

APICAL® 500 AV



APICAL polyimide film possesses an excellent balance of physical, thermal, electrical and chemical properties over a wide range of temperatures (-269°C [752°F]). More precise thickness control, superior web flatness, plus improved adhesion and excellent dimensional stability are standard features with Apical polyimide films.

Major Applications

- Polyimide base materials for FPC.
- Motor generator insulation.
- Wire and cable insulation
- Barcode label.
- Pressure sensitive tape
- Specialty Fabricated Parts

Construction

| Items | Mils | Microns |
|-------------------|------|---------|
| Nominal Thickness | 4.92 | 125 |
| PI | 4.92 | 125 |

Mechanical Properties

| Items | Units | Test Method |
|---------------------------------|-----------|-------------|
| Tensile Strength MD, kpsi (MPa) | 34 (233) | ASTM D882 |
| Tensile Strength TD, kpsi (MPa) | 36 (246) | ASTM D882 |
| Tensile Modulus MD, kpsi (GPa) | 420 (2.9) | ASTM D882 |
| Tensile Modulus TD, kpsi (GPa) | 428 (3.0) | ASTM D882 |
| Elongation MD (TD), % | 105 (99) | ASTM D882 |

Thermal Properties

| Items | Units | Test Method |
|---|-------|----------------|
| Heat Shrinkage MD % | 0.07 | 200 dC – 2 hrs |
| Heat Shrinkage TD % | 0.03 | 200 dC – 2 hrs |
| Coefficient of Thermal Expansion MD, ppm/dC | 32 | TMA 100-200 |
| Coefficient of Thermal | | |

| | | |
|----------------------------|----|-------------|
| Expansion TD, ppm/dC dC | 31 | TMA 100-200 |
|----------------------------|----|-------------|

Electrical Properties

| Items Method | Units | Test |
|-----------------------------|--------|-----------|
| Dielectric Strength, KV/mil | 3.8 | ASTM D149 |
| Dielectric Constant, 1kHz | 3.2 | ASTM D150 |
| Dissipation Factor, 1kHz | 0.0019 | ASTM D150 |
| Volume Resistivity, Ohm-cm | >1E+16 | ASTM D257 |

Physical Properties

| Items Method | Units | Test |
|---|-------|-----------------|
| Water Absorption, % | 2.7 | IPC-TM650-2.6.2 |
| Coefficient of Humidity Expansion Typical, ppm/%RH | 16 | HMA |
| Density, g/cm ³ | 1.42 | ASTM D1505 |
| Yield, ft ² /lb (m ² /kg) | 27(6) | |

The data noted in these technical data sheets are given as examples and are not intended to be read as guaranteed values.

Kaneka

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