

RITE **LOK TL 43**

TECHNICAL

PRODUCT DESCRIPTION

RiteLok TL43 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.

TYPICAL APPLICATIONS

RiteLok TL43 is formulated to lock all metric and imperial nuts and bolts, preventing vibration loosening and leakage through the threads. TL43 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. TL43 is typically used on mounting bolts, housing screws, etc. TL43 prevents corrosion of assembled parts

PROPERTIES OF MATERIAL

	Value
Chemical type	Dimethacrylate
Appearance	Blue
Specific Gravity	1.04
Viscosity cPs	(Range) ¹ 10,000-18,000
	(Typical value) ¹ 14,000
	(Range) ² 2,500-4,000
	(Typical value) ² 3,300
Breakaway Torque ³	range 12-25
(N.m)	typical 19
Prevail Torque ³	range 5-15
(N.m)	typical 10
Fixture Time ⁴	(mins) ≤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, 2.5rpm

² Brookfield RVT, spindle 3, 20rpm

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

⁴ ISO 10964

Typical curing speed⁴, % 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 strength more rapidly than more inert materials such as stainless steel and zinc dichromate. Rite Lok AC64 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. The larger the gap between threads, the slower the cure speed. Maximum recommended gap for TL43 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 AC64 should be used when the temperature is less than 5°C.

Cure speed vs. activator

Where speed of cure is too slow or the bond gap is very large, RiteLok AC64 Anaerobic Activator may be used to accelerate cure speed. The use of an accelerator may reduce bond strength by up to 30%. Chemence recommends testing on the parts to measure the effect.

TYPICAL ENVIRONMENTAL RESISTANCE

Hot strength

RiteLok TL43 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

RiteLok TL43 retains ~90% full strength when heated to 100°C for 90 days then cooled and tested at 21°C.

TECHNICAL DATA

Chemical / Solvent Resistance

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

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.

TL43 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. AC64 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.

Product is normally hand applied from the bottle. Dispensing systems are available for high volume assembly applications. Please contact your Rite Lok representative for further advice on dispensing solutions.

STORAGE

Store in a cool area out of direct sunlight. Refrigeration to 5° C gives optimum storage stability.

PRESENTATION

Bottles:10ml, 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. Chemence 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.

RITE LOK® is a registered trademark of Chemence Ltd., Corby, Northants, England.