WHICH LOCTITE TO USE

By Henry Zwolak

Many of the questions that we answer at RCGF Aero Products is about the use of Loctite. Our answers are easy - all engines, whether they are single or dual cylinder models produce vibration, and this vibration will loosen bolts and nuts over time.

Checking the tightness of the bolts/nuts every couple of flights is smart preventative maintenance. It only takes a minute or so. Make this a mantra of yours.

We do recommend the use of Loctite products on ANY metal to metal contact surface. The engine itself is OK and you do not have to worry about it, but any bolt and nut that connects to it, like engine mounts DO need it. ANY and EVERY nut and bolt needs on the aircraft needs to have Loctite applied to it.

Using Loctite is very inexpensive insurance for your aircraft. Next time you are at your favorite hardware store, pick up a bottle. It lasts a long time.

OK. So now which one to use? The table below and the attached product guide (produced by Loctite) will tell you the proper ones.

Summary –

Never use RED – Unless you have a specific reason. Blue is your best choice.

Why? First off - practical experience. Red Loctite when used properly and according to instructions will lock a bolt and nut permanently. I made this mistake when I put it on my prop washer hub. I could not remove the bolt and in fact twisted the head right off. I needed to use a torch!

Also, any time you remove a bolt or nut that was Loctited, you will have to reapply it again.

Should you apply Loctite to Prop Bolts? No…. Don’t bother… You need to check the tightness of the bolts here ALL THE TIME. Every new day that you fly, the one thing you should do is check the tightness of the prop bolts.

The below information was taken from the Loctite Industrial Product Guide and as you can see all of the temp. ranges are -65 to 300 degrees F., except 272 red which is up to 450 degrees. The cure times vary except they all require 24 hours to cure fully.
222 - **Purple** - Low strength thread locker, designed for precision metal fasteners under 3/4". Protect threads from rust and corrosion. Removable with hand tools. Temp range -65 to 300 degrees F. Cure Speed 20 min. Full 24 hrs.

242 - **Blue** - Medium strength thread locker for fasteners up to 3/4". Cures reliably even on stainless steel. Tolerant of oil and other contamination. Protects threads from rust and corrosion. Parts can be disassembled with hand tools. Temp range -65 to 300 degrees F. Cure speed 15 min. Full 24 hrs.

262 - **Red** - Permanent strength thread locker for fasteners up to 3/4". Designed for extreme environmental/chemical conditions. Especially useful for holding tight Grade 5 and 8 fasteners. Protects threads from rust and corrosion. Localized heating and hand tools required for disassembly. Temp range -65 to 300 degrees F. Cure speed 30 min. Full 24 hrs.

272 - **Red** - Hi-temp/hy-strength formula. Suited for temperatures up to 450 degrees F. Fast cure on most surfaces including "as received" fasteners. Recommended for bolts up to 1 1/2" in diameter. Heat and hand tools required for disassembly. Temp range -65 to 450 degrees F. Cure speed 60 min. Full 24 hrs.

277 - **Red** - High strength for locking fasteners up to 1 1/2". Prevents fasteners from loosening due to shock, heat or vibration. Protects threads from rust and corrosion. Removable with heat and hand tools. Temp range -65 to 300 degrees F. Cure speed 60 min. Full 24 hrs.

290 - **Green** - Medium strength thread locker for pre-assembled bolts up to 1/2". Penetrates threads by capillary action: simplifies preventive maintenance. Secures set screws and other assemblies after settings are completed. Used to seal welds and porous metal parts. Protects threads from rust and corrosion. Temp range -65 to 300 degrees F. Cure speed 10 min. Full 24 hrs.
**Threadlocking**

**Locking of Threaded Fasteners**

- Prevents loosening from shock and vibration
- Single component – clean and easy to apply
- Can be used on various sizes of fasteners – reduces inventory costs
- Seals threads
- Stops rust and corrosion

**Helpful Hints:**
- Clean parts with Loctite® ODC-Free Cleaner & Degreaser before applying the adhesive
- If the threadlocker will be applied below 40°F, pre-treat with Loctite® 7649® Primer N™
- If the parts were in contact with aqueous washing solutions or cutting fluids which leave a protective layer on the surface, wash with hot water before use

**Solution**

**Additional Loctite® brand Threadlockers**

<table>
<thead>
<tr>
<th>Name</th>
<th>Strength</th>
<th>Breakaway/Prise Time (h:mi)</th>
<th>Feature</th>
<th>Part #</th>
<th>Package Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>222™</td>
<td>Medium</td>
<td>Breakaway 1:1/2 to 1:1</td>
<td>Wicking</td>
<td>31734</td>
<td>5 ml bottle</td>
</tr>
<tr>
<td>224™</td>
<td>Medium</td>
<td>Breakaway 1:1/2 to 1:1</td>
<td>Wicking</td>
<td>31727</td>
<td>5 ml bottle</td>
</tr>
<tr>
<td>227™</td>
<td>High</td>
<td>Breakaway 1:1/2 to 1:1</td>
<td>Wicking</td>
<td>27277</td>
<td>5 ml bottle</td>
</tr>
<tr>
<td>227™</td>
<td>High</td>
<td>Breakaway 1:1/2 to 1:1</td>
<td>Wicking</td>
<td>27277</td>
<td>5 ml bottle</td>
</tr>
<tr>
<td>229™</td>
<td>High</td>
<td>Plastic Fasteners</td>
<td>Wicking</td>
<td>25530</td>
<td>5 ml bottle</td>
</tr>
</tbody>
</table>

**Use Loctite® 7649® Primer N™ to:**
1. Activate inactive surfaces.
2. Speed cure times for faster return to service.
3. Speed curing through larger gaps and deep threads.
4. Substantially speed cure times on cold parts.
5. Act as a cleaning agent.

**Primer is recommended with:**
- Steel, magnesium, zinc, black oxide, cadmium, titanium, others.
- Steel, magnesium, zinc, black oxide, cadmium, titanium, others.

**Package Size/Part Number:**
- 98414 2.5 oz. aerosol
- 38402 1.75 fl. oz. bottle
- 21348 4.5 oz. aerosol

**Loctite® 200™ Threadlocker – High Strength**

A low viscosity threadlocking adhesive that allows the product to stick along the threads of preassembled fasteners. Perfect for fasteners up to 1/4" diameter (6 mm).

**Loctite® 222MS™ Threadlocker – High Strength/Wicking/Blue**

Recommended for low-strength threadlocking of adjustment screws, countersunk head screws, and set screws on collars, pulleys, tool holders, and controls. Also for low-strength metals such as aluminum or brass.

**Loctite® 2440™ Threadlocker – High Strength/Wicking/Green**

Particularly fast curing, reducing or eliminating the need for primers. Effective on all types of metal threaded fasteners.

**Loctite® QuickStix™ 248™ Threadlocker – Medium Strength**

Semi-solid stick form is convenient, portable, and great for hard-to-reach applications. Loctite® QuickStix™ 248™ Threadlocker is the ideal general-purpose threadlocker for all nuts and bolt applications, especially fasteners between 1/4" and 1". Removable with hand tools.

**Loctite® 2760™ Threadlocker – High Strength**

Particularly fast curing, reducing or eliminating the need for primers. For use on all metal fasteners where regular removal for maintenance is not required. Recommended for permanently locking studs on engine blocks and pump housings.

**ARE THE PARTS ALREADY ASSEMBLED?**

<table>
<thead>
<tr>
<th>Solution</th>
<th>Low – Purple</th>
<th>Medium – Blue</th>
<th>Medium/High – Green</th>
<th>High – Red</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wicking Grade</td>
<td>Liquid Product</td>
<td>Medium – Blue</td>
<td>Liquid Product</td>
<td>Semi-Solid Product</td>
</tr>
<tr>
<td>Fastener Size</td>
<td>#2 to 1/8&quot;</td>
<td>Up to 1/8&quot;</td>
<td>1/8&quot; to 1/4&quot;</td>
<td>Up to 1/4&quot;</td>
</tr>
<tr>
<td>Strength</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Cure Time (Fixture/Full Strength)*</td>
<td>6 min/24 hr.</td>
<td>20 min/24 hr.</td>
<td>10 min/24 hr.</td>
<td>4 min/24 hr.</td>
</tr>
<tr>
<td>Breakaway/Prise Time (h:mi)</td>
<td>19/250</td>
<td>30/250</td>
<td>53/43</td>
<td>110/43</td>
</tr>
<tr>
<td>Temperature Resistance for Continuous Service</td>
<td>300°F (150°C)</td>
<td>300°F (150°C)</td>
<td>300°F (150°C)</td>
<td>300°F (150°C)</td>
</tr>
<tr>
<td>Common Sizes / Part Number</td>
<td>10 ml bottle – 37388</td>
<td>50 ml bottle – 38168</td>
<td>250 ml bottle – 22041</td>
<td>50 ml bottle – 39186</td>
</tr>
</tbody>
</table>

**Common Sizes / Part Number**
- 10 ml bottle – 37388
- 50 ml bottle – 38168
- 250 ml bottle – 22041
- 50 ml bottle – 39186
- 19 g stick – 37087
- 50 ml bottle – 32525
- 19 g stick – 37686
- 250 ml bottle – 32527

**Solution**

- Single component – clean and easy to apply
- Can be used on various sizes of fasteners – reduces inventory costs
- Seals threads
- Stops rust and corrosion

**Loctite® 222MS™ Threadlocker – Medium Strength/Wicking/Blue**

Recommended for locking pre-assembled fasteners, i.e. instrumentation screws, electrical connections, and set parts. Also seals pre-porosities in welded and set parts.

**Loctite® 2440™ Threadlocker – Medium Strength/Wicking/Green**

Particularly fast curing, reducing or eliminating the need for primers. Effective on all types of metal threaded fasteners.

**Loctite® QuickStix™ 248™ Threadlocker – Medium Strength**

Semi-solid stick form is convenient, portable, and great for hard-to-reach applications. Loctite® QuickStix™ 248™ Threadlocker is the ideal general-purpose threadlocker for all nuts and bolt applications, especially fasteners between 1/4" and 1". Removable with hand tools.

**Loctite® 2760™ Threadlocker – High Strength**

Particularly fast curing, reducing or eliminating the need for primers. For use on all metal fasteners where regular removal for maintenance is not required. Recommended for permanently locking studs on engine blocks and pump housings.

**CIPA Approved**
Threadlocking
Technical Guide

What you need to know to ensure a reliable threaded assembly
Old Way
Mechanical Locking Devices
Mechanical locking devices (e.g., split washers, nylon nuts) were invented to solve the common problem of loosening that occurs in most threaded assemblies. Although they were made for this purpose, they have several shortcomings.

Shortcomings of Mechanical Locking Devices
- Loosen under vibration, thermal expansion and/or improper torque
- Do not seal threads
- Require extensive inventory of several shapes and sizes
- Prone to rust

Better Way
Loctite® Threadlockers
Invented fifty years ago by Loctite Corporation, now Henkel Corporation, this revolutionary method to lock and seal threaded fasteners with liquid anaerobic adhesives has found worldwide acceptance. Suited for a wide range of applications, from delicate electronic components to heavy industrial equipment, Loctite® threadlockers have dramatically increased the reliability of threaded assemblies.

Benefits of Loctite® Threadlockers
- Lock nuts and bolts against vibration and thermal expansion
- Seal against corrosion and leakage
- Reduce inventory costs
- Suitable for all shapes and sizes of fasteners
- Act as a thread lubricant
- Maintain critical adjustments of the assembly
- No on-torque adjustments needed
- High chemical resistance
Functions of a threaded assembly

1. Create clamp force
2. Maintain clamp force
3. Allow disassembly

Why threaded assemblies fail?

Clamp force is not maintained
Threaded assemblies loosen because of:

A. Gaps: In order to make the assembly possible, nuts and bolts must have some tolerance, which creates gaps between the threads.

B. Vibration & side-to-side movement: These gaps allow the parts to move from side-to-side when exposed to vibration.

C. Expansion/contraction & loosening: Expansion and contraction can also cause side-by-side movement. This, in addition to vibration, lead to loosening and ultimately disassembly of parts.

Disassembly is not always possible
This failure happens because, in certain conditions, a nut and a bolt can seize together. This seizing effect is caused by:
- Galling (friction welding)
- Corrosion, rust, when dealing with:
  - Humidity
  - High temperatures
- Assembly of different metals (galvanic corrosion)

Shortcomings of locking devices

- **Split ring or spring washers**
  - Increased friction reduces clamp load; will not ensure reliable threadlocking under dynamic loads.

- **Tooth or ribbed flanged bolts**
  - Prevent self-loosening, but are expensive; need larger flange-bearing surfaces and may damage the surfaces.

- **Split ring or spring washers**
  - Increased friction reduces clamp load; will not ensure reliable threadlocking under dynamic loads.

Why use Loctite® threadlockers

Loctite® threadlockers are the most versatile and inexpensive option to ensure a reliable assembly.

**Loctite® benefits**

- **Superior vibration resistance**
  - Locks and seals in any position
  - Resists vibration and torque down to zero bolt tension

- **Increased reliability**
  - Joints withstand vibration, shock and thermal cycling
  - Threads are sealed to prevent corrosion
  - Clamp load is maintained
  - Prevents loosening
  - Controlled clamp load

- **Larger end product life**
  - Assembly remains locked and leak-proof for its full service life
  - Clamp load retention and higher off-torque provide additional safety

- **Prevention of galling and corrosion**
  - Liquid film prevents friction welding or galling
  - Sealing effect prevents corrosion
  - Permits disassembly

- **Excellent durability**
  - Withstands most industrial gases and fluids
  - Thermal resistance up to 300°F (150°C) and higher
  - Field-proven for decades

- **Cost savings**
  - Lower costs for storage, purchasing, maintenance and repair
  - Universally applicable for a wide range of thread sizes
  - Ease of automation reduces assembly costs and increases throughput
  - Easy to integrate into production with low equipment needs

- **Why do threaded assemblies fail?**

  - **Clamp force is not maintained**
    - Threaded assemblies loosen because of:
      - **A. Gaps:** In order to make the assembly possible, nuts and bolts must have some tolerance, which creates gaps between the threads.
      - **B. Vibration & side-to-side movement:** These gaps allow the parts to move from side-to-side when exposed to vibration.
      - **C. Expansion/contraction & loosening:** Expansion and contraction can also cause side-by-side movement. This, in addition to vibration, lead to loosening and ultimately disassembly of parts.

  - **Disassembly is not always possible**
    - This failure happens because, in certain conditions, a nut and a bolt can seize together. This seizing effect is caused by:
      - Galling (friction welding)
      - Corrosion, rust, when dealing with:
        - Humidity
        - High temperatures
      - Assembly of different metals (galvanic corrosion)

  - **Why do threaded assemblies fail?**

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      - Corrosion, rust, when dealing with:
        - Humidity
        - High temperatures
      - Assembly of different metals (galvanic corrosion)
**Loctite® Threadlocking Solutions**

How does a Loctite® threadlocker work?

**Fill Gaps**
Loctite® threadlockers are single-component adhesives that cure in the absence of air and in contact with active metal to form a tough thermoset plastic. They completely fill all voids between the interfacing threads, which makes the assembly a unitized component and ultimately prevents loosening.

**Seal Threads**
Another property of Loctite® threadlockers is thread sealing. This property is especially important when assembling through-bolts in an oil reservoir or cooling jacket in order to keep the fluids sealed in and corrosion out. Examples of this application are common but not limited, to gearboxes and internal combustion engines.

How do I use a Loctite® threadlocker?

**Application Options**
- For through holes
- For blind holes
- For post assembly
- For overhead applications

**Dispensing Options**
- 250-ml and 50-ml Loctite® hand pumps
- Loctite® integrated aerosol/dispenser, dispenser valve, and stationary dispenser valve

**IMPORTANT:** To achieve optimum performance all parts must be clean and free of contaminants (e.g., oil, grease).

When should I use a Loctite® primer?

**Speed up cure**
Significantly speed up the cure time of Loctite® threadlockers when assembling metal parts that are cold, have large gaps or deep threads.

**Inactive metal assemblies**
When assembling metal parts with inactive surfaces, Loctite® primers are recommended to ensure proper performance of Loctite® threadlockers.

<table>
<thead>
<tr>
<th>Inactive Metals (Primers Recommended)</th>
<th>Active Metals (Primers Optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plated Parts</td>
<td>Iron</td>
</tr>
<tr>
<td>Alum. Plated</td>
<td>Brass</td>
</tr>
<tr>
<td>Stainless Steel</td>
<td>Nickel</td>
</tr>
<tr>
<td>Galvanized Steel</td>
<td>Manganese</td>
</tr>
<tr>
<td>Magnesium</td>
<td>Copper</td>
</tr>
<tr>
<td>Natural or Chemical Black Oxide</td>
<td>Brass</td>
</tr>
</tbody>
</table>

Loctite® threadlockers cure in the absence of air and presence of metal ions. When assembling inactive metal parts, which are low in metal ions, the use of Loctite® primers are recommended to ensure proper performance of Loctite® threadlockers.

**Loctite® threadlocker key selection factors**

**Strength**
- **Low strength:** Easy disassembly using hand tools
- **Medium strength:** Disassembly possible with standard hand tools
- **High strength:** Requires localized heat (>500°F), hand tools and disassembly while still hot

**Viscosity**
- **Liquid Formulas:** Everyday assembly; ideal for fine threads and blind holes
- **Gel Formulas:** Ideal for coarse and large threads, they do not run or migrate
- **Semisolid Formulas:** Pocket-friendly, ideal for overhead and pre-applied applications

**Application Methods**
- Pre-Dispensed: QuickStix™ semisolid threadlocker can be applied beforehand on bolts that are waiting to be assembled
- Pre-Assembly: Most Loctite® liquid threadlockers are designed to be applied at the moment that parts will be assembled
- Post-Assembly: Wicking grade formula can be applied on parts that are already assembled

**Materials Being Assembled**
- All Loctite® Threadlockers: Metal-to-metal applications
- Loctite® 425® Assure™: Plastic-to-plastic, plastic-to-metal applications

**Dispensing Options**
- Pre-dispensed application

**Engagement area of rusty bolt that did NOT have Loctite® threadlocker applied**

**Engagement area of rusty bolt that DID have Loctite® threadlocker applied**

**Loctite® QuickSilik® 7088® Primer**

**Pre-dispensed application**
Loctite® Threadlocker Selection

Are the parts being assembled metal or plastic?

Plastic Assembly

Metal Assembly

Low Strength

Medium Strength

Medium / High Strength

Wicking Grade

Are the parts already assembled?

Yes

No

What strength do you require?

Low Strength – Purple

Medium Strength – Blue

High Strength – Red

Solution

Fastener Size

Cure Time (Fixture / Full Strength)

Breakaway / Prevail Torque (in.-lb.)

Temperature Resistance for Continuous Service

Product Description

Loctite® 425™ Assure™

Low strength, fast surface-curing threadlocker for plastic fasteners. Can be used as a tempt-proofing agent for the head of screws. Can be applied before or after assembly.

Loctite® 220™ Threadlocker – Low Strength

A low viscosity threadlocking adhesive that allows the product to wick along the threads of pre-assembled fasteners. Perfect for fasteners up to 1/4” diameter (6 mm).

Recommended for locking pre-assembled fasteners, i.e., instrumented screws, electrical connectors, and set screws. Also seals pores/chassis and other plastic surfaces.

Loctite® 290™ Threadlocker – High Strength / Wicking / Green

A general-purpose, medium-strength threadlocker with improved oil resistance. Suitable for 1/4” to 1” diameter (6 mm to 25 mm) fasteners.

Recommended for conditions where fasteners are exposed to oil or other aggressive chemicals.

Loctite® 222MS™ Threadlocker – Medium Strength

A general-purpose threadlocker for use on standard or large thread applications. It is easy to use, non-corrosive, and mildly dispersive. It is ideal for indoor and pre-assembled applications where product drip is a concern.

Semi-solid form is convenient, portable, and great for hard-to-reach applications.

Loctite® 2033™ Gel Threadlocker – Medium Strength

A medium-strength gel threadlocker for use on standard or large thread applications. It is easy to use, non-corrosive, and mildly dispersive. It is ideal for indoor and pre-assembled applications where product drip is a concern.

Semi-solid form is convenient, portable, and great for hard-to-reach applications.

Loctite® 2101™ Primer N™

• If the threadlocker will be applied below 40ºF, pre-treat with Loctite® 7649™ Primer N™

• If the parts were in contact with aqueous washing solutions or cutting fluids, which leave a protective layer on the surface, wash with hot water before use

Are the parts being assembled?

Yes

No

What strength do you require?

Low Strength

Medium Strength

High Strength

LIQUID PRODUCT

Medium Strength

High Strength

GEL PRODUCT

Semisolid Product

Importantly! See page 5 for more information on:

1. Inactive metal assemblies
2. Application methods
3. Strength

Plastic Assembly

Metal Assembly

Low Strength

Medium Strength

High Strength

Wicking Grade

Are the parts already assembled?

Yes

No

What strength do you require?

Low Strength – Purple

Medium Strength – Blue

High Strength – Red

Solution

Fastener Size

Cure Time (Fixture / Full Strength)

Breakaway / Prevail Torque (in.-lb.)

Temperature Resistance for Continuous Service

Product Description

Loctite® 425™ Assure™

Low strength, fast surface-curing threadlocker for plastic fasteners. Can be used as a tempt-proofing agent for the head of screws. Can be applied before or after assembly.

Loctite® 220™ Threadlocker – Low Strength

A low viscosity threadlocking adhesive that allows the product to wick along the threads of pre-assembled fasteners. Perfect for fasteners up to 1/4” diameter (6 mm).

Recommended for locking pre-assembled fasteners, i.e., instrumented screws, electrical connectors, and set screws. Also seals pores/chassis and other plastic surfaces.

Loctite® 290™ Threadlocker – High Strength / Wicking / Green

A general-purpose, medium-strength threadlocker with improved oil resistance. Suitable for 1/4” to 1” diameter (6 mm to 25 mm) fasteners.

Recommended for conditions where fasteners are exposed to oil or other aggressive chemicals.

Loctite® 222MS™ Threadlocker – Medium Strength

A general-purpose threadlocker for use on standard or large thread applications. It is easy to use, non-corrosive, and mildly dispersive. It is ideal for indoor and pre-assembled applications where product drip is a concern.

Semi-solid form is convenient, portable, and great for hard-to-reach applications.

Loctite® 2033™ Gel Threadlocker – Medium Strength

A medium-strength gel threadlocker for use on standard or large thread applications. It is easy to use, non-corrosive, and mildly dispersive. It is ideal for indoor and pre-assembled applications where product drip is a concern.

Semi-solid form is convenient, portable, and great for hard-to-reach applications.

Loctite® 2101™ Primer N™

• If the threadlocker will be applied below 40ºF, pre-treat with Loctite® 7649™ Primer N™

• If the parts were in contact with aqueous washing solutions or cutting fluids, which leave a protective layer on the surface, wash with hot water before use

Are the parts being assembled?

Yes

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What strength do you require?

Low Strength – Purple

Medium Strength – Blue

High Strength – Red

LIQUID PRODUCT

Medium Strength

High Strength

GEL PRODUCT

Semisolid Product

Importantly! See page 5 for more information on:

1. Inactive metal assemblies
2. Application methods
3. Strength
Loctite® Innovations

QuickStix™ – Versatility and Cleanliness

Loctite® QuickStix™ 248™ and
Loctite® QuickStix™ 288™
No mess QuickStix™ make Loctite® threadlockers easier than ever to apply. Ideal for overhead and pre-applied applications, coarse and large threads, as well as other applications where liquid are not recommended.

2033™ Gel – Multiple Dispense Options

Loctite® 2033™
Gel dispense capabilities include multiple dispense options with pinpoint and flat-top applicators. Ergonomic packaging offers ease of dispense. Ideal for coarse or large threads.

Primerless Products – Speed and Performance

Loctite® 2760™
The innovative formula of this Loctite® threadlocker reduces the need for primers. It performs well on all metal substrates including anodized aluminum, stainless steel, and other inactive metals (see inactive metal assemblies table on page 5). It is also particularly fast curing (useable strength within an hour).

Packaging – Precision and Convenience

Only Loctite® threadlockers are available in multiple packaging and dispensing options. Liquid threadlockers in 50-ml and 250-ml bottles come with a pull-open/push-close nozzle to prevent spill when product is not in use. They can also be applied with hand pumps for maximum productivity. Semi-solid products come in a pocket-friendly package that makes it easy to carry from job to job. Our gel formula is available in an ergonomic package with multiple dispense options that allow for both pinpoint and wide coverage applications.

Loctite® Threadlocker Properties Chart

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>Item #</th>
<th>Package Type and Size</th>
<th>Color</th>
<th>Viscosity/FT</th>
<th>Min. Cures Time at 220°F</th>
<th>Cures at 230°F</th>
<th>Oil Tolerance</th>
<th>Agency Approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td>271**</td>
<td>30114</td>
<td>50 ml tube</td>
<td>Blue</td>
<td>Thixotropic</td>
<td>400 / 30</td>
<td>10 / 5</td>
<td>N/A</td>
<td>CBMA **, CFIA</td>
</tr>
<tr>
<td>271</td>
<td>27110</td>
<td>50 ml bottle</td>
<td>Blue</td>
<td>Thixotropic</td>
<td>10 / 5</td>
<td>10 / 5</td>
<td>N/A</td>
<td>CBMA **, CFIA</td>
</tr>
<tr>
<td>271</td>
<td>30210</td>
<td>1 liter bottle</td>
<td>Blue</td>
<td>Thixotropic</td>
<td>10 / 5</td>
<td>10 / 5</td>
<td>N/A</td>
<td>CBMA **, CFIA</td>
</tr>
</tbody>
</table>

Loctite® Primers Properties Chart

<table>
<thead>
<tr>
<th>Product</th>
<th>Item #</th>
<th>Package Type and Size</th>
<th>Color</th>
<th>Viscosity/FT</th>
<th>Min. Cures Time at 220°F</th>
<th>Cures at 230°F</th>
<th>Oil Tolerance</th>
<th>Agency Approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td>268™ Primer **</td>
<td>84243</td>
<td>10 ml syringe</td>
<td>Blue</td>
<td>Thixotropic</td>
<td>20 / 5</td>
<td>6 / 3</td>
<td>N/A</td>
<td>CBMA **, CFIA</td>
</tr>
<tr>
<td>294</td>
<td>42045</td>
<td>10 ml syringe</td>
<td>Green</td>
<td>Thixotropic</td>
<td>20 / 5</td>
<td>6 / 3</td>
<td>N/A</td>
<td>CBMA **, CFIA</td>
</tr>
<tr>
<td>370</td>
<td>37008</td>
<td>50 ml bottle</td>
<td>Green</td>
<td>Thixotropic</td>
<td>10 / 5</td>
<td>10 / 5</td>
<td>N/A</td>
<td>CBMA **, CFIA</td>
</tr>
<tr>
<td>370</td>
<td>37006</td>
<td>1 liter bottle</td>
<td>Green</td>
<td>Thixotropic</td>
<td>10 / 5</td>
<td>10 / 5</td>
<td>N/A</td>
<td>CBMA **, CFIA</td>
</tr>
</tbody>
</table>
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