appearance	White opaque paste
Odor	Acrid
Specific Gravity	1.21
Viscosity (cP)	350,000
Flash Point (T.C.C.) °C (°F)	>93 (>200)
Chemical resistance	Gasoline, oil, water, glycol, hydraulic fluid, freon, transmission fluid, brake fluid

### TYPICAL CURING PERFORMANCE

#### Cure speed vs. substrate

The rate of cure will depend on the material used. Permatex® High Temperature Thread Sealant will react faster and stronger with **Active Metals**. However, **Inactive Metals** will require the use of an activator (Surface Prep) to obtain maximum strength and cure speed at room temperature.

The graph below shows the breakaway strength developed with time on 1/2" NPT fittings compared to different materials.



NOT FOR PRODUCT SPECIFICATIONS.

THE TECHNICAL DATA CONTAINED HEREIN ARE INTENDED AS REFERENCE ONLY.

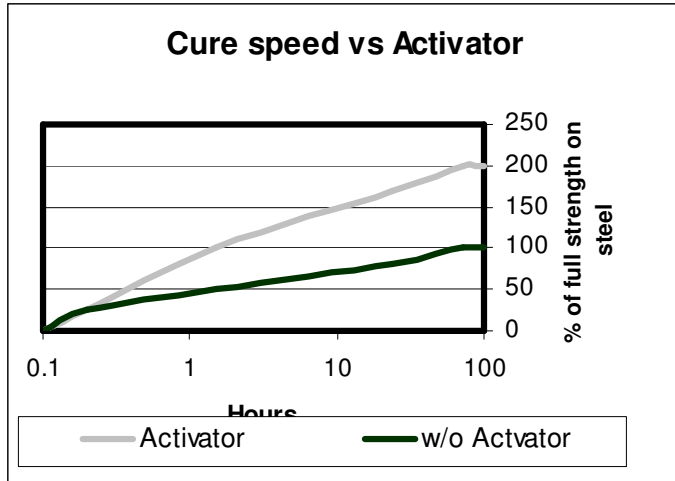
PLEASE CONTACT PERMATEX, INC., TECHNICAL SERVICE DEPARTMENT FOR ASSISTANCE AND RECOMMENDATIONS FOR YOUR SPECIFIC APPLICATION.  
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**Cure speed vs. temperature**

The rate of cure will depend on the ambient temperature. **Full cure** is attainable in 24 hours at room temperature, 22°C (72°F), or 1 hour at 93°C (200°F).

**Cure speed vs. activator**

Where cure speed is unacceptably long, or large gaps are present, applying an activator (Surface Prep) to the surface will improve cure speed. The graph below shows the shear strength developed with time on 1/2" NPT fittings using Permatex® Surface Prep Activator.



**CURED INFORMATION**

(Cured 72 hours @ 75°F)

Pressure Resistance (psi) 10,000  
 Temperature Range °C(°F) -54 to 204(-65 to +400)  
 Breakaway torque (in.-lb.) 40  
 Maximum recommended pipe size\* 2" NPT

\* May be used on threads larger than 2" but all threads must be activated with Surface Prep Activator and time for full cure extended to 48 hours (Pipe burst pressure after 96 hours). Heat may be required for removal.

**Chemical / Solvent Resistance**

Aged under conditions and tested at 22°C(72°F)

% Initial Strength retained after time	Temp	500hr	700hr	1000hr
Heat aged	150°C		80%	
Motor oil(SL)	125°C		90%	
Antifreeze	87°C		40%	
Gasoline	23°C		40%	

**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).**

**ORDERING INFORMATION**

Part Number	Container Size
59201	1 liter bottle
59235	50 ml. tube, carded
59225	250 ml. tube

**STORAGE**

Products shall be ideally stored in a cool, dry location in unopened containers at a temperature between 8°C and 28°C (46°F and 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.

**NOTE**

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