

HyVolt C50A

Dielectric Fluid Marketing Specification

This dielectric fluid is an inhibited oil produced to meet the specification requirements defined by the Standards of CSA C50-14 (R2023), Class A for Type II and Type IV mineral oil. HyVolt products have very low pour points and excellent oxidation stability.

TEST DESCRIPTION	TEST METHOD	SPECIFICATIONS		TYPICAL VALUES
Physical Properties		MIN	MAX	
Viscosity, cSt at -40°C	IEC 61868		2500	1780
Viscosity, cSt at 0°C	ASTM D445		75.0	47.6
Viscosity, cSt at 40°C	ASTM D445		10.0	8.7
Relative Density, 15°C	ASTM D1298		0.9060	0.8561
Flash Point, COC, °C	ASTM D92	145		164
Color, ASTM	ASTM D6045		0.5	0.1
Pour Point, °C	ASTM D5950		-46	-54
Interfacial Tension, 25°C, dynes/cm	ASTM D971	40		47
Visual Examination, 25°C	ASTM D1524	PASS		PASS
Electrical Properties				
Dielectric Breakdown at 60 Hz, Disk electrodes, kV	ASTM D877	30		46
Dielectric Breakdown at 60 Hz, VDE, kV 2.0 mm gap	ASTM D1816			
Unprocessed Oil		24		46
After filtering, drying and degassification	ASTM D1816	56		62
Impulse Breakdown Voltage, kV @ 25°C	ASTM D3300	145		>300
Dissipation (Power) Factor at 60 Hz, 25°C, %	ASTM D924		0.05	0.007
Dissipation (Power) Factor at 60 Hz, 100°C, %	ASTM D924		0.50	0.09
Gassing Tendency, µL/min	ASTM D2300		0	-5
Chemical Properties				
Oxidation Stability at 110°C	ASTM D2440			
72 hours*: Total Acidity, mg KOH/g			0.30	0.02
72 hours*: Sludge, %			0.10	0.00
164 hours*: Total Acidity, mg KOH/g			0.20	0.02
164 hours*: Sludge, %			0.05	0.00
Oxidation Stability at 120°C, 500 hours	IEC 61125			
Total Acidity, mg KOH/g			1.20	0.02
Sludge, %			0.80	0.00
Dissipation Factor at 90°C			0.5	0.100
Oxidation Stability (Pressure Vessel), minutes	ASTM D2112	195		387
Oxidation Inhibitor Content, wt%	ASTM D2668	0.08	0.40	0.28
Metal Passivators, ppm	IEC 60666	Not Detected (<5)		Not Detected
Corrosive Sulfur	ASTM D1275	Noncorrosive		Noncorrosive
Potentially Corrosive Sulfur	IEC 62535	Noncorrosive		Noncorrosive
Neutralization Number, mg KOH/g	ASTM D974		0.03	0.01
Strong Acids	ASTM D974	Not Detected		Not Detected
Water Content, ppm	ASTM D1533		35	12
PCB Content, ppm	ASTM D4059	Not Detected (<2)		Not Detected
DBDS, ppm	IEC 62697-1	Not Detected (<5)		Not Detected
2-furaldehyde, ppb	ASTM D5837		100	1
Health and Safety Properties (not an ASTM D3487 requirement)				
Polycyclic Aromatic Compounds, wt%	IP 346		3	<3
Modified Ames Assay, MI	ASTM E1687		1	<1
FDA Regulation	21 CFR 178.3620 (C)	PASS		PASS

HyVolt C50A is a product of Ergon Refining, Inc.

*Product meets Type II ASTM D2440 Oxidation Stability requirements March 17, 2025 **Product meets C50A Oxidation Stability, Type IV requirements (500 hours)