

VELCRO® Brand
VELCRO® Brand / ADHESIVES

PRESSURE SENSITIVE ADHESIVES

Adhesives

VELCRO® Brand products are available with a variety of adhesives to best fit your application. Before using an adhesive for production, it should be tested to determine the suitability of the product for its intended use. Please note that this guide covers our most popular adhesives - contact us if you have special requirements.

Types of Adhesive Systems

Woven VELCRO® Brand tapes have a binder coat which firmly locks hooks and loops in place and helps prevent fraying of the tapes when cut. Due to this coating, many commercially available adhesives will not readily adhere to the back of woven tape. Therefore, the use of a VELCRO® Brand pre-coated adhesive backing is recommended.

Pressure Sensitive Adhesives

Pressure sensitive adhesives are popular because of the ease of application. Simply remove the release liner and press the VELCRO® Brand tape in place. Pressure sensitive adhesives should always be considered semi-permanent bonds. VELCRO® Brand pressure sensitive adhesives have been engineered to offer specific performance characteristics to meet different requirements.

Solvent and Heat Activated Adhesives

Solvent and heat activated adhesives, available on most VELCRO® Brand hook and loop tapes, provide the strongest bond to the tape itself and can be made ready for instant bonding by many easy methods of application (e.g. solvent, heat, ultrasonic, dielectric).

ACRYLIC:

Acrylic pressure sensitive adhesives offer good shear strength, environmental resistance, and have good adhesion to most metal and medium/high surface energy plastics

VELCRO® Brand Adhesive 0172: Formulated for high temperature performance and superior bond strength, Moderate tack - medium set up, Full bond strength in 24 hours, Temperature operating range -35°C to 65°C

VELCRO® Brand Adhesive 0175: Formulated for vinyl substrates, Moderate tack- medium set up, Full bond strength in 24 hours, Temperature operating range -35°C to 65°C

SYNTHETIC RUBBER:

Rubber-based pressure sensitive adhesives have good adhesion to low surface energy substrates. They should be used indoors, at room temperature

VELCRO® Brand Adhesive 0119: Formulated especially for low energy plastics, High tack- quick setting, Achieves 80% bond strength in an hour; full strength in 30 hours, Temperature operating range -35°C to 44°C

FIRE RETARDANT Fire retardant pressure sensitive adhesives are suitable for use in applications requiring certification to industry specifications

VELCRO® Brand Adhesive 8224: A rubber-based pressure sensitive adhesive formulated to meet Boeing Specification BMS 8-285, High tack - quick setting, Achieves 80% bond strength in about an hour; full strength in 30 hours, Temperature operating range -35°C to 44°C, Certified to BMS 8-285 60 second burn test for nylon hook and loop, and 12 second burn test for polyester hook and loop*, VELCRO® Brand Adhesive 0175, Formulated for vinyl substrates, Moderate tack- medium set up, Full bond strength in 24 hours, Temperature operating range -35°C to 44°C, Acrylic pressure sensitive adhesives offer good shear strength, environmental resistance, and have good, adhesion to most metal and medium/high surface energy plastics. Rubber-based pressure sensitive adhesives have good adhesion to low surface, energy substrates. They should be used indoors, at room temperature., Fire retardant pressure sensitive adhesives are suitable for use in applications requiring, certification to industry specifications., *Only available to Boeing companies. All others will be certified to equivalent FAR 25.852 vertical burn tests.

SOLVENT ACTIVATED ADHESIVES

Solvent activated adhesives are recommended for applications where a more permanent bond is desired. Dry to the touch, these adhesives become tacky upon activation using solvents

VELCRO® Brand Adhesive 0140: Activated by MEK, acetone, or MCL, Can also be used with liquid adhesive or, ultrasonically welded when porous substrates exist, Ultimate bond strength is achieved in 24 hours, Temperature operating range -40°C to 121°C

Bonding Method Notes: If substrate is a non-porous smooth surface, apply the recommended solvent activator freely to the back of the VELCRO® Brand tape with a brush or sponge applicator and allow the adhesive to become tacky. When tacky, position the tape on a cleaned substrate using finger pressure to smooth tape. (This is most important on edges and corners.) Follow a few minutes later with additional hand pressure to ensure a complete bond. Let dry overnight or speed up drying with 60°C heat source. Please be sure to use appropriate safety precautions when using a solvent activator (i.e. proper ventilation, gloves, etc.).

ADHESIVES GUIDE	ACRYLIC		RUBBER		FIRE RETARDANT		SOLVENT ACTIVATED	
	172	175	119	8224	140			
ABS	■	■	■	■	■			
ACRYLIC SHEET	■	■	■	■	■			
ALUMINIUM	■	■	■	■	NR			
CERAMIC TILE	■	■	■	■	NR			
PAPERBOARD	■	■	■	■	NR			
GLASS	■	■	NR	NR	NR			
PAINTED WALLBOARD	■	■	■	■	FAIR			
TIMBER, RAW	■	■	FAIR	NR	■			
TIMBER, PAINTED	■	■	■	NR	■			
MDF BOARD	■	■	FAIR	NR	■			
PARTICLE BOARD	■	■	FAIR	NR	■			
PLY BOARD, LACQUERED	■	■	■	NR	■			
PLY BOARD, RAW	■	■	FAIR	NR	■			
POLYCARBONATE (PERSPEX)	■	■	NR	■	■			
STEEL, STAINLESS	■	■	■	■	NR			
STEEL, PAINTED	■	■	■	■	NR			
FIBREGLASS	■	■	■	■	■			
VINYL, RIGID (uPVC)	■	■	NR	NR	■			
VINYL, FLEXIBLE (PVC)	■	■	NR	NR	■			
POLYSTYRENE	■	■	■	HR	■			
HDPE	NR	NR	■	■	■			
LDPE	NR	NR	■	NR	NR			
POLYPROPYLENE	NR	NR	■	■	NR			
URETHANE FILM	NR	NR	■	NR	NR			
POWDERCOATED SURFACES	FAIR	FAIR	FAIR	FAIR	NR			

LEGEND: ■ RECOMMENDED FAIR - LOW TO SATISFACTORY NR - NOT RECOMMENDED

Surfaces must be clean, dry and free of oils. The recommended cleaning agent is Isopropyl Alcohol (IPA). Adhesive should be applied at ambient temperature 18-20° celsius.

Please Note: This table is intended as a guide. It is always recommended that a trial be conducted to determine the suitability of the adhesive.

Semipermanent

Pressure Sensitive Adhesives

PRESSURE SENSITIVE ADHESIVES ARE POPULAR BECAUSE OF THEIR EASE OF APPLICATION - SIMPLY REMOVE THE RELEASE LINER AND PRESS THE TAPE IN PLACE

Application method



Peel away



Place



Press

Permanent

Heat or Solvent Activated Adhesives

HEAT AND SOLVENT ACTIVATED ADHESIVES PROVIDE THE STRONGEST BOND TO THE TAPE ITSELF AND CAN BE MADE READY FOR INSTANT BONDING BY MANY METHODS OF APPLICATION

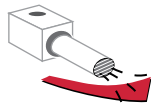
Mechanical



Ultrasonics



High frequency



Hot air

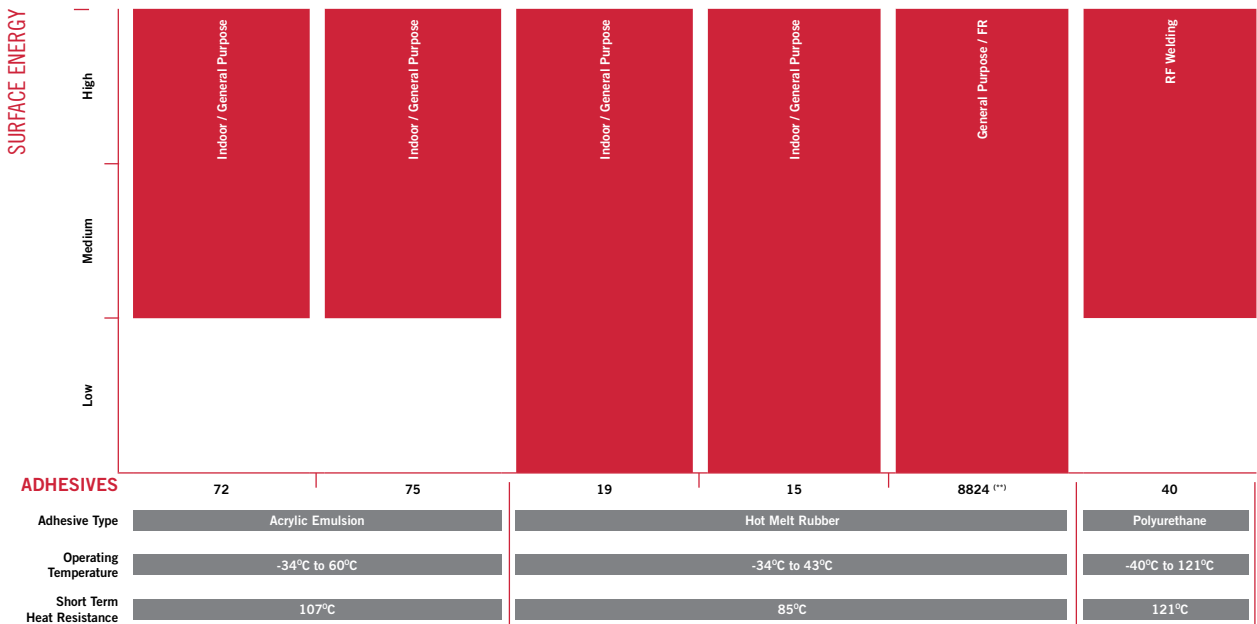


Ironing

Chemical



Solvent (acetone, M.E.K.)



* Federal Aviation Regulations 25.863(A) Motor Vehicle Safety Standard FMVSS 302
 Mil Spec AA 55126 B AMTRAK Spec. No. GEN-S-014-001 Rev. B
 *A certificate of analysis is available upon request with each order.

VELCRO® Brand

VELCRO® Brand ADHESIVES / RECOMMENDATIONS



Surface Preparation:

It is important that all surfaces be thoroughly cleaned before applying VELCRO® Brand adhesives. All cleaning agents should be tested prior to use to ensure the cleaning agent will not have adverse effects on the substrate. In some circumstances, isopropyl alcohol (rubbing alcohol) may be a sufficient cleaning agent.

Citrus cleaners are not recommended.

Your Plant Conditions: It is important to work in an area that is clean and free from dirt and dust in the air. The adhesive should be applied at room temperature, with the ideal room temperature between 18°C and 24°C and relative humidity 40% to 65%.

Please note, the lower the humidity, the better the bond. Excessive cold, heat, dirt and relative humidity will be detrimental to your adhesive performance.

If adhesive must be applied at temperatures lower than 18°C, warm the substrate and the tape to elevate temperature prior to applying. This may help the adhesive cure.

If using VELCRO® Brand O172 adhesive, allow full curing time before loading or cycling. It is also essential to have a well-ventilated area to remove fumes and odours for the safety and comfort of your employees, and as required by your local and OSHA standards.

Limitations

VELCRO® Brand adhesives are not recommended for submersion in water or on plastics with high concentrations of plasticisers. Adhesives are not washable or dry cleanable. Recommendations for Different Types of Surfaces Here are some additional recommendations to improve the surface area of a variety of substrates for better adhesion.

Porous Substrate

This type of surface is one that requires a primer or sealer to provide a suitable bonding area. Allow the treated surface to dry completely before applying your VELCRO® Brand adhesive-backed tape. Better adhesion may be obtained when used with a liquid adhesive.

Non-Porous Substrate

VELCRO® Brand Adhesive O140 is suitable for non-porous substrates. Better adhesion may also be obtained when used together with a liquid adhesive. Smooth Surfaces Improved bonding can be achieved by roughing up a smooth surface before applying adhesive.

Weak Substrate

Paper is a good example of a weak substrate. If the surface is weak, reinforcing the substrate with additional coverage of a liquid adhesive may improve performance.



