

Product Data

Castrol Optigear Synthetic A 320

Fully synthetic gear oils based on polyalphaolefin with MICROFLUX TRANS®, the load-active additive combination

Description

OPTIGEAR® SYNTHETIC A are fully synthetic high performance gear oils with MICROFLUX TRANS® additives. They offer optimum wear protection under very extreme thermal loads and operating conditions such as vibrations, oscillating motions and shock loads. The wide range of temperature - especially in case of low starting temperatures - and the high load carrying capacity are special assets of these industrial gear oils. Thermally and mechanically stable polyalphaolefin and the MICROFLUX TRANS® additive combination adjust themselves to the changing operating conditions and actively prevent wear.

Application

- For especially highly loaded industrial gears - in case of great changes in temperature and extreme loads
- For wind power stations, conveyor belts, crane control gears, lifts, rolling mills etc.
- For highly loaded eccentrics, gear couplings, chain drives, robot drives and joints as well as positive power transmissions
- For all types of rolling and sliding bearings, especially for tapered roller bearings in extruders, shaking screens, vibrators or for spindle presses
- For transport systems operated during winter
- Especially suited for arctic countries such as Canada, North America and Scandinavia

Advantages

- good viscosity/temperature behavior, wide range of operating temperature
- excellent low-temperature behavior, easy starting, good fluidity at extremely low temperatures
- optimum wear protection - smoothing of pitting and scoring
- especially low coefficient of friction leading to reduced friction and energy costs, lowering of oil temperatures
- significantly extended oil change intervals, reduced maintenance costs
- shear-stable
- high corrosion protection, compatible with non-ferrous metals
- compatible with conventional paints and sealing materials

Typical Characteristics

	Unit	Value				Test method
OPTIGEAR® SYNTHETIC A	-	100	220	320	460	-
Color	-	dark brown				visual
Base	-	polyalphaolefin				-
ISO viscosity group	-	100	220	320	460	DIN 51519
Density at + 15°C/+ 59°F	kg/m ³	855	870	870	860	DIN 51757
Kin. viscosity at + 40°C/+ 104°F at + 100°C/+ 212°F	mm ² /s	98 13.8	210 23.5	330 33	463.2 44.5	DIN EN ISO 3104
Viscosity index	-	140	140	140	151	DIN ISO 2909
Pour point	°C °F	-45 -49	-36 -32.8	-36 -32.8	-30 -22	DIN ISO 3016
Flash point	°C °F	220 428	220 428	220 428	205 399	DIN ISO 2592
Copper corrosion test	-	1a	1a	1a	1a	DIN EN ISO 2160
SRV® test run - test mode 5 ae: 300 N/50°C/122°F/ball/surface/2h						
Friction coefficient	μ	0.055	0.055	0.055	0.055	DIN E 51834
Wear: ball/scar Ø	mm	0.50	0.50	0.50	0.50	
Wear: profile depth Pt	μm	1.0	1.0	1.0	1.0	
FZG test A/16.6/140	-	> 12				DIN 51354 intensified special test
FE8 bearing test D 7,5/80-80	mg	4,5			-	DIN 51354-2
Roller wear Cage wear	mg	43,2			-	
FZG micropitting test Micropitting load carrying capacity: high	-	> 10			10	FVA No. 54

1 mm²/s ^ 1cSt

Additional Information

- Observe the viscosity specified by the machine manufacturer.
- Miscible with all gear oils based on mineral oil. Maximum performance is only guaranteed if not mixed with any other product.
- Quality Standard: OPTIGEAR SYNTHETIC A are CLP-HC gear oils (DIN 51502) and exceed minimum requirements according to DIN 51517 part 3

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