



Polyester Films for Electrical Insulation



The industry standard for electrical insulation

For over sixty years, Mylar® and Melinex® polyester films have been key components in electrical insulation systems and provide the ideal solution for various industry sectors such as Renewable Energy, Automotive, Industrial Equipment, Household, Lighting & Cable.

For applications that need electrical insulation systems offering high reliability and long service life, Mylar® A is the industry standard polyester film providing the optimum combination of mechanical strength, thermal resistance and durability. Mylar® A is available in the thickness range of 23 to 500 micron from our manufacturing plants in the UK, USA and China.

Good Balance of Mechanical Properties

- A strong tough material which is suitable for mechanical forming and allows easy roll to roll lamination

Superior thermal performance with resistance to temperature peaks up to 150 °C

- Making suitable for motors operating at elevated temperatures

Underwriter Laboratories Recognition

- QMFZ2-E93687

High Dielectric Strength

- Breakdown voltage of 23kV at a thickness of 250 micron

Chemically Resistant

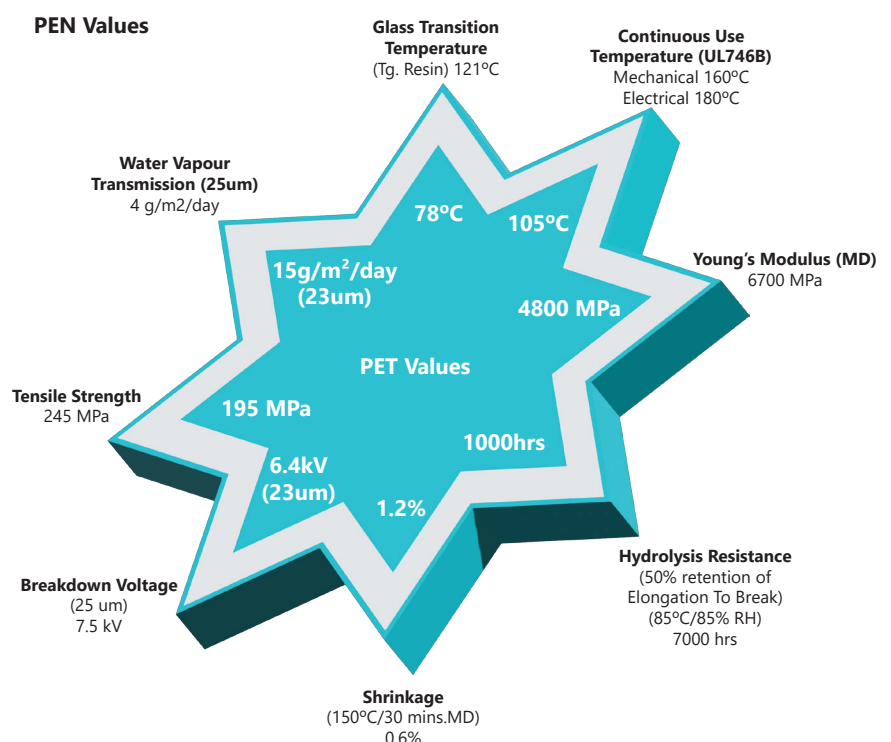
- Excellent resistance to solvents and resins commonly used in the production of electrical laminates and machines

Kaladex® PEN films in electrical insulation

Kaladex® PEN films can be handled and processed in a similar way to more familiar films based on polyethylene terephthalate (PET), but the distinct polymer chemistry of PEN provides several superior properties including greater resistance to heat and hydrolysis, better dimensional stability and higher modulus. Kaladex® PEN has an RTI suitable for use in Class F (155 °C) applications, with the possibility of use as a system component at higher classes

The main grade used in electrical insulation applications is Kaladex® 2000 which exhibits the following key features:

- Elevated RTIs of 160 °C mechanical and 180 °C electrical under UL746B (File E93687)
- Good mechanical strength with stiffness 25% higher than PET
- Excellent dielectric strength (typically 8 x aramid paper)
- Good thermal conductivity (2 x aramid paper at same thickness)
- Greater hydrolysis resistance compared to standard PET
- Low moisture absorption
- Excellent solvent resistance
- Very low oligomer extraction in hermetic motor applications.



Range of films for electrical insulation applications

Film Type	Thickness Micron (gauge)	Film Description
Mylar® A	23, 36, 50, 75, 100, 125, 190, 250, 300, 350, 500 (92, 144, 200, 300, 400, 500, 760, 1000, 1200, 1400, 2000)	Milky white film with high dielectric strength, temperature durability and dimensional stability.
Mylar® ADS	50, 75 (200, 300)	Low shrink version of Mylar® A. Suitable for FPC and MTS circuitry. Other thicknesses possible subject to a suitable commercial case.
Melinex® 238	75, 125, 190, 250, 350 (300, 500, 760, 1000, 1400)	Milky white film with low oligomer content and superior thermal performance specifically for insulation in hermetic compressor motors.
Kaladex® 2000	16, 25, 38, 50, 75, 100, 125 (64, 100, 152, 300, 400, 500)	High performance polyethylene naphthalate (PEN) film with UL-recognised RTIs of 160 °C mechanical and 180 °C electrical, suitable for use in Class F (155 °C) applications with the possibility of use as a system component at higher classes.



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