



WOVEN, KNITTED & MOLDED FASTENERS

NYLON HOOK AND LOOP FASTENERS FROM VELCRO USA INC.

VELCRO® brand nylon fasteners consist of two mating components: hook and loop.

The woven hook tape consists of minute, flexible “hooks” which engage with a mating loop tape comprised of small, soft “loops.” When pressed together, the resulting closure is adjustable, highly secure and jam proof. To reopen (cycle), the closure is simply peeled apart.

VELCRO® brand woven hook and loop tapes are manufactured by a precise and refined weaving process which ensures uniformity of dimensions and construction.

VELCRO® brand molded hook tape (MVA #8) is made from a continuous injection molding process to form an “arrowhead” design which is much less flexible than a woven hook. When engaged with a mating nylon (or polyester) loop tape, the molded hook offers the advantage of substantially increased holding strength over woven hook. Conversely, molded hook fasteners (arrowhead) do not cycle as readily with loop tapes; repeated disengagement will noticeably degrade loops. Please see the section “Limitations - Molded Hook” on the back cover.

ATTACHMENT

A wide range of attachment methods are available, including:

- SEWING
- PRESSURE SENSITIVE ADHESIVES
- DIELECTRIC HEAT SEALING
- HEAT ACTIVATION
- SOLVENT ACTIVATION
- MECHANICAL
- ULTRASONIC WELDING
- MOLD-IN

For further information about specific attachment procedures, please contact your account manager or local sales office. Velcro USA Inc. offers a Sewing Guide in English and Spanish versions.

WOVEN NYLON HOOK AND LOOP TAPES

Velcro USA Inc. offers two nylon woven hook tapes and a variety of loop tapes (both woven and knitted).

- **Hook #65** - Designed for maximum cycling (opening and closing); 6.5 mil Nylon monofilament with over 400 hooks per square inch.
- **Hook #88** - Heavy duty hook tape - somewhat lower cycle life than Hook #65; 8.0 mil Nylon monofilament with over 300 hooks per square inch.
- **Loop #1000** - A napped tape used in most standard closure applications with both Hook #65 and #88.
- **Loop #2000** - An unnapped loop tape with a greater cycle life and less peel resistance than Loop #1000. Typically used where closure is to be effected around a radius (such as a strapping application).

“Napped” versus “Unnapped” Loop. Essentially, napped tape consists of woven nylon loops that are “randomly disoriented” in a separate operation after weaving. An unnapped tape is a woven nylon tape that is not napped.

KNIT NYLON LOOP TAPES

#3001, #3003, #3200, #3301, #3610, #3800, #3905 - Knit nylon loop tapes have been designed for use in a wide range of applications from disposable products to high strength fabricated straps. See the chart on pages 2 and 3 for detailed information.

MOLDED NYLON HOOK TAPE

Velcro USA Inc. offers one VELCRO® brand molded nylon hook product.

- **MVA #8** - A molded “arrowhead” design nylon hook tape with 180 hook elements per square inch. Used where high strength fastening is required. Limited cyclability. Hooks engage with most loop materials and open pore cell foams.

VELCRO® BRAND HOOK AND LOOP FASTENING TAPES — WOVEN, KNITTED AND MOLDED NYLON

VELCRO® BRAND CLOSURE PERFORMANCE

PRODUCT STYLE AND SUGGESTED FASTENING USAGE

AVAILABLE MATING COMPONENTS

CYCLE LIFE

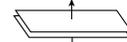
SHEAR STRENGTH LENGTH-WISE P.S.I. AVERAGE

SHEAR STRENGTH WIDTH-WISE P.S.I. AVERAGE

TENSION OR LATCHING EFFECT P.S.I. AVERAGE

PEEL STRENGTH LENGTH-WISE P.I.W. AVERAGE

TEMP. RANGE BASED UPON 1,000 HOURS OF EXPOSURE



WOVEN NYLON HOOK AND LOOP FASTENERS

LOW/HIGH

Loop #1000 - napped finish; everyday fastening products	Hook #65	HIGH	13.0	9.5	6.5	1.00	-70°F/-56.7°C to 200°F/93.3°C
	Hook #88	HIGH	14.0	10.5	6.5	1.20	-70°F/-56.7°C to 200°F/93.3°C
Loop #2000 - unnapped finish; for more demanding applications	Hook #65	HIGH	7.5	6.5	7.5	0.35	-70°F/-56.7°C to 200°F/93.3°C
	Hook #88	HIGH	8.5	7.0	8.5	0.35	-70°F/-56.7°C to 200°F/93.3°C

KNITTED NYLON LOOP TAPES TO BE FASTENED WITH WOVEN HOOK TAPES

Loop #3001 - napped finish; high pile; substitute for Loop #1000 where applications require less cycle life	Hook #65	HIGH	12.0	6.5	6.2	1.40	-70°F/-56.7°C to 200°F/93.3°C
	Hook #88	HIGH	14.0	7.0	6.5	1.60	-70°F/-56.7°C to 200°F/93.3°C
Loop #3003 - napped finish; medium height pile; economy; light to moderate duty	Hook #88	MEDIUM	11.2	5.5	5.5	0.80	-70°F/-56.7°C to 200°F/93.3°C
Loop #3301 - unnapped finish; high pile; heavy duty, high cycling/strength; ideal for strapping applications	Hook #65	HIGH	9.0	5.5	5.5	0.45	-70°F/-56.7°C to 200°F/93.3°C
	Hook #88	HIGH	10.0	6.5	6.5	0.60	-70°F/-56.7°C to 200°F/93.3°C
Loop #3301 Double Face (D.F.L.) - 2-sided loop tape for increased strength; accommodates hook fastening on both sides; high cycling; ideal for strapping applications	Hook #65	HIGH	9.0	5.5	5.5	0.45	-70°F/-56.7°C to 200°F/93.3°C
	Hook #88	HIGH	10.0	6.5	6.5	0.60	-70°F/-56.7°C to 200°F/93.3°C
Loop #3610 - a warp knit with napped finish; low pile	Hook #65	MEDIUM	9.2	6.5	7.5	0.55	-70°F/-56.7°C to 200°F/93.3°C
Loop #3800 - a circular knit with a napped finish; low pile	Hook #65	MEDIUM	12.0	9.5	8.0	1.00	-70°F/-56.7°C to 200°F/93.3°C
Loop #3905 - napped finish; low pile; economy; low profile loop fabric; ideal for disposable products	Hook #65	LOW	9.4	8.0	9.0	0.40	-70°F/-56.7°C to 200°F/93.3°C
	Hook #88	LOW	7.5	7.0	7.5	0.35	-70°F/-56.7°C to 200°F/93.3°C
Loop #3200 - a warp polyester knit; lightweight - ideal for disposable products	Hook #711	LOW	16.0	20.0	6.0	0.75	-70°F/-56.7°C to 200°F/93.3°C

MOLDED HOOK TAPE

MVA #8 - continuous injection molded hook; used with Loop #1000 and Loop #2000; high strength; low cyclability; engages with open pore cell foams	Woven Nylon Loop #1000	LOW	22.0	11.0	12.0	2.50	-30°F/34.4°C to 200°F/93.3°C
	Woven Nylon Loop #2000	LOW	19.0	8.0	14.0	1.00	-30°F/34.4°C to 200°F/93.3°C

VELCRO® BRAND HOOK AND LOOP FASTENING TAPES — WOVEN, KNITTED AND MOLDED NYLON

PRODUCT STYLE AND SUGGESTED FASTENING

AVAILABLE WIDTHS

STANDARD PUT-UPS

AVAILABLE COLORS

WOVEN NYLON HOOK AND LOOP FASTENERS

Loop #1000 - napped finish; everyday fastening products	5/8", 3/4", 1", 1-1/2", 2", and 4"	25 yd and 50 yd Reels, Dispenser Packs and Cross-Wound Spools	15 standard colors with dye-to-match capability
Loop #2000 - unnapped finish; for more demanding applications	5/8", 3/4", 1", 1-1/2", 2", and 4"	25 yd and 50 yd Reels, Dispenser Packs and Cross-Wound Spools	15 standard colors with dye-to-match capability

PRESSURE SENSITIVE ADHESIVES
 Many VELCRO® brand woven, knitted and molded products can be supplied with one of several factory-applied adhesive pre-coats for applications which require mounting utilizing pressure sensitive fasteners. Please inquire.

KNITTED NYLON LOOP TAPES TO BE FASTENED WITH WOVEN HOOK TAPES

Loop #3001 - napped finish; high pile; substitute for Loop #1000 where applications require less cycle life	5/8", 3/4", 1", 1-1/2", 2", 3", 4", and 6" 54" Full Width	25 yd Reels, Dispenser Packs and Cross-Wound Spools	White, Beige, Black, Lt. Navy, Ink Blue, Red
Loop #3003 - napped finish; medium height pile; economy; light to moderate duty	5/8", 3/4", 1", 1-1/2", 2", and 4" 57" Full Width	25 yd and 50 yd Reels, Dispenser Packs and Cross-Wound Spools	White, Black, Beige
Loop #3301 - unnapped finish; high pile; heavy duty, high cycling/strength; ideal for strapping applications	5/8", 3/4", 1", 1-1/2", 2", 3", 4", and 6" 45" Full Width	25 yd Reels	White, Beige, Black, Brown, Royal Blue
Loop #3301 Double Face (D.F.L.) - 2-sided loop tape for increased strength; accommodates hook fastening on both sides; high cycling; ideal for strapping applications	2", 3", and 4"	25 yd Reels	White, Beige, Black, Brown, Royal Blue
Loop #3610 - a warp knit with napped finish; low pile	5/8", 3/4", 1", 1-1/2", and 2" 50" Full Width	25 yd and 50 yd Reels and Dispenser Packs	White, Beige, Black
Loop #3800 - a circular knit with a napped finish; low pile	5/8", 3/4", 1", 1-1/2", and 2" 58" Full Width	50 yd Reels	White, Beige, Black
Loop #3905 - napped finish; low pile; economy; low profile loop fabric; ideal for disposable products	5/8", 3/4", 1", 1-1/2", and 2" 54" Full Width	25 yd Reels and Dispenser Packs	White
Loop #3200 - a warp polyester knit; lightweight - ideal for disposable products	54" Full Width - can slit to 3/4"	125 yd Reels	White

- TEMPO™ (0114)**
- A strong rubber-based, pressure sensitive adhesive
 - Designed for applications with a temperature operating range from 0°F to 160°F
- VECTOR™ (0115)**
- An aggressive, olefin-based pressure sensitive adhesive
 - Designed for applications with a temperature operating range from 0°F to 120°F
- SPECTRUM™ (0172)**
- An acrylic pressure sensitive adhesive for superior bond strength
 - Temperature operating range from 0°F to 225°F
- SPECTRUM PLUS™ (0174)**
- A water- and moisture-resistant acrylic pressure sensitive adhesive
 - Maintains a 2 PSI load at 200°F and a .5 PSI load at 350°F with virtually no creep
- FLAME RETARDANT (8222/8282/8223)**
- Rubber-based pressure sensitive adhesive
 - Designed to be coated on flame retardant nylon or polyester hook and loop tapes
 - Meet FAR 25.853(a), FAR 25.853(b), BMS 8-285 and MVSS302 specifications
- SOLVENT OR HEAT ACTIVATED ADHESIVES**
- Factory applied pre-coated adhesives
 - Available on woven nylon VELCRO® brand hook and loop tapes
 - Ready for immediate bonding to a substrate by various methods of application (e.g., solvent, heat, ultrasonic, dielectric, etc.)
 - Solvent or heat activated adhesives can be used as a tie coat or a liquid adhesive

MOLDED HOOK TAPE

MVA #8 - continuous injection molded hook; used with Loop #1000 and Loop #2000; high strength; low cyclability; engages with open pore cell foams	1"	25 yd and 500 ft Coil	Black, Natural
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FLAME RETARDANT TAPES

Hooks #65 and #88 and Loops #1000 and #2000 are available with F.R. Treatment, tested in accordance with the following methods to meet the respective specifications:

- Federal Test Method Standard 191 - Method 5903
- Federal Aviation Regulations Part 25.853(a,b) - by request only
- Motor Vehicle Safety Standard 302
- Boeing Material Specification 8-285

A Certificate of Compliance is available upon request with each order. If required, Test Reports will be supplied by Velcro USA Inc. at an additional cost per color and per element - please inquire regarding charge.

Flame Retardant product color availability: white, black, beige. In addition, polyester Hook #81 and Loop #009 are available in an F.R. version.

MILITARY SPECIFICATIONS

A U.S. Military specification concerning VELCRO® brand fastening tapes has been issued. Please refer to MIL-F-28140 (in the latest government revision) titled "Fastening Tape, Hook and Loop Synthetic." VELCRO® brand tapes have been approved by the Defense Logistics Agency for the "Acceptable" Suppliers List (ASL #Ct-C-29). When military specification tapes are required, contact Velcro USA Inc. directly for the latest revisions and availability.

LIMITATIONS - VELCRO® BRAND MOLDED HOOK TAPE (MVA #8)

- Sewing attachment to flexible substrates recommended for indoor application only, due to nylon temperature sensitivity. Six stitches per inch or less are recommended. See Velcro USA Inc.'s Sewing Guide for further information.
- Molded nylon hooks are considerably less flexible than woven hooks; molded hook will sharply reduce life of the mating loop if cycled repeatedly.
- Nylon polymer construction will become brittle if exposed to prolonged cold temperatures and/or ultra-violet light (sunlight).

IMPORTANT NOTE TO PURCHASER

All statements, technical advice and recommendations contained herein are based on tests believed to be reliable, but the accuracy there of is not guaranteed, and the following is made in lieu of all warranties, express or implied: seller's and manufacturer's only obligation shall be to replace the quantity of product proven to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection therewith. No statement or recommendation not contained herein shall have any force or effect unless in an agreement signed by officers of seller and manufacturer.

FOR SALES AND TECHNICAL INFORMATION,
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