

Product Denomination: **POWEROIL TO 1020 60U**  
Issue Version: 15.06.2007

Standard: **IEC-60296-2003-11 ( UNINHIBITED)**

Sr No	Characteristics	Unit	Test Method	Guaranteed Data	
				Min	Max
1.	Appearance		Visual inspection of oil sample in transmitted light under a thickness of 10 cm at ambient temperature	Clear free from sediment and suspended matter	
2.	Density at 20 °C	G / ml	ISO 3675 or IEC12185		0.895
3.	Kinematic Viscosity at 40 °C at - 30 °C	mm <sup>2</sup> / sec	ISO 3104		12 1800
4.	Flash Point , PMCC	° C	ISO 2719	135	
5.	Pour Point	° C	ISO 3016		- 40
6.	Inter Facial Tension at 25 °C	mN / m	ISO 6295 ( where it is used as general requirement )	No general requirement min 40	
7.	Acidity	mg KOH/ gm	IEC 62021 - 1		0.01
8.	Water Content , Bulk / Drum	mg / kg	IEC 60814		30 / 40
9.	Breakdown Voltage		IEC 60156		
	As Delivered / After Treatment	kV		30 / 70	
10.	Dielectric Dissipation Factor ( Tan δ ) at 90 °C & 40 to 60 Hz		IEC 60247 or IEC61620		0.005
11.	Corrosive Sulphur a. Silver Strip , 100°C , 18Hrs b. Copper Strip , 150 °C , 48 Hrs c. CCCD Test - Copper Strip + Kraft paper , 150 °C , 72 Hrs ,		DIN 51353 ASTM D 1275 B Cigre TF A2 – 32 . 01	Non Corrosive Non Corrosive Negative	
12.	Total Sulphur Content	%	BS 2000 Part 373 or ISO 14596	No general requirement	
13.	Antioxidant Additive	%	IEC 60666	( U ) Uninhibited Oil - Not Detectable	
14.	Oxidation Stability At 120 °C , ( U ) - 164 Hrs		IEC 61125 Method C		
	Total Acidity	mg KOH/ gm			1.2
	Sludge	%			0.8
	DDF at 90 °C		IEC 60247		0.500
15.	Gassing Tendency	µ L / min	IEC 60628 , A	No general requirement	
16.	PCA Content	%	BS 2000 Part 346		3
17.	PCB Content	mg kg / gm	IEC 61619	Not Detectable	
18.	2 – Furfural Content	mg kg / gm	IEC 61198		0.1

**POWEROIL TO 1020 60 U** is an Uninhibited Transformer Oil meeting the IEC 60296- 2003 – 11 , 3<sup>rd</sup> Edition Standard Specification. It also meets the ASTM D 1275 B ( Doble's modified ) and the Cigre TF A2- 32 . 01 Test requirements for Corrosive sulphur.