



# Shell Diala Oil BX

## *High Performance 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.

Shell Diala BX meets both the established and the new industry copper corrosion tests.

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### Applications

- **Transformers**  
Electrical insulating oil for grid and industrial transformers.
- **Electrical equipment**  
Components such as rectifiers, circuit breakers and switchgears.

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 resistance to oil degradation.
- **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.
- **Anti corrosion properties**  
Shell Diala BX is non-corrosive towards copper, with no need for passivation. Diala BX meets all relevant tests on copper corrosion, namely the established DIN 51353 (Silver Strip Test) and ASTM D1275, and also the newer tests: IEC 62535 and ASTM D1275B.

### Specification and Approvals

Shell Diala BX meets the following specification:

IEC 60296 (2003),  
Table 2 Transformer Oil (II), 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, fibres 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 airtight 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.



## Technical Data Sheet

### Typical Characteristics

Property	Units	Method	IEC 60296 Requirement	Diala BX
Appearance		IEC 60296	Clear, free from sediment and suspended matters	Complies
Density at 20 °C	kg/m <sup>3</sup>	ISO 3675	Max. 895	881
Kinematic viscosity at 40 °C	mm <sup>2</sup> /s	ISO 3104	Max. 12	10
Kinematic viscosity at -30 °C	mm <sup>2</sup> /s	ISO 3104	Max. 1.800	1.400
Flashpoint P.M.	°C	ISO 2719 / ASTM D93	Min. 135	140
Pourpoint	°C	ISO 3016	Max. -40	-57
Neutralisation value	mg KOH/g	IEC 62021-1	Max. 0,01	< 0,01
Corrosive Sulphur		DIN 51353	Not corrosive	Not corrosive
Corrosive Sulphur		IEC 62535	-	Not corrosive
Corrosive Sulphur		ASTM D 1275 B	-	Not corrosive
Breakdown voltage Untreated After treatment	kV	IEC 60156	Min. 30 Min. 70	>30 >70
Dielectric Dissipation Factor (DDF) at 90 °C		IEC 60247	Max. 0,005	0,002
Oxidation Stability (500 h / 120 °C)		IEC 61125 C		
Total acidity	mg KOH/g		Max. 1,2	0,7
Sludge	%m		Max. 0,8	0,3
DDF at 90°C		IEC 60247	Max. 0,5	0,2

These characteristics are typical of current production.

Whilst future production will conform to Shell's specification, variations in these characteristics may occur.