

Electrical insulating materials

Tecfilm® PEN TC 00140

Composition: Tecfilm® PEN TC 00140 is a flexible, light turbid, biaxial orientated polyethylene naphthalat (PEN) film.

Property: Tecfilm® PEN TC 00140 has better properties in comparison to PET-polyester films in many ways. The increased temperature resistance leads to a classification of the film to temperature class F (155°C). According to UL it has an electrical relative temperature index (RTI) of 180°C and a mechanical RTI of 160°C. Further advantages of Tecfilm® PEN TC 00140 are: very high dielectric strength, great mechanical strength, high rigidity, low moisture absorption, simple lamination.

Application: Tecfilm® PEN TC 00140 was especially developed for the usage in electrical motors with higher stress as slot and phase insulation as well as slot closure.

Delivery form: Tecfilm® PEN TC 00140 is available in the following thicknesses: 12, 16, 25, 38, 50, 75, 100, 125, 188, 250 µm, as well as in a width of 6 mm to 1000 mm.

Tecfilm® PEN TC 00140

Property	Test method	Unit	Value
Density	JIS C-2151	g/cm ³	1.36
Tensile strength	JIS C-2318	kg/mm ²	28
Elongation at break	JIS C-2318	%	90
Water absorption	TDF Method	%	0.3
Shrinking at 150°C longitudinal	JIS C-2318 (TDF Method)	-	0.4
Shrinking at 150°C crosswise	JIS C-2318 (TDF Method)	-	0.0
Shrinking at 200°C longitudinal	JIS C-2318 (TDF Method)	-	2.0
Shrinking at 200°C crosswise	JIS C-2318 (TDF Method)	-	1.0
Coefficient of thermal expansion	TDF Method	1/°C	13 x 10 ⁻⁶
Melting temperature	DSC	°C	269
Dielectric strength	JIS C-2318	kV/mm	250
Dielectric constant (AC 60 Hz, 25°C)	JIS C-2318	-	3.0
Dissipation factor at (AC 60 Hz, 25°C)	JIS C-2318	-	0.003
Volume resistivity	JIS C-2118 at 25°C	Ω/m	10 ¹⁸
Surface resistance	JIS C-2118 at 25°C	Ω/m	2.10 ¹⁷

Trademark information: Tecfilm® is a registered trademark of Dr. Dietrich Müller GmbH, Germany.

Please note:

The information in this data sheet is based on our current knowledge and experience. They do not disengage the fabricator and user from own tests and inspections because of the plenty of possible effects. There is no judicial binding assurance of certain properties or of the qualification for a concrete application in our declaration. We recommend consulting us in individual cases. The acceptor of our products has to observe possible industrial property rights as well as present laws by himself.

Dr. Dietrich Müller GmbH