



## SOLEX Transformer Oil

**STARFIRE SOLEX Transformer Oil** is an electrical insulating oil produced from severely hydrotreated naphthenic base oils to meet the specifications defined in ASTM D 3487. It is formulated with an oxidation inhibitor to minimize formation of acids and sludge in service to minimize oil deterioration and extend the operating life of the immersed components.

### APPLICATIONS

- Oil-immersed transformers and electrical components
- Circuit breakers and electrical fuses
- Switches
- Tap changers
- Any application requiring a low viscosity, low pour point, high quality naphthenic base oil.

### MEETS REQUIREMENTS OF:

- ANSI/ ASTM D 3487 Type II Inhibited Oil
- Federal VV-I-530A, Class II Specification
- NATO symbol S-756, British Standard BS148:1972
- GE A13A3A2 (10CA) Specification IEC 296 Class IIA Specification NEMA Type II TR-P8-1975 IEEE
- IEC 60296
- Westinghouse Specification PDS 55822AG

### BENEFITS

- Excellent oxidation stability - Formulated with oxidation inhibitors which minimize the formation of sludge, acids, esters, peroxides and moisture which are the major cause of deterioration of the insulating oil. This allows components to operate at higher temperatures for longer periods, increasing component life.
- Low pour point and low viscosity - Allows oil to penetrate solid insulation to help convey heat from core materials to reduce operating temperature and increase component life under a wide range of operating conditions.
- High dielectric strength and low power factor provide excellent insulating properties.
- Noncorrosive to copper and copper alloys
- Does not contain any PCBs

PHYSICAL PROPERTIES		Min	Max	Typical
Viscosity, SUS @ 37.8 °C	ASTM D445		66	59.2
Viscosity, SUS @ 98.9 °C	ASTM D445		36	34.0
Viscosity, cSt @ 0°C	ASTM D445		76	64.2
Viscosity cSt @ 40°C	ASTM D341		12	9.3
Viscosity, cSt @ 100°C	ASTM D341		3	2.3
Flash Point, COC, °C	ASTM D92	145	0	155
Color, ASTM	ASTM D6045		0.5	L0.5
Pour Point, °C	ASTM D5949		-40	-64
Interfacial Tension, 25°, dynes/cm	ASTM D971	40		51
Visual Examination	ASTM D1524	Clear & Bright		Clear & Bright

ELECTRICAL PROPERTIES		Min	Max	Typical
Dielectric Breakdown @ 60 Hz, Disk electrodes, kV	ASTM D877	30		40
Dielectric Breakdown @ 60 Hz, VDE, kV (2.03-mm) gap	ASTM D1816	35		47
Power Factor @ 60 Hz, 25°C, %	ASTM D924		0.05	0.005
Power Factor @ 60 Hz, 100°C, %	ASTM D924		0.3	0.075
Gassing Tendency, ul/min	ASTM D2300		30	12

CHEMICAL PROPERTIES		Min	Max	Typical
Oxidation Stability	ASTM D2440			
72 hr: Sludge, % by mass			0.1	<0.01
Total Acid Number, mg KOH/g			0.3	<0.01
164 hr: Sludge, % by mass			0.2	<0.01
Total Acid Number, mg KOH/g			0.4	<0.01
Oxidation Stability (rotating Bomb Test), minutes	ASTM D2112	195		248
Corrosive Sulfur	ASTM D1275 (B)	Noncorrosive		Noncorrosive
Water Content, ppm	ASTM D1533		35	9
Neutralization Number, mg KOH/g	ASTM D974		0.03	<0.01
Aniline Point, °C	ASTM D611	63	84	74.7
PCB Content, ppm	ASTM D4059		Not Detected	Not Detected