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TECHNICAL DATA SHEET

Anaerobic Thread Locking Compound

Inter-Lock #90 is a fast curing, **GREEN**, medium strength, wicking grade, anaerobic thread-locking compound for bonding and sealing threads, and pre-assembled parts. It is highly resistance to heat, vibrations, water, gases, oils, hydrocarbons and many chemicals. Disassembles with heat and hand tools.

Product Number / Size:

794	1.5 Gram Tube
790	10 mL Bottle
791	50 mL Bottle

Application

- Penetrates threads by capillary action. Medium strength thread-locker.
- Ideal for sealing hairline cracks, small nuts and bolts.
- No disassembly required unless bolt is pre-assembled in a blind hole
- Seals and welds porous metal parts. Localize heating and hand tools are needed for disassembly. Prevents corrosion and leakage.
- Secure setscrews and other assemblies after settings are completed.
- Fasteners on vibrating machines or moving components.
- Meets Military specifications: MIL-S-46163A Type III Grade R and MIL-S-22473E Letter Grade AA

DIRECTIONS FOR USE

For assembly:

1. Clean all threads (Bolt and Hole) with a cleaning solvent such as *IES #1700 or IES #4700 Super Clean* 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**, it may be necessary to coat all threads with *#700 Primer / Activator* 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 primer.
3. Shake Inter-Lock thoroughly before use.
4. To prevent the product from clogging in the nozzle, do not allow the tip to touch metal surfaces during application.
5. **For Thru Holes**, apply several drops of product onto the bolt at the nut engagement area.



Note: Not recommended for pre-assembled threads in a blind hole

For Porosity Sealing, clean area and apply localized heat to the area to approximately 121° C (250° F). Allow to cool to approximately 85° C (185° F) and apply product.

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 nut or bolt to approximately 232° C (450° F). Disassemble while hot.

TYPICAL CURING PERFORMANCE

Cure speed vs. substrate

The rate of cure will depend on the material used. *Inter-Lock #90 GREEN* will react faster and stronger with **Active Metals**. However, **Inactive Metals** may require the use of *IES #700 Primer / Activator* to obtain maximum strength and cure speed at room temperature.

Active Metals	Inactive Metals
Soft Steel Iron	Some Platings
Copper	Anodized Surfaces
Brass	Titanium
Manganese	Zinc
Bronze	Pure Aluminum
Nickel	Stainless Steel
Aluminum Alloy	

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. primer

To shorten fixture time or if an inactive surface is present, applying *#700 Primer / Activator* to the surface will improve fixture speed. A 3/8-16 steel nut and bolt assembly will fixture in 5 minutes using a primer, while fixturing will occur in 20 minutes without a primer. Full cure in 24 hours for both procedures.

CHEMICAL PROPERTIES

Physical Properties

<u>Description</u>	<u>Specification</u>
Composition	Methacrylate Ester
Color	Green
Viscosity @ 25 °C,	10 – 20 cps
Specific Gravity	1.05
Maximum Diameter of Thread/Gap Filling	M 5/ 1/2 “/0.07 mm
Flash Point	> 100° C
Solvent Content	None
Shelf Life	1 year

Curing Properties

<u>Description</u>	<u>Specification</u>
Handling Cure Time	6 minutes
Functional Cure Time	1 – 3 hours
Full Cure Time	24 hours
Shear Strength	8 – 12 N/mm ²
Locking Torque	
- Breakaway	15 – 25 N.m
- Prevailing	30 – 40 N.m
Temperature Range	-65 to 300 °F

Chemical Resistance

<u>Chemical</u>	<u>Temp.</u>	<u>% Initial Strength Retained</u>	
		<u>500 hours</u>	<u>1000 hours</u>
Acetone	22 °C	90	85
Ethanol	22 °C	85	85
Motor Oil	125 °C	85	65
Gasoline	22 °C	65	55
Brake Fluid	22 °C	90	85
Water/Glycol	87 °C	90	90

Application Method

Surfaces should be dry, clean, and free of any contamination. Thread locker should be applied to the bolt in sufficient quantity to fill threads. *Inter-Lock #90* performs the best in thin bond gaps. This thread locker is specifically formulated to give controlled friction and torque/tension ratio during assembly.

Storage

Anaerobic adhesives shall be ideally stored in a cool, dry place in unopened containers at a room temperature between 46 °F to 82 °F. Please do not return any unused material to its original container.

PRECAUTIONS: This product and the auxiliary materials normally combined with it are capable of producing adverse health effects ranging from minor skin irritation to serious systemic effects. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheets (MSDS) for this and all other products being used are understood by all persons who will work with the

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