

Dri-Loc® Pre-Applied Adhesive

- -65°F to +400°F
- Reusability per IFI 125 and IFI 525 (Single Use Only)



Long-Lok is proud to offer Dri-Loc® adhesive coatings for standard fasteners and other threaded components. Dri-Loc adhesives (from Loctite Corporation), applied to threaded parts, form a unique coating that converts ordinary fasteners into self-locking fasteners. Dry to the touch, Dri-Loc adhesives become an integral part of the fastener and stay inert until parts are used. During the assembly process, Dri-Loc adhesive is activated by assembly forces, releasing anaerobic adhesive which locks parts securely.

Dri-Loc adhesives are applied to the full circumference of the fastener. Resin fills all voids in the threads when installed, and cures to form an excellent seal to both liquids and gases. (For pre-applied non-locking thread sealant, see Vibra-Seal® information beginning on Page 42.)

Dri-Loc adhesives are designed for applications where specific shear strengths, temperature range and substrate types are necessary. All Dri-Loc adhesives harden in the absence of air on ferrous and nonferrous metals without primer, activators or heat.

They exhibit controlled lubricity, low on torque and are dry to touch for ease of assembly with automatic or hand tools.

For convenience, coatings are color coded to indicate strength range and for easy inspection. Bolts with diameters of 1/16" through 3/4" and with shank lengths of 3/8" to 6" can be coated with our specially developed equipment.

Specifications

Resin (anaerobic)	Dimethacrylate
Flashpoint (Cleveland open cup)	Above 200°F (93°C)
On-Part Life at 68°F (±20°F and 50% RH)	Four Years
Toxicity	Low
Specific Gravity	1.05 to 1.15
Cure Speed @ 70°F	10 Minutes Fixture: Full Cure in 72 Hours
On-Torque	25% of IFI 124 and Lower than IFI 125

Torque Tension

The tension in the fastener can be reasonably controlled by controlling the torque. For any given fastener the torque tension relationship can be stated as follows:

$$T = KDF$$

where T = Torque, lb.-in. (N•m)

D = Nominal bolt diameter, in. (m)

F = Tension or clamping force, lbs. (N)

K is a universal constant for all sizes which can be established empirically.

(You can find safe stresses for bolts in manufacturers' fasteners specifications or tool engineers' handbooks.)

K Values for Dri-Loc® Adhesives

	K Value
Zinc Phosphate/oil	0.11
Dri-Loc 200	0.12
Dri-Loc 201	0.15
Dri-Loc 202	0.13
Dri-Loc 203	0.11
Dri-Loc 204	0.18

(Example: Dri-Loc 200 on 3/8"-16, Grade 5, Zinc Phosphate bolt: $T = 0.12 \times .375 \times 5000 = 225 \text{ lb.-in.}$)

Performance

Listed below are the standard Dri-Loc adhesive formul. In addition, Long-Lok can formulate custom Dri-Loc adhesives to meet your application's particular require-

ments for locking and sealing performance. These special formulations are created in response to your specific requirement.

Formula	Color Code	Strength Range	Shear Strength (psi shear)	Temperature Range	Sample Breakaway/Prevailing Torque Value (lb-in.)					
					Fastener Size					
					1/4-20	5/16-18	3/8-16	7/16-14	1/2-13	5/8-11
200	Yellow	High	2400	-65°F to +300°F (-54°C to +150°C)	80/25	190/95	220/105	470/200	860/350	1140/520
201	Yellow	High	2700	-65°F to +400°F (-54°C to +204°C)	60/45	190/95	245/130	415/265	685/380	1200/900
202	Green	Medium	2200	-65°F to +300°F (-54°C to +300°C)	63/45	160/65	200/105	385/160	600/300	820/380
203	Silver	Mild	1800		50/30	120/60	160/75	280/130	480/140	540/340
204	Red	High	3100		80/60	220/180	280/250	470/340	860/600	1500/1400

Notes for Breakaway Torque, Shear Strength, and Prevailing Torque Data:

1. Values are typical of batches; individual components may vary as much as ±25%. Values listed are meant for comparative purposes only; consult with Long-Lok Fasteners before designing, specifying or purchasing Dri-Loc fasteners.
2. Values obtained on Grade 5 bolts with phosphate and oil finish; Dri-Loc adhesive coating was cured for 72 hours @ 70°F.
3. For test data on other fastener sizes and finishes, please contact Long-Lok Fasteners.

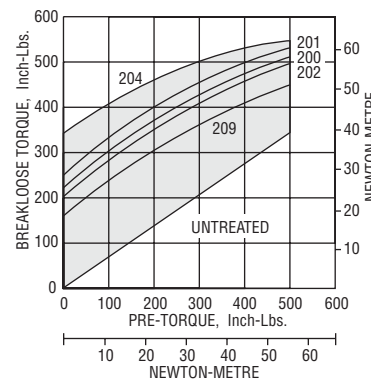
Solvent Resistance

	Test Temperature	% Retention				
		200	201	202	203	204
Air Reference	188°F	100	100	100	100	100
Glycol/Water	188°F	100	100	95	40	100
Isopropyl Alcohol	188°F	100	100	100	65	95
Gasoline	188°F	100	95	100	70	100
10W30 Oil	188°F	100	90	100	55	90
Phosphate Ester	188°F	100	90	100	100	100
Toluene	188°F	100	95	100	60	100
Air Refence	75°F	100	100	100	100	100
Water	75°F	100	100	100	100	100
10W30 Oil	300°F	80	100	90	30	80
Automatic Transmission Fluid	300°F	75	100	85	35	80

Design Notes

1. Applicable Standards:
Commercial Standards: IFI 125 (Meets IFI 124 for On-Torque)
2. Second use of a Dri-Loc coated fastener gives approximately 30% of original strength.
3. Sample tests are recommended for fastener surfaces other than those listed.
4. Normal loosening of a UNC bolt will be about 70% of the torque to which it has been tightened (UNF = 80%). The application of a threadlocking compound adds to or augments the normal loosening torque. The amount it does this is called the torque augmentation. This is shown in the shaded area.
5. Dri-Loc adhesives are slightly acidic and may stain or discolor some metals. However, the effect on performance of the adhesive has been shown to be inconsequential. Dri-Loc adhesives are not recommended for use on copper or brass.
6. Excessive or repeated skin contact with the liquid anaerobic resin squeezed from Dri-Loc treated fasteners may cause dermatitis in sensitive persons. In case of skin contact, remove promptly by washing with mild soap and water. In case of skin reaction, discontinue contact with product. If skin reaction persists, see a physician. KEEP MATERIAL AWAY FROM CHILDREN.

Breakloose Torque



Data obtained on 3/8"-16, Grade 5, phosphate and oil nuts and bolts, cured for 72 hours at room temperature.

How to Specify

Dri-Loc coated fasteners are produced to order by Long-Lok Fasteners Corp. Long-Lok processes your supplied parts, or we can supply complete products, including the basic fastener. To order Dri-Loc coated fasteners, or to request a quote, please call Long-Lok and speak directly with one of our Sales Engineers.