

POWEROIL TRANSFORMER OIL

THE POWER TO PROTECT TRANSFORMERS FROM WITHIN









APAR Industries Limited is a leading manufacturing company with a leadership position in its three core business segments of speciality oils, conductors and cables, with a billion-dollar turnover. Our other businesses include lubricants, speciality automotive and polymers. Our products have a significant market share in India and are sold in over 125 countries.

Our **POWEROIL** range of speciality oils encompases 350+ grades of Transformer Oils, White Oils, Petroleum Jellies, Process Oils, Industrial and Automotive Lubricants.

APAR has two 100% owned manufacturing units in India and also in Hamariyah free zone (Sharjah, UAE) with a combined capacity to produce 520,000 KL. Additionally, we have blending units in Turkey and Australia.

ABOUT APAR GROUP





TRANSFORMER OIL IS ONE OF THE MOST CRITICAL COMPONENTS IN A POWER GENERATION, TRANSMISSION AND DISTRIBUTION SYSTEM THAT SUPPORTS A TRANSFORMER FUNCTIONING AT AN OPTIMUM CONDITION.

As the world's 3rd largest producer of Transformer Oil, we have developed the right capabilities and expertise for product innovation, quality and timely service to our customers.

For over five decades, **POWEROIL** has been leading the innovation curve in the Transformer Oils segment and meeting various international performance standards. The entire range of 20 different grades of Transformer Oils meeting international standards has been developed through our in-house R&D efforts. We are trusted by major OEMs, utilities, power generation, transmission and distribution companies globally to deliver cost-effective, quality products and services.

POWEROIL also has a range of specially formulated Transformer Oils that are environmently friendly, having excellent cooling characteristics, higher oxidation stability, lower gassing tendencies and stable insulating properties over its useful life.



POWEROIL TRANSFORMER OILS

UNDERSTANDING NEEDS



Increasing voltage, power ratings and compactness driven by technological advancements and cost factors have resulted in immense electrical and thermal stresses on the insulating materials and dielectric cooling fluids used in transformers.

This has resulted in a need for high quality non-corrosive oils with better dielectric properties, lower water content, higher oxidation stability and longer life to handle these severe operating conditions. The primary function of Transformer Oil is to serve as an effective dielectric material for efficient electrical insulation and cooling. Proper selection of severely hydrotreated/hydrocracked and highly dewaxed base oils of superior quality and balanced refining is required for optimising Transformer Oil properties.

Over the years, considering the new design requirements, international standards for the performance of Transformer Oils have been systematically improved. This has substantially raised the bar, leaving a few specialised manufacturers globally with a comprehensive range that meets these requirements. **POWEROIL** offers an extensive range of insulating fluids that enable customers to choose the product that matches the exacting technical and operational requirements marketed globally.



APAR is the sole supplier of Transformer Oils to HVDC installations in India and also the largest exporter. We are the only company in India to have collected extensive field data on the performance of our Transformer Oils in 765 kV AC & 800 kV HVDC systems to validate the required high-performance standards. **POWEROIL** set the benchmark by delivering oils with low conductivity, high oxidation stability, low particle count, capable of withstanding fluctuations caused by harmonics in DC output.



POWEROIL CARES FOR YOUR TRANSFORMERS

1 - ENHANCED PROTECTION & GREATER EFFICIENCY

Our complete range of **POWEROIL Transformer Oils** is specially formulated and refined to deliver extremely low sulphur non-corrosive properties, higher oxidation stability, higher electrical properties and lower gassing tendencies which ensure enhanced protection of transformers.

POWEROIL maintains its electrical insulating characteristics over a wide range of operating temperatures supporting optimum transformer performance. Due to enhanced thermal and electrical properties, **POWEROIL** helps deliver improved operational performance even under overload conditions.



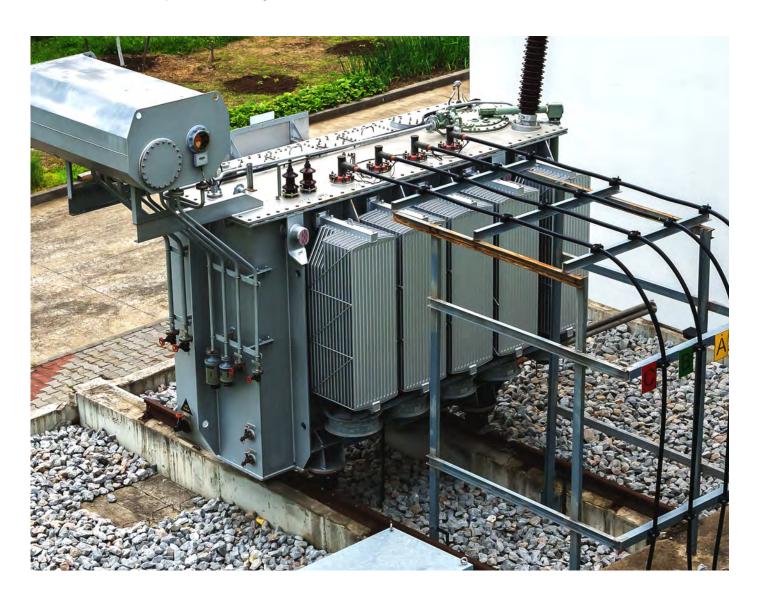
2 - LONGER OIL LIFE

The **POWEROIL** grades exceed the 164 hours (uninhibited), 332 hours (trace inhibited) and 500 hours (inhibited) oxidation stability test standards. **POWEROIL** showcased excellent resistance towards acidity growth, sludge formation and deposit build-up on solid insulation resulting in slow ageing and extended oil life.



3 - RESISTANCE TO CORROSION

Throughout its entire functional life, **POWEROIL Transformer Oils** successfully meet the IEC 62535 and ASTM D 1275 standards and ensure resistance to corrosion across its entire product range.



4 - BIODEGRADEABLE SUSTAINABLE RANGE

Our latest introduction, "POWEROIL TO NE PREMIUM", is a K Class Natural Ester based transformer oil formulated from renewable plant-based feedstocks. **NE PREMIUM** is the best performing prouct in the market of its kind with an improved oxidative life of 164 hours. It is readily biodegradable with good cooling characteristics, high oxidation stability, negative gassing and fire-resistant properties.



QUALITY SYSTEMS & CERTIFICATIONS

APAR's manufacturing facilities are accredited with:

ISO 9001: 2015,

ISO 14001: 2015

OSHAS 45001: 2018

- ISO / IEC 17025: 2017, (NABL National Accreditation Board of Testing and Calibration Laboratories, Department of Science & Technology, Government of India).
- DSIR (Department of Scientific & Industrial Research) approved R&D centre.

Approved by global Transformer OEM's / Testing Laboratories / Electricity Utilities.





POWEROIL TRANSFORMER OILS PRODUCT RANGE:

Covers latest International / National Standards and Customised products for client needs

APAR Grades	International Standards
Standard Grade Oils	IEC 60296: 2020 Type B (Uninhibited, Trace Inhibited & Inhibited)
POWEROIL TO 1020 60 U	IEC 60296: 2020 (TVBU) & BS EN IEC 60296: 2020 (TVBU) Edition 5.0 standard Table 4 - General Specification.
POWEROIL TO 1020 60 UT	IEC 60296: 2020 (TVBT) & BS EN IEC 60296: 2020 (TVBT) Edition 5.0 standard Table 4 - General Specification.
POWEROIL TO 1020 60 UX	IEC 60296: 2020 (TVBI) & BS EN IEC 60296: 2020 (TVBI) Edition 5.0 standard Table 4 - General Specification.
POWEROIL TO 1020 60 H	IEC 60296: 2020 (TVBU) & BS EN IEC 60296: 2020 (TVBU) Edition 5.0 standard Table 4 - General Specification.
POWEROIL TO 1020 60 HT	IEC 60296: 2020 (TVBT) & BS EN IEC 60296: 2020 (TVBT) Edition 5.0 standard Table 4 - General Specification.





APAR Grades	ASTM D 3487 STANDARD
POWEROIL TO 1020 AUT	ASTM D 3487: 2016 Type I
POWEROIL TO 1020 AUX	ASTM D 3487: 2016 Type II



High Grade Oils	IEC 60296 STANDARD - Type A (Fully Inhibited High Grade Oils)
POWEROIL TO 1020 60 HX	IEC 60296: 2020 (TVAI) & BS EN IEC 60296: 2020 (TVAI) Edition 5.0 standard Table 3 - General Specification.
POWEROIL TO 1020 60 SNX	IEC 60296: 2020 (TVAI) & BS EN IEC 60296: 2020 (TVAI) Edition 5.0 standard Table 3 - General Specification.



APAR Grades	Meeting Indian Standard - IS 335: 2018 - Type I
POWEROIL TO 1020 60 H	IS 335: 2018 Type I (U): Table 2 – General Specification
POWEROIL TO 1020 60 HT	IS 335: 2018 Type I (T): Table 2 – General Specification
POWEROIL TO 1020 60 U	IS 335: 2018 Type I (U): Table 2 – General Specification
POWEROIL TO 1020 60 UT	IS 335: 2018 Type I (T): Table 2 – General Specification
POWEROIL TO 1020 60 UX	IS 335: 2018 Type I (I): Table 2 – General Specification
POWEROIL TO 1020 60 HX	IS 335: 2018 Type I (I) — Clause 7.1 — Specific Requirements for Special Application.
POWEROIL TO 1020 60 SNX	IS 335: 2018 Type I (I) - Clause 7.1 — Specific Requirements for Special Application



APAR Grades	Meeting Indian Standard IS 335: 2018 - Type II
POWEROIL TO 335 H	IS 335: 2018 Type II (U) — Table 2 — General Specification
POWEROIL TO 335 HT	IS 335: 2018 Type II (T) — Table 2 — General Specification
POWEROIL TO 335 HX	IS 335: 2018 Type II (I) — Clause 7.1 — Specific Requirements for Special Application.

Fire Resistant Grade	K Class Natural Ester Fluid
POWEROIL TO NE PREMIUM	IEC 62770: 2013 (With Extended Oxidation Stability up to 164 Hrs), ASTM D 6871: 2017 & IS 16659: 2017

The complete range of Transformer Oil is available in multiple packaging of metal drums, flexi & ISO tank.





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