



## PLS 460HD

### *High Performance Steel Mill Grease*



#### DESCRIPTION:

**PLS 460HD** is a true superior grease compared to traditional greases. **PLS 460HD** is the latest development in the grease industry and is considered a synthetic type grease.

It is formulated with synthetic thickeners and is designed to improve several properties over conventional multipurpose greases. **PLS 460HD** is compatible with most other thickener systems.

**PLS 460HD** meets or exceeds the demand in heavy duty industrial applications. The grease must be capable of providing hydrodynamic lubrication on rollers, adequate EP protection, dissipate heat without liquifying, and not shearing down under extreme pressure. If all demands are not satisfied, premature bearing loss/failure are common in industrial applications.

**PLS 460HD** is made with premium quality high VI oils, additives and synthetic thickeners. The thickener is the latest development in the grease industry. Calcium Sulfonate Complex thickeners offer performance properties never before available in a multipurpose grease. First among these is incredible corrosion protection. Calcium Sulfonates are known worldwide for their corrosion protection. As part of the thickener system there is a significant amount of Calcium Sulfonate in **PLS 460HD**.

**PLS 460HD** is very shear stable. There is <4% loss of thickening power over 100,000 cycles in a grease working test. This has generated an average of 25% cut in consumption of grease in roller element bearings.

**PLS 460HD** offers a very high dropping point. It can withstand the high temperature that can be experienced in wood pellet mills. High polymer content makes this grease exceptionally heat resistant. Combined with the corrosion protection, these properties make **PLS 460HD** an excellent grease for pellet machines. The Calcium Sulfonate Complex thickener will also tend to keep machine parts free from deposits.

With excellent EP properties, **PLS 460HD** can withstand the toughest load conditions offered. It is excellent for tapered roller element bearings. The EP performance is provided by liquid EP additives. **PLS 460HD** has extending bearing life by an average of 38% in a variety of industries running tapered roller bearings.

# PLS 460HD

## FEATURES

- A grease tailored to the demands of the industrial world
- Ultra-modern calcium complex thickener
- Shear stable over thousands of cycles
- Very high dropping point - a good high temperature grease
- High EP
- Outstanding corrosion protection

PROPERTIES	TEST METHOD	NLGI #00	NLGI #1	NLGI #1.5	NLGI #2
Appearance		Smooth	Smooth	Smooth	Smooth
Color		Green	Green	Green	Green
Thickener Type		Calcium Sulfonate	Calcium Sulfonate	Calcium Sulfonate	Calcium Sulfonate
NLGI Grade	ASTM D4950	00	1	1.5	2
Base Oil Viscosity @ 40 C	ASTM D445	460 cSt	460 cSt	460 cSt	460 cSt
Base Oil Viscosity @ 10 C	ASTM D445	31.5 cSt	31.5 cSt	31.5 cSt	31.5 cSt
Base Oil Viscosity Index	ASTM D2270	95	95	95	95
Grease Mobility @ 0°F	USS Method LT37	18 g/min	16 g/min	15 g/min	14 g/min
Dropping Point	ASTM D566	+288°C (+550°F)	+288°C (+550°F)	+288°C (+550°F)	+288°C (+550°F)
Cone Penetration @ 25C (77F)	ASTM D217	412 dmm	316 dmm	297 dmm	276 dmm
Worked 60 strokes		415 dmm	319 dmm	300 dmm	279 dmm
Worked 10,000 strokes		420 dmm	324 dmm	305dmm	284 dmm
Worked 100,000 strokes		423 dmm	327dmm	308 dmm	287 dmm
EP Properties (Four-Ball Method)	ASTM D2596				
Weld Point		500 kg-f	620 kg-f	620 kg-f	800 kg-f
Load-Wear Index		75 kg-f	75 kg-f	75 kg-f	75 kg-f
OK Load (Timken Method)	ASTM D2509	65 lb-f	65 lb-f	65 lb-f	65 lb-f
Four-Ball Wear	ASTM D2266	0.45 mm	0.45 mm	0.45 mm	0.45 mm

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