



## SPIRAL HD

### PRODUCT DESCRIPTION:

SPIRAL HD gear oils are synthetic PAO-based lubricants designed to provide exceptional protection for industrial gear systems. With an advanced additive system, these oils offer excellent resistance to scuffing and superior protection against micro-pitting fatigue. SPIRAL HD oils are suitable for a wide range of applications, including reduction gearboxes, direct drives, angle drives, chain drives, gear couplings, hoist/winch gearboxes, screw feeder gearboxes, TL gearboxes, swing gearboxes, turret heads, workheads, and centralized circulation systems. Engineered for durability and reliability, they ensure optimal performance even in the most demanding operating conditions.

### APPLICATION:

Typical applications include: Modern, highly loaded gearboxes used in the paper, steel, oil, textile, lumber and cement industries where gear protection and optimum oil life are required.

### FEATURES & BENEFITS:

- Superb protection from micropitting fatigue wear as well as high resistance to traditional scuffing wear
- Excellent resistance to degradation at high temperatures
- High viscosity index
- Excellent resistance to rust and corrosion
- Excellent shear stability
- Excellent seal compatibility

### PERFORMANCE LEVELS: Meets or Exceeds:

- US STEEL 224
- AGMA 250.04
- DAVID BROWN TABLE E 2E-9E

### TYPICAL PROPERTIES:

PARAMETERS	TEST METHOD	UNIT	SPIRAL HD							
ISO VG			68	100	150	220	320	460	680	1000
Kinematic Viscosity @ 104°F /40°C	ASTM D7042	cSt	67.50	99.50	150	220	320	460	680	1000
Kinematic Viscosity @ 212°F /100°C	ASTM D7042	cSt	10.42	14.18	22.2	30.4	40.6	54.1	75.5	99.4
Viscosity Index	ASTM D2270	-	141	145	176	180	181	184	192	192
Flash Point (min)	ASTM D92	°C	220	230	233	233	233	234	234	234
Pour Point (max)	ASTM D97	°C	-45	-45	-45	-39	-33	-27	-27	-24
4 Ball EP Test - Weld Load	ASTM D2783	kgf	200	200	200	200	200	200	200	200
4 Ball EP Test - Load Wear Index	ASTM D2783	kgf	51	51	51	51	51	51	51	51

**DISCLAIMER:** The test data provided above is for reference purposes and is not a strict specification, as variations within acceptable production tolerances may occur. Phoenix reserves the right to update or revise this test data. For the most accurate and up-to-date information, please consult the latest version of this Technical Data Sheet (TDS).

### HEALTH & SAFETY, ENVIRONMENT:

Prolonged and repeated contact with oil may cause skin disorders. Avoid contact. Wash immediately with soap and water. Do not discharge used oil in to drains or the environment. Dispose to an authorized used oil collection point. For further Information on Safety Guidelines please refer to MSDS available on our website [Phoenixlubricants.com](http://Phoenixlubricants.com)

