



Technical Data Sheet

3M™ Scotch-Weld™ Threadlocker Anaerobic Adhesive TL90



[Product Details](#)



[Regulatory Info/SDS](#)

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 TL90 is a low viscosity to provide a wicking action, medium strength threadlocker that locks and seals small compression and ferrule fittings with service temperature up to 400°F. It is useful for pre-assembled parts.
- 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

Attribute Name	Test Method	Value
Color		Green ¹
Viscosity		10 to 30 cP ²
Chemistry		Dimethacrylate
Fixture Time	ISO 10964	25min (avg time) (10-30min range)

¹ Colors may vary from nearly white to yellow/amber. Adhesive performance is not affected by color variation.

² Viscosity measured by Brookfield Viscometer RVT Spindle #1 @ 30 rpm

Typical Physical Properties

Attribute Name	Value
Cured Color	Green

Typical Cured Characteristics

Test Condition: Continuous

Attribute Name	Value
Temperature Range	-54 - 149 °C

Typical Performance Characteristics

Attribute Name	Test Method	Value
Breakaway Torque	ISO 10964	95in-lb - typical value (20-150in-lb range)
Strength		Medium
Prevailing Torque		265in-lb- typical value (150-500in-lb range) ¹
Long Term Temperature Resistance		149 °C (300 °F) ²
Minimum Long Term Temperature Resistance		-54 °C (-65 °F) ²

¹ Reference ISO 10964. To convert to (N.m) divide (in.lb) by 8.851.

² Long Term (day, weeks)

Handling/Application Information

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.)

Storage and Shelf Life

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.

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.

Automotive Disclaimer

Select Automotive Applications: This product is an industrial product and has not been designed or tested for use in certain automotive applications, such as automotive electric powertrain battery or high voltage applications, which may require the product to be manufactured in a IATF certified facility, meet a Ppk of 1.33 for all properties, undergo an automotive production part approval process (PPAP), or fully adhere to automotive design or quality system requirements (e.g., IATF 16949 or VDA 6.3). Customer assumes all responsibility and risk if customer chooses to use this product in these applications.

Information

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

Product Selection and Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

Warranty, Limited Remedy, and Disclaimer: Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except for the limited remedy stated above, and except to the extent prohibited by law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

Disclaimer: 3M industrial and occupational products are intended, labeled, and packaged for sale to trained industrial and occupational customers for workplace use. Unless specifically stated otherwise on the applicable product packaging or literature, these products are not intended, labeled, or packaged for sale to or use by consumers (e.g., for home, personal, primary or secondary school, recreational/sporting, or other uses not described in the applicable product packaging or literature), and must be selected and used in compliance with applicable health and safety regulations and standards (e.g., U.S. OSHA, ANSI), as well as all product literature, user instructions, warnings, and limitations, and the user must take any action required under any recall, field action or other product use notice. Misuse of 3M industrial and occupational products may result in injury, sickness, or death. For help with product selection and use, consult your on-site safety professional, industrial hygienist, or other subject matter expert. For additional product information, visit www.3M.com.

ISO Statement

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

3M
Industrial Adhesives and Tapes Division
3M Center, Building 225-35-06
St. Paul, MN 55144-1000
800-362-3550

3M and Scotch-Weld are trademarks of 3M Company.
©3M 2022 (5/22)