Poly-Lok® Patch Type

- -100°F to +400°F
- Reusability greater than IFI 124, IFI 524 and MIL-DTL-18240
- Made of polyethylene terephthalate

Poly-Lok® is today's most advanced, most reliable prevailing torque type self-locking fastener. And it's all due to the unique polyester patch material that is more resilient, has higher strength, and can be reused more often with higher retained torque values than any other patch material.

Even the Poly-Lok manufacturing process is unique. The patch material is applied by a patented process of consistent amount, controlled as never before possible with this type of locking method. Thanks to this engineered proprietary control of patch size and location, dependable prevailing torque performance is achieved consistently from part to part. This exclusive Poly-Lok patch area control capability allows us to produce non-standard torque values custom tailored to your requirements; a control not attainable with spray-on patch methods. It all adds up to extra-reliability and dependability in almost any threaded fastening application.

The versatility and locking characteristics of the Poly-Lok patch open up a whole new range of fastener applications. From the aerospace to automotive market, engineers everywhere are finding out how well Poly-Lok self-locking fasteners can solve their assembly problems.

What Makes Our Polyester Patch Superior

Vibration and Shock Resistance.

The Poly-Lok self-locking principle incorporates a polyester patch permanently bonded to the fastener threads. When mating threads are engaged, the polyester patch is compressed. The coefficient of friction and modulus of the material as well as the patch volume controls the prevailing torque value achieved. The added prevailing torque keeps the parts locked together. Poly-Lok fasteners won't work loose even under extreme shock and vibration conditions.

Elevated Temperature Capability.

Other plastic additive type self-locking fasteners have limited temperature range capabilities. The Poly-Lok patch has changed all that. It can maintain torque and clamp-load performance through a temperature range of -100° to +400°F.

Built-In Thread Seal.

The Poly-Lok patch acts as a dam to prevent liquid leakage along the thread helix. It provides excellent sealing properties between the load bearing and non-load bearing flanks of the mating threads. The Poly-Lok patch formulation is impervious to most chemical solutions, acids, solvents, oils, brake fluid, and anti-freeze solutions. It can withstand hydraulic pressures and offer effective sealing properties with most liquids.

Low Sensitivity to Thread Fit Variations.

In any mass assembly operation, a Poly-Lok patch offers the best of both worlds. Poly-Lok fasteners lock whether seated or not, and the resiliency and strength of the locking polyester patch is insensitive to thread fit variations. They conform to all 2A-2B and 3A-3B thread fitting tolerances within IFI 124, IFI 524 and MIL-DTL-18240 and NAS1283 torque requirements.

Poly-Lok Patch is Non-Toxic.

Unlike other patch type locking methods Poly-Lok is non-toxic. This allows its use in applications where toxicity is a problem, such as food processing equipment.

Superior Outgassing Performance Capability.

Poly-Lok products have been approved by NASA for space and vacuum environment applications requiring low outgassing characteristics. They have been tested and proven to meet and exceed the requirements of ASTM-E-595-93 and NASA SP-R-0022A test specifications.

Extended Reusability Feature

Use of the specially processed Poly-Lok II patch provides extended reusability characteristics far exceeding those required by IFI 124 of MIL-DTL-18240. Under ideal conditions, Poly-Lok II has demonstrated over 300 cycle reusability.

Custom Applications and Internal Thread Forms.

Its unique application process enables the Poly-Lok patch to solve almost any type of thread locking problem, including internal thread forms. In fact, Poly-Lok is widely used on hex nuts to provide the special torque, high temperature, or outgassing properties required. In addition, special lengths of the polyester locking material ... special thread fit tolerances ... special torque requirements or clamp loads ... or related mating part characteristics can be specified.

Whatever your special needs are, a Poly-Lok patch can provide the solution. It's the most versatile self-locking fastener available today. Only Poly-Lok, made of polyethylene terephthalate, (A Long-Lok patented exclusive) meets all requirements. For special application considerations, see Page 15.

Patch Material

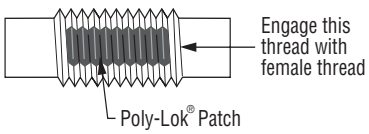
Material	Color Code	Operating Temperature Range	Material Specification
Polyester	Green	-100°F to +400°F	AMS 3612

How to Specify

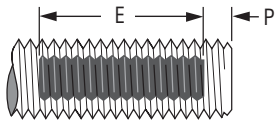
Please turn to the inside back cover of this catalog for standard product selection and Part Number specification.

For application of Poly-Lok® patch type locking material to special threaded components, please follow the recommendations below. Remember, Long-Lok Fasteners can manufacture the complete fastening component, or if you prefer, send your parts for processing.

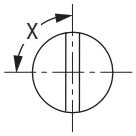
1. Specify "Poly-Lok Patch." Add to drawing notes: "to be installed by Long-Lok Fasteners Corporation."
2. If part could be engaged from either end, note intended direction of engagement.



3. If patch length "L" is to be greater than the lengths for standard parts, specify as length "E". It is not necessary to specify "L" if standard patch length is satisfactory (See "Standard 'L' Dimensions" tabulated below).



4. If patch is to be placed in a special location, specify "P" Dimension, where P = Distance from thread-engagement end of part to start of locking insert.
5. If patch must be located diametrically in relation to another point, this location should be dimensioned as in "X".



6. If special torque is required, please consult with factory.

Standard "L" Dimensions

Thread Size	#0	#1	#2	#3	#4	#6	#8	#10	1/4
"L" Patch Length	1/8	1/8	1/8	1/8	3/16	3/16	3/16	1/4	5/16

Thread Size	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1
"L" Patch Length	5/16	3/8	1/2	1/2	1/2	5/8	5/8	5/8	3/4

The locking element dimensions shown are approximate and for engineering information only. Consult factory for patch lengths on fasteners with diameters greater than 1 inch.

Design Notes

1. Applicable Standards:

Military Specifications:	MIL-DTL-18240
Military Standards:	MS15981, MS16995-16998, MS18063-18068, MS18153, MS18154, MS21090-21099, MS21262, MS21295, MS51021, MS51023, MS51029, MS51031, MS51095, MS51096, MS90727, MS90728
Aerospace Standards:	NAS662, NAS1081, NAS1161-1168, NAS1171-1178, NAS1181-1188, NAS1189, NAS1190, NAS1191, NAS1223-1235, NAS1283, NAS1351, NAS1352, NAS1635, NAS1741, NAS1742, NAS1743, NAS4104-4116, NAS4204-4216, NAS4304-4316, NAS4400-4416, NAS4500-4516, NAS4600-4616,
Aerospace Standards *continued:*	NAS5000-5006, NAS5100-5106, NAS5200-5206, NAS5300-5306, NAS5400-5406, NAS5500-5506, NAS5600-5606, NAS5700-5706, NAS5800-5806, NAS6203-6220, NAS6303-6320, NAS6403-6420, NAS6500-6506, NAS6603-6620, NAS6704-6720, NAS6804-6820, NAS6900-6906
Commercial Standards:	IFI 124, IFI 524 (Metric)
Test Specifications:	ASTM-E-595-93, NASA SP-R-0022A, NASA MSFC-HDBK-527

2. See Appendix for hole preparation and other installation information.