Pro-One EP2 Industrial Grease Shock Load Timken OK Test (ASTM-2509) lbs/kg

Description (Please refer to Timken OK Load (ASTM-D2509) Lbs/Kg marked in Yellow on Pro-One EP 2 Industrial Grease Typical Properties)

Pro-One's EP2 Industrial Grease Shock Load Characteristics

Pro-One's EP-2 Industrial greases ability to withstand sudden, heavy loads, or impact without being displaced or breaking down. It is a critical factor in applications where equipment experience intermittent or unexpected high-pressure events such as in Mining equipment, Construction machinery, Industrial presses and Bearings in heavy- duty vehicles.

Pro-One EP 2 Industrial Grease Typical Properties vs. Competitor EP2 Multipurpose grease

	Pro-One EP2 Industrial Grease	**vs.**	**Competitor EP2 Grease**
NLGI Grade	2		2
Color	Blue		Amber, Brown or Dark grey/black
Thickener	Calcium Complex		Calcium Complex
Kinematic viscosity of base oils @40°C (ASTM 445)	216 cSt (1000 SUS)		170 - 195 cSt
Penetration @ 25°C (77°F) (ASTM D-217), mm/10			
Worked 60 strokes	270-295		140-220
Mechanical Stability (ASTM D-217) % change from P60			
P100,000 strokes **Unworked**	2.5%		Not Available
P10,000 strokes with 50% H2O **Worked**	<6.0%		Not Available
Dropping Point (ASTM D-2265) °C	+300°C		120 - 250°C
Oil Separation (ASTM D-1742) –24 hours @ 25°C (77°F)	0.17		2.3
Shell Roll Stability (ASTM D-1831)	<4.0%		Not Available
Oxidation Stability (ASTM D-942) psi drop/500 hours	6.0 lbs		Not Available
Oxidation Bearing Life (ASTM D-3527)	200 hours		130 hours
4-Ball Wear Test (ASTM D-2266)			
mm scar, 40kg, 1200 RPM, 75°F, 1H	0.42mm		0.95mm to 1.67mm
4-Ball EP test (ASTM D-2596)			
LWI, kg	>75		<55
Weld Load, kg	600		315
Timken OK Load (ASTM D-2509) lbs/kg	60/27		40/18
Rust test (ASTM D 1743)	Pass		Pass
Copper Corrosion test (ASTM D-130)	Pass/1b		Not Available
Salt Fog Spray (ASTM B-117) hours to failure	>1000 hours		Not Available
Water Washout (ASTM D-1264) @ 80°C, % loss (Less < % value is better than higher > % value)	<2.5%		>3 - 4.8%
Wheel bearing leakage grams (ASTM D-1263)			
Modified @ 163°C (325°F)	0.4		Not Available
Base Oil Characteristics			
Viscosity SUS @ 100°F	1100		580 - 930
Viscosity SUS @ 210°F	85		69 – 78
Pour Point, °F	+5		Not Available

Explanation How the Timken OK Load Test Works

The Timken OK Load Test is a standardized method used to evaluate a grease extreme pressure (EP) performance, especially its ability to protect metal surfaces under heavy loads and shock loading

Key Characteristics of Grease for Shock Load:

- **High Timken OK Load:** This test indicates the grease ability to handle extreme pressure, a **higher value** means better **resistance to shock loading**
- **Extreme Pressure (EP) Additives:** These additives help prevent metal to metal contact under high loads
- **Thickener Stability:** Greases with stable thickener structures with Calcium sulfonate are less likely to be displaced during shock loading
- **Adhesiveness:** Greases that stick well to metal surfaces are less likely to be thrown of or squeezed out during impact or shock load *(Pro-One greases Proprietary XPL+ additive technology strong + Ionic charged molecule structure and highly refined oils gives high film strength under EP (extreme pressure) conditions)*

Typical Results for Shock Load Timken Ok Test:

- **Less than 20 lbs:** Low EP performance
- **20 – 40 lbs:** Moderate EP performance
- **40 – 50 lbs:** High EP Performance
- **60 lbs and above: Extreme EP Performance** (suitable for any or all shock load applications)

(Please refer to Timken OK Load (ASTM-D2509) Lbs/Kg marked in Yellow on Pro-One EP 2 Industrial Grease Typical Properties)

Pro-One XPL+ EP2 Industrial Grease (Extreme Pressure) Timken OK Load Test results

Pro-One XPL+ EP2 Industrial grease, Timken OK Load 60/27 vs the 40/18 as per typical properties comparison chart from competitor grease products, refers to different values 60lbs vs 40lbs is the Timken OK load for fresh grease indicating it can handle up to 60 or 40 pounds of load without causing scoring.

60lbs is a very good EP (extreme pressure) performance suitable for high shock load applications

As per bearing scar image below using competitor grease products without Pro-One's XPL + technology the bearing sustains severe damage at only 4,000psi vs the 200 000psi Pro One XPL+ EP2 Industrial grease offers minimal damage over 50 times the pressure to handle high sock load applications.