NM Hypertherm F slot insulation



Slot insulation Nomex Mylar (NM equiv. Hypertherm F) is a two-ply insulation laminate of calendered Nomex and polyester film. An ideal material for slot insulation in electric motors and generators for applications with higher working temperatures. The material is also suitable for transformers and other electrical applications.



Typical applications

Electrical insulation primarily slot insulation of electric motors and generators, but also suitable for use as insulation in dry transformers and other electrical apparatus.

Properties

- Approved for insulations class F (+155°C) or for insulation systems which comply with IEC norms up to +180°C.
- Highly suitable for automatic installation of slot insulation.
- Very good electrical properties.
- Very good mechanical properties regarding tear strength and resistance to abrasion.
- · Very good durability.
- Can be punched or cut.

Composition

Nomex Mylar consists of a laminate comprising of one layer calendered Nomex (aramid paper) and a layer of polyester film. The base layer material, Nomex, is manufactured in thicknesses 50 μ m, 80 μ m, 130 μ m and 180 μ m.

The products are also available with varying thicknesses of polyester film (see technical data). A specially developed synthetic adhesive bonds the laminate into a unit whilst retaining inherent properties even when used in the material's higher temperature range.

Colour

Usually pale white.

Dimensions

- We offer Nomex Mylar as a standard material in thicknesses 110–450 µm.
- Standard trimmed widths 450 mm and 900 mm.

Can be slit to desired widths up to max 900 mm.

Can be punched or cut to desired form or shape. In the case of die-cutting a die tool is required (tools available at low costs).

Packaging

- Standard packaging width 450 mm in rolls of ca 5 kg (certain thicknesses available for immediate delivery, see item list).
- Standard packaging width 900 mm depending on item in rolls of 25–30 kg.

Article list

| Item | Name (Consult | | Dimensions | Weight/roll | Weight g/m² | Length/roll | |
|--------|---------------|--------------------|------------|---------------|-------------|-------------|--------|
| number | Name/Grade | Thickness (mm)/tol | Width (mm) | Innerdia (mm) | ca (kg) | (nom.) | ca (m) |
| 125527 | NM/2/5 | 0.18+/-12 % | 450 | 76 | 5 | 230 | 48 |
| 111341 | NM/3/5 | 0.22 +/-12 % | 450 | 76 | 6 | 255 | 52 |
| 125528 | NM/3/7.5 | 0.28 +/-12 % | 450 | 76 | 6 | 340 | 39 |
| 125529 | NM/3/10 | 0.34 +/-12 % | 450 | 76 | 6 | 420 | 32 |
| | NM/ 2/5 | 0.18 +/-12 % | 900 | 76 | 25 | 230 | 120 |
| 111342 | NM/ 3/5 | 0.22 +/-12 % | 900 | 76 | 30 | 255 | 130 |
| 111343 | NM/3/7.5 | 0.28 +/-12 % | 900 | 76 | 25 | 340 | 82 |
| | NM/3/10 | 0.34 +/-12 % | 900 | 76 | 25 | 420 | 66 |

Technical data

| Properties | Standard | | | | | | | | | Unit |
|-------------------------------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|---------------|
| Nominal thickness (ca) | IEC-626 | 110 | 130 | 180 | 250 | 310 | 410 | 140 | 160 | μm |
| Mechanical properties | | | | | | | | | | |
| Thickness Nomex | | 50 | 50 | 50 | 50 | 50 | 50 | 80 | 80 | μm |
| Thickness polyester film | | 50 | 75 | 125 | 190 | 250 | 350 | 50 | 75 | μm |
| Name/thickness (grade) | | 2/2 | 2/3 | 2/5 | 2/7.5 | 2/10 | 2/14 | 3/2 | 3/3 | D/M/D |
| Weight/m² (nominal) | | 125 | 160 | 230 | 320 | 390 | 550 | 155 | 190 | g/m² |
| Tensile strength* | | | | | 230 | 280 | | | | N/10 mm (min) |
| Elongation MD* | | 20 | 20 | 20 | 20 | 20 | | 15 | | % (min) |
| Termiska egenskaper | | | | | | | | | | |
| Electrical insulation class | | F/155 | class/°C |
| Elektriska egenskaper | | | | | | | | | | |
| Dielectric strength (surge at 21°C) | | 8 | 8 | 8 | 8 | 18 | ca 25 | 9 | | kV (min) |

| Properties | Standard | | | | | | | | Unit |
|-------------------------------------|----------|-------|-------|-------|-------|-------|-------|-------|---------------|
| Nominal thickness (ca) | IEC-626 | 220 | 280 | 340 | 440 | 330 | 400 | 450 | μm |
| Mechanical properties | | | | | | | | | |
| Thickness Nomex | | 80 | 80 | 80 | 80 | 1300 | 130 | 180 | μm |
| Thickness polyester film | | 125 | 190 | 250 | 350 | 190 | 250 | 250 | μm |
| Name/thickness (grade) | | 3/5 | 3/7.5 | 3/10 | 3/14 | 5/7.5 | 5/10 | 7/10 | D/M/D |
| Weight/m ² (nominal) | | 225 | 340 | 420 | 565 | 390 | 480 | 535 | g/m² |
| Tensile strength* | | | 230 | 280 | | | 270 | 230 | N/10 mm (min) |
| Elongation MD* | | | 20 | 20 | | | 10 | 8 | % (min) |
| Termiska egenskaper | | | | | | | | | |
| Electrical insulation class | | F/155 | class/°C |
| Elektriska egenskaper | | | | | | | | | |
| Dielectric strength (surge at 21°C) | | ca 15 | 16 | 18 | | , | 20 | 22 | kV (min) |

^{*}Tests made for specific dimensions

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