

# Product Information



## Almaplex® Ultra-Syn Lubricant (1299, 1298, 1297 & 1295)

### Heavy-Duty Grease Performs in Extreme Conditions

Almaplex Ultra-Syn Lubricant has the power to increase equipment uptime and enhance bottom line profitability by offering exceptional quality, versatility and reliability. A heavy-duty synthetic grease containing LE's proprietary additives Almasol® and Quinplex®, Almaplex Ultra-Syn provides optimum performance under extreme operating conditions. It is an aluminum complex thickened grease made with an ISO 460 viscosity synthetic base fluid, a combination that provides superior high-temperature functionality, low-temperature pumpability and excellent performance in the presence of water.

Almaplex 1299 & 1298 (NLGI grades 2 & 1, respectively) provide 73 percent higher extreme pressure performance than competitive grease, as indicated by the results of the Four Ball EP Test. In the Water Spray-Off Test, competitive greases lost almost six times more grease. This performance offers the potential for energy savings and reduced operating temps in applications such as construction, agriculture, mining, steel mills and paper mills; hammer mills; extruders and ball mills. Almaplex 1299 can be used in couplings where AGMA CG-1, CG-2 and CG-3 lubricants are recommended.

Almaplex 1297 & 1295 (NLGI grades 0 & 000, respectively) are semifluid greases with superior film strength. They are excellent for use in heavily loaded bearings in cold temperature applications. They also perform well in any gearbox that requires a semifluid grease, particularly enclosed gearboxes where housings and seals have lost their ability to retain conventional gear oils.



#### Beneficial Qualities

##### **Withstands Extreme Pressure**

- Provides superior protection against wear
- Performs exceptionally well under heavy loads and shock loading

##### **Resists Water & Corrosion**

- Contains long-lasting corrosion inhibitors, providing excellent resistance – even from seawater
- Is highly resistant to water spray-off and wash-out

##### **Operates in Broad Temp Range**

- Performs well in low and high temps
- Demonstrates enhanced thermal and oxidation stability for longer service life

- Has broad operating range of -40°C (-40°F) to 232°C (450°F)
  - Remains pumpable at low temps; 1297 & 1295 at extremely low temps

##### **Provides Exceptional Benefits**

- Reverts to grease consistency, even after exposure to high temps
- Resists mechanical shear
- Possesses low volatility properties
- Offers superior film strength due to cohesion and adhesion capacity

##### **Available Grade**

- NLGI 2 (1299)
- NLGI 1 (1298)
- NLGI 0 (1297)
- NLGI 000 (1295)

#### Proprietary Additives

LE's proprietary additives are used exclusively in LE lubricants. Almaplex Ultra-Syn Lubricant contains Almasol and Quinplex.

**Almasol®** solid wear-reducing additive is able to withstand extremely heavy loads, chemical attack and temperatures up to 1,900°F (1,038°C). It is attracted to metal surfaces, forming a microscopic layer but not building on itself or affecting clearances. Almasol minimizes metal-to-metal contact and the resulting friction, heat and wear.

**Quinplex®** impact-resistant additive contributes to outstanding water resistance, tackiness and enhanced mechanical stability, and helps to form a barrier against corrosion.





## Almaplex® Ultra-Syn Lubricant

	<u>1299</u>	<u>1298</u>	<u>1297</u>	<u>1295</u>
<b>Thickener Type</b>	Aluminum Complex	Aluminum Complex	Aluminum Complex	Aluminum Complex
<b>Texture</b>	Stringy	Stringy	Stringy	Stringy
<b>Color</b>	Gold	Gold	Gold	Gold
<b>NLGI Grade</b>	2	1	0	000
<b>Worked 0 Penetration ASTM D217</b>	-	-	-	457
<b>Worked 60 Penetration ASTM D217</b>	287	320	361	-
<b>Worked 10K Penetration ASTM D217</b>	290	331	-	-
<b>Dropping Point °C (°F), ASTM D2265</b>	273 (523)	273 (523)	-	-
<b>Base Fluid Characteristics</b>				
<b>Flash Point °C (°F), ASTM D92</b>	232 (450)	232 (450)	232 (450)	232 (450)
<b>Viscosity @ 40°C, cSt, ASTM D445</b>	460	460	460	460
<b>Corrosion Prevention DI H<sub>2</sub>O, ASTM D1743</b>	Pass	Pass	Pass	Pass
<b>Corrosion Prevention 3% Sea H<sub>2</sub>O, ASTM D5969</b>	Pass	Pass	Pass	Pass
<b>EMCOR Rust Test DI H<sub>2</sub>O, ASTM D6138</b>	0,0	0,1	-	-
<b>Oil Separation 30 hrs @ 100°C (212°F), % Bleed, ASTM D6184</b>	<2	5	-	-
<b>Timken OK Load lbs, ASTM D2509</b>	55	55	55	55
<b>Four-Ball EP Weld Point kgf, ASTM D2596</b>	315	315	-	-
<b>Four-Ball EP Load Wear Index kgf, ASTM D2596 Weld Point, kgf</b>	69.7	64.2	-	-
<b>Four-Ball Wear @ 75°C (167°F), 1,200 rpm, 40 kgf, 60 minutes, mm wear, ASTM D2266</b>	0.49	0.49	-	-
<b>Water Spray-off % Loss, ASTM D4049</b>	6.6	15.0	-	-
<b>Water Wash-out @ 80°C (176°F), % loss, ASTM D1264</b>	0.45	1.5	-	-
<b>Copper Corrosion 24 hrs @ 100°C (212°F), ASTM D4048</b>	1b	1b	1b	1b

### Typical Applications

#### Almaplex 1299 & 1298

- Ball mill and kiln pinion support bearings
- Construction, agricultural and mining equipment
- Couplings (1299 only)
- Extruders
- Filter presses, dewatering presses
- Hammer mills
- Paper mill wet end, press rolls, felt rolls and calendar stack bearings
- Steel mill hot and heavily loaded bearings

#### Almaplex 1297 & 1295

- Automatic lubrication systems
- Heavily loaded bearings in cold-temperature operations
- Heavily loaded gearboxes that require a semifluid grease
- Leaky gearboxes
- Printing presses
- Sealed bearings operating at elevated temperatures

