

ISOVOLTINE 410



LUBRICATION



TOTAL

ELECTROTECHNICAL FLUID

APPLICATIONS

- **ISOVOLTINE 410** is a naphthenic mineral oil that meets the latest requirements for low temperature switchgear and transformer oil.
- **ISOVOLTINE 410** is recommended for use in electrical equipment such as distribution, substation transformers, circuit breakers, oil filled capacitors, switches, tap changer and electrical re-closures. It may also be used in other applications requiring a low viscosity naphthenic mineral oil.

SPECIFICATIONS

- ASTM D 3487 Type II Fluid
- ISO 6743 Category N
- NEMA TR-P8-1975
- CAN/CSA-C50-97
- IEC 60296, Ed 4.0/2012

ADVANTAGES

- Excellent oxidative stability.
- Very low pour point.
- Contains no PCB's, no Sulfur
- Excellent electrical insulating properties.

TYPICAL CHARACTERISTICS	METHODS	ISOVOLTINE 410
Color	ASTM D 1500	L0.5
Viscosity at 40°C, cSt	ASTM D 445	10.9
Specific Gravity @ 60/60 °F	ASTM D 1298	0.890
Flash Point, COC, °F(°C)	ASTM D 92	300(149)
Pour Point, °F(°C)	ASTM D 97	-80(-62)
Dielectric Strength, kV	ASTM D 877	50 (35 minimum)
Dielectric Breakdown: 60Hz, disc electrodes, kV	ASTM D 877	38
KV 1.01mm gap	ASTM D 1816	173 (28 minimum)
Antioxidant Content, %wt.	ASTM D 1473	0.15 min.
Gassing Tendency, microliters/min	ASTM D 2300-B	+15 (+30 maximum)
Voltage Impulse, 1" gap, kV	ASTM D 3300	> 300 (145 minimum)
Power Factor, 100°C, %	ASTM D 924	0.1
Interfacial Tension, Dynes/cm	ASTM D 971	42
Oxidation Stability, 72 hrs., % sludge	ASTM D 2440	0.1 (0.15 maximum)
Acid Number		0.1 (0.5 maximum)
Oxidation Stability, 164 hrs., % sludge	ASTM D 2440	0.1 (0.3 maximum)
Acid Number		0.1 (0.6 maximum)

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