

ISOVOLTINE 410



TRANSFORMER OIL



TOTAL

Type II transformer oil

APPLICATIONS

Type II inhibited
electrical insulating oil

- **ISOVOLTINE 410 OIL** is a naphthenic mineral oil that meets the requirements of Type II ASTM D 3487 fluid specifications.
- Recommended for use in electrical equipment under severe conditions such as distribution, substation transformers, circuit breakers, oil filled capacitors, switches, tap changers and electrical reclosures. It may also be used in applications requiring a low viscosity naphthenic mineral oil.

SPECIFICATIONS

International
specifications

- ASTM D 3487 type II fluid
- NEMA TR-P8-1975
- ISO 6743/ Category N

ADVANTAGES

High operating reliability

- Excellent oxidative stability
- Very low pour point
- Contains no PCBs
- Excellent electrical insulating properties

TYPICAL CHARACTERISTICS ISOVOLTINE 410 OIL

Viscosity at 40°C, cSt ASTM D 445	10.9
Specific gravity 60/60 F ASTM D 1298	0.896
Flash point °F (°C) ASTM D 92	300 (149)
Pour point, °F (°C) ASTM D-97	-80 (-62)
Color ASTM D 1500	L0.5
Dielectric Strength, kV (30 minimum) ASTM D 877	40
Dielectric breakdown: 60 Hz, disc electrodes, kV ASTM D 877	38
KV 1.01 mm gap ASTM D 1816 (28 minimum)	173
Antioxidant content, weight percent ASTM D 1473	0.15 min
Gassing tendency, microliters/min, ASTM D 2300-A/B	+15/+30
Oxidation stability ASTM D 2440 72 hrs, % sludge (0.15 max)	0.1
Acid number (0.5 max)	0.1
164 hrs, % sludge (0.3 max)	0.1
Acid number (0.6 max)	0.1
Voltage impulse, 1 inch gap, kV ASTM D 3300 (145 minimum)	>300
Power factor @ 100 C, %, ASTM D 924	0.1
Interfacial tension, Dynes/cm ASTM D 971	42

TOTAL Lubricants USA Southwest

TOTAL Lubricants USA, Inc.

400 Chisholm Place, Suite 418,
Plano, Texas 75075
800-442-5823 or 469-241-0950
www.finalube.com

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5 North Stiles Street
Linden, NJ 07036
908.862.9300 or 800.526.4127
www.total-us.com

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