



Electrical Insulating Oil Marketing Specification

This electrical insulating oil is produced from a severely hydrotreated naphthenic oil to meet the specification requirements defined in ASTM D 3487. It has very low pour points and excellent oxidation stability.

TEST DESCRIPTION	TEST METHOD	SPECIFICATIONS		TYPICAL VALUES
		MIN	MAX	
Physical Properties				
Viscosity, cSt at 100°C	ASTM D 341		3.0	2.4
Viscosity, cSt at 40°C	ASTM D 341		12.0	9.9
Viscosity, cSt at 0°C	ASTM D 445		76	70
Specific Gravity, 15°C/15°C	ASTM D 4052		0.9100	0.8869
Flash Point, COC, °C	ASTM D 92	145		156
Color, ASTM	ASTM D 6045		0.5	L0.5
Pour Point, °C	ASTM D 5949		-40	-64
Aniline Point, °C	ASTM D 611	63.0		75.3
Interfacial Tension, 25°C, dynes/cm	ASTM D 971	40		49
Visual Examination	ASTM D 1524		Clear & Bright	Clear & Bright
Electrical Properties				
Dielectric Breakdown at 60 Hz, Disk electrodes, kV	ASTM D 877	30		43
Dielectric Breakdown at 60 Hz, VDE, kV (2.03-mm) gap	ASTM D 1816	35		49
Power Factor at 60 Hz, 25°C, %	ASTM D 924		0.05	0.006
Power Factor at 60 Hz, 100°C, %	ASTM D 924		0.30	0.073
Gassing Tendency, µL/min	ASTM D 2300		30	17
Chemical Properties				
Oxidation Stability	ASTM D 2440			
72 hr: Sludge, % by mass			0.1	0.01
Total Acid Number, mg KOH/g			0.3	0.01
164 hr: Sludge, % by mass			0.2	0.03
Total Acid Number, mg KOH/g			0.4	0.02
Oxidation Stability (Pressure Vessel), minutes	ASTM D 2112	195		269
Oxidation Inhibitor Content, wt%	ASTM D 2668	0.15	0.30	0.26
Corrosive Sulfur	ASTM D 1275 (B)		Noncorrosive	Noncorrosive
Water Content, ppm	ASTM D 1533		35	13
Neutralization Number, mg KOH/g	ASTM D 974		0.03	<0.01
PCB Content, ppm	ASTM D 4059		Not detected	Not detected
Health and Safety Properties (not an ASTM D 3487 requirement)				
Polycyclic Aromatic Compounds, wt%	IP 346		3	<3
Modified Ames Assay, MI	ASTM E 1687		1	<1
FDA Regulation	21 CFR 178.3620 (C)	PASS		PASS

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