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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.

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### 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.

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### 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.

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### Standards

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

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### 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

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### Base

PET-film + aramid paper on both sides

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/m <sup>2</sup>	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/m <sup>2</sup>	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

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