

# Zeal Electra Oil IH Inhibited Oils

## High Quality Transformer Oil



### Product Data Sheet

#### Product Description

Zeal Electra Oil IH Inhibited Transformer oils are severely refined hydro-cracked / hydro-treated virgin inhibited insulating oils with highest degree of purity and stability. It is manufactured from judiciously selected blend of latest technology feed stocks, which is highly suitable for all grades of Power & distribution Transformers, Circuit Breakers, Oil filled switches and X-ray equipment.

#### Features & Benefits

- Very low sulphur and no DBDS.
- Low Pour point.
- High dielectric strength.
- Non corrosive as tested by all present methods, DIN & ASTM tests & New IEC 62535 method.
- Low viscosity oils offering excellent and fast heat transfer.
- Higher Flash point, resulting on Low evaporation losses and better safety
- Remarkably low sludge and acidity formation, in both ageing and oxidation tests, results in longer life of oil and equipment
- Compatible with transformer construction material.

#### Application

Zeal Electra Oil IH Inhibited Transformer oils are highly suitable for all grades of

- Power Transformers, Distribution Transformers
- Circuit Breakers
- Oil filled switches
- X-ray equipment.

#### Specifications

**Zeal Electra Oil IH Inhibited Transformer oils** conforms to and exceed the requirements of ASTM D 3487 Type II & IEC 60296:2012 (Table 2: I – High Grade requirements)

**Zeal Electra Oil IH Inhibited Transformer oils** are High Grade Inhibited Transformer oil has superior oxidation stability – meeting the high grade requirements as specified in IEC 60296:2012, high dielectric strength and are used in equipment requiring operations at high elevated temperatures & greater oxidation resistance.

#### Typical Characteristics

TEST DESCRIPTION	TEST METHOD	SPECIFICATION LIMITS	TYPICAL VALUES
<b>Function</b>			
Kinematic Viscosity	ISO 3104	at 40° C mm <sup>2</sup> /s, Max	12.0
		at -30° C mm <sup>2</sup> /s, Max	1800
Pour Point °C, Max	ISO 3016	≤ -40	-42
Water Content, Max	IEC 60814	in Bulk, mg/kg, Max	20
		in Drum & IBC mg/kg, Max	30
Break Down Voltage, kV, Min	IEC 60156	As Delivered	30
			70
		After treatment	50 - 65
Density at 20 °C, g/ml, Max	ISO 12185 / ISO 3675	0.895	0.821
DDF at 90 °C, Max	IEC 60247 / IEC 61620	0.005	0.0005

*The above figures are typical of blends with normal production tolerance and do not constitute a specification.*

<b>Refining/stability</b>			
Appearance	Visual	Transparent Clear & odourless liquid free from suspended impurities	Transparent Clear & odourless liquid free from suspended impurities
Neutralisation Value / Acidity, mg KOH/g, Max	IEC 62021-1 / IEC 62021-2	0.01	< 0.001
Interfacial tension, mN/m, Min	EN 14210 / ASTM D 971	40	48
Total Sulphur Content, % , Max	ISO 14596	0.05	< 0.01
Corrosive Sulphur, silver strip, 100°C, 18 hrs	DIN 51353	Non Corrosive	Non Corrosive
Cu Strip & Paper 150 °C, 72 hrs	IEC 62535	Non corrosive	Non corrosive
Dibenzylsulphide (DBDS)	IEC 61297-1	Not Detectable	Not Detected
Antioxidant Additives, % Max	IEC 60666	0.3 – 0.40	0.3
2-Furfural content, mg/kg, Max	IEC 61198	0.05	Nil
<b>Performance</b>			
Oxidation Stability, 500 hrs			
- Total acidity, mg KOH/g, Max	IEC 61125 : 1992 Method C	0.30	0.02
- Sludge, %, Max		0.05	< 0.01
- DDF at 90°C, Max	IEC 60247	0.05	0.005
<b>Health, safety and environment (HSE)</b>			
Flash Point, PMCC, °C , Min	ISO 2719	135	150
Polycyclic Aromatics (PCA) content, % Max	BS 2000 (P: 346)	3.00	< 1 %
Polychlorinated biphenyls (PCB) content	IEC 61619	Not Detectable	Not Detected
<b>Bio Degradability</b>			
OECD 301 B, CO <sub>2</sub> Evolution Test	OECD 301B	-	"Readily Biodegradable" (> 60 %)
<b>Conforms to Standards</b>			
IEC 60296:2012 Table 2 : I – High Grade requirements		✓	✓
ASTM D3487 Type II		✓	✓

The above figures are typical of blends with normal production tolerance and do not constitute a specification

#### Packaging Options:

Zeal Electra Oil IH Inhibited Transformer oils are offered in 200-210 litres of steel drums and also in bulk in Flexi bags or ISO tanks.

#### Storage Precautions:

Extreme care is taken while packing these products, including filling of drums in inert atmosphere, as Electrical Insulating oils / Transformer oils are very sensitive to very minute concentrations of contaminants, such as moisture, particulate matter, fibers, etc. Hence, care should be taken to store Zeal Electra Oil IH Inhibited Transformer oil in a clean and dry condition. It is strongly recommended that all storage tanks / drums be maintained such that oil is not in contact with atmospheric air. Also these oils should always be stored indoors in climate controlled environments.