
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

| 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 ² | 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 ² | 440 | 510 | 570 | IEC 60626-2 |
| Film thickness | µm | 250 | 300 | 350 | |

The information on this data sheet is based on the information provided by our supplier. It does not represent any specification or agreements regarding conditions or properties. The indicated values are standard values. Deviations from those values due to production and application cannot be excluded. The information on this data sheet is addressed to experts who use it at their own discretion and at their own risk. We do not guarantee results, or accept liability for the indicated specifications or for results obtained based on the specifications. Please contact us for more detailed information. Non-toxic and toxic substances are listed on the safety data sheet.
Updated 07/21



| 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 |

The information on this data sheet is based on the information provided by our supplier. It does not represent any specification or agreements regarding conditions or properties. The indicated values are standard values. Deviations from those values due to production and application cannot be excluded. The information on this data sheet is addressed to experts who use it at their own discretion and at their own risk. We do not guarantee results, or accept liability for the indicated specifications or for results obtained based on the specifications. Please contact us for more detailed information. Non-toxic and toxic substances are listed on the safety data sheet.
Updated 07/21

