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TECHNICAL DATA SHEETS
TORQUE 180

Description:

Torque 180 fast curing high strength anaerobic adhesive for locking and sealing threads, and retaining of cylindrical components. Highly resistant to heat, corrosion, vibrations, water, gases, oils, hydrocarbons and many chemicals.

Properties of Uncured Product:

Composition	Urethane Methacrylate
Appearance	Green, fluorescent liquid
Specific Gravity (77ºF/25ºC g/ml)	1.13
Viscosity,Brookfield (77ºF/25ºC mPa.s)	
Spindle 2- 20 rpm	400 to 600 mPa.s
Flash Point, TCC	>100°C
Shelf life at 20°C	1 year
Storage temperature	8° - 28°C

HEAT CURE

Typical heat cure conditions consist of heating and maintaining bondline at a temperature of 40°C and after one hour 100% of strength on steel is achieved.

CURE SPEED VS. SUBSTRATE

% Full strength	Steel	Aluminium
25	10 min	1 hrs
50	20 min	8 hrs
100	2-72 hrs	

CURE SPEED VS. JOINT GAP

% Full strength	Gap 0,05mm	Gap 0,25mm
25	10 min	6 hrs
50	20 min	15 hrs
100	2-72 hrs	

CURE SPEED VS. TEMPERATURE

% Full strength	Temperature	
	5°C	40°C
25	3 hrs	4 min
50	6 hrs	8 min
100	30-72 hrs	50min-72 hrs

Properties of Cured Product:

Functional strength at 24 hrs 20° on steel

Shear Strength	(ISO 10123)	18 to 35 N.m
Shear Strength	(DIN 54452)	16 to 30 N.m
Coefficient of thermal expansion	(ASTM D696)	80 X 10^{-6} 1/K
Thermal conductivity	(ASTM C177)	0.1 W/Mk
Specific heat		0.3 $Kj.Kg^{-1} K^{-1}$
Temperature range		-55° +150°C

ENVIRONMENTAL RESISTANCE

Hot strength at temperature

Test.Temp.°C	% retained strength
25°	100%
50°	100%
100°	97%
150°	75%

Heat aging

Samples aged 3000 hours at indicated temperature and tested at room temperature.

Test temp. °C	% retained strength
180°	30%
150°	100%

Chemical / Solvent Resistance

Specimens immersed for 1000 hrs at indicated temperature and tested at room temperature.

	Test Temp.° C	% retained strength
50/50 Water / Glycol	87	75
Unleaded Petrol	22	100
Motor Oil	125	100
Brake Fluid	22	100
Acetone	22	100