

Protac[®]

Engineering Adhesives, Industrial Sealants

TECHNICAL DATA SHEET

Revision number: 50211

Protac 2843

Protac 2843 Nutlock

Product description Protac 2843 Nutlock is a general purpose, medium-high strength, thixotropic anaerobic threadlocker. The product cures when confined in the absence of air on close-fitting metal surfaces.

Specification Meets Military specifications: MIL-S-46163 Type II Grade N MIL-S-22473E Letter Grade CVV.

Typical applications Protac 2843 is formulated to lock all metric and imperial nuts and bolts, preventing vibration loosening and leakage through the threads. 2843 is slightly oil tolerant, so it will bond some 'as received' parts, but best results are obtained with clean substrates. The thixotropic nature of the product prevents run off, dripping and migration after assembly. Protac 2843 is typically used on mounting bolts, housing screws, etc. Protac 2843 prevents corrosion of assembled parts.

Properties of material

Chemical type	Di-Methacrylate
Appearance	Blue
Specific Gravity	1.04
Viscosity cPs ¹	2,250
Viscosity cPs ²	11,000
Breakaway Torque (N.m) ³	12-25
Typical	20
Prevailing Torque (N.m) ³	5-15
Typical	10
Fixture Time ⁴	≤15
Full Cure @20°C (hours)	24
Flash Point (°C)	>100
Shelf Life @ 20°C (months)	12
Max Gap Fill(mm)	0.30
Operating Temp Range (°C)	-50 to +150

1 Brookfield RVT, spindle 3, 20rpm

3 On M10 black oxide steel bolt and M10 bright steel nut, ISO10964

4 ISO 10964

Typical curing speed, % of final strength:-

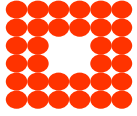
15 mins Finger tight

1 hour~ 60% strength

24 hours 100% strength

Cure speed vs. substrate Cure speed and strength vary according to the substrates. When used on mild steel and brass components anaerobic adhesives will reach full cure faster than more inert materials such as stainless steel and zinc dichromate. Protac AC32 activator may be used to accelerate cure speed

Cure speed vs. bond gap The size of the bond gap greatly affects the speed of cure of anaerobic adhesives. Bond gap varies with thread type and size of the fastener.



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The larger the gap between threads, the slower the cure speed.
Maximum recommended gap for 2843 is 0.30mm

Cure speed vs. temperature

All figures relating to cure speed are tested at 22°C. Lower temperatures will result in slower cure. Heating the assembled parts accelerates the curing process. Activator AC32 should be used when the temperature is less than 5°C.

Typical environmental resistance

Hot strength

Protac 2843 is suitable for use at temperatures up to 150°C. At 130°C the bond strength will be ~30% of the strength at 21°C.

Heat ageing

Protac 2843 retains ~90% full strength when heated to 100°C for 90 days then cooled and tested at 22°C.

Chemical / Solvent Resistance

Protac anaerobics exhibit excellent chemical resistance to most oils and solvents including motor oil, leaded petrol, brake fluid, acetone, ethanol, propanol and water. Anaerobic adhesives are not recommended for use in pure oxygen or chlorine lines.

Chemical	Temp.	% Initial Strength Retained	
		500 hours	1000 hours
Acetone	22 C	95	90
Ethanol	22 C	100	100
Motor Oil	125 C	95	95
Petrol	22 C	100	100
Brake Fluid	22 C	100	100
Water/Glycol	87 C	90	80

General information

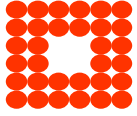
For safe handling of this product consult the Material Safety Data Sheet.

Anaerobic adhesives only cure in the absence of air and with metal part activation. Adhesive outside the joint will remain uncured and may be wiped away with a cloth.

2843 is suitable for most medium and coarse- threaded screws, nuts and bolts. Not recommended on certain plastics as stress cracking can sometimes result. Some anti-corrosion chemicals inhibit the cure system in this type of anaerobic. Trials are recommended to establish whether cleaning of the parts is necessary. AC32 Activator may be required on plated parts.

Directions for use

Ensure parts are clean, dry and free from oil and grease. Apply adhesive to all engaged threads. Assemble parts and allow to cure. Wipe excess adhesive from outside of joint.



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Storage	Store in a cool area out of direct sunlight. Refrigeration to 5°C gives optimum storage stability.
Packaging	Bottles: 50ml and 250ml. Available in bulk for use with dispensing systems.
Data ranges	The data contained in this data sheet may be reported as typical value and/or range. Values are based on actual test data and are verified on a regular basis.
Notes	The information contained herein is produced in good faith and is believed to be reliable but is for guidance only. Novachem Ltd. and its agents cannot assume liability or responsibility for results obtained in the use of its product by persons whose methods are outside or beyond our control. It is the user's responsibility to determine the suitability of any of the products and methods of use or preparation prior to use mentioned in our literature and furthermore the user's responsibility to observe and adapt such precautions as may be advisable for the protection of personnel and property in the handling and use of any of our products.