SynFlex Elektro GmbH
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SynTherm® APA/50

SynTherm® APA/50 is a flexible 3-ply insulating material made of polyester film with a layer of aramid paper marked with yellow stripes on both sides.

Attributes

The proven dielectric properties of the polyester film and the excellent mechanical and thermal properties of the outer aramid paper layers result in a high performance insulating material. The ability of the outer layers to absorb impregnants results in exceptional bonding between all winding components.

Application

SynTherm® APA/50 is a cost-effective insulating material which can be installed in suitable insulating systems of class H (180 °C) and is used in electric motors as slot insulation, phase insulation and wedges.
SynTherm® APA 50 is used as core, interlayer and final insulation for transformers.

Standards

- Suitable for class H (180 °C) systems
- UL approved e.g. E247773

Delivery forms

Total thicknesses in µm:

130, 160, 180, 220, 240, 310, 370, 410, 470. Further thicknesses on request.

SynTherm® APA/50 is available:

- in tapes: depending on material thickness on request beginning at 6 mm (thin material)
- in rolls: 968 mm

Feathering:

- Depth approx. 1-12 mm; distance approx. 1-10 mm
- Form widths of 10 mm to 240 mm, thickness on request

Base

PET-film + aramid paper on both sides

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Typical mechanical properties	Unit of measure						
Nominal thickness	mm	0.13	0.16	0.18	0.22	0.24	0.31
Typical thickness	mm	0.13±15 %	0.16±15 %	0.18±15 %	0.21±15 %	0.24±15 %	0.30±15 %
Specific weight	g/m²	120	160	190	230	260	350
Film thickness	µm	23	50	75	100	125	190
Aramid paper thickness	µm	50	50	50	50	50	50
Tensile strength longitudinal	N/cm	100	130	160	190	210	290
Tensile strength transversal	N/cm	70	100	140	170	200	300

Typical mechanical properties	Unit of measure				Test method
Nominal thickness	mm	0.37	0.41	0.47	IEC 60626-2
Typical thickness	mm	0.36±10 %	0.40±10 %	0.46±10 %	
Specific weight	g/m²	440	510	570	IEC 60626-2
Film thickness	µm	250	300	350	

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Typical mechanical properties	Unit of measure				Test method
Aramid paper thickness	µm	50	50	50	
Tensile strength longitudinal	N/cm	340	400	450	IEC 60626-2
Tensile strength transversal	N/cm	420	350	400	IEC 60626-2

Typical electrical properties	Unit of measure						
Nominal thickness	mm	0.13	0.16	0.18	0.22	0.24	0.31
Dielectric strength	kV	6	9	12	14	16	22

Typical electrical properties	Unit of measure				Test method
Nominal thickness	mm	0.37	0.41	0.47	
Dielectric strength	kV	25	26	28	IEC 60626-2