

# HiGluE 542

## PRODUCT DESCRIPTION

HiGluE 542 provides the following product characteristics:

<b>Technology</b>	Acrylic
Chemical Type	Dimethacrylate ester
Appearance (uncured)	Brown liquid <sup>LMS</sup>
Components	One component - requires no mixing
Viscosity	Low
<b>Cure</b>	Anaerobic
Secondary Cure	Activator
<b>Application</b>	Thread sealing
Strength	Medium

HiGluE 542 is designed for the locking and sealing of metal pipes and fittings. The product cures when confined in the absence of air between close fitting metal surfaces and prevents loosening and leakage from shock and vibration. The thixotropic nature of HiGluE 542 reduces the migration of liquid product after application to the substrate.

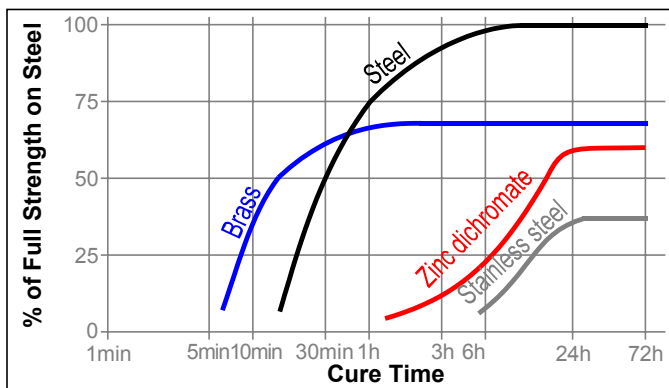
## TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.06
Flash Point - See SDS	
Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP):	
Spindle 2, speed 2.5 rpm,	1,200 to 2,750 <sup>LMS</sup>
Spindle 2, speed 20 rpm	400 to 800 <sup>LMS</sup>
Viscosity, EN 12092 - MV, 25 °C, after 180 s, mPa·s (cP):	
Shear rate 277 s <sup>-1</sup>	150

## TYPICAL CURING PERFORMANCE

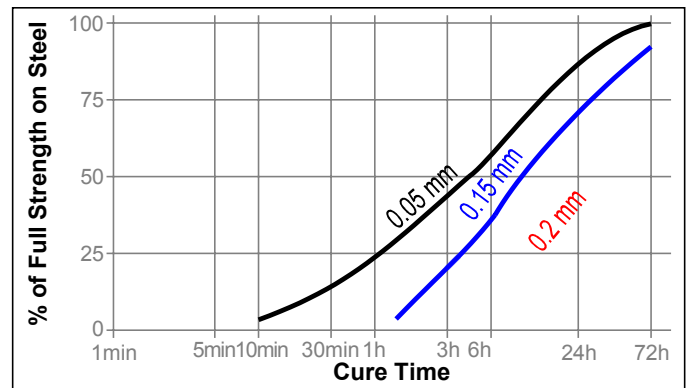
### Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The graph below shows the breakaway strength developed with time on M10 steel nuts and bolts compared to different materials and tested according to ISO 10964.



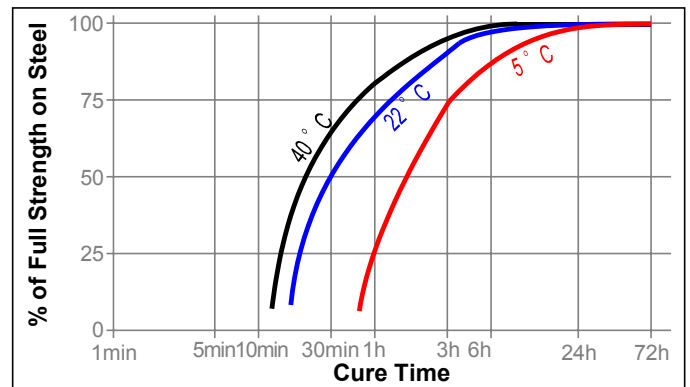
### Cure Speed vs. Bond Gap

The rate of cure will depend on the bondline gap. Gaps in threaded fasteners depends on thread type, quality and size. The following graph shows shear strength developed with time on steel pins and collars at different controlled gaps and tested according to ISO 10123.



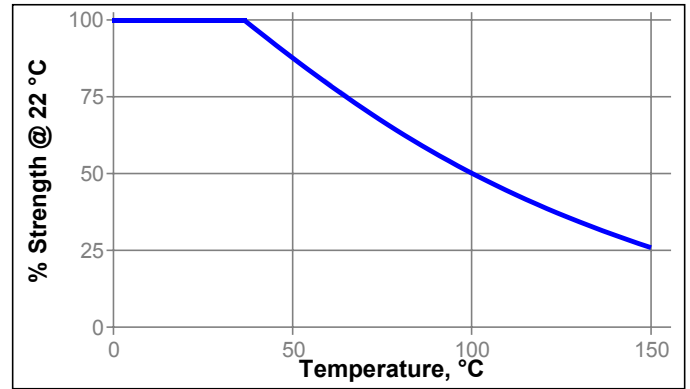
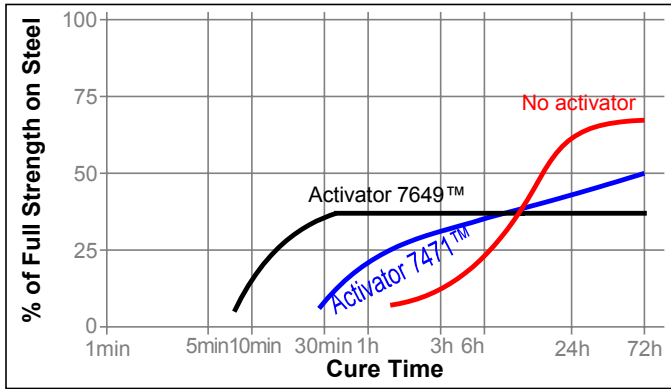
### Cure Speed vs. Temperature

The rate of cure will depend on the temperature. The graph below shows the breakaway strength developed with time at different temperatures on M10 steel nuts and bolts and tested according to ISO 10964.



### Cure Speed vs. Activator

Where cure speed is unacceptably long, or large gaps are present, applying activator to the surface will improve cure speed. The graph below shows the breakaway strength developed with time on M10 zinc dichromate steel nuts and bolts using Activator 7471™ and 7649™ and tested according to ISO 10964.



### TYPICAL PROPERTIES OF CURED MATERIAL

#### Physical Properties:

Coefficient of Thermal Expansion, ISO 11359-2, K <sup>-1</sup>	80×10 <sup>-6</sup>
Coefficient of Thermal Conductivity, ISO 8302, W/(m·K)	0.1
Specific Heat, kJ/(kg·K)	0.3

### TYPICAL PERFORMANCE OF CURED MATERIAL

#### Adhesive Properties

After 24 hours @ 22 °C

Breakaway Torque, ISO 10964:

M10 steel nuts and bolts	N·m	15
	(lb.in.)	(130)

Prevail Torque, ISO 10964:

M10 steel nuts and bolts	N·m	9
	(lb.in.)	(80)

Breakloose Torque, ISO 10964, Pre-torqued to 5 N·m:

M10 steel nuts and bolts	N·m	25
	(lb.in.)	(220)

Max. Prevail Torque, ISO 10964, Pre-torqued to 5 N·m:

M10 steel nuts and bolts	N·m	25
	(lb.in.)	(220)

Compressive Shear Strength, ISO 10123:

Steel pins and collars	N/mm <sup>2</sup>	≥6.5 <sup>LMS</sup>
	(psi)	(940)

### TYPICAL ENVIRONMENTAL RESISTANCE

Cured for 1 week @ 22 °C

Breakloose Torque, ISO 10964, Pre-torqued to 5 N·m:

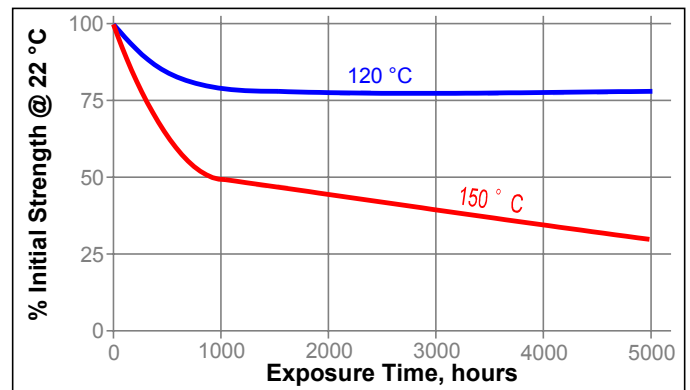
M10 zinc phosphate steel nuts and bolts

#### Hot Strength

Tested at temperature

### Heat Aging

Aged at temperature indicated and tested @ 22 °C



### Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22 °C.

Environment	°C	% of initial strength		
		100 h	500 h	1000 h
Motor oil (MIL-L-46152)	125	100	100	100
Unleaded Petrol	22	100	100	95
Brake fluid	22	100	100	95
Water/glycol 50/50	87	90	90	90
Ethanol	22	100	100	95
Acetone	22	100	80	80