



Toll Free: 87 PERMATEX  
(877-376-2839)

10 Columbus Blvd., Hartford,  
Connecticut 06106

6875 Parkland Boulevard, Solon  
Ohio 44139

## Technical Data Sheet

# SEAL+LOCK Thread Compound

INDUSTRIAL

### PRODUCT DESCRIPTION

Permatex® SEAL+LOCK Thread Compound is a unique anaerobic formulation that combines thread sealing properties with the strength and locking capability of Permatex® Blue Threadlocker. This sealant is a smooth, white paste-like compound that is formulated for fast, responsive curing in the absence of air between close fitting metal threads and fixtures. Permatex® SEAL+LOCK Thread Compound allows you to create a water and air tight seal with reassurance that the assembly is locked in place and will not loosen.

**NOTE:** Not compatible with plastics and rubbers.

### PRODUCT BENEFITS

- Creates air and water tight seal
- Cures without cracking or shrinkage
- Prevents galling and corrosion
- Controlled strength; removable with hand tools
- Temperature and solvent resistant
- Immediate low pressure sealing
- Easy cleanup; no curing beyond fittings

### TYPICAL APPLICATIONS

Recommended automotive uses:

- Freeze plugs
- Oil pressure sensor
- Fuel line supply nuts and bolts
- Fuel injector
- Coolant temperature sensor
- Power steering cooler lines
- Brake master cylinder line nuts
- A/C systems
- Plumbing systems

Recommended hardware uses:

- Metal plumbing connections
- Garden hose and sprinkler connections
- Pipe plugs

### DIRECTIONS FOR USE

#### For assembly

1. For best performance, clean all threads with a cleaning solvent such as Permatex® Brake and Parts Cleaner and allow to dry.
2. Determine if the threads to be bonded are **Active** or **Inactive Metals** (Ref: Cure Speed vs. Substrate on the second page). If material is an **Inactive Metal**, spray all threads with Permatex® Surface Prep and allow 30 seconds to dry. Priming is not required if the material is

an **Active Metal**. If unknown, it is always best to use the activator.

3. Knead tube of Thread Compound before use.
4. Apply sealant to leading threads of the male fitting, leaving the first thread free of sealant. Apply to only 3/4 of a thread turn; it is not necessary to apply to all threads.
5. Assemble parts and tighten to recommended torque.
6. Allow to cure 72 hours for full strength. To accelerate cure time, prep threads with Permatex® Surface Prep Activator.

#### For Cleanup

1. Residual liquid films and/or fillets outside the joint are readily soluble in Permatex® Brake and Parts Cleaner.
2. Cured product can be removed with a combination of soaking in Permatex® Gasket Remover and mechanical abrasion such as a wire brush.

#### For Disassembly

1. Remove with standard hand tools.
2. In the rare instance where hand tools do not work, because of excessive engagement length, apply localized heat to metal thread until approximately 232°C (450°F). Disassemble while hot.

#### For Reassembly

1. Remove loose product from all surfaces.
2. Apply primer to all threads, regardless of metal type.
3. Assemble and tighten as usual.

### PHYSICAL PROPERTIES OF UNCURED MATERIAL

|                                     | Typical Value                                 |
|-------------------------------------|---|
| Chemical Type                       | Methacrylate ester                            |
| Appearance                          | White opaque paste                            |
| Odor                                | Acrid   |
| Specific Gravity                    | 1.10  |
| Viscosity @ 25°C, cP                | 250,000-                                      |
| Brookfield RVF, spindle #7, @ 2 RPM | 600,000                                       |
| Flash Point (T.C.C.) °F             | >200  |
| Chemical resistance                 | Gasoline, oil, water, glycol, hydraulic fluid |

### TYPICAL CURING PERFORMANCE

#### Cure speed vs. temperature

The rate of cure will depend on the ambient temperature. **Full cure** is attainable in 72 hours at room temperature, 22°C (72°F), or 3 hours at 93°C (200°F).

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.  
PERMATEX, INC., HARTFORD SQUARE NORTH, 10 COLUMBUS BOULEVARD, HARTFORD, CT 06106 PHONE - (1-877)PERMATEX Revised 03/10

**Cure speed vs. substrate**

The rate of cure will depend upon the type of material used. Permatex® SEAL+LOCK Thread Compound will react faster and stronger with **Active Metals**. However, **Inactive Metals** will require the use of Permatex® Surface Prep Activator to obtain maximum strength and cure speed at room temperature.

| <b>Active Metals</b> | <b>Inactive Metals</b> |
|----------------------|------------------------|
| Soft Steel Iron      | Bright Platings        |
| Copper               | Anodized Surfaces      |
| Brass                | Titanium               |
| Manganese            | Zinc                   |
| Bronze               | Pure Aluminum          |
| Nickel               | Stainless Steel        |
| Aluminum Alloy       | Cadmium                |

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**Cure speed vs. activator**

Where cure speed is unacceptably long, or large gaps are present, applying Permatex® Surface Prep Activator to the surface will improve cure speed. Assemblies will typically fully cure in 24 hours with activator.

**PHYSICAL PROPERTIES OF CURED MATERIAL**

(After 72 hr at 72°F on 3/8-16 steel Grade 8 Nuts and Grade 5 bolts)

|                    | <b>Typical Value</b>            |
|--------------------|---------------------------------|
| Breakaway Strength | 50-100 in-lbf                   |
| Shear Strength     | >1000 PSI                       |
| Temperature Range  | -60°F to 300°F (-51°C to 150°C) |

**Chemical Resistance**

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

| <b>Chemical</b>    | <b>Temp</b> | <b>Time</b> | <b>Initial Strength Retained</b> |
|--------------------|-------------|-------------|----------------------------------|
| Engine Oil         | 150°C       | 500 hr      | 160%                             |
| ATF                | 150°C       | 500 hr      | 160%                             |
| 50:50 Water/Glycol | 120°C       | 500 hr      | 70%                              |
| Gasoline           | 25°C        | 500 hr      | 155%                             |

**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**

| <b>Part Number</b> | <b>Container Size</b> |
|--------------------|-----------------------|
| 57535              | 35 mL tube, carded    |

**STORAGE**

Products shall be ideally stored in a cool, dry location in unopened containers at a temperature between 14°F (-10°C) to 86°F (30°C). 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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