



LUBRICANTS



Product Data Sheet

Harmony[®] R&O Oil

Multi-purpose Lubricant Resists Rust and Oxidation

Industrial rust and oxidation (R&O) inhibited multipurpose lubricants formulated with premium base oils and a proven additive system. These high-performance turbine grade lubricants can be used as compressor oils, non-EP gear oils, general purpose circulating or bearing oils and as non-antiwear hydraulic oils in appropriate applications.

Features and Benefits

- Outstanding demulsibility, minimizing emulsions when coming in contact with water and other contaminants
- Prevent oxidation
- Ensure rust and corrosion protection in severe operating conditions
- Promotes fluid life to help reduce system maintenance

Applications

- Steam turbines
- Electric motors
- Spindle bearings
- Sleeve bearings
- Hydraulic circulating systems where EP or anti-wear type products are not required
- Air compressors
- Gear reducers
- Machine tools
- Heat transfer operations
- Denison HF-1; DIN 51524 Part1; General Electric GEK-32568, Solar Turbines ES9-224, Cincinnati Machine (formerly Cincinnati Milacron) P-38, P-54, P-55, P57; ASTM D 4304 Type I (ISO 32, 46, 68 & 100) and MIL-L 17672D



1-800-566-4853



Tulsa, OK 74133



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Typical Properties

ISO Viscosity Grade		10	22	32	46	68	100	115*	150	220	320	460
Product Code	ASTM	334199	334201	334202	334204	334206	334208	334211	334214	334217	334221	334223
Viscosity, cSt @ 40°C	D-445	10.1	20.6	32	45	65.9	97.0	113	145	215	316	455
Viscosity, cSt @ 100°C	D-445	2.6	4.4	5.5	7.0	8.7	11.4	12.4	14.7	18.8	24.1	30.2
Viscosity Index	D-2270	102	110	110	110	100	100	100	95	95	95	95
Color	D-1500	0.5	0.5	L1.0	1.5	2.0	2.5	2.5	3.0	3.5	L4.0	L4.0
Foam Test	D-892	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Pour Point, °F	D-5949	-40	-24	-24	-24	-18	-10	-10	-10	0	10	20
Flash Point, COC, °F (°C)	D-92	365 (185)	385 (196)	410 (210)	<u>430 (218)</u>	455 (235)	<u>490 (254)</u>	500(260)	505 (263)	530 (276)	535 (279)	580 (304)
Rust Test, A & B	D-665	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Oxidation Stability, hrs.	D-943	+5,000	4,000	4,000	3,500	3,500	2,000	2,000	1,500	1,000	1,000	1,000
AGMA Grade	D-664	--	--	--	1	2	3	--	4	5	6	7
Gravity, Specific		0.849	0.851	0.852	0.860	0.871	0.879	0.879	0.890	0.890	0.891	0.891
U.S. & European R&O Spec's:												
Denison HF-1		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DIN 51524 Part 1		--	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes	Yes
Cincinnati Machine		N/A	N/A	P-38	P-55	P-54	N/A	N/A	P-57	N/A	N/A	N/A
MIL-L-17672D		N/A	N/A	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A
General Electric GEK-32568		N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Solar Turbines ES9-224		N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Typical values shown are representative of current production and may vary within modest range.

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