



INDUSTRIAL
LUBRICANTS &
SERVICES LIMITED

Technical Data sheet

ILS TF Fluid New (Uninhibited - Type I)

Severely Hydrotreated Naphthenic Electrical Insulating Oil

Description

ILS TF Fluid New (Uninhibited) is a high quality severely hydrotreated Naphthenic oil based Dielectric fluid meeting the specification requirements defined in IEC 60296:2020

Designed for use as an insulating and cooling oil to fill air gaps, dissipate heat and insulate windings.

Typical Applications

ILS TF Fluid New (Uninhibited) is suitable for use in:

- Transformers
- Electrical switchgear
- Circuit breakers
- Capacitors

Advantages

- High dielectric strength and low power-loss
- Excellent Oxidation Stability
 - Low Dielectric Dissipation Factor
- Excellent cooling properties
- Good thermal stability
- High purity and high flash point
- Low sludge formation

Product Specifications

ILS TF Fluid New (Uninhibited) meets the specification requirements of:

- IEC 60296 ed.5, 2020, general requirements and special applications, including full declaration of additives per Clause 6.11.1
- BS 148:2009
- AS 1767
- TP PS 54 01 Issue 7 – Type B
- Doble TOPS

- ASTM D3487–16 including full declaration on additives per Section 4.4
- CSA C50-14 Class A and B, Type II and IV standard requirements.
- Corrosive Sulfur tests: ASTM D1275, DIN 51353 and IEC 62535

Typical Properties

		UNIT	METHOD	TYPICAL	MIN	MAX
Density @ 20°C		g/ml	ISO 12185	0.881	-	0.895
Closed Flash point (PMCC)		°C	ISO 2719	147	135	-
Kinematic Viscosity @ 40°C		cSt	ISO 3104	10.15	-	12
Kinematic Viscosity @ 100°C		cSt	ISO 3104	2.6	-	3
Pour Point		°C	ISO 3016	-49	-	-40
Acidity		mg	IEC 62021-1	< 0.01	-	0.01
Water Content		KOH/g				
Bulk Delivery		ppm	IEC 6018148	< 10	-	30
Drum Delivery		ppm	IEC 6018148	< 20	-	40
Oxidation Stability						
Uninhibited (164 hr)	- Sludge	% mass	IEC 61125 C	0.25	-	0.8
	- Acidity	mgKOH/g	IEC 61125 C	0.65	-	1.2
Breakdown Voltage						
-	Batch Result	kV/CM	IEC 60156	85	30	-
-	Delivered result	kV/CM	IEC 60156	> 70	30	-
Dielectric dissipation factor (DDF)						
-	@ 20°C - 50HZ	-	IEC 60156	0.0002	-	-
-	@ 90°C - 50HZ	-	IEC 60156	0.0004	-	0.005
Resistivity						
-	@ 20°C	G ohm m	BS 5737	15000	-	-
-	@ 90°C	G ohm m	BS 5737	443	-	-
Interfacial tension @ 25°C		dyne/cm	ISO 6295	45	-	-
Corrosive Sulphur		-	DIN 51353	Non corrosive	-	Non corrosive
Potentially Corrosive Sulphur		-	-	Non corrosive	-	-
DBDS		-	IEC 62697-1	< 5mg/Kg	-	< 5mg/Kg
Antioxidant Content (Only DBPC)		% w/w	IEC 60666	Nil	Not Detectable	Not Detectable
Appearance		-	-	clear & bright	-	-
Carbon Type						
-	Cn	-	-	46.0	-	-
-	Cp	-	-	44.0	-	-
-	Ca	-	-	10.0	-	-
Total PCB content		g/g	IEC 61619	Not detectable	-	< 2
Total Furans		g/g	IEC 61198	< 1	-	< 1
Polycyclic Aromatics		% mass	IP 345	< 3	-	< 3

As per IEC 60296 Ed5:2020 Article 5.4D, this product contains no undeclared additive

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