



ClearGuard LLC
The Next-Generation in Dielectric Oils



ECOGuard 50- Electrical Insulating Oil - Specification

ECOGuard50™ is our environmentally friendly transformer oil option, blending re-refined and new oils to offer a sustainable product without sacrificing quality. 50/50. Insulating oil meets or exceeds the performance requirements of ASTM D3487 (16-E01) and ASTM 8081 (2023)

Test Description	Test Method	Specification Limits		Typical Values
		Min	Max	
Physical				
Aniline Point, (°C)	ASTM D611	63		69
Color	ASTM D1500		0.5	L 0.5
Color - Saybolt (units)	ASTM D156			20
Flash Point, (°C/°F)	ASTM D92	145/293		154/309
Interfacial Tension @ 25°C, (mN/m)	ASTM D971	40		52
Pour Point, (°C)	ASTM D97		-40	-48
Relative Density @ 15°C/15°C	ASTM D4052		0.910	0.8898
Viscosity @ 100°C, (cSt)	ASTM D7042		3.00	2.29
Viscosity @ 40°C, (cSt)	ASTM D7042		12.00	8.92
Viscosity @ 0°C, (cSt)	ASTM D7042		76.0	58.342
Visual Examination	ASTM D1524	Clear and Bright		

Electrical				
Dielectric Breakdown Voltage, (kV)	ASTM D877	30		51
Dielectric Breakdown Voltage, 2 mm gap, (kV)	ASTM D1816	35		59
Impulse Breakdown Voltage, (kV)	ASTM D3300	145		>200
Gassing Tendency, (µL/min)	ASTM D2300		+30	Complies
Dissipation Factor (Power Factor) @ 25°C, (%)	ASTM D924		0.050	0.003
Dissipation Factor (Power Factor) @ 100°C, (%)	ASTM D924		0.300	0.02

Chemical				
Oxidation Stability	ASTM D2440			
Sludge @ 72 hours (% by mass)	ASTM D2440		0.1	<0.1
Acid Number @ 72 hours, (mg KOH/g)	ASTM D2440		0.3	<0.1
Sludge @ 164 hours (% by mass)	ASTM D2440		0.2	<0.1
Acid Number @ 164 hours, (mg KOH/g)	ASTM D2440		0.4	<0.1
Rotating Pressure Vessel (minutes)	ASTM D2112	195		300
Inhibitor Content (%)	ASTM D2668	0.20	0.30	0.29
Corrosive Sulfur	ASTM D1275	Not Corrosive		Not Corrosive
Water Content, (mg/kg)	ASTM D1533		35	10
Acid Number, (mg KOH/g)	ASTM D974		0.03	<0.01
PCB Content	ASTM D4059	Not Detectable		Not Detectable

Health Safety and Environment				
Polycyclic Aromatic Compounds, (wt %)	IP 346		3	<3.0
Modified Ames Assay	ASTM E1687		Pass	Pass

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Specification subject to periodic revision. Please contact ClearGuard LLC directly to ensure you have the latest version.

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