



MADEIRA

FIRE FIGHTER



Flame resistant embroidery thread

You can always count on MADEIRA ...
... especially when it gets **hot!**

PHYSICAL PROPERTIES

Product	FIRE FIGHTER
Material	Nomex®
Temperature resistance for long-term application	< 175 °C
Change in condition by long-term application	> 200 °C
Softening point	none
Melting point	none
Flash point	self-extinguishing
Decomposition temperature	> 420 °C
Self-igniting temperature	no ignition
Burning behaviour	no burning
LOI (limiting oxygen index)	~ 28

Product	POLYNEON FR
Material	FR POLYESTER
Temperature resistance for long-term application	< 80 °C
Change in condition by long-term application	> 120 °C
Softening point	< 200 °C
Melting point	< 240 °C
Flash point	liquefies
Decomposition temperature	liquefies
Self-igniting temperature	> 450 °C
Burning behaviour	no afterflame, smoke & gas forming possible
LOI (limiting oxygen index)	~ 28



FIRE FIGHTER



POLYNEON FR

Our products help to meet following standards:

Product	FIRE FIGHTER	POLYNEON FR
Material	Nomex®	FR POLYESTER
DIN EN 469 Protective clothing for firefighters - Performance requirements for protective clothing for firefighting	✓	✗
DIN EN ISO 14460 Protective clothing for automobile racing drivers - Protection against heat and flame - Performance requirements and test methods	✓	✗
DIN EN ISO 11612 (replaces EN531) Protective clothing - clothing to protect against heat and flame	✓	✗
DIN EN 61482-1-2 K1 Live working - Protective clothing against the thermal hazards of an electric arc	✓	✗
DIN EN 13034 K1 Protective clothing against liquid chemicals - Performance requirements for chemical protective clothing offering limited protective performance against liquid chemicals	✓	✗
DIN EN ISO 11611 (under development 2015) (replaces EN 470-1) Protective clothing for use in welding and allied processes	✓	✓
DIN EN ISO 14116 (replaces EN 533) Protective clothing - Protection against heat and flame - Limited flame spread materials, material assemblies and clothing	✓	✓
DIN 4102 Part 1, B1 * Fire resistance tests - Elements of building construction, e.g. curtains	✓	✓
Oeko-Tex® Class I	✗	✓
Oeko-Tex® Class II	✓	✓
Washing temperature 95 °C	✗	✓
Washing temperature 60 °C	✓	✓
Colors available	24	34

* Or other national standards: NF P92 503.4.5, BS 5867, UNI 9177, NFPA701, IMO FTPC part 2

Flame resistant, flame retardant and areas of use

FIRE FIGHTER products are flame and heat resistant which is indispensable to motor sport clothing, workwear and all kind of protective clothing. FIRE FIGHTER is also suitable to embroider seat cushions of airplanes and for many applications where fire resistant properties are required.

Flame resistant describes a material inherently resistant to catching fire when exposed to a flame, it does not melt or drip and will self-extinguish without the heat source therefore prohibiting the spread of fire. In contrary a flame retardant thread (see Polyneon FR) refers to a material that has been chemically treated to self-extinguish. They can be used for example for protection wear for welding or soldering.

Please always make sure to select the right thread regarding your customer's requirements and the laws applying.

POLYNEON FR

FIRE FIGHTER bobbin thread strongly recommended.

When using POLYNEON FR, don't forget to ensure the bobbin thread is also suitably flame resistant.

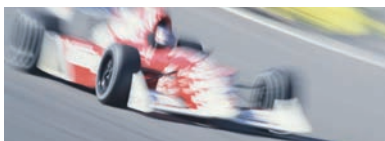
MADEIRA offers a special 100% aramid bobbin thread on 5000 m cones and it is recommended for use with POLYNEON FR. Available in black and white.



POLYNEON FR
available in following 34 colours



for a real colour definition please use MADEIRA POLYNEON Colour Card, printed colours may vary from original product.



FIRE FIGHTER PRODUCT RANGE

FIRE FIGHTER bobbin thread strongly recommended.

When using FIRE FIGHTER, don't forget to ensure the bobbin thread is also suitably flame resistant.

MADEIRA offers a special 100% aramid bobbin thread on 5000 m cones and it is recommended for use with FIRE FIGHTER. Available in black and white.



FIRE FIGHTER Backing

Highly flame-resistant embroidery backing for flame retardant protective clothing. A light, breathable, form-stable and tear-resistant special fabric combines maximum comfort with maximum safety.



FIRE FIGHTER Special-Scissors

These durable, professional scissors ensure smooth, precision cutting of the FIRE FIGHTER backing and similar strong materials.



FIRE FIGHTER 40 available in following 24 colours



for a real colour definition please use MADEIRA Fire Fighter Colour Card, printed colours may vary from original product.

FIRE FIGHTER 40

100 % Aramid



△ max. 20g Aktivchlor/l - max. 30°C - max. 30 min.



Art. No. 929
10 x 2500 m



Art. NO. 922
10 x ca. 950 m



dtex 130 x 2
den 120 x 2



75/11 - 80/12



24 COLOURS



POLYNEON FR

100 % Polyester Filament



△ max. 20g Aktivchlor/l - max. 30°C - max. 30 min.



Art. No. 933
10 x 2500 m



dtex 135 x 2
den 120 x 2



60/8 - 75/11



30 COLOURS
4 FLUORESCENT
COLOURS



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