

## HyVolt II C50B

### 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 D3487. HyVolt products have very low pour points and excellent oxidation stability.

TEST DESCRIPTION	TEST METHOD	SPECIFICATIONS		TYPICAL VALUES
		MIN	MAX	
<b>Physical Properties</b>				
Viscosity, cSt at -40°C	ASTM D445		6000	4481
Viscosity, cSt at 0°C	ASTM D445		76.0	65.2
Viscosity, cSt at 40°C	ASTM D445		12.0	9.6
Viscosity, cSt at 100°C	ASTM D445		3.0	2.4
Specific Gravity, 15.6°C	ASTM D4052		0.9060	0.8836
Flash Point, COC, °C	ASTM D92	145		155
Color, ASTM	ASTM D6045		0.5	L0.5
Pour Point, °C	ASTM D5950		-40	-62
Interfacial Tension, 25°C, dynes/cm	ASTM D971	40		48
Visual Examination, 25°C	ASTM D1524	PASS		PASS
<b>Electrical Properties</b>				
Dielectric Breakdown at 60 Hz, Disk electrodes, kV	ASTM D877	30		42
Dielectric Breakdown at 60 Hz, VDE, kV (2.0-mm) gap	ASTM D1816	35		46
Dielectric Breakdown at 60 Hz, VDE, kV (2.0-mm) gap, After	ASTM D1816	56		60
Impulse Breakdown Voltage, kV at 25°C	ASTM D3300	145		>300
Dissipation Factor at 60 Hz, 25°C, %	ASTM D924		0.05	0.010
Dissipation Factor at 60 Hz, 100°C, %	ASTM D924		0.30	0.088
<b>Chemical Properties</b>				
Oxidation Stability, 110°C	ASTM D2440			
164 hr: Sludge, % by mass			0.05	0.01
Total Acid Number, mg KOH/g			0.20	0.01
Oxidation Stability (Pressure Vessel), minutes	ASTM D2112	195		274
Oxidation Inhibitor Content, wt%	ASTM D2668	0.08	0.30	0.27
Metal Passivators, ppm	IEC 60666	Not Detected (<5)		Not Detected
Corrosive Sulfur	ASTM D1275	Noncorrosive		Noncorrosive
Potentially Corrosive Sulfur	IEC 62535	Noncorrosive		Noncorrosive
Water Content, ppm	ASTM D1533		35	14
Neutralization Number, mg KOH/g	ASTM D974		0.03	<0.01
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
<b>Health and Safety Properties (not an ASTM D3487 requirement)</b>				
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