

LEXOLUBE® FRHF 4600/6800 Technical Data Sheet

LEXOLUBE Fire Resistant Hydraulic Fluids are high performance, environmentally friendly lubricants based on synthetic esters. They are approved by Factory Mutual for enhanced safety in applications with potential fire hazards. LEXOLUBE FRHF fluids provide excellent wear and corrosion protection.



Physical Properties	Test Method	4600 Typical	6800 Typical
Appearance	Visual	Clear, Amber	Clear, Amber
Kinematic Viscosity at 40°C, cSt	ASTM D445	46	68
Kinematic Viscosity at 100°C, cSt	ASTM D445	10	13
Kinematic Viscosity at 20°C, cSt	ASTM D445	105	160
Viscosity Index	ASTM D2270	210	185
Density at 15°C	ASTM D1298	0.92	0.93
Pour Point, °C	ASTM D97	-40	-20
Acid Number, mgKOH/g	ASTM D974	<1.0	<1.0
Foam Tendency, Seq. I ml at 25°C	ASTM D892	<50	<50
Air Release, minutes	ASTM D3427	5	8
Flash Point, °C	ASTM D92	>300	>300
Fire Point, °C	ASTM D92	>360	>360

LEXOLUBE FRHF 4600 and FRHF 6800 fluids are recommended for use in high pressure hydraulic systems where leaks, spills or ruptured hydraulic lines may encounter a source of ignition.

LEXOLUBE FRHF FLUIDS are formulated from high purity synthetic esters with high biobased content and advanced ashless additives to provide excellent fluid and equipment life. Their inherent high viscosity index and broad operating viscosity range provides natural lubricating efficiency.

Recommended for use in vane, gear and piston pump hydraulic systems that must meet the following approval specifications:

- ▶ Factory Mutual FM Standard 6930 - HFDU
- ▶ SS 15 54 34:2020 Hydraulic fluids
- ▶ HFDU according to DIN 51 502, ISO 6743/4
- ▶ OECD 301B Readily Biodegradable
- ▶ USDA BioPreferred



Performance Properties	Test Method	4600 Typical	6800 Typical
Steel Corrosion Protection, Distilled / Synthetic sea water	ASTM 665A/B	Pass/Pass	Pass/Pass
Copper Corrosion rating	ASTM D130	1a	1a
Vane Pump Wear, mg	ASTM D7043	<5 mg	<5 mg
FZG Gear Load Capacity, failure load stage	ASTM D5182	12+	12+
Demulsibility, minutes to <3ml emulsion	ASTM D1401	<30	<30
RPVOT Oxidation Stability Test, minutes	ASTM D2272	200	225
Filterability, Dry (FI/FII)	ISO 13357-2	96 / 90	92 / 81
Filterability Wet (FI/FII)	ISO 13357-1	96 / 92	96 / 88

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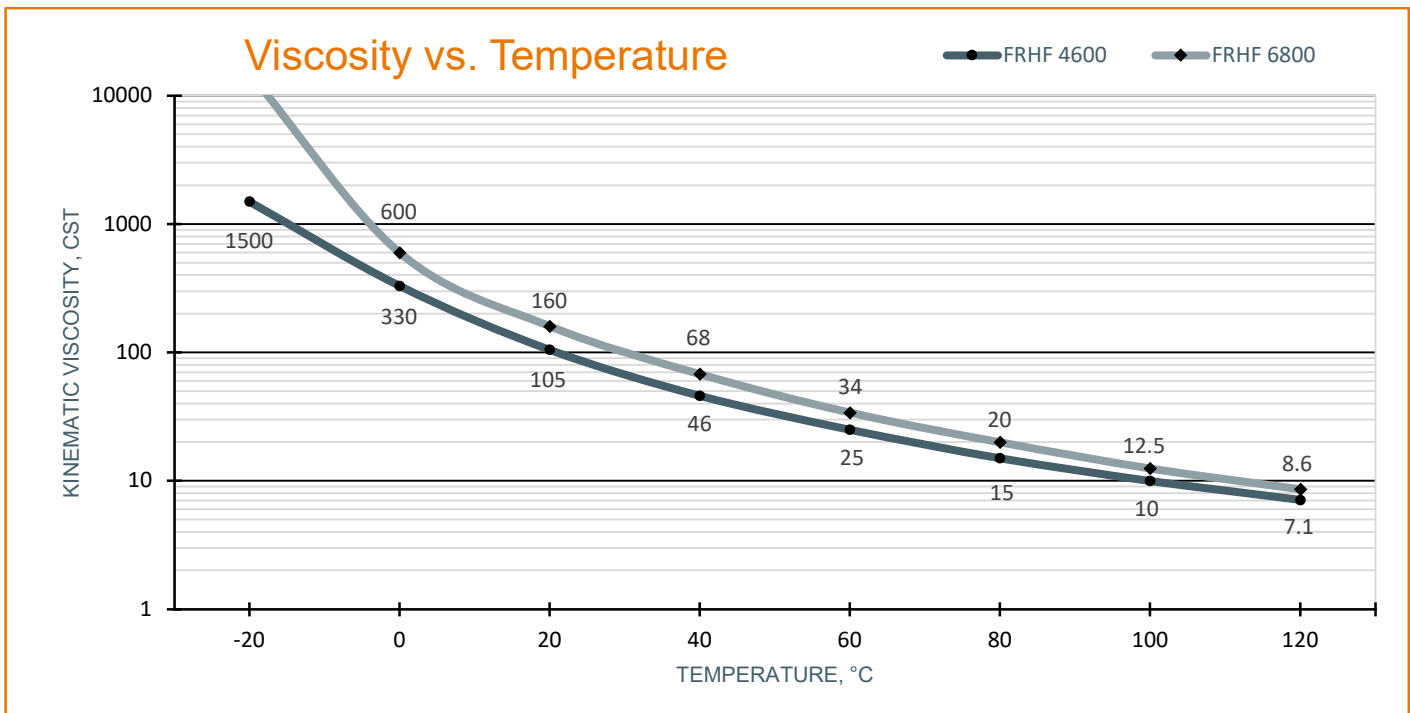
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Fluid Maintenance Parameters	Observation	Typical	Maximum
Operating temperature range for long life	Light to Dark Amber	30 – 50°C (85-120°F)	70°C (160°F)
Water content	No Haze	0.1 – 0.2%	0.25% (2500 ppm)
Total Acid Number (TAN)	Clear, Light Odor	0.5 – 5.0 mg KOH/g	6.0 mg KOH/g

Viscosity Profile



USDA BioPreferred Certification	Test Method	4600 Typical	6800 Typical
Typical BioDerived Carbon Content	ASTM D 6866	>88%	>91%



Minimum USDA requirement for Hydraulic Fluid bio-content is 44%, Multipurpose Oils minimum 88%.

Biodegradability	Test Method	4600 Typical	6800 Typical
Conversion to CO ₂ in 28 days	OECD 301B	>75%	>80%
Rating		Readily	Readily

Meets the biodegradability requirements of SS 155434.

Test method OECD 301B is aerobic biodegradation in water, similar to ISO 9439, ASTM D 5864.



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lexolube
synthetic esters

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Compatible elastomers:	Abbreviation
Buna N, Nitrile Butadiene, nitrile content >25%	NBR
Fluoroelastomers, Viton®	FKM2
Hydrogenated nitrile	HNBR
Polyurethane	AU
Polytetrafluoroethylene, Teflon®	PTFE
Non-Compatible elastomers:	
EPDM (Ethylene propylene rubber)	EPR
Butyl (Isobutylene Isoprene)	IIR
Neoprene (Polychloroprene)	NP



LEXOLUBE FRHF 4600 Elastomer Compatibility Data			
168 Hours @ 100°C	NBR1	NBR2	Spec*
Δ Weight, %	4.7	1.8	NA
Δ Volume, %	6.7	3.4	0 to +10
Δ Hardness, %	-5.9	-3.5	-10 to 0
Δ Tensile Strength, %	-2	<1	+/- 30
Δ Elongation, %	-17	<1	-30 to +20

LEXOLUBE FRHF 4600 Elastomer Compatibility Data						
1000 Hours @ 80°C	NBR1	NBR2	FKM2	HNBR	AU	Spec*
Δ Weight, %	4.6	2.1	0.0	4.4	-0.2	NA
Δ Volume, %	5.8	2.8	0.1	5.1	-0.6	-3 to +10
Δ Hardness, %	-5.8	-2.8	-4.2	-2.4	-2.3	+/- 10
Δ Tensile Strength, %	-11	10	-2	1	-4	+/- 30
Δ Elongation, %	-25	8	0	-3	-12	+/- 30

*Combination of tightest specs from ISO 15380, SS 155434, JCMAS P042
 NBR1 = Buna N with 28% nitrile, NBR2= Buna N with 34% nitrile according to ISO 1817/6072

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