

ADVANTAGE AMP GEAR OILS

OVERVIEW

ADVANTAGE “ADVANCED MICROPITTING PROTECTION” GEAR OILS are ultra-high performance EP gear oils designed to protect heavy-duty gear boxes operating in harsh conditions. Formulated with advanced micropitting protection, extreme pressure (EP) additives and high-quality mineral base stocks, **ADVANTAGE AMP GEAR OILS** are formulated for smaller gear box design trends and the added lubricant burdens associated with them.

FEATURES & BENEFITS

ADVANTAGE AMP GEAR OILS are ideal for enclosed gearboxes of all types and are approved for use in Flender, helical, bevel, planetary and marine gear units. **ADVANTAGE AMP GEAR OILS** employ gear tooth wear protection at the micro level to ensure protection at critical surface areas. Excellent FVA 54/7 micropitting resistance and FZG scuffing results ensures long gearbox life and minimal service down time as compared with conventional EP lubricants. **ADVANTAGE AMP GEAR OILS** also utilize “clean” detergent technology that offer key protection against oxidation and the formation of sludge and deposits associated with it. These gear oils are shear stable for stay-in-grade performance, offers robust compatibility with seals, adhesives, sealants, and paints to minimize the possibilities of leakage, and have excellent rust and corrosion protection.

APPLICATIONS

ADVANTAGE MP GEAR OILS contain the latest micropitting and extreme pressure technology specifically conceived for enclosed gearing in extreme environments. These include marine applications, mining operations, paper production, quarries, paving and severe industrial applications. Common uses: gears used for conveyers, agitators, screens, pumps, extruders, presses, mixers, presses, fax, pulpers, dryers, agitators, couplings, plain & roller contact bearings, propulsion shafts, winches, elevator carriers, and more.

SPECIFICATIONS

Meets Flender GmbH AS7300 • AGMA 9005-F16 • GB 5903 L-CKC, L-CKD • DAVID BROWN S1.53.101 TYPE E • DIN 51517-3 • FIVES EP • GM LS-2 EP • INDIAN STANDARD IS 8406 • ISO 12925-1 CKSMP • Meets RENK 36011 • SCHAEFFLER FAG STEPS 1-4 • Meets Schuler Pressen DT 55 055 ED. 1 • Meets SMS Group SN 180-3 • Meets Sumitomo Hansen Industrial Transmission BUI-TEC 2009-04 • US STEEL 124 • Meets ZF Industrieantriebe GmbH ZFN-W-17-145

TYPICAL PROPERTIES

PRODUCT CODES	M15	M22	M32	M46	M680
ISO GRADE	150	220	320	460	680
Density @ 15°C, ASTM D4052	.892	.896	.899	.903	.903
Viscosity, cSt @ 40°C, ASTM D445	151.8	212.6	301.9	435.6	649.1
Viscosity, cSt @ 100°C, ASTM D445	14.8	18.4	23.3	29.9	41.21
Viscosity Index, ASTM D2270	96	96	96	97	104
Flash Point (COC), °C, ASTM D92	248	263	246	266	256
Pour Point, °C ASTM D97,	-24	-21	-15	-15	-18
Foam Sequence I, ASTM D892	0-0	0-0	0-0	0-0	0-0
Foam Sequence II, ASTM D892	0-0	0-0	0-0	0-0	0-0
Foam Sequence III, ASTM D892	0-0	0-0	0-0	0-0	0-0
DIN 51819-3 FE-8 Bearing wear test, V50 roller wear, mg	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Demulse at 82°C, mins., ASTM D1401	5	5	15	10	15
Copper Corrosion, ASTM D130	1B	1B	1B	1B	1B
Rust Test – Procedures A & B, ASTM D665	PASS	PASS	PASS	PASS	PASS
FZG Scuffing Fail Load Stage, DIN ISO 14635-1 [A/8.3/90]	13 min	13 min	13 min	13 min	13 min
FZG Micropitting Resistance, FVA 54/7 Class High Rating	>10	>10	>10	>10	>10
Four Ball Load Weld Index, kg	56	56	48	58	49
Four Ball Weld Load, kg	250	250	250	250	315
Timken OK Load, lb, ASTM D2782	70	70	65	75	70
TAN, mg KOH/g, ISO 6618	.28	.34	.33	.36	.36