

# SPX R&O

## MULTIPURPOSE RUST & OXIDATION INHIBITED ANTIWEAR CIRCULATING OIL

SPX R&O is a rust and oxidation (R&O) inhibited, antiwear circulating oil developed for use in circulation systems, centrifugal air compressors, geared turbines, lightly loaded gearboxes and other various industrial applications. This product has a low level of ashless (zinc-free) antiwear additive for mild wear protection. SPX R&O is a suitable replacement for a “non-detergent” type pump or air compressor oil.

### Advantages

- Good oxidation resistance to minimize sludge and varnish formation
- Mild wear protection
- Protects against rust and corrosion
- Excellent water-separating properties
- Good foam resistance

### Applications

- Air tools and pneumatic equipment
- Centrifugal air compressors
- Steam turbines and hydroelectric turbines, both with direct drive and with gear drives
- Lightly loaded enclosed industrial gearboxes where the OEM specifies a R&O type oil (typically >ISO 68)
- Lightly loaded plain and rolling element bearings
- Vacuum pumps, deep well water pumps and machine tools
- General purpose machinery
- Can be used as when a “non-detergent” oil is recommended for pumps and compressors

### Specifications

SPX R&O meets the following industry and OEM specifications:

- ABB G12106
- AGMA (non EP)
- Alstom Power HTGD 90 117 for geared turbines
- ASTM D4304 Type I Turbine Oil (ISO 32, 46, 68, 100)
- British Standard 489
- Denison Hydraulics HF-1
- DIN 51517 Part 1, Lubricating Oils, Type CL
- DIN 51524 Part 1, Hydraulic Oils, Type HL
- General Electric GEK 101941A, GEK 46506e, GEK 27070 (obsolete), GEK 28143A (obsolete)
- Ingersoll-Rand Centak centrifugal compressors
- Solar Turbines ES 9-224 Class II Turbine Oil
- U.S. Military MIL-L-17672D
- U.S. Steel 126



Industrial



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Page: 1 of 3

Date: 10.20.20

# SPX R&O

## TYPICAL PROPERTIES

ISO Grade	22	32	46	68	100
SAE Grade, approximate	10W	10W	20	20	30
AGMA Grade	-	0	1	2	3
Specific Gravity @ 60°F	0.856	0.862	0.868	0.873	0.877
Density, lbs/gal @ 60°F	7.13	7.18	7.23	7.27	7.30
Color, ASTM D1500	0.5	0.5	0.5	0.5	0.5
Flash Point (COC), °C (°F)	210(410)	232(450)	238(460)	243(469)	268(514)
Pour Point, °C (°F)	-40(-40)	-40(-40)	-40(-40)	-34(-29)	-34(-29)
Viscosity					
cSt @ 40°C	22.0	32.5	45.0	68.0	101
cSt @ 100°C	4.3	5.4	6.7	8.8	11.3
SUS @ 100°F	115	168	232	352	527
SUS @ 210°F	40.7	44.4	48.7	55.9	65.0
Viscosity Index	101	99	101	102	98
FZG Scuffing Test, ASTM D5182, Failure Load Stage	-	10	10	10	10
Oxidation Stability					
TOST, ASTM D943, hours	>3000	>3000	>3000	>2500	>2000
RPVOT, ASTM D2272, min	>600	>600	>500	>400	>400
Rust Test, ASTM D665 A&B	Pass	Pass	Pass	Pass	Pass



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Page: 2 of 3

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## TYPICAL PROPERTIES

ISO Grade	150	220	320	460
SAE Grade, approximate	40	50	60	-
AGMA Grade	4	5	6	7
Specific Gravity @ 60°F	0.882	0.885	0.889	0.892
Density, lbs/gal @ 60°F	7.35	7.37	7.40	7.43
Color, ASTM D1500	2.5	3.5	4.5	5.0
Flash Point (COC), °C (°F)	277(531)	285(545)	304(579)	307(585)
Pour Point, °C (°F)	-17(1)	-15(5)	-15(5)	-15(5)
Viscosity				
cSt @ 40°C	158	220	320	464
cSt @ 100°C	15.3	18.8	24.1	30.6
SUS @ 100°F	830	1,164	1,704	2,488
SUS @ 210°F	81.0	95.9	120	150
Viscosity Index	97	95	96	95
FZG Scuffing Test, ASTM D5182, Failure Load Stage	10	10	10	10
Oxidation Stability				
TOST, ASTM D943, hours	>1,500	>1,200	>1,100	>900
RPVOT, ASTM D2272, min	>450	>425	>400	>275
Rust Test, ASTM D665 A&B	Pass	Pass	Pass	Pass

Minor variations in typical properties data are to be expected in normal manufacturing.

### Health & Safety Information

For recommendations on safe handling and use of this product, please refer to the Safety Data Sheet (SDS).



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Page: 3 of 3  
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