

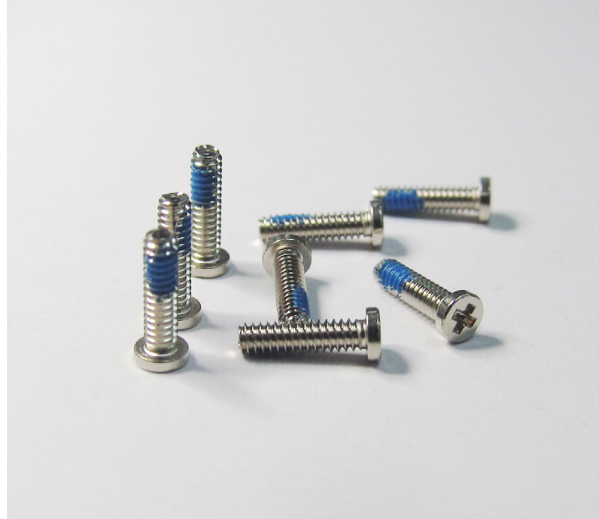
UNI-PATCH®

Pre-applied polymer thread locking coating for fasteners

UNI-PATCH® is an integral part of fasteners that can be applied on screw threads to enhance the prevailing torque.

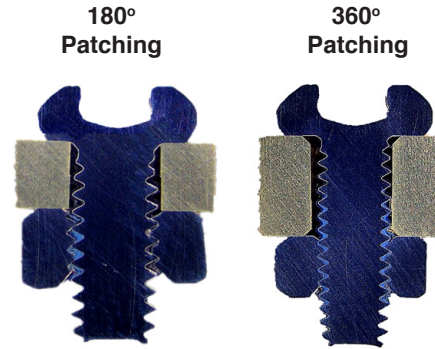
As in a typical machine screws thread joint design, the threads are specified using loose fit tolerances. The prevailing torque is achieved when the nylon material applied on the threads takes up the free space within the male and female threads of the joint. Once the free space is taken up, it prevents the screw from loosening.

UNI-PATCH® is a nylon polymer material base, the patch is bonded onto the surface of the threads. It provides multiple re-insertions and is able to work on almost any type of surfaces. It is also a non-reactive patch, and it is resistant to most motor fluids, solvents and harsh environments.



Product Characteristics

Characteristics	Description
Chemical type	Polyamide (Nylon)
Appearance	Opaque
	Blue (standard), green, red, white
Re-usability	Multiple times
Coating position and length	Customisable
Coating radial coverage	180° or 360°



Features & Benefits

- Can be removed and refastened at any time (effectiveness reduces with frequency of removal and refastening)
- Eliminates the use of sub-components such as locking nuts, split lock washers, safety pins etc.
- Highly customisable (colour, coating position, and coverage)
- Non-toxic
- Can be combined with nearly all surface treatments
- Multiple colours available for easy identification/colour coding

Prevailing Torque Comparison

Prevailing torque indicates the frictional resistance to thread loosening. Below are the results of a prevailing torque test to compare patched and un-patched M1.2 screws:

Properties	Prevailing Torque (kgfcm)		Prevailing Torque (kgfcm)	
	1st In	1st Out	5th In	5th Out
Raw Screw	0.0791	0.0281	0.0716	0.0232
180° Patch	0.1520	0.0700	0.1110	0.0380

Recommended Prevailing Torques

Screw Size and Thread Pitch	First Prevailing Torque (kgfcm)	First Removal Prevailing Torque (kgfcm)	Fifth Removal Prevailing Torque (kgfcm)
	Max	Min	Min
M1.0 x 0.25	0.20	0.02	0.01
M1.2 x 0.25	0.25	0.03	0.01
M1.4 x 0.30	0.50	0.05	0.02
M1.6 x 0.35	1.02	0.10	0.04
M2.0 x 0.40	2.04	0.20	0.10

Specifications

Characteristics	Description
Material	PPA11 SD 10
Suitable Operational Temperatures	-50° C ~ 125° C
Melting Point	190° C
Primary Usage	Lock and seal
Shelf Life	Indefinite on-part shelf life under ideal storage conditions (4° C ~ 32° C)
Reusability	Up to 10 on-off cycles
Hardness	Shore D (ISO 868) 70-80 Durometer
Dielectric Strength	(ASTM D149 short time) 800-1200 volts/mil @10.0 mils (varies with colour)
Taber Abrasion	(ASTM D4060) 10-18mg loss CS-10 wheel, 1000g load, 1000 cycles (varies with colour)
Salt spray test according to surface preparation recommended by Unisteel	(NF 41-002) Excellent adhesion after 2000hrs



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