## **TRANS-PLUS**



TRANSFORMER OILS

328100401



## PREMIUM INHIBITED TRANSFORMER INSULATING OILS

These oils are made from a carefully selected blend of the latest technology feedstocks and are severely refined, resulting in hydro-treated virgin mineral insulating oil with a high degree of purity and stability. They are suitable for use in equipment that requires operation at elevated temperatures and greater oxidation resistance, such as power transformers, distribution transformers, circuit breakers, and oilfilled switches. These inhibited transformer oils have excellent oxidation stability and high dielectric strength. For normal operations, the Transmax uninhibited series may be a suitable alternative. These oils are ideal for use in a wide range of electrical equipment, including power transformers, distribution transformers, circuit breakers, oil-filled switches, and x-ray machines.

| PROPERTY   | METHOD                              | VALUE                    |
|--|-------------------------------------|--------------------------|
| Appearance   |                                     | B&C, free from suspended |
| impurities   |                                     |                          |
| Odour  |                                     | Odourless                |
| FOUT   | ASTM D1500                          | 0,5                      |
| Density @ 20 °C, kg/dm³  | ISO 3675                            | 0.895                    |
| Kinematic viscosity, mm2/s 40°C  | BS EN ISO 3104                      | 16.5                     |
| Kinematic viscosity, mm2/s 27°C  | IS 1448 (part-25)                   |                          |
| Kinematic viscosity, mm2/s -15°C   | BS EN ISO 3104                      | 800                      |
| Kinematic viscosity, mm2/s -30°C   |                                     |                          |
| Flash point PMCC, °C   | BS EN ISO 2719                      | 140                      |
| Pour point, °C   | BS EN ISO 3016                      | ≤-30                     |
| Neutralisation value/Acidity, mg KOH/g   | IEC 62021-1 BS 148-1998             | 0.02                     |
| Corrosive sulphur - Silver strip, 100 °C, 18 h   | DIN 51 353                          | Non corrosive            |
| Corrosive sulphur - Cu Strip, 140°C, 19 h  | BS 5680/IS335 Annex B               | Non corrosive            |
| Corrosive sulphur - Cu Strip, 150 °C, 48 h   | ASTM D1275-B                        | Non corrosive            |
| Corrosive sulphur - Cu Strip & Paper, 150 °C, 72 h   | IEC 62535:08                        | Non corrosive            |
| Water content, max mg/kg, Max - Bulk   | IEC 60814                           | 20                       |
| Water content, max mg/kg, Max - Drum   | IEC 60814                           | 30                       |
| Breakdown voltage - Delivered (kv), min  | IEC & BS EN 60156                   | 30                       |
| Breakdown voltage - After treatment (kv), min  | IEC & BS EN 60156                   | 50                       |
| Anti-oxidant additives, % Max  | IEC 60666/BS 5984                   | ≤0,3%                    |
| Oxidation stability, 164 hrs - Neutralization value, mg KOH/g                                  |                                     | IEC & BS EN 61125        |
| 0,25   |                                     |                          |
| Oxidation stability, 164 hrs - Total sludge (%) max  | Method A&C                          | 0,01                     |
| Oxidation stability, 500 hrs - Neutralization value, mg KOH/g                                  |                                     | IEC & BS EN 61125 1      |
| Oxidation stability, 500 hrs - Total sludge (%) max  | Method A&C                          | 1,0                      |
| Oxidation stability, 500 hrs - DDF @ 90 °C   | IEC 60247                           |                          |
| Oxidation Stability (RBOT), min  | ASTM D2112                          |                          |
| Oxidation Stability-Induction period, hrs  | IEC 474                             | >120                     |
| Dielectric dissipation factor DDF @ 90 °C  | IEC 60247                           | 0.002                    |
| Gassing tendency @ 50 Hz after 120 min. mm3/min, method A (max)                                |                                     | BS 5797/ IEC 60628 A     |
| Total PCB content, mg/kg   | IEC & BS EN 61619                   | Not plotoe table         |
| Total furans, mg/kg  | IEC & BS 61198 <sub>202502V01</sub> | Ot-1 Octherlands         |
| All data on this technical data sheet is indicative only  Polycyclic aromatics % mass, typical | BS 2000 (P:346)                     | 3,00                     |
| interfacial tension, mN/m, min   | ISO 620E                            | 40                       |

TOYARSO PART AINHAT HE THINGS WE VALLE TO PART 373/ISO 14596 No requirement



## **CATEGORY**

Industry Specific

## **BENEFITS**

- Higher flash point, resulting on low evaporation losses and better safety
- Remarkably low sludge and acidity formation, in both ageing and oxidation tests, results in longer life of oil and equipment
- Low viscosity oils offering excellent and fast heat
- Very low sulphur and no DBDS content
- Non corrosive