

MADEIRA

Technical Datasheet

04.2022

Fire Fighter No. 40 Fire Fighter Bobbin Thread No. 40

Article Description	Flame resistant embroidery and bobbin thread
Composition	100% aramid
Count	130 dtex x 2 / 120 den x 2
Make up available	950 m spool & 2500 m cone 5000 m cone (underthread)
Recommended needle size	75/11 – 80/12

Fastness rating | Scale from 1 (worst) to 5 (best)

Fastness to washing (at 60 °C)	DIN EN ISO 105-C03/M & S C4A	4 - 5
Fastness to water (4 hrs at 37 °C)	DIN EN ISO 105-E01/M & S C6	4 - 5
Fastness to rubbing dry (10 x rubs on dry white fabric)	DIN EN ISO 105-X12 / M & S C8	4
Fastness to rubbing wet (10 x rubs on wet white fabric)	DIN EN ISO 105-X12 / M & S C8	3 - 4
Fastness to dry cleaning	DIN EN ISO 105-D01	4 - 5
Fastness to bleaching with hypochlorite	DIN EN ISO 105-N01	4 - 5

Fastness rating | Scale from 1 (worst) to 8 (best)

Fastness to light from xenon arc lamp (100 hrs)	DIN EN ISO 105-B02	2 - 3
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Due to the dyes, this rating cannot be achieved for all colours.

Mechanical–technological values

Single-end breaking force (tensile force until the thread breaks)	DIN EN ISO 2062	ca. 750 cN
Elongation at break	DIN EN ISO 2062	ca. 22 %
Shrinkage in boiling water	DIN 53866 T2	< 1 %

Recommendations for care



 max. 20g/l active chlorine - max. 30°C - max. 30min

Shade card no.

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Certification

STANDARD 100 by OEKO-TEX®, Annex 4, product class II



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MADEIRA Garnfabrik
Rudolf Schmidt KG

Zinkmattenstraße 38
D-79108 Freiburg

Tel.: +49 (0) 761 – 51 04 00
E-Mail: service@madeira.de

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The relevant test Standards a.) for protective clothing b.) for flame spread

Property-Fabric Limited flame spread ISO 15025:2002 method A surface ignition, flaming time 10s, direct ignition of the embroidery in direction of use with reduced amount of samples n=3 in each condition	Dim.	Test data Flame impingement on different positions of the embroidery	
		New	After 5 washing cycles
Limited flame spread			
- further flaming to top or sides		no	no
- hole formation		no	no
- flaming, melting debris		no	no
- afterflame time	s	0	0
- afterglow time	s	0	0

Due to the high temperature resistance the yarn can be used for embroidery applications on all kinds of protective clothing. The current standards for DIN EN ISO 11612 A,B & C, DIN EN 469, DIN EN ISO14460 etc. can be achieved with these embroidery applications without problem, provided the remainder of the protective clothing is manufactured from appropriate materials.

Physical properties

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 behavior:	no burning

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