

Beyond Synthetic™

Synfilm[®] GT is recommended for use in gas and steam turbines, pumps, bearings, gears, air tools, etc. Synfilm[®] GT should be considered instead of Synfilm[®] when oil reservoir temperatures exceed 200°F, improved low temperature fluidity is desired or when a viscosity grade is not available in Synfilm[®].

Synfilm[®] GT is a long life, high film strength, energy efficient, synthetic lubricant that significantly increases bearing life and equipment reliability. Synfilm[®] GT gains its performance advantages over competing mineral and synthetic oils through its superior blend of synthetic base oils plus Royal Purple's proprietary Synerlec[®] additive technology. This unique additive technology is proven to make equipment run smoother, cooler, quieter, longer and more efficiently.

Synfilm[®] GT typically replaces conventional, low film strength, R&O (rust and oxidation inhibited) oils that rely solely on their viscosity to protect equipment against wear.

Synerlec[®] additive technology makes the difference!

Synthetic oils enable Royal Purple to make superior lubricants, but it is Royal Purple's advanced Synerlec[®] additive technology that gives Royal Purple's lubricants their amazing performance advantages. Synerlec[®] additive technology truly is *beyond synthetic*.™

Synerlec[®] additive technology forms a tough, slippery, synthetic film on all metal surfaces. This proprietary film significantly improves lubrication: first, by increasing the oil's film thickness, and second, by increasing the oil film's toughness, both of which help to prevent metal-to-metal contact. It displaces moisture from metal surfaces and protects all metals against rust and corrosion. It also fortifies the oil against the detrimental effects of heat, which causes oil to oxidize.

Performance Advantages:

- **High Film Strength**
Synfilm[®] GT protects bearings far beyond the ability of other turbine oils, carrying up to 700 percent greater loads.
- **Rapidly Separates from Water**
Synfilm[®] GT rapidly and completely separates from water, which is easily drained from the bottom of the oil reservoir.
- **Saves Energy**
Synfilm[®] GT has an extremely low coefficient of friction that is proven to save energy over conventional oils. In rotating equipment these savings frequently exceed the total cost of the oil within several months, making what was once an oil expense a profit.
- **Extremely Clean**
Synfilm[®] GT is packaged in new poly containers, has a typical ISO 4406 Cleanliness Level of 14/13/11 (ISO 32, 46 and 68 only) and is verified by a laser particle counter. This is up to 250 times cleaner than other new oils delivered in steel drums or by bulk delivery.
- **Reduces Bearing Vibrations**
The tough oil film of Synfilm[®] GT coupled with its ability to micro-polish contacting bearing elements provides superior bearing lubrication.
- **Longer Oil Life**
Synfilm[®] GT has outstanding oxidation stability that greatly extends oil change intervals while keeping equipment clean.
- **Excellent Corrosion Protection**
Synfilm[®] GT's tough oil film forms an ionic bond on metal surfaces, which acts as a preservative oil during shutdown and provides instant lubrication at startup.
- **Synthetic Solvency**
Synfilm[®] GT's natural solvency cleans up dirty equipment and keeps it clean.
- **Compatible with Seals**
Synfilm[®] GT has excellent seal compatibility.
- **Compatible with Other Oils**
Synfilm[®] GT can be mixed with other mineral oils and most synthetic oils. (It is not compatible with silicone or glycol synthetics.)
- **Environmentally Responsible**
Synfilm[®] GT components are TSCA listed and meet EPA, RCRA and OSHA requirements. Synfilm[®] GT extends oil drain intervals, eliminates premature oil changes, decreases the amount of oil purchased and disposed of and conserves energy.

Typical Properties*	ISO Grade / AGMA Grade										
	10	22	32	46	68	100	150**	220	320	460	680
AGMA Grade	—	—	—	1	2	3	4	5	6	7	8
Viscosity											
cSt @ 40°C	10	22	32	46	68	100	150	220	320	460	680
cSt @ 100°C	2.6	4.5	5.8	7.4	9.9	12.6	16.8	21.9	28.2	34.1	45.7
SSU @ 100°F	61	115	165	236	350	518	780	1151	1685	2446	3632
SSU @ 210°F	35	41	46	51	60	70	87	110	139	166	222
Viscosity Index	105	118	126	126	128	120	120	120	119	110	114
Flash °F	355	440	480	520	510	440	490	500	500	500	500
Pour Point °F	-85	-75	-80	-75	-60	-30	-25	-20	-15	10	15
ISO Cleanliness Level	**	**	14/13/11	14/13/11	14/13/11	N/A	N/A	N/A	N/A	N/A	N/A
ASTM D-1401 Demulsibility (from 40/40/0/6 to 40/40/0/30)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
D-892 Foam Tests	—	—	—	—	—	—	—	—	—	—	—
Sequence I, II, & III	—	—	—	—	—	—	—	—	—	—	—
D-130 Copper Corrosion	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A
3 hrs. @ 210°F	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A
250 hrs. @ 210°F	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Cincinnati Millicron "A"	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
72 hrs. @ 275°F	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
D-665 Rust Test	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Fresh Water	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Salt Water	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
D-2893 Dry Air Oxidation	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
312 hrs. @ 203°F,	0	0	0	0	0	0	0	0	0	0	0
% Viscosity Increase	0	0	0	0	0	0	0	0	0	0	0
Precip. No. (% Solids)	0	0	0	0	0	0	0	0	0	0	0

*All properties are typical and may vary.

**Check with manufacturer regarding availability with 14/13/11 cleanliness.

***Also available as Synfilm GT V, which has identical physical properties as Synfilm GT 150 plus added tackiness to minimize oil carryover when used in vacuum pump service.

Note: Synfilm® GT's solvency cleans wear metals and deposits left behind by previous oils. These wear metals and deposits can become soluble in the new oil, causing abnormally high values on used oil analysis until equipment is clean.