

HyVolt NE

Bio-Based Dielectric Fluid Marketing Specification

HyVolt NE is a renewable soy vegetable oil based ester fluid developed for use as a dielectric and cooling medium in new and existing power and distribution electrical apparatuses such as transformers and other equipment. HyVolt NE is a renewable and readily biodegradable fluid exceeding the requirements defined in ASTM D6871.

| TEST DESCRIPTION | TEST METHOD | SPECIFICATIONS | | TYPICAL VALUES |
|---|-------------|-----------------------|-------|-----------------------|
| | | MIN | MAX | |
| Physical Properties | | | | |
| Viscosity, cSt at 100°C | ASTM D445 | | 15.0 | 7.6-8.3 |
| Viscosity, cSt at 40°C | ASTM D445 | | 50.0 | 31-34 |
| Viscosity, cSt at 0°C | ASTM D445 | | 500.0 | 187-190 |
| Specific Gravity, 15°C/15°C | ASTM D4052 | | 0.96 | 0.92 |
| Flash Point, COC, °C | ASTM D92 | 275 | | 320-330 |
| Color, ASTM | ASTM D6045 | | 1.0 | 0.5 |
| Pour Point, °C | ASTM D5950 | | -10 | -18 to -21 |
| Visual Examination, 25°C | ASTM D1524 | Clear & Bright | | Clear & Bright |
| Fire Point, °C | ASTM D92 | 300 | | 350-360 |
| Biodegradation | OECD 301B | Readily Biodegradable | | Readily Biodegradable |
| Electrical Properties | | | | |
| Dielectric Breakdown at 60 Hz, Disk Electrodes, kV | ASTM D877 | 30 | | >45 |
| Dielectric Breakdown at 60 Hz, VDE, kV (1.0-mm) gap | ASTM D1816 | 20 | | >25 |
| Dielectric Breakdown at 60 Hz, VDE, kV (2.0-mm) gap | ASTM D1816 | 35 | | >50 |
| Impulse Breakdown Voltage, kV at 25°C | ASTM D3300 | 130 | | 140 |
| Power Factor at 60 Hz, 25°C, % | ASTM D924 | | 0.20 | 0.010-0.15 |
| Power Factor at 60 Hz, 100°C, % | ASTM D924 | | 4.00 | 1.00-3.85 |
| Gassing Tendency, µL/min | ASTM D2300 | | 0 | <-65 |
| Chemical Properties | | | | |
| Corrosive Sulfur | ASTM D1275 | Noncorrosive | | Noncorrosive |
| Water Content, ppm | ASTM D1533 | | 200 | 4-50 |
| Neutralization Number, mg KOH/g | ASTM D974 | | 0.06 | 0.01-0.05 |
| PCB Content, ppm | ASTM D4059 | Not Detected | | Not Detected |