



Mobilect Series

Electrical insulating oils

Product Description

Mobilect Series is a range of high quality mineral insulating oils with very good dielectrical properties and oxidation stability intended for transformers, switchgears and other electrical equipment.

Mobilect Series comes in two grades, uninhibited or inhibited.

Mobilect 35 is uninhibited and meets the specifications IEC 60296 (82) Class I and II, BS 148:97 Class I and II, ASTM D 3487 type I.

Mobilect 44 is inhibited to ensure improved oxidation resistance and meets the specifications IEC 60296 (82) Class IA and IIA.

Features & Benefits

The key benefits of Mobilect 35 and 44 include:

- Mobilect Series has a high resistance to thermal and chemical degradation in the presence of iron and copper, which reduces tendencies to produce sludges and oil-soluble oxidation products. Mobilect 44 is inhibited with a phenolic anti-oxidant to increase the service life in applications operating with a significant exposure to air. When lower quality oils are used these may form deposits in the transformer and impede heat transfer by interfering with convection currents. In addition deposits may accelerate insulation defects and are often very difficult to remove without complete dismantling.
- Mobilect Series is specifically treated during manufacture to remove moisture. Water will reduce the electrical insulating properties of the oil and promote oxidation. It is important to remember that a dry oil is hygroscopic and absorbs moisture from the air. It must therefore always be stored in dry conditions and well-closed containers.
- The dielectric strength of Mobilect Series is a measure of the resistance of the oil to electric stress and is expressed in kV across a specified gap under test conditions. This is not a measure of the quality of the oil but of the absence of contaminants - especially moisture, fibres and polar chemicals.
- Mobilect Series is free from wax even at low temperatures and thus circulates freely in outdoor applications. Its viscosity ensures readily heat transfer by mobile convection currents. Mobility is also essential to quick quenching of arcs in switchgear units.
- The low pour point of Mobilect Series ensures a free flow in all conditions between the transformer and the conservator, and maintains the reliability of tap changers at the lowest temperatures.

Applications

- Mobilect 35 and 44 are recommended for use in oil filled transformers and switchgears in which the oil is required as an insulation medium or as a heat transfer medium.
- Mobilect 35 is to be used in applications specifying IEC 60296 (82) Class I or II, BS 148:97 Class I or II, ASTM D 3487 type I products.
- Mobilect 44 is to be used in applications specifying IEC 60296 (82) Class I A or II A products
- The products are not suitable for use in oil filled cables, for special impregnation processes or for use in capacitors.

ExxonMobil Lubricants & Specialties

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Specifications & Approvals

Mobilect series meets or exceeds the following industry specifications	35	44
IEC 60296 (82) Class I and II	X	
IEC 60296 (82) Class IA and IIA		X
BS 148:97 Class I and II	X	
ASTM D 3487 type I	X	

Typical Properties

Mobilect	35	44
Density at 20°C, kg/dm ³ , ISO 12185	0.886	0.876
Viscosity, mm ² .s ⁻¹ @ 40°C, ISO 3104	8.9	7.6
Flash Point (PMCC), °C, ISO 2719	148	144
Pour Point, °C, ISO 3016	-57	-60
Neutralisation Number, mg KOH/g, IEC 60296	<0.01	<0.01
Corrosive Sulphur, ISO 5662	Non-corrosive	Non-corrosive
Oxidation Stability @ 100°C /164 h, IEC 61 125		
- neutralisation number, mg KOH/g	0.15	0.01
- sludge, wt%	0.02	0.005
Dielectric Dissipation Factor @ 90°C, IEC 60247	<0.005	<0.005
Interfacial Tension, mN/m, ISO 6295	>40	>40
Breakdown voltage		
- before treatment, kV, IEC 60156	>30	>30
- after treatment, kV, IEC 60296	>70	>70

Health & Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDS's are available upon request through your sales contact office, or via the Internet. This product should not be used for purposes other than its intended use. If disposing of used product, take care to protect the environment.

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