TECHNICAL DATA SHEET FOR RADCOLUBE® FR282

MIL-PRF-83282D(1) HYDRAULIC FLUID, FIRE RESISTANT, SYNTHETIC HYDROCARBON BASE

CHARACTERISTIC	TEST LIMITS	TYPICAL RESULTS	TEST METHOD
Auto-ignition temperature	345°C, min	370	ASTM E659
Barium content	10 parts per million (ppm), max	0.78	ASTM D5185
Bulk modulus at 40°C (Isothermal secant 0 to 6.9 x 10^4 kPa)	1.379 x 10^6 kPa, min	1.693 x 10^6	Paragraph 4.4.1
Concentration of red dye	Conform	Conforms	MIL-SPEC
Compatibility of Oils	Pass	PASS	Paragraph 4.4.3
Corrosiveness and oxidation stability			ASTM D4636
Change in weight of metal specimens			
Aluminum alloy	0.2 mg/cm^2, max	0.008	
Magnesium alloy	0.2 mg/cm^2, max	0.000	
Cadmium-plated steel	0.2 mg/cm^2, max	-0.031	
Steel	0.2 mg/cm^2, max	0.000	
Copper	0.6 mg/cm^2, max (No .3 max)	0.008 (No. 1b - 2a)	
No pitting, etching, nor visible corrosion	Pass	PASS	
No evidence of separation or gumming of fluid.	Pass	PASS	
Change in viscosity at 40°C	10 percent, max	0.27%	
Increase in neutralization number	0.2, max	0.01	
Evaporation	20.0 percent by weight, max	17.8%	FED-STD-791 Method 350
Fire point	245°C, min	251°C	ASTM D92
Flammability			
Flame Propagation	0.30 cm/second, max	0.172	ASTM D5306
Wick flammability	10 cycles, min	>1,050	FED-STD-791 Method 352
Flash point	205°C, min	221°C	ASTM D92
Foaming characteristics at 25°C			ASTM D892
At end of 5 minute blowing period	65 mL, max	0	
After settling 10 minutes	Complete collapse	Complete collapse	
High temperature - high pressure spray ignition	Pass	Pass	FED-STD-791 Method 6052
High temperature stability			Paragraph 4.4.4
Viscosity change at 40°C	5%, max	4.75%	
Neutralization number change	0.1, max	0.00	
Appearance	Pass	Pass	
Low temperature stability (72 hours -40±1°C)	Pass	Pass	FED-STD-791 Method 3458
Lubricity, 10 ±0.5 mL sample			ASTM D4172
Under a 1 kilogram (kg) load	0.21 mm, max	0.20	
Under a 10 kg load	0.30 mm, max	0.23	
Under a 40 kg load	0.65 mm, max	0.46	
Neutralization number, mgKOH/g	0.10, max	0.05	ASTM D664
Pour point	-55°C, max	-69	ASTM D97
Gravimetric analysis	0.3 mg, max	0.05	ASTM D4898
Solid particle contamination			
Filtration time	15 minutes, max	9	
Particle count, particle size (largest dimension) per 100 mL			FED-STD-791 Method 3012
5 – 15 µm	10,000 max	2,357	
15 – 25 µm	1,000 max	169	
25 – 50 µm	150 max	90	
50 – 100 µm	20 max	10	
Over 100 µm	5 max	3	
Gravimetric analysis	0.3 mg, max	0.05	ASTM D4898
Specific gravity at 15.6°C/15.6°C	Report	0.8380	ASTM D1298
Storage stability (after 12 months of storage)	Pass	Pass	FED-STD-791 Method 3465
Swelling of synthetic rubber, NBR-L	18.0 to 30.0%	19.0%	FED-STD-791 Method 3603
Viscosity, cSt			
at -40°C, cSt	2,200 cSt, max	2,088	ASTM D445
at 40°C, cSt	14.0 cSt, min	15.0	ASTM D445
at 100°C, cSt	3.45 cSt, min	3.63	ASTM D445
at 205°C, cSt	1.0 cSt, min	1.1	ASTM D445
Water content	100 ppm, max	32	ASTM D1744
Workmanship	Pass	Pass	ISO 9001:2015

* Data represents typical laboratory samples and are not guaranteed for all samples

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