

---

## SynTherm® NPN/80

SynTherm® NPN/80 is a flexible 3-ply insulation consisting of a polyester film with a calandered Nomex® layer with green strips.

---

### Attributes

The proven dielectric properties of the polyester film and the excellent mechanical and thermal properties of the outer Nomex® 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® NPN/80 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 and wedges. SynTherm® NPN/80 is used as core, interlayer and final insulation for transformers.

---

### Standards

- Suitable for class H (180 °C) systems
- Insulating material acc. IEC 60626
- UL approved, e.g. E247773
- Test standard IEC 60626-2
- Sample conditioning acc. to standard atmosphere 23/50

---

### Delivery forms

#### Total thickness in µm:

220, 250, 300, 360, 420, 480

#### SynTherm® NPN/80 can be supplied:

in slit rolls from widths of 6 mm (depending on thickness) and above

in rolls approx. width of 900 mm

in sheets on request: approx. 600 x 900 mm, 900 x 1000 mm

#### Optional overall diameter of the slit rolls/ rolls

approx. 240, 330 or 450 mm.

#### Feathering:

depth approx. 1 - 12 mm, distance approx. 1 - 10 mm

from widths of 10 to 240 mm and thickness of 0.20 mm

---

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



---

## Base

PET-film + calandered Nomex® layer on both sides

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



<b>Mechanical</b>	Unit of measure						
Total thickness	mm	0.22	0.25	0.30	0.36	0.42	0.48
Thickness tolerance max.	%	± 15	± 15	± 15	± 15	± 10	± 10
Film thickness	µm	50	75	125	190	250	300
Nomex® paper thickness	µm	80	80	80	80	80	80
Specific weight	g/m²	220	255	325	420	500	570
Elongation at break longitudinal*	%	15	15	20	20	20	20
Elongation at break transversal*	%	20	20	25	25	25	25
Tensile strength longitudinal	N/10 mm	170	190	270	320	380	430
Tensile strength transversal	N/10 mm	140	180	200	250	300	300

<b>Electrical</b>	Unit of measure						
Total thickness	mm	0.22	0.25	0.30	0.36	0.42	0.48

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



Electrical	Unit of measure						
Dielectric strength (unfold)	kV	9	12	15	20	23	23

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

