

Flame-Retardant Tape (NWPT)

Halogen-free flame barrier and separator for CPR-compliant cable construction

Descripción

The flame-retardant tape (NWPT) is a composite material made of non-woven polyester fabric impregnated with a halogen-free, high-efficiency flame-retardant compound. This construction combines the separating and bundling function typical of non-woven polyester with flame-retardant properties that contribute to compliance with CPR reaction-to-fire standards, acting as an additional thermal barrier that slows flame propagation and reduces opaque smoke emission.

In cables for permanent installation in buildings, the Construction Products Regulation (CPR) sets reaction-to-fire requirements that affect every cable component. With an oxygen index (LOI) of 26% per ASTM D2863, NWPT delivers a self-extinguishing behaviour that allows inner cable layers to contribute positively to the final classification, making it easier to reach classes Cca, B2ca or B1ca.

Beyond its flame-retardant properties, the non-woven structure provides excellent separating function, enabling clean peeling between cable components during installation. Tensile strength ≥ 60 N/15 mm ensures reliable behaviour in high-speed industrial taping, without tearing or deformation that could compromise process continuity.

Mechanical properties

Propiedad	Método	NWPT-15
Thickness	ISO 9073-2	0.15 \pm 0.03 mm
Mass per unit area	ISO 9073-1	120 \pm 30 g/m ²
Tensile strength	ISO 9073-3	≥ 60 N/15mm
Elongation	ISO 9073-3	$\geq 8\%$
Moisture content	ISO 287	$\leq 8\%$

Fire behaviour properties

Propiedad	Método	NWPT-15
Oxygen Index (LOI)	ASTM D2863	26%
Halogens	—	Halogen-free

Thermal properties

Propiedad	Método	NWPT-15
Short-term thermal stability	Q/TR.J02.031-2000	230°C
Long-term thermal stability	IEC 216	90°C

Construcción

Backing	Non-woven polyester
Treatment	Flame-retardant compound
Halogens	Halogen-free

Guía de selección

NWPT is the right choice when both a separating function and a positive contribution to the cable's CPR classification are required. The selection vs. alternatives depends on specific construction requirements.

Key features

Feature	Value	Benefit
Oxygen Index (LOI)	26%	Superior self-extinguishing behaviour
Process thermal stability	230°C	Compatible with jacket extrusion
Service thermal stability	90°C	Integrity over the cable's service life
Tensile strength	≥60 N/15 mm	High-speed taping without breaks
Halogens	Halogen-free	Minimal toxicity in case of fire

NWPT vs. alternatives

Factor	NWPT (flame-retardant)	Mica Tapes	Standard NWP
Primary function	Reaction to fire (CPR)	Circuit integrity	Separation
Oxygen Index (LOI)	26%	—	~21% (standard)
Main standard	CPR (EN 13501-6)	IEC 60331, EN 50200	—
Halogen-free	Yes	Yes	Yes
Service temperature	90°C	Up to 1000°C	90°C
Stripping ease	Excellent	Good	Excellent

Selection by target CPR class

CPR class	Requirements	NWPT application
Eca	Basic	Not usually required
Dca	Limited	May contribute to classification
Cca	Improved	Recommended in inner layers
B2ca	High	Usually required
B1ca	Very high	Required, possibly combined with mica

Variantes disponibles

Alternative thicknesses

- Other thicknesses available on request. Please contact us with your specific application requirements.

Alternatives by requirement

- Mica tapes — when circuit integrity is required (IEC 60331)
- Standard NWP — when only separation is needed, with no fire properties

Formatos de entrega

We tailor the supply to each production line's technology to maximise efficiency and minimise downtime.

Pad / Roll (pancake)

Core ID:	76 mm (3"), 152 mm (6")
Max OD:	500 mm
Standard OD:	300 - 450 mm
Width range:	10 mm up to jumbo width
Core material:	Plastic or cardboard

Spool

Configuration:	2 configurations available
Core ID:	76 mm
Dimension A (width):	260 - 590 mm
Dimension B (OD):	280 - 610 mm
Dimension C (height):	250 - 530 mm
Tape width:	10 - 40 mm
Core material:	Cardboard

Aplicaciones típicas

- **CPR class Cca-B1ca cables** Contribution to reaction-to-fire classification
- **LSZH cables** Halogen-free separation with flame-retardant properties
- **Building cables** Thermal barrier between components
- **Railway cables** EN 45545 compliance (consult specific requirements)

The values shown below come from tests run to international standards and characterise the material's behaviour both during processing and in service.

Los valores indicados son típicos y no constituyen especificaciones vinculantes.