INDUSTRIAL LUBRICANTS & SERVICES LIMITED

Technical Data sheet

ILS TF Fluid New (Inhibited – Type II)

Severely Hydrotreated Napthenic Electrical Insulating Oil

Description

ILS TF Fluid New (Inhibited) 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 (Inhibited) 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 (Inhibited) 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
Inhibited (500 hr) - Sludge	***% mass***	IEC 61125 C	0.35	-	0.8
- Acidity	***mgKOH/g***	IEC 61125 C	0.85	-	1.2
- DDF @ 90°C	-	-	0.044	-	0.50
Breakdown Voltage					
- Batch Result	***kV/CM***	IEC 60156	80	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	450	-	-
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	0.35	0.08	0.40
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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