

TOER I 60296 (Electrical Insulating Oil)

This electrical insulating oil is produced from a severely hydrotreated naphthenic oil to meet the specification requirements defined in IEC 60296:2003.

TEST DESCRIPTION		TEST METHOD	SPECIFICATIONS		MARKETING VALUES
			Min	Max	
Function					
1	Viscosity, mm ² /s at 40°C	ISO 3104		12.0	10.0
2	Viscosity, mm ² /s at -30°C	ISO 3104		1800	1222
3	Pour Point, °C	ISO 3016		-40	-57
4	Water Content, mg/kg	IEC 60814		30	15
5	Breakdown Voltage, kV, Before treatment	IEC 60156	30		59
6	Breakdown Voltage, kV, After treatment	IEC 60156	70		84
7	Density at 20°C, g/ml	ISO 12185		0.895	0.883
8	DDF at 90°C	IEC 60247		0.005	0.002
Refining/Stability					
1	Appearance	ERTM-2	PASS		PASS
2	Acidity, mg KOH/g	IEC 62021-1		0.01	<0.01
3	Interfacial Tension, mN/m	ISO 6295	40		50
4	Corrosive Sulfur	DIN 51353	Noncorrosive		Noncorrosive
5	Corrosive Sulfur	ASTM D 1275, B	Noncorrosive		Noncorrosive
6	Corrosive Sulfur	IEC 62535	Noncorrosive		Noncorrosive
7	Antioxidant Additive, wt%	IEC 60666	Not detected		Not detected
8	Furfural Content, mg/kg	IEC 61198		0.1	<0.1
Performance					
1	Oxidation Stability at 120 °C, 164 hours	Total Acidity, mg KOH/g	IEC 61125, C	1.2	0.9
		Sludge, %	IEC 61125, C	0.8	0.2
		DDF at 90°C	IEC 60247	0.500	0.047
Health, Safety and Environment(HSE)					
1	Flash Point, PMCC, °C	ISO 2719	135		145
2	PCA Content, %	BS 2000 Part 346		3	<3
3	PCB Content	IEC 61619	Not detected		Not detected

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