



A NEW FORCE IN CHEMICAL MANUFACTURING

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TECHNICAL DATA SHEET

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PRODUCT NAME

8277 High Strength, Permanent Threadlocker

PRODUCT RANGE

Part Number	Available Size
8277-10	10 ml
8277-50	50 ml
8277-250	250 ml



Refer to MSDS for product safety guidelines

8277 High Strength, Permanent Anaerobic Thread Locking Compound

Chemtools® 8277 is a high strength, anaerobic thread locking compound for bonding and sealing threads, and retaining of cylindrical parts. The product cures when confined in the absence of air between close fitting metal surfaces and prevents loosening and leakage from shock and vibration. It is highly resistant to heat, vibrations, water, gases, oils, hydrocarbons and many chemicals.

APPLICATIONS:

- Ideal for locking and sealing of larger bolts and studs (M25 and larger).
- Transmission and engine block studs, valve sets, etc.
- High strength, permanent, and eliminates need for double nutting and welding. Prevents corrosion and leakage.
- Meets Military Specification: MIL-S-43163A Type I Grade L

LIQUID PROPERTIES:

Composition	Methacrylate Ester
Appearance	Red
Viscosity (Brookfield RVT Spindle 3 @ 20 rpm)	7,000 cps
Specific Gravity	1.11
Maximum Diameter of Thread/Gap Filling	M25 (1")/0.25 mm
Flash Point	> 100°C
Solvent Content	None
Shelf Life	2 years

CURING PROPERTIES:

Handling Cure Time	30 minutes
Functional Cure Time	2 - 4 hours
Full Cure Time	24 hours
Compressive Shear Strength, ISO 10123	
- Steel pins and collars	> 9 N/mm ² (> 1,300 psi)
Temperature Range:	-55 to 150°C

Torque - ISO 10964

Breakaway	M10 steel nuts and bolts	32 Nm, 280 lb.in
Prevail	M10 steel nuts and bolts	32 Nm, 280 lb.in
Break Loose (Pre-torqued to 5 Nm)	M10 steel nuts and bolts	38 Nm, 340 lb.in
Max. Prevail (Pre-torqued to 5 Nm)	M10 steel nuts and bolts	40 Nm, 350 lb.in

PHYSICAL PROPERTIES:

Coefficient of Thermal Conductivity, ASTM C177, W/m.K	0.10
Coefficient of Thermal Expansion, ASTM D696, K ⁻¹	80 x 10 ⁻⁶
Specific Heat, kJ/kg.K	0.30

CHEMICAL RESISTANCE PROPERTIES:

Chemical	Temperature	<u>% Initial Strength Retained</u>	
		<i>500 hours</i>	<i>1000 hours</i>
Acetone	22°C	95	95
Ethanol	22°C	95	95
Motor Oil	125°C	100	100
Petrol	22°C	100	100
Brake Fluid	22°C	90	90
Water/Glycol	87°C	90	90

APPLICATION INSTRUCTIONS:

Surfaces should be dry, clean, and free of any contamination. Threadlocker should be applied to the bolt in sufficient quantity to fill threads. Chemtools® 8277 performs the best in thin bond gaps. This threadlocker is specifically formulated to give controlled friction and torque/tension ratio during assembly.

STORAGE:

Anaerobic adhesives shall be ideally stored in a cool, dry place in unopened containers at a room temperature between 7°C to 28°C. Please do not return any unused material to its original container.

PRECAUTIONS:

This product is capable of producing adverse health effects ranging from minor skin irritation to serious systemic effects. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheets (MSDS) for this and all other products being used are understood by all persons who will work with the material.

WARRANTY:

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