



# Technical Data Sheet

## 3M™ Scotch-Weld™ Threadlocker Anaerobic Adhesive TL42

### Product Description

3M™ Scotch-Weld™ Threadlocker Anaerobic Adhesives are one-component anaerobic adhesives that cure and seal threaded assemblies that meet a wide range of applications to prevent vibration loosening and/or leakage. All products provide excellent vibration, corrosion, and shock resistance. Engineered to provide different strengths, temperatures, nut/bolt sizes, and other requirements, some threadlockers allow removal and meet various selections depending on the specific application.

### Product Features

- 3M™ Scotch-Weld™ Threadlocker TL42 is a general purpose. Removable with hand tools, medium strength threadlocker ideal for machine tool access bolts, and hydraulic system bolts. It can also be used on gear box / driveshaft bolts, bearing cover cap screws, countersunk screws, and conveyor roller bolts.
- Prevent corrosion
- Fluorescence
- Liquid (before cure)
- Shock and vibration resistance
- Fast setting
- 24 hour cure at room temperature

### Technical Information Note

The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

### Typical Uncured Physical Properties

Property	Values	Additional Information
Color	Blue	View

Notes: Colors may vary from nearly white to yellow/amber. Adhesive performance is not affected by color variation.

Chemistry	Dimethacrylate	
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Viscosity	800-1,600 cP	View
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Notes: Brookfield Viscometer spindle #3 at 20 rpm

Fixture Time	20min (avg time) (10-30min range)	View
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Notes: Reference ISO 10964. To convert to (N.m) divide (in.lb) by 8.851.

### Typical Physical Properties

Property	Values	Additional Information
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Color Blue

View

Test Name: Cured

### Typical Mixed Physical Properties

Property	Values	Additional Information
Cure Speed		

### Typical Cured Characteristics

Property	Values	Additional Information
Temperature Range	-54 - 149 °C	

### Typical Performance Characteristics

Property	Values	Additional Information
Long Term Temperature Resistance	149 °C	
Minimum Long Term Temperature Resistance	-54 °C	
Long Term Temperature Resistance	300 °F	
Minimum Long Term Temperature Resistance	-65 °F	
Breakaway Torque	140in-lb - typical value (70-200in-lb range)	View

Notes: Reference ISO 10964. To convert to (N.m) divide (in.lb) by 8.851.

Prevailing Torque	100in-lb - typical value (20-200in-lb range)	View
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Notes: Reference ISO 10964. To convert to (N.m) divide (in.lb) by 8.851.

Hot Strength % Retention		
Strength	Medium	

## Storage and Shelf Life

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Store product in cool, dry area out of direct sunlight

3MTM Scotch-Weld™ Threadlocker Anaerobic Adhesives have a shelf life of 18 months when stored at 60° to 80°F (16° to 27°C) in the original unopened container.

## Automotive Disclaimer

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Automotive Applications: This product is an industrial product and has not been designed or tested for use in certain automotive applications, including, but not limited to, automotive electric powertrain battery or high voltage applications. This product does not fully adhere to typical automotive design or quality system requirements, such as IATF 16949 or VDA 6.3. This product may not be manufactured in an IATF certified facility and may not meet a Ppk of 1.33 for all properties. The product may not undergo an automotive production part approval process (PPAP). Customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's automotive application and for conducting incoming inspections before use of the product. Failure to do so may result in injury, death, and/or harm to property. No written or verbal statement, report, data or recommendation by 3M related to automotive use of the product shall have any force or effect unless in an agreement signed by the Technical Director of 3M's Automotive Division. Customer assumes all responsibility and risk if customer chooses to use this product in an automotive electric powertrain battery or high voltage application, and 3M will not be liable for any loss or damage arising from or related to the 3M product or customer's use of the product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity or recall costs), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability. In no event shall 3M be liable for any damages in excess of the purchase price paid for the product.

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## Bottom Matter

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3M

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St. Paul, MN 55144-1000

800-362-3550

## Trademarks

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3M and Scotch-Weld are trademarks of 3M Company.

## Handling/Application Information

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### Directions for Use

3MTM Scotch-Weld™ Threadlocker Anaerobic Adhesives are not recommended for use on most plastics due to potential cracking of plastic parts. Also, they are not recommended for use in piping systems that contain pure oxygen or an oxygen-rich environment, chlorine, or strong oxidizing substances.

### For Assembly:

1. Ensure parts are clean, dry and free from oil, grease and dirt. For best results, clean and dry parts with solvent or 3MTM Scotch-Weld™ Activator. (Activator can also be used on inactive surfaces or to accelerate the cure on active surfaces.)
2. If not sure of surface type, always use activator. Refer to Material surface Activity and Cure Speed section for more information.
3. Shake the adhesive bottle well before use.
4. Avoid touching the metal surfaces with the bottle tip since the metal ions may react with the adhesive upon contact and eventually may clog the bottle tip.
5. Apply adhesive onto the threaded part where the contact area will be in the final assembly. For larger parts, use more adhesive and rotate the threaded part to spread adhesive evenly around contact area.
6. For through holes, apply several drops of adhesive onto the bolt at the nut engagement area. For blind holes, apply several drops of the adhesive down the internal threads to the bottom of the hole.
7. Assemble the nut / fastener and tighten as required.
8. Allow assemblies to set for sufficient time so that handling strength or full cure will occur before further processing or testing

### For Disassembly:

1. Loosen or remove with regular hand tools.
2. If hand tools do not work due to the assembled parts being well tightened, apply localized heat (approx.. 400°F / 254°C) to the nut or bolt and disassemble while parts

are still hot. Use extreme caution when working with heat sources (e.g. heat gun, flames, etc.)

## References

Property	Values
3m.com Product Page	<a href="https://www.3m.com/3M/en_US/p/d/b40071790/">https://www.3m.com/3M/en_US/p/d/b40071790/</a>
Safety Data Sheet SDS	<a href="https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&amp;msdsLocale=en_US&amp;co=ptn&amp;q=TL42">https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&amp;msdsLocale=en_US&amp;co=ptn&amp;q=TL42</a>

## ISO Statement

This product was manufactured under a quality system registered to ISO 9001 standards.

## Precautionary Information

Refer to Product Label and Material Safety Data Sheet for health and safety information before using this product. For additional health and safety information, call 1-800-364-3577 or (651) 737-6501.

## Information

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