Mylar® Specialty Films

## Technical Datasheet - US Customary Units

# Melinex® 238

### Product Description

Melinex® 238 is a translucent white polyester film used for electical insulation. It has been specially developed for use as an electrical insulation material in rotating electrical machines. It is available in a range of thicknesses between 300 and 1400 gauge. This is a low oligomer film suitable for hermetic motor applications where oligomer extraction needs to be limited. It is available in thicknesses of 300, 500, 760, 900, 1000, 1200 and 1400 gauge.

### Approvals

**UL Component Registration (RTI = 140/125°C) -** for 300 gauge film (0.075 mm) the RTI is 140°C (Electrical) and 125°C (Mechanical - STR)
**UL Component Registration (RTI = 140/130°C) -** for 1000 gauge film (0.25 mm) the RTI is 140°C (Electrical) and 130°C (Mechanical - STR)

### Typical Properties

| Property | Thickness | Value | Units | Test |
|---|---|---|---|---|
| **BARRIER** | | | | |
| Water Absorption | 300 - 1400 | 0.55 | % | ASTM D570-63 (1972), 1 week at 23°C |
| | | | | |
| **ELECTRICAL** | | | | |
| Breakdown Voltage | 500 | 16 | kV | 50 Hz continuously increasing at 500 V/sec, 6.3 mm electrodes |
| Breakdown Voltage | 760 | 19 | kV | 50 Hz continuously increasing at 500 V/sec, 6.3 mm electrodes |
| Breakdown Voltage | 1000 | 23 | kV | 50 Hz continuously increasing at 500 V/sec, 6.3 mm electrodes |
| Breakdown Voltage | 1400 | 26 | kV | 50 Hz continuously increasing at 500 V/sec, 6.3 mm electrodes |
| Surface Resistivity | 300 - 1400 | > 10^13 | Ohms/sq | ASTM D257, 500 V DC @ 20°C 54% RH |
| Volume Resistivity | 300 - 1400 | 10^15 | log Ohm m | 100 V D.C. @ 25°C for 100 sec |

| | | | | |
|---|---|---|---|---|
| **PHYSICAL** | | | | |
| C.O.F. (static) | 300 - 1400 | 0.30 | | ASTM D1894 |
| Density | 300 - 1400 | 1.4 | g/cc | ASTM D1505 |
| Elongation at Break MD | 300 - 1400 | 150 | % | ASTM D882A |
| Elongation at Break TD | 300 - 1400 | 130 | % | ASTM D882A |
| Oligomer Extraction | 300 - 1400 | 0.6 | % | 24 hours boiling Xylene |
| Tensile Strength MD | 300 - 1400 | 29.9 | kpsi | ASTM D882A |
| Tensile Strength TD | 300 - 1400 | 31.3 | kpsi | ASTM D882A |
| Yield (nominal) | 500 | 4,000 | $in^2/lb$ | |
| Yield (nominal) | 760 | 2,600 | $in^2/lb$ | |
| Yield (nominal) | 1000 | 2,000 | $in^2/lb$ | |
| Yield (nominal) | 1400 | 1,400 | $in^2/lb$ | |

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