

Capacitors



Delivering speciality solutions for capacitors

DuPont Teijin Films is the leading supplier of PET and PEN thin films for capacitor dielectrics. Our unique simultaneous stretching process gives our thin films an optimum balance of mechanical properties and thermal shrinkages which makes them the films of choice for both wound and stacked capacitors. In addition this specialised stretching process minimises surface defects and leads to fewer voltage breakdown events in the finished capacitor.

DuPont Teijin Films supplies three types of films for capacitor dielectrics:

Mylar® (PET)

Mylar® film capacitors are used in a wide range of applications where their smaller physical size than other filmic material capacitors makes them ideal for miniaturisation of devices such as mobile phones etc.

Mylar® film can be readily metallised or can be combined with layers of aluminium foil to produce wound and stacked capacitors as well as SMD capacitors.

The ability of metallised Mylar® film to 'self heal' should there be any localized breakdowns gives an advantage for higher voltage applications.

DuPont Teijin Films produces a wide range of Mylar® films tailored to individual capacitor types to ensure the maximum performance in use.

Kaladex® (PEN)

In situations where a higher service temperature is required Kaladex® films are often used. Typical applications are in lead free soldered SMD capacitors and automotive lighting.

Kaladex®HV (PEN HV)

DuPont Teijin Films has under development its Kaladex® HV film which provides a dielectric with a high service temperature and highest energy density compared to all current dielectrics.

In addition when metallised it has excellent self healing properties.

Potential Kaladex® HV applications are high temperature power applications such as DC link in EV/HEV automotive and avionics, industrial energy conversion and renewable energy.

Typical properties for DuPont Teijin Films Capacitor dielectrics

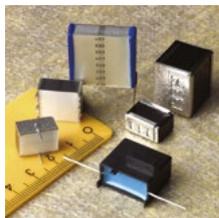
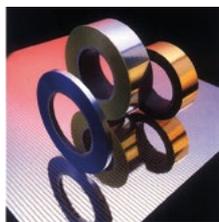
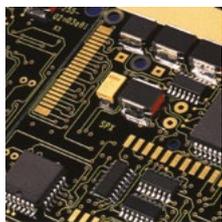
FILM	Dielectric Constant 25°C, 1KHz	Dissipation Factor (%) 25°C, 1khz	Breakdown Strength (V/mm)	Max. Temp (°C)
Mylar® (PET)	3.25	0.5	290 - 350	125°C
Kaladex® (PEN)	3.05	0.5	280 - 300	150°C
Kaladex® HV (PEN HV)	2.95	0.3	450 - 525	175°C

Mylar® (PET)
Kaladex® (PEN)

Product range for DuPont Teijin Films Capacitor dielectrics

Film Name	Film Type	Thickness (Micron)	Description
Mylar® C	PET	2.5 - 12.0	General purpose film with excellent thermal & mechanical properties
Mylar® CLS	PET	4.0, 4.8, 6.0	Improved thermal stability for stacked capacitors in SMD applications
Mylar® CLS02	PET	1.7, 1.9, 2.4	Improved thermal stability for stacked capacitors in SMD applications Special low shrinkage version of Mylar® C
Mylar® CN	PET	5.2	Special low shrinkage version of Mylar® C
Mylar® CS02	PET	1.2 - 2.4	Specially designed for stacked capacitors (lower shrinkage compared to CW02)
Mylar® CS03	PET	1.2 - 2.3	Smoother film for low air layer
Mylar® CW02	PET	0.9 - 2.4	Specially designed for wound capacitors
Kaladex® HV	PEN HV	3.0 - 8.0	High temperature dielectric for power applications
Kaladex® Q71	PEN	6.0, 7.0	High service temperature dielectric
Kaladex® Q72	PEN	1.2 - 6.0	High service temperature dielectric - low shrinkage film

DuPont Teijin Films is a leading Innovator in PET and PEN film technologies with development laboratories throughout the world. We would be delighted to discuss your requirements for new capacitor films to enable you to address the challenges that you find in your market today.



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