

PARATRAN™ ELECTRICAL INSULATING OILS (ASTM D3487)

Calumet has more than 25 years of experience producing highly refined, clean and stable electrical insulating fluids. The PARATRAN line of paraffinic transformer oils is a portfolio of customized products, formulated to fully meet specific global specifications – thus providing customers flexibility in choosing the transformer oils that meet their specific requirements. Calumet is a long-standing participant in the Annual DOBLE Survey on transformer oil.

Developed in-house by Calumet's R&D group, PARATRAN transformer oils have excellent dielectric properties, high thermal stability and good resistance to oxidation. PARATRAN transformer oils fully meet ASTM D3487 specifications for Type I and Type II mineral insulating oil in electrical apparatus.

PRODUCT FEATURES

- Excellent physical, chemical and electrical properties
- Good oxidation resistance
- Rapid heat transfer properties
- Outstanding low temperature properties without the need for pour point depressants
- Miscible with all comparable hydrocarbon-based transformer oils
- Meets ASTM D3487 Type I and Type II application specifications

TECHNICAL ASSISTANCE

For product or technical questions, contact your Sales Representative or Calumet Product Support at (800) 437-3188 or email technical@calumet.com.

Calumet's sampling and testing procedures in effect at the time of production will be used for certification testing. Results may be based on tank certification, manufacturing data, periodic testing and/or most recent product restock. Typical values only represent the values one would expect if the property were tested in our laboratories with our test methods on the specified date. Some product properties are not frequently measured, and accordingly typical values are not based on a statistically relevant number of tests. The information in this document relates only to the named product. The user is solely responsible for all determination regarding any use and any process.

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TYPICAL PROPERTIES

PROPERTIES	METHOD	60-08	60-30
Type		Type I	Type II
Viscosity @ 0 °C (cSt)	D445	31.41	48.67
Viscosity @ 40 °C (cSt)	D445	7.74	7.73
Viscosity @ 100 °C (cSt)	D445	2.19	2.20
API Gravity @ 60 °F	D4052	34.9	34.9
Density @ 15 °C Kg/Dm3	D4052	0.8500	0.8500
Flash Point, COC (°C)	D92	152	154
Pour Point (°C)	D97	-48	-46
Color, ASTM	D1500	L0.5	L0.5
Aniline Point (°C)	D611	89.8	90.8
Neutralization Number (mg KOH/g)	D974	0.002	0.002
Water Content (ppm)	D1533	6	2
Dielectric Breakdown Voltage @ 60 Hz			
Disk Electrodes, Min, kV	D877	37	36
VDE Electrodes, Min, kV 0.040-in. (1.02-mm) gap	D1816	57	60
VDE Electrodes, Min, kV 0.080-in. (2.03-mm) gap	D1816	57	46
Dielectric Breakdown Voltage, Impulse Conditions	D3300	300	300
Corrosive Sulfur	D1275B	Non-corrosive	Non-corrosive
Interfacial Tension (dyne/cm)	D971	51.0	53.0
Oxidation Stability			
72 HR Sludge, Mass%	D2440	0.02	0.02
72 HR Acid No., mg KOH/g	D2440	0.00	0.01
164 HR Sludge, Mass%	D2440	0.02	0.02
164 HR Acid No., mg KOH/g	D2440	0.01	0.02
Oxidation Inhibitor Content (Mass %)	D2668	0.08	0.30
Oxidation Stability, RPVOT (min)	D2112	-	195
Gassing Tendency (µL/min)	D2300	29	5
Power Factor @ 25 °C (%)	D924	0.003	0.001
Power Factor @ 100 °C (%)	D924	0.02	0.02
PCB Content (ppm)	D4059	<1	<1
ASTM D3487 Standards		PASS	PASS