

### TRAFOL IEC TIN

TRAFOL IEC TIN is a Trace-Inhabited Transformer Oil meeting the IEC 60296 Edition 5 (2020) specifications and is type B TVBT. It possesses excellent electrical and oxidation stability characteristics.

| S. No. | Characteristic                          | Unit     | Test Method                                                          | Guaranteed Data                                     |       |
|--------|-----------------------------------------|----------|----------------------------------------------------------------------|-----------------------------------------------------|-------|
|        |                                         |          |                                                                      | Min.                                                | Max.  |
| A.     | Function                                |          |                                                                      |                                                     |       |
| 1      | Viscosity at 40°C                       | cSt      | ISO 3104                                                             |                                                     | 12    |
| 2      | Viscosity at -30°C                      | cSt      | ISO 3104                                                             |                                                     | 1800  |
| 3      | Pour Point                              | °C       | ISO 3016                                                             |                                                     | - 40  |
| 4      | Water Content, Bulk/ Drum               | ppm      | IEC 60814                                                            |                                                     | 30/40 |
| 5      | Breakdown Voltage                       |          | IEC 60156                                                            |                                                     |       |
|        | As delivered/ After treatment           | kV       |                                                                      | 30 / 70                                             |       |
| 6      | Density at 20°C                         | g/ml     | ISO 3675 or ISO 12185                                                |                                                     | 0.895 |
| 7      | DDF at 90°C                             | -        | IEC 60247 or IEC 61620                                               |                                                     | 0.005 |
| B.     | Refining/ Stability                     |          |                                                                      |                                                     |       |
| 8      | Colour                                  | -        | ISO 2049                                                             |                                                     | 1.5   |
| 9      | Appearance                              | -        | -                                                                    | Clear, free from sediment and suspended matter      |       |
| 10     | Acidity                                 | mgKOH/gm | IEC 62021-1 or -2                                                    |                                                     | 0.01  |
| 11     | Interfacial tension                     | mN/m     | EN 14210 or ASTM D971                                                | 40                                                  |       |
| 12     | Corrosive Sulphur                       | -        | DIN 51353                                                            | Not corrosive                                       |       |
| 13     | Potential Corrosive Sulphur             | -        | IEC 62535                                                            | Not corrosive                                       |       |
| 14     | DBDS                                    | mg/Kg    | IEC 62697 -1 (in prep.)                                              | Not detectable (<5)                                 |       |
| 15     | Antioxidants                            | %        | IEC 60666                                                            | Trace Inhabited (<0.08)                             |       |
| 16     | Metal passivator additives              | mg/Kg    | IEC 60666                                                            | Not detectable (<5)                                 |       |
| 17     | Other additives                         | -        |                                                                      | Does not contain any other additives                |       |
| 18     | 2-Furural and related compounds content | mg/Kg    | IEC 61198                                                            | Not detectable (<0.05) for each individual compound |       |
| C.     | Performance                             |          |                                                                      |                                                     |       |
| 19     | Oxidation Stability                     |          | IEC 61125:1992 (Method C) Test duration — (I) Inhibited Oil 500 hrs. |                                                     |       |
| a)     | Total acidity                           | mgKOH/gm | 1.9.4 of IEC 61125:1992                                              |                                                     | 1.2   |
| b)     | Sludge                                  | %        | 1.9.1 of IEC 61125:1992                                              |                                                     | 0.8   |
| c)     | DDF at 90°C                             | -        | 1.9.6 of IEC 61125:1992, Amendment 1 (2004)+ IEC 60247               |                                                     | 0.5   |
| D.     | Health, Safety and Environment (HSE)    |          |                                                                      |                                                     |       |
| 20     | Flash Point                             | °C       | ISO 2719                                                             | 135                                                 |       |
| 21     | PCA content                             | %        | IP 346                                                               |                                                     | 3     |
| 22     | PCB content                             | mg/Kg    | IEC 61619                                                            | Not detectable (<2)                                 |       |

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