

Shell Diala Oil BX

Electrical insulating oil



Shell Diala BX is an inhibited insulating oil manufactured from naphthenic feedstocks. It offers good dielectric properties, good oxidation stability and provides efficient heat transfer. It has excellent low temperature properties achieved without the use of pour point depressants.

Applications

- **Industrial transformers**
Electrical insulating oil for transformers and switch-gears.
Grid and Industrial transformers up to maximum load.
- **Electrical equipment**
Components like rectifiers, circuit breakers, switch-gears.

Advice on applications not covered in this leaflet may be obtained from your Shell Representative.

Performance Features and Advantages

- **Good oxidation stability**
Diala BX offers inherent natural resistance to oil degradation.
- **Good dielectric strength**
It exceeds the requirements from all major specifications.
- **Very good low temperature properties**
The naphthenic nature of the feedstock of Diala BX provides a good low temperature performance without adding any additives.
- **Good heat transfer characteristics**
The good low temperature properties of the oil ensures proper heat transfer inside the transformer even from lowest starting temperatures.

Specification and Approvals

Shell Diala BX meets the following specifications:

IEC 296 (1982) Class I A

IEC 60296 (2003)

Table 2 Transformer Oil(Inhibited)

Storage precautions

The critical electrical properties of Shell Diala BX are easily compromised by trace contamination with foreign material. Typically encountered contaminants include moisture, particles, fibers and surfactants. Therefore, it is imperative that electrical insulating oils be kept clean and dry. It is strongly recommended that storage containers be dedicated for electrical service and include air-tight seals. It is further recommended that electrical insulating oils be stored indoors in climate-controlled environments.

Health and Safety

Guidance on Health and Safety are available on the appropriate Material Safety Data Sheet which can be obtained from your Shell representative.

Shell Diala BX is free of polychlorinated biphenyls (PCB).

Protect the environment

Take used oil to an authorized collection point. Do not discharge into drains, soil or water.

Typical Characteristics

			Specification requirements		Diala BX
Property	Units	Method	IEC 296 Class 1	IEC 60296	
Appearance		IEC 296	Clear, free of solids		Complies
Density at 20°C	Kg/m ³	ISO 3675	<895	<895	881
Kinematic viscosity at 40°C	mm ² /s	ISO 3104	16.5 max	12 max	11.6
Kinematic viscosity at -15°C	mm ² /s		800 max	-	340
Kinematic viscosity at -30°C	mm ² /s	ISO 3104		1800 max	1790
Flashpoint P.M.	°C	ISO 2719 / ASTM D93	140 min	135 min	146
Pourpoint	°C	ISO 3016	-30 max	-40 max	-57
Neutralisation value	mg KOH/g	IEC 296 / IEC 62021	< 0.03	0.01 max	< 0.03
Corrosive Sulphur		DIN 51353	Non-corrosive	Non-corrosive	Non-corrosive
Breakdown voltage	kV	IEC 156 / IEC 60156	Min 30 (bulk) Min 50 (drum)	Min 30 before treatment Min 70 after treatment	>30 (>70 upon treatment)
Water content	ppm	IEC 60814			<40 drums/IBC <30 bulk
Dielectric dissipation factor at 90°C (after treatment)		DIN 57370 / IEC 247	0.005 max	0.005 max	0.001
Oxidation Stability (500h/120°C)		IEC 1125 C / IEC 61125 C			
Total acidity	mg KOH/g		1.2 max	1.2 max	0.6
Sludge	%m		0.8 max	0.8 max	0.1
Tan delta 90°C			-	0.5 max	0.15

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.