

CALTRAN[®] C50

ELECTRICAL INSULATING OILS

CALTRAN[®] C50 insulating oils are developed using high quality base stocks to deliver a product that provides excellent performance in electrical service. CALTRAN C50 insulating oils are designed and manufactured to provide cooling and insulating properties as well as promote resistance to oxidation and sludge formation.

CALTRAN C50 insulating oils are recommended for use in electrical applications subject to extremely cold conditions and forced oil cooling systems. Potential applications include load transformers, tap changers, switches and circuit breakers required to operate at ambient temperatures below -25 °C.

CALTRAN C50 insulating oils meet or exceed Canadian Standards Association C50-14 specifications for Class A and Class B, Type I and Type II insulating oils.

PRODUCTS

| C50A & C50B UNINHIBITED (TYPE I) | C50A & C50B INHIBITED (TYPE II) | C50A INHIBITED (TYPE II) NEGATIVE GASSING |
|----------------------------------|---------------------------------|---|
| CALTRAN 60-08 C50A | CALTRAN N60-30 C50A | CALTRAN N60-30 C50A |
| CALTRAN 60-08 C50B | CALTRAN 60-30 C50B | |

FEATURES

- Excellent Low Temperature Fluidity
- Outstanding Corrosion Control
- Exceptional Insulating Properties
- Superior Oxidation Stability

BENEFITS

- Improves circulation and heat transfer for operation at low temperatures in remote locations
- Ability to withstand high levels of electrical field strength while assisting in the prevention of corona discharge or arcing
- Highly refined to remove corrosive sulfur compounds which prevents corrosion of copper components and formation of copper sulfides
- Oxidatively stable for long service life

PACKING & SHIPPING

Available in:

- Tank Truck
- Rail Car

Please inquire for drums

HANDLING & SAFETY

This product should be stored in sealed containers at ambient temperature. Read and understand the Safety Data Sheet (SDS) before using this product.

CALTRAN® TYPICAL PROPERTIES

| PROPERTIES | METHOD | 60-08 C50A | 60-08 C50B | N60-30 C50A | 60-30 C50B |
|---|------------------------|---------------|---------------|---------------|---------------|
| Class | | Class A | Class B | Class A | Class B |
| Type | | Type I | Type I | Type II | Type II |
| Flash Point, COC (°C) | ASTM D92 | 146 | 153 | 149 | 150 |
| Viscosity @ 40 °C (cSt) | ASTM D7279 | 7.70 | 8.74 | 7.75 | 8.14 |
| Viscosity @ 0 °C (cSt) | ASTM D445 | 42.78 | 53.86 | 44.04 | 47.75 |
| Viscosity @ -40 °C (cSt) | ASTM D445 | 1,511 | 2,000 | 1,780 | 2,087 |
| Pour Point (°C) | ASTM D97 | -65 | -65 | -56 | -63 |
| Color, ASTM | ASTM D1500 | L0.5 | L0.5 | L0.5 | L0.5 |
| Dielectric Breakdown @ 60 Hz, Disc (kV) | ASTM D877 | 38 | 41 | 39 | 41 |
| Dielectric Breakdown, VDE @ 2 mm gap (kV) | ASTM D1816 | 46 | 60 | 45 | 60 |
| Dielectric Breakdown Impulse (kV) | ASTM D3300 | 288 | 397 | 300 | 300 |
| Gassing Tendency (µL/min) | ASTM D2300 | 15 | 12 | -9 | 15 |
| Interfacial Tension (dyne/cm) | ASTM D971 | 49.0 | 48.9 | 47.2 | 47.1 |
| Density @ 15 °C (kg/m3) | ASTM D4052 | 0.8774 | 0.8743 | 0.8758 | 0.8772 |
| Power Factor @ 25 °C (%) | ASTM D924 | 0.042 | 0.004 | 0.004 | 0.001 |
| Power Factor @ 100 °C (%) | ASTM D924 | 0.01 | 0.07 | 0.01 | 0.05 |
| Neutralization Number (mg KOH/g) | ASTM D974 | 0.002 | 0.014 | 0.010 | 0.003 |
| Strong Acids (mg KOH/g) | ASTM D974 | NIL | NIL | NIL | NIL |
| Corrosive Sulfur | ASTM D1275B | Non-corrosive | Non-corrosive | Non-corrosive | Non-corrosive |
| Potentially Corrosive Sulfur | IEC 62535 | Non-corrosive | Non-corrosive | Non-corrosive | Non-corrosive |
| DBDS Content (ppm) | IEC 62697-1 | < 5 | < 5 | < 5 | < 5 |
| Oxidation Inhibitor Content (%) | ASTM D2668 | 0.06 | 0.06 | 0.28 | 0.27 |
| Oxidation Stability | ASTM D2440 | | | | |
| 72 Hours @ 110 °C, Acid Number, mg KOH/g | Sludge (%) | 0.01 | 0.01 | 0.01 | 0.01 |
| 72 Hours @ 110 °C, Sludge % | Acid Number (mg KOH/g) | 0.02 | 0.01 | 0.01 | 0.01 |
| 164 Hours @ 110 °C, Acid Number, mg KOH/g | Sludge (%) | 0.01 | 0.05 | 0.01 | 0.04 |
| 164 Hours @ 110 °C, Sludge % | Acid Number (mg KOH/g) | 0.08 | 0.01 | 0.01 | 0.02 |
| Oxidation Stability, RPVOT (minutes) | ASTM D2112 | | | 280 | 265 |
| Water Content (ppm) | ASTM D1533 | 12 | 14 | 7 | 9 |
| PCB Content (ppm) | ASTM D4059 | < 1 | < 1 | < 1 | < 1 |
| 2-Furaldehyde (µg/L) | ASTM D5837 | 6 | 6 | 5 | 5 |

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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