



Syncon® WTL

Conoco Syncon® WTL is a state-of-the-art, synthetic extreme-pressure gear lubricant specifically developed for lubricating the heavily loaded gearboxes and rolling element bearings of new generation wind turbines found in onshore and offshore locations, where high winds are predominant.

Syncon® WTL is available in one viscosity grade: ISO 320. It is specially formulated with high-viscosity index synthetic base oils and fortified with non-chlorinated extreme-pressure additives to enhance its exceptional performance without harming the environment. The advanced additive technology provides outstanding oxidation stability, deposit control and maximum protection against wear, rust and corrosion.

Syncon® WTL has proven performance showing outstanding protection against gear micropitting and scuffing in gearboxes in European wind turbines manufactured by Vestas, Bonus Energy, Winergy, Nordex and Gamesa. It is recommended for use in U.S. wind turbines manufactured by GE, MHI and others. It is fully compatible with the seal materials present in these wind turbines.

Applications

- Heavily loaded enclosed spur, helical, herringbone, bevel and planetary gearboxes commonly found in wind turbines
- Gearboxes operating under severe-service conditions or at higher than normal operating temperatures
- Applications where the manufacturer recommends a synthetic ISO VG 320 extreme-pressure gear oil

Syncon® WTL meets the performance requirements of:

- AGMA 6006
- Bosch Rexroth
- DIN 51517 Part 3, Lubricating Oils, Type CLP
- Eickhoff
- FAG
- Flender
- Hansen Transmissions
- Jahnel Kestermann
- Metso Drive
- Mitsubishi Heavy Industries
- SKF
- Winergy

Note: Oil filters with pore sizes of 5 microns are recommended for the main oil circuit of the wind turbines, and pore sizes of 3 microns are recommended for the bypass circuit.

**Synthetic Extreme-
Pressure Wind
Turbine Gear
Lubricant**

**U.S. Technical
Services Hot line:
1-800-255-9556**

**U.S. Customer
Service:
1-800-640-1956**

**International:
+1-832-486-3363**

**Asia-Pacific:
tel: (65) 6536-0010
fax: (65) 6536-0012**

**E-mail address:
conocolubricants@
conocophilips.com**

www.lubes.conoco.com

600 N. Dairy Ashford • 2W9000 • Houston, TX 77079

Outstanding Features

- Outstanding performance in wind turbine gearboxes
- Non-chlorinated additive system
- Outstanding extreme-pressure properties; 95-lb Timken OK Load rating
- Excellent wear protection
- Superior oxidation stability
- Excellent rust and corrosion protection
- High-viscosity index for year-round protection

Syncon® WTL Typical Properties

ISO Grade	320
AGMA Grade	6 EP
Specific Gravity @ 15.6°C (60°F)	0.863
Density, lbs/gal	7.20
Color, ASTM D1500	0.5
Flash Point (COC), °C (°F)	218 (424)
Pour Point, °C (°F)	-45 (-49)
Viscosity,	
cSt @ 40°C	320
cSt @ 100°C	34.9
SUS @ 100°F	1,660
SUS @ 210°F	170
Viscosity Index	154
Acid Number, ASTM D974, mg KOH/g	0.72
Copper Corrosion, ASTM D130	1b
Four-Ball Wear, ASTM D4172, Scar Diameter, mm	0.35
Four-Ball Weld Load, ASTM D2783, kgf	250
FVA 54/7 Gear Micropitting Test, I-IV/FZG, 90°C	
Pass Stage	>10
Classification	High
FZG Gear Test, ASTM D5182, Pass Stage	>12
Rust Test, ASTM D665 A&B	Pass
Timken OK Load, ASTM D2782, lb	95

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