SynFlex Elektro GmbH
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Teonex® Q5100

Teonex® Q5100 is a flexible, slightly cloudy, biaxially oriented polyethylenenaphthalate (PEN) film.

Attributes

Compared to PET polyester film, Teonex® Q5100 has optimum properties in every respect.
The increased temperature resistance results in film approval in thermal class F (155 °C). It has a electrical relative temperature index (RTI) of 180 °C and a mechanical RTI of 160 °C according to UL.
Further advantages of Teonex® Q5100 are:

- extremely high dielectric strength
- very good mechanical strength
- high-level of stiffnes
- low water absorption
- easy to laminate

Application

Teonex® Q5100 was specially developed for use in electric motors with increased load as slot insulation, phase insulation and wedges.

Standards

- Class F (155 °C) insulating material
- UL approved, file no. E51743

Delivery forms

Film thicknesses in µm:

- from 16, 25, 38, 50, 75,100, 125, 250

Teonex® Q5100 can be supplied:

- in slit rolls from widths of 6 mm (depending on thickness) and above.
- in rolls up to a width of 1,000 mm

Overall diameter of the slit rolls/ rolls

- approx. 240, 330 or 450 mm.

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Updated 06/24

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Feathering:

- depth approx. 1 - 12 mm, distance approx. 1 - 10 mm
- from widths of 10 to 240 mm and thickness of 0.125 mm

Base

Polyethylennaphthalte

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Mechanical	Unit of measure						
Nominal thickness	µm	16	25	38	50	75	100
Elongation at break longitudinal	%	40	45	55	60	65	80
Elongation at break transversal	%	40	40	55	60	65	70
Shrinkage (30 min at 150 °C) longitudinal	%	1.0	1.0	0.5	0,4	0.5	0.3
Shrinkage (30 min at 150 °C) transversal	%	0,3	0.4	0.3	0.3	0.4	0.4
Shrinkage at 200 °C longitudinal	%	2.7	2.7	1.2	0.8	1.0	0.9
Shrinkage at 200 °C transversal	%	1.7	1.9	1.3	0.8	1.0	1.1
Tensile strength longitudinal*	N/mm²	190	190	200	200	200	190
Tensile strength transversal*	N/mm²	190	200	200	195	200	200

Mechanical	Unit of measure			Test method
Nominal thickness	µm	125	250	

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Mechanical	Unit of measure			Test method
Elongation at break longitudinal	%	85	105	JIS C2318
Elongation at break transversal	%	80	100	JIS C2318
Shrinkage (30 min at 150 °C) longitudinal	%	0,2	0.2	JIS C2318
Shrinkage (30 min at 150 °C) transversal	%	0.3	0.3	JIS C2318
Shrinkage at 200 °C longitudinal	%	1.0	0.9	JIS C2318
Shrinkage at 200 °C transversal	%	0.8	0.7	JIS C2318
Tensile strength longitudinal*	N/mm²	185	185	JIS C2318
Tensile strength transversal*	N/mm²	185	180	JIS C2318

Electrical	Unit of measure						
Nominal thickness	µm	16	25	38	50	75	100
Dielectic strength	kV	5.5	7.5	10,5	12.5	16.0	19.0

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Electrical	Unit of measure			Test method
Nominal thickness	µm	125	250	
Dielectic strength	kV	22.0	23.0	

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