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TECHNICAL DATA SHEETS
TORQUE 178

Description:

Torque 178 anaerobic curing adhesive for the sealing of thread joints. Replaces PTFE tape and yarn, gives instant sealing against moderate pressure. Seals against gas, water, LPG, hydrocarbons, oils and other chemicals. Thixotropic property prevents migration from thread of the sealant before or during curing. Shocks and vibrations resistances are unaffected properties of sealing in the range of temperature from -50 to +150°C.

Properties of Uncured Product:

Composition:	Dimethacrylate ester
Appearance:	Yellow,fluorescent
Specific Gravity (77ºF/25ºC g/ml):	1.09
Viscosity, Brookfield (77ºF/25ºC mPa.s)	
Spindle 5- 2.5 rpm:	50000 to 110000 mPa.s
20 rpm:	17000 to 31000 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 more than 85% of strength on steel is achieved.

CURE SPEED VS. SUBSTRATE

% Full strength	Steel	Brass	Stainless Steel
25	30 min	20 min	6 hrs
50	45 min	25 min	24 hrs
100	10-72 hrs		

CURE SPEED VS. JOINT GAP

% Full strength	Gap 0,05mm	Gap 0,25mm
25	25 min	6 hrs
50	40 min	
100	15– 72 hrs	

CURE SPEED VS. TEMPERATURE

% Full strength	Temperature 5°C	40°C
25	45 min	20 min
50	1 hrs	25 min
100	6- 72 hrs	2 - 72 hrs

Properties of Cured Product:

Functional strength at 24 hrs 20° on steel

Breakaway torque	(ISO 10964)	6 to 15 N.m
Breakloose torque	(DIN 54454)	9 to 25 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°	90%
100°	40%
150°	20%

Heat aging

Samples aged 2000 hours at indicated temperature and tested at room temperature.

Test temp. °C	% retained strength
120°	85%
150°	50%

Chemical / Solvent Resistance

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

	Test Temp.° C	% retained strength
50/50 Water / Glycol	87	90
Unleaded Petrol	22	100
Motor Oil	125	100
Brake Fluid	22	95
Acetone	22	65