

MST IRR & IRR FR Hook and Loop

Technical Data Sheet
February 2019

PRODUCT DESCRIPTION



VELCRO® Brand MST IRR & IRR FR Hook and Loop fastening systems are woven fabrics made of 100% polyamide, designed to comply with more frequent openings.

VELCRO® Brand MST IRR & IRR FR Hook and Loop fastening systems have special properties and characteristics; reflectivity to improve the camouflage of soldiers in nocturnal environments and flame retardant treatment to slow flame propagation in the product.

COUNTRY OF ORIGIN

Spain

PRODUCT CONSTRUCTION

Fastening system	VELCRO® Brand MST IRR & IRR FR Hook and Loop
Construction	Woven fabric
Composition	Polyamide 6
Thickness	Hook: 1.90 mm * Loop: 2.34 mm *
Weight	Hook: 310 g/m ² * Loop: 340 g/m ² *
Widths available	16, 20, 25, 30, 38, 50 and 100 mm.

*Average based on recorded values. The specifications are for reference.

PRODUCT COMBINATIONS

VELCRO® Brand MST IRR & IRR FR Hook and Loop products are designed to be combined between them, and Hook part could be used against **VELCRO® Brand MTT IR Velour** too.

SPECIAL CHARACTERISTICS



Outdoor use

Since the product is made with polyamide, which has a known tendency to degrade in UV light, the **VELCRO® Brand MST IRR & IRR FR Hook and Loop** product is not recommended for direct, prolonged exposure to UV light.



Resistance to solvents

The polyamide used in these fastening systems is resistant to cleaning with solvents or dry cleaning (e.g. tetrachloroethylene) and to accidental exposure to the most common solvents, but it is not resistant to prolonged exposure and its resistance to fluids used for transport, such as gasoline, motor oil and transmission fluids, has not been tested. We recommend testing the product for its specific application.



Fire resistance

VELCRO® Brand MST IRR FRT Hook and Loop are treated with a flame retardant to comply with the standard:

- **FAR 25.853 - Vertical Test: 12 s.**
- **EN-ISO 11612:2015 “Protective clothing – Clothing to protect against heat and flame – Minimum performance requirements” - Test according to ISO 15025, Procedure A.**



Water/Moisture resistance

The mechanical properties of polyamide hook and loop fasteners degrade when exposed to water/high humidity (>80% RH) for long periods of time. These properties are typically recovered when the product dries.



Sterilisation

These products have not been tested for physical sterilisation (autoclave, steam, gamma rays, etc.) or chemical sterilisation (ethylene oxide, hydrogen peroxide, etc.).



Colour fastness

VELCRO® Brand MST IRR & IRR FRT IRR Hook and Loop guarantees the following colour fastness:

Colour fastness to rubbing (ISO 105 X-12): Min. 4

Colour fastness to water (ISO 105 E-01): Min. 4

Colour fastness to sea water (ISO 105 E-02): Min. 4

Colour fastness to light (ISO 105-B-02): Min. 5 (dark colours); min. 4 (white and light colours)

Colour fastness to perspiration (ISO 105 E-04): Min. 4



Biocompatibility

VELCRO® Brand MST IRR & IRR FRT Hook and Loop has not been tested for biocompatibility.



Electrostatic discharge

VELCRO® Brand MST IRR & IRR FRT Hook and Loop has not been tested for electrostatic discharge after opening and closing the fastener. These products must first be tested in applications where electrostatic discharge is a concern.



Seam strength

VELCRO® Brand MST IRR & IRR FRT Hook and Loop can be applied to several substrates by sewing, ultrasonic welding and adhesives. Users must test each method to see which best suits their application.

Sewing: **VELCRO® Brand MST IRR & IRR FRT Hook and Loop** can be sewn using similar methods for other polyamide fabrics. A square stitch should be used when possible, but all common stitches also offer adequate strength. The choice of thread will depend on the application and substrate, but it should offer similar strength to stitching.

Ultrasonic welding: **VELCRO® Brand MST IRR & IRR FRT Hook and Loop** can be applied by ultrasonic welding to similar materials. Users must check with the manufacturer of the ultrasonic welding equipment to determine the specific welding parameters for the various mechanical arms and materials used and the output power.

SUGGESTED APPLICATIONS

Below is a brief description of the typical applications in which the **VELCRO® Brand MST IRR & IRR FRT Hook and Loop** fasteners may be used.

We recommend testing the product before use since the conditions specific to each application may cause differences in performance.



MILITARY & GOVERNMENT

Military Equipment and Clothing

VELCRO® Brand MST IRR & IRR FRT Hook and Loop are fasteners designed to meet the needs of police and military forces (police, army, etc.) by replacing the use of zips and guaranteeing functionality for the life time of the product. The product is supplied with special reflective (IRR) and fire retardant (FRT) properties.

REGULATORY ELEMENTS

For product declarations of conformity on regulatory elements and additional information, contact productcompliance_emea@velcro.com.

PRODUCT USE

The information, statements and comments contained within this document are based on our experience and testing and are believed to be accurate. However, because there are many factors involved in specific applications that can impact end use and performance, product users should always test the product for its ability to meet the requirements of their specific use and method of application.

LIMITED WARRANTY

Velcro Companies^(*) warrants that all of its products will substantially comply with its written specifications at the time of shipment. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. The product user is responsible for determining whether the product is fit and suitable for the intended application. If the product does not meet specifications as warranted, we will, at our option, repair or replace the product, or credit or refund the purchase price. The foregoing constitutes the user's sole remedy and our sole obligation hereunder.

(*) Velcro Companies includes all the partner companies involved in the development, manufacture or sale of the products.

LIMITATION OF LIABILITY

To the maximum extent permitted under applicable law, our liability for any losses or damages relating to use of the product shall not exceed the purchase price for such product, regardless of whether such losses or damages are direct, indirect, special, incidental or consequential, and regardless of the legal theory asserted, including, but not limited to, warranty, contract, negligence or strict liability.

Given the diversity of our products, we recommend that our customers verify that the product satisfies the requirements of their application. The customer is responsible for the application and use of the product.



GLOBAL OFFICE

Global Consumer Office

VIL Ltd.
Ground Floor, Booths Park 3,
Chelford Road
Knutsford, WA16 8GS
United Kingdom
Tel: (+44) 161 240 4516
Velcro.com

NAM

USA

Velcro USA Inc.
Tel: (+1) 800 225 0180
marketing@velcro.com
Velcro.com

Canada

Velcro Canada Inc.
Tel: (+1) 800 683 5276
canada@velcro.com
Velcro.com

LATAM

Mexico

Velcro de México, S.A. de C.V.
Tlalnepantla de Baz,
Edo. de México
Tel: (+52) 55 5005 3300
infovdmex@velcro.com
Velcrodemexico.com
León, Gto
Tel: (+52) 477 980 0630
infovdmex@velcro.com
Velcrodemexico.com

Brazil

Velcro Brasil Importação,
Exportação e Comércio de
Sistemas de Fixação Ltda.

Campo Bom, RS
Tel: (+55) 51 3599 1483
infovbra@velcro.com
Velcro.com.br

Sumaré, SP
Tel: (+55) 11 3197 2588
infovbra@velcro.com
Velcro.com.br

Uruguay

Velcro Industrial
del Uruguay S.A.
Tel: (+598) 2288 0008
infovurg@velcro.com
Velcro.com

EMEA

Spain

Velcro Europe S.A.
Tel: (+34) 93 758 32 98
infovesa@velcro.com
Velcro.es

Germany

Velcro GmbH
Freiberg am Neckar
Tel: (+49) 7141 991 19-0
infovgmbh@velcro.com
Velcro.de

Gronau
Tel: (+49) 2562 96 45-0
infovgmbh@velcro.com
Velcro.de

France

Velcro Industries France S.A.S.
Tel: (+33) 1 34 38 78 88
infovif@velcro.com
Velcro.fr

Belgium

Alfatex N.V.
Tel: (+32) 9 386 12 18
infofbe@velcro.com
Velcro.be

Italy

Velcro Italia, S.R.L.
Tel: (+39) 039 62 70 01
infoveit@velcro.com
Velcro.it

UK

Velcro Ltd.
Tel: (+44) 1606 738 806
infovlt@velcro.com
Velcro.co.uk

Poland

Velcro Poland Sp. z o.o.
Tel: (+48) 71 798 57 89
infovpl@velcro.com
Velcro.pl

APAC

Australia

Velcro Australia Pty. Ltd.
Tel: (+61) 3 9703 2466
infovaus@velcro.com
Velcro.com.au

China

Velcro China Fastening
Systems Company Limited
Tel: (+86) 21 6045 2090
(Shanghai Sales Office)
infovch@velcro.com
Velcro.com.cn

Hong Kong

Velcro Hong Kong Ltd.
Tel: (+852) 2570 3698
infovhhk@velcro.com
Velcro.com.hk
Velcro.kr

Vietnam

Velcro Vietnam Company Limited
Tel: (+84) 274 2222 497
infovvn@velcro.com
Velcro.vn

VELCRO® and other brands are owned by Velcro BVBA © 2019