

# Poweroil TO 1020 (60U) and (60 UX)

*Transformer Oils*

## Description

Poweroil TO 1020 (60U) and Poweroil TO 1020 (60 UX) are manufactured by Engen Petroleum LTD in South Africa, under license of APAR Industries LTD, to the IEC 60296:2012 – 02 Edition 4.0 Standard Specification and is exclusively marketed in Southern Africa by Engen Petroleum Limited. They are high quality naphthenic base insulating oils with high di-electric strength, high chemical stability and very good water separating properties. The expected life of transformer oil is 40 years or more. In order to meet this expectation the oils have good chemical stability when exposed to elevated temperatures, which is essential to prevent the formation of acidic materials that impair the insulating properties of the oil. To carry out their cooling and insulating functions with a minimum power requirement when pumped, and to ensure most effective heat removal when circulated by thermal action, the oils have a low viscosity at operating temperature and good fluidity at low temperatures. Poweroil TO 1020 (60U) and (60 UX) comply with the most recent tests and standards relating to the effects of corrosive Sulphur.

## Application

- Poweroil TO 1020 (60U) is uninhibited transformer oil
- Poweroil TO 1020 (60 UX) is inhibited transformer oil

Poweroil TO 1020 (60U) and (60 UX) are suitable for filling most types of transformers and switchgear. While the IEC Specification requires a minimum Electric Strength (breakdown voltage) of 30 kV, it recognises that oil in drums cannot be expected to retain the electric strength obtained at the time of filling. To ensure that the oil in service complies with the minimum requirements, it has a breakdown voltage exceeding 70 kV when filled into drums and IPS'. The drums are immediately inverted after filling to prevent breathing. Special care is needed in storage, when handling, and sampling and also in service to keep the oil clean and dry. Drums must be stored inverted, on a pallet, under cover and its storage time must be reduced to a minimum. IPS' are 900 liter foil lined bags that provide extended shelf life. Due to their unique characteristics, contamination of the oil is negated and BDV is protected even when part of the oil volume has been decanted. Transformer oil should preferably be filtered before being transferred into high voltage apparatus. It should not be transferred from one package to another. Aeration during filling must be prevented. All oil delivered in bulk is pumped into the trucks at a breakdown voltage in excess of 70 kV. Engen uses only transporters with a good track record and trucks dedicated to transporting transformer oil. All bulk trucks are tested for cleanliness prior to loading and are fitted with silica-gel breathers.

## Performance Level

POWEROIL TO 1020 (60U) and (60 UX) meet the following specifications: IEC 60296: 2012 – 02 Edition 4.0 Standard Specification, ASTM D1275B (Doble's modified) Test requirement for corrosive sulphur, Eskom 32-406 specification, NRS 079-1:2004, SANS 555:2007.

## Typical Physical Characteristics

See "Extended data" Product Data Sheets for more detail.

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*Due to continual product research and development, the information contained herein is subject to change without notification. Refer to the Material Safety Data Sheet (MSDS) for information on the safe handling and use of this product.*

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