



CITGO® CITGEAR® Synthetic EP Lubricants

OVERVIEW



- Designed for highly loaded gear applications operating at high temperatures and/or very low temperatures, severe conditions, or requiring extreme pressure (EP) protection.

FEATURES & BENEFITS



- Exceptionally low pour points and high viscosity indexes, as compared to conventional, mineral oil-based products.
- The high viscosity index provides higher viscosity and greater film thickness at high temperatures, and lower viscosities for easy start-up at low temperatures.
- EP additives protect gears operating in the boundary lubrication regime and guard against failures associated with heavy loading and severe operation.
- Exhibit low foaming tendencies, high oxidation resistance, and provide excellent rust and corrosion protection.
- Lower coefficients of friction than mineral oils, providing reduced energy consumption.
- Superior heat transfer properties, as compared with conventional oils, often result in machinery operating at cooler temperatures.
- Compatible with essentially all commonly used elastomers, gaskets, and seals such as nitrile, Buna N, Viton®, Teflon®, polyethylene, flouorcarbon, polyacrylate, epoxy, and PVC. Will not deteriorate acrylic paints or lacquers.
- With proper maintenance, useful service life may be extended beyond that associated with mineral oils.

APPLICATIONS



- Recommended for gears requiring EP protection, for applications which experience a wide range of temperatures, and where a long-lasting fluid is desired for extended drain intervals.
- Especially recommended for lubricating industrial enclosed gears, sealed-for-life systems, and heavily loaded plain or roller element bearings.
- Recommended for splash lubrication, idler immersion, forced drip, and mechanical spray systems.
- No flushing or cleaning is required when converting from mineral oils to these synthetic products.
- Refer to equipment owner's manual for proper lubricant recommendation.
- Recommended for the following applications: AIST 224, ISO 12925-1 CKC/CKD, GM LS2, AGMA 9005-F16 AS, DIN 51517 Part 3, David Brown S1.53.101 (E).

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PROPERTIES



Typical Properties for CITGO Citgear Synthetic EP Gear Lubricants:

Grade	100	150	220	320	460	680
Material Code	632582001	632583001	632584001	632585001	632587001	632588001
Specific Gravity ASTM D1298	0.851	0.856	0.857	0.864	0.864	0.867
API Gravity ASTM D4052	34.7	33.8	33.6	32.3	32.3	32
Pounds Per Gallon	7.09	7.13	7.14	7.19	7.19	7.21
Viscosity, ASTM D445						
cSt at 40°C	101.4	155	220	340	434	689
cSt at 100°C	14.85	19.9	25.6	35.5	43.0	60.4
Viscosity Index ASTM D2270	153	144	148	150	152	154
Brookfield at -40 ASTM D2983	58,800	—	—	—	—	—
Flash Point, °F (°C) ASTM D92	435 (224)	432 (222)	500 (260)	464 (240)	460 (238)	457 (236)
Pour Point, ASTM D97, °F (°C)	-71 (-57)	-54 (-48)	-54 (-48)	-49 (-45)	-44 (-42)	-38 (-39)
Copper Corr ASTM D130	1B	1B	1B	1B	1B	1B
Rust A/B ASTM D665	Pass	Pass	Pass	Pass	Pass	Pass
Demulsibility, ASTM D1401	Pass	Pass	Pass	Pass	Pass	Pass
Timken OK Load, ASTM D2782	65	65	75	75	75	75
Four Ball Weld, Kg ASTM D2783	315	315	315	315	315	315
Four Ball Wear ASTM D4172						
at 40KG	0.35	0.35	0.35	0.35	0.35	0.35
at 20KG	0.31	0.31	0.29	0.29	0.29	0.29
Foam Test, Seq. I, II, III ASTM D982	Pass	Pass	Pass	Pass	Pass	Pass
Color ASTM D1500	L1.0	L1.0	L1.0	L1.0	L1.0	L1.0
AGMA Grade	3 EP	4 EP	5 EP	6 EP	7 EP	8 EP
US Steel 224	Pass	Pass	Pass	Pass	Pass	Pass
SAE Grade	75W90	—	—	—	—	—
API Classification	GL-4	—	—	—	—	—