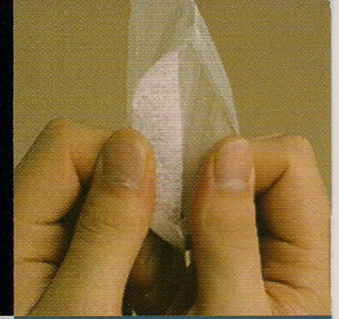


VELCRO® BRAND ADHESIVES



GENERAL DESCRIPTION

This guide has been designed to simplify adhesive procedures when attaching VELCRO® brand Hook and Loop tapes.

From pressure sensitive to heat or solvent activated pre-coats, the Velcro companies have various types of adhesives each have specific performance characteristics suitable for different adhesive requirements.

PRESSURE SENSITIVE PRE-COATS

Pressure Sensitive coatings are popular because of the ease of application. Simply peel away the release paper and press VELCRO® brand hook and loop fastener in place. However, pressure sensitive pre-coats can creep under constant stress or deadload. Pressure sensitive pre-coats should be considered semi-permanent bonds.

PRESSURE SENSITIVE	Rubber based					Water based
	PS-14	PS-15	PS-19	PS-30	PS-51	PS-18
Base material	Rubber resin	Rubber block copolymer	Rubber block polymer	Rubber block copolymer	Rubber resin	Water based acrylic polymer
Temperature range	-15°C to +90°C	-15°C to +60°C	-15°C to +80°C	-15°C to +60°C	-15°C to +90°C	-20°C to +120°C
Peel average (curing time: 24 hours) FINAT; FTM 1	17 N/cm	20 N/cm	20 N/cm*	20 N/cm	24 N/cm	22 N/cm
Softening point ASTM D-816	≥90°C	≥60°C	≥80°C	≥60°C	≥90°C	≥120°C
Static shear FINAT; FTM 8	≥7 days	≥7 days	≥7 days	≥7 days	≥7 days	≥3 days
Tack	High	Aggressive	High	Aggressive	High	High
Application method	Pressure	Pressure	Pressure	Pressure	Pressure	Pressure
Application	General except PVC	General except PVC	General	General	General except PVC	General except polyolefins
Special features	High cohesion under temperature	Fire retardant Meets F.A.R. 25.853, MVSS302 and ATS 1000.001	Excellent performance onto polyolefins*	Performs well onto polyolefins	High peel strength. Performs well on uneven or rough surfaces	High temperature resistance



Leader in fastening systems innovation



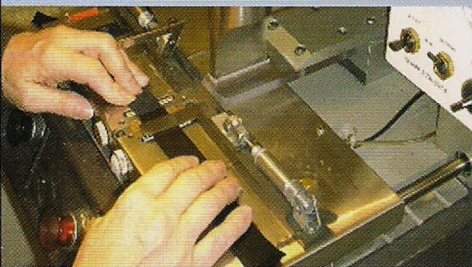


HEAT OR SOLVENT ACTIVATED PRE-COATS

Factory applied pre-coated adhesive backings, available on most VELCRO® brand hook and loop tapes, provide the strongest adhesive bond to the tape itself and can be made ready for instant bonding by many easy methods of application (e.g.: heat -ultrasonics, high frequency,..., solvent -acetone, M.E.K.*,...) directly to the substrate.

PRE-COATS	Heat or solvent activated	
	PC-20	PC-28
Base material	Nitrile rubber	Nitrile
Colour	Coloured	Colourless
Temperature range	-20°C to +80°C	-15°C to +100°C
Application method	Reactivated by heat (high frequency...) or solvent (acetone, M.E.K.*...)	Reactivated by heat (ultrasonics, high frequency...) or solvent (acetone, M.E.K.*...)
Application	General	General. Excellent on PVC

* M.E.K.: Methyl ethyl ketone in 80% of purity



HEAT (ULTRASONICS, HIGH FREQUENCY...):

The adhesive will bond to a wide range of fabrics and plastics by most common heat generating equipment.

- Ultrasonics: pre-coated tape should be positioned on top of substrate. A perimeter weld at least 3mm wide should be used to prevent peel de-lamination. Machine settings including pressure, weld and dwell (hold time) should be varied according to weld patterns, materials utilised and bond strength desired.
- High frequency: pre-coated tape should be positioned on top of substrate (commonly vinyl). A perimeter weld at least 3mm wide should be used to prevent peel de-lamination. Machine settings including energy level, pre-seal, seal and cool times may vary according to weld patterns and materials being used.

SOLVENT (ACETONE, M.E.K. ...):

Apply the recommended solvent activator freely to the back of the pre-coated VELCRO® brand tape with a brush or sponge applicator and allow the adhesive to become tacky (proper tackiness occurs when the adhesive clings to a finger placed on it). When tacky, position the tape on a cleaned substrate using finger pressure, a small roller or any other objects to smooth tape and let dry (this is most important on edges and corners). Ultimate bond strength is achieved in 24 hours. The drying process can be accelerated by using a 60°C heat source.



RECOMMENDED SUBSTRATES AND TAPES

SUBSTRATES

	PS-14	PS-15	PS-18	PS-19	PS-30	PS-51	PC-20	PC-28
Aluminium anodised	+	+	+	+	+	+	-	-
Glass	+	+	+	-	+	+	+	+
Painted wallboard	+	+	+	+	+	+	+	+
Plywood	+	+	+	+	+	+	+	+
Polyester	+	+	+	+	+	+	+	+
Polyethylene	M	+	-	++	+	M	+	+
Polypropylene	M	+	-	++	+	M	+	+
Stainless steel	+	+	+	+	+	+	+	+
Vinyl	-	-	+	-	-	-	+	+
Formica (polished side)	+	+	+	+	+	+	-	-
Cardboard	+	+	+	+	+	+	+	+
Polyacrylic	+	+	+	+	+	+	+	+

VELCRO® BRAND TAPES

	PS-14	PS-15	PS-18	PS-19	PS-30	PS-51	PC-20	PC-28
VELCRO® brand Hook/ VELCRO® brand Loop	+	+	+	+	+	+	+	+
VEL-LOC®	+	+	+	+	+	+	+	+
VELCRO® brand Velour range	+	+	-	+	+	+	-	-
ULTRA-MATE® brand HTH (PP): 866, 830...	+	+	-	++	+	+	-	-
ULTRA-MATE® brand HTH (PA 12): 805...	+	+	+	+	+	+	-	-
ULTRA-MATE® brand HTH (PA 6,6): 751...	+	+	+	+	+	+	+	+

- ++ Best
- + Recommended
- M Medium
- Not recommended

All performance data indicated to be considered as reference only.



GENERAL RECOMMENDATIONS AND WARNINGS

- **PREPARATION OF VELCRO® TAPES:** Pointed corners on VELCRO® Hook or Loop tape are sometimes detrimental to a good bond. We recommend nipping or rounding each corner of the VELCRO® tape to eliminate this vulnerable area.
- **YOUR PLANT CONDITIONS:** Your work area must be cleaned and free from dirt and dust in the air. It is also essential to have a well ventilated area when using solvent activated adhesives. Ideal room temperatures should be 18°C to 20°C, and relative humidity 40% to 60%, (the lower the humidity, the better the bond).
If the adhesive is applied below the recommended application temperatures, it loses TACK. Once adhesive or self-adhesive tape is applied press it firmly into contact with the substrate to smooth tape and to avoid air bubbles.
- **SURFACE PREPARATION:** It is mandatory that all surfaces be thoroughly cleaned and dry. All cleaning agents should be tested prior to use, to ensure cleaning agent will have no adverse effects on the substrate.
- **POROUS SUBSTRATE:** This type of surface is one that requires a primer or sealer to provide a suitable bonding area. This could consist of a coating or a liquid adhesive. Allow to dry prior to final adhesive procedure.
- **NON-POROUS SUBSTRATE:** This would be suitable for solvent activation of a VELCRO® pre-coated adhesive backing tape. Better adhesion can be obtained when used with a liquid adhesive.
- **SMOOTH SURFACES:** Superior bonding can be achieved by cleaning or roughing up a smooth surface.
- **LIMITATIONS:** Not recommended for use in water or on plastics with high concentrations of plasticizers. Adhesives are not washable or dry cleanable.

Note: before using adhesives for production, user should test the adhesive to determine the suitability of the product for the intended use.

VELCRO EUROPE, S.A.

Ctra. Mataró a Granollers, km 5,8
E-08310 Argentona (Barcelona)
Spain
Tel: (+34) 93 758 32 98
Fax: (+34) 93 758 32 86
E-mail: infovelcro@velcro.es

VELCRO GMBH

Kleines Wegle, 1
D-71691 Freiberg am Neckar
Germany
Tel: (+49) 7141 991 19-0
Fax: (+49) 7141 991 19-52
E-mail: info@velcro.de

VELCRO INDUSTRIES FRANCE, S.A.

31-40 Rue Jacques Robert
B.P. 862 - F-95508 Le Thillay Cedex
France
Tel: (+33) 1 34 38 78 88
Fax: (+33) 1 34 38 78 89

VELCRO ITALIA, S.r.l.

Via N. Sauro, 12
I-20043 Arore (Milano) - Italy
Tel: (+39) 039 62 70 01
Fax: (+39) 039 688 20 19
E-mail: commerciale@velcroitalia.it

VELCRO LIMITED

1 Aston Way
Middlewich Industrial Estate
Middlewich - Cheshire
CW10 0HS - England
Tel: (+44) 1606 73 88 06
Fax: (+44) 1606 73 88 14
E-mail: uksales@velcro.com

ULTRA-MATE®, VEL-LOC®, VELCRO® and VELCRO with the FLYING-V® (DESIGN) are registered trademarks of Velcro Industries, B.V.

©Velcro Industries, B.V.
Edition 2/05