



A NEW HOOK (AND LOOP) FOR YOUR NEXT PRODUCT.

Fastening is all about engineering. Nails, screws and adhesives are designed to perform specific tasks within certain tolerances. Fix siding to a structure. Keep a carpet from shifting under thousands of footsteps. Hold a shingle fast against the elements.

Now, VELCRO® brand fastening systems are custom-designed for the construction industry to meet or surpass those tolerances. **VELCRO® CONSTRUCTION FASTENING SYSTEMS** are also more versatile and greener than most conventional mechanical or chemical fasteners.

It's an engineered loop beyond the VELCRO® fasteners you see in daily life.

It's an array of innovative solutions to all of your fastening challenges.

It's a revolution.

VELCRO® CONSTRUCTION FASTENING SYSTEMS

Velcro USA Inc. • www.velcro.com • 800-666-4880



GREEN-FRIENDLY IS BUILDING-FRIENDLY.

Every day, awareness grows about the need to adopt more sustainable, energy efficient and environmentally conscious design. Our engineered fastening solutions can help you position your products to help solve these challenges.

Environmental Impact

- Reduce Volatile Organic Compounds (VOCs) use in buildings
- Eliminate the off-gassing of adhesives
- Earn potential LEED Green Building Rating points
- Reduce job site waste
- Increase recyclable content and material use



Cleaner and more convenient than conventional fasteners, **VELCRO® CONSTRUCTION FASTENING SYSTEMS** provide a greener option for manufacturers, architects and builders.

BUILD FAST. HOLD FAST.

Building owners and their design and construction consultants are always looking for ways to reduce building costs and construction time. **VELCRO® CONSTRUCTION FASTENING SYSTEMS** can help you do both.

Installation Savings

- No tack time
- No temperature constraints
- Limited weather restrictions



Our technology supplies thousands of fasteners per square foot, versus a handful for conventional mechanical fasteners. This spreads the load evenly and ensures a secure connection.

- Greater productivity – faster and easier to use
- Fewer tools required
- Less waste and cleanup costs
- Repositionable and easier replacement
- Lower future renovation and maintenance costs

VELCRO® Brand Fasteners also accommodate differential movement without loss of closure strength, offer less potential for collateral damage during installation, and eliminate building envelope penetrations with their associated potential for costly leaks and water damage.

HELPING INDUSTRIES KEEP IT TOGETHER FOR DECADES.

More than 180 active patents. A proven record of innovation that has driven fastening technology forward for more than 50 years. Applications used every day by the military, aerospace and automotive industries, plus millions of consumers. That's Velcro USA Inc. inspired by cockleburrs hooking into fur or skin, VELCRO® hook and loop fasteners work as systems: a hook pattern on one side and a

loop pattern on the other side, joining to form a bond that's designed by our engineers to be solid and secure: as strong, as durable and reliable as you require.

Velcro USA Inc.'s relationship with our industry partners is the same. We provide the fastening technology to be incorporated into your product or application design. We'll work with you to engineer a custom solution to any challenge you throw at us.

Take a look through the samples of hooks and loops in this book and imagine the possibilities for your own products or projects. Dream big. That's how we like it.



NASA - Since the space program's inception, NASA has used our revolutionary fastening technology to assist man in space. Our specially developed TEFLON® and polyester fastener was utilized throughout the Apollo orbiter and landing spacecrafts and continues today in the Space Shuttle and the orbiting Long Duration Exposure Facility.

Synthetic Turf Athletic Fields - Helix Construction Inc. utilizes a cost effective, labor saving and reliable VELCRO® brand fastening system to install its synthetic turf athletic fields at professional and collegiate facilities.



Automobiles - VELCRO® brand fastening technology has been used worldwide in the automobile industry to cut costs and improve productivity in all aspects of vehicle assembly including seating, headliners, and electrical systems.



Military Vehicle Armor - LAST® Armor, a division of Foster-Miller, developed a field installed, combat proven applique armor system for aircraft and ground tactical vehicles using one of our reliable, high strength fastening systems. Countries around the world are relying on LAST® Armor and VELCRO® brand fasteners to protect their armed forces in combat.



Solar Panels - Velcro USA Inc. has developed a solar panel attachment system with Carvoyant Energy. The system can be rapidly installed (without racking building roof penetrations) and is easy to maintain. The largest system of its kind in the world was just completed at a GM facility in Zaragoza, Spain, utilizing 85,000 solar panels and over 130 miles of our fastening system.

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VELCRO

SO WHAT'S THE HOOK

DESIGNED TO HOLD

FNL 300



VELCRO® Brand Fastening System: LOOP

LOOP TYPES

Woolen - Woolen looms are versatile, providing high cycle life as well as strong feel and broad performance. Available in relatively narrow widths, total can be woven from nylon, polyester, moisture wick and TENCEL® yarns.

Non-woven - A flat, low-profile fastener with low cycle life. Available in widths up to 120". Non-wovens are most commonly produced from polyester or polypropylene fibers.

KNITS

Warp Knit - Stable in machine direction. Stable, available in widths up to 60". Low to medium cycle life, usually made from nylon or polyester. Applications: tight use (short pressure cuffs, knee braces, disposable wraps).

Circular Knit - Flexible knits, tend to stretch in both machine and cross-machine directions. Wide, available in widths up to 67". Medium to high cycle life and commonly made from nylon and polyester yarns. Applications: bulk bagging, warehouse belts.

LOOP ORIENTATION
Knapped - Top loop yarns are randomly oriented for maximum peel performance.

Un-knapped - Top loop yarns are oriented in an orderly configuration for maximum cycle life.

3800 LOOP

Circular knit, knapped low pile



PERFORMANCE MEASURES

Peel - the tensile strength of a hook and loop closure is measured when overlapped and engaged, held in the same end, and pulled at 180 degrees from each other.

Shear - the tensile strength of a hook and loop closure is measured when overlapped and engaged, held in opposite ends, and pulled at 180 degrees from each other.

Tension - the tensile strength of a hook and loop closure is measured when overlapped and engaged, then pulled perpendicular to the engaged plane.

Cycle Life - the number of times hook and loop can be engaged and dis-engaged before the closure strength is reduced to 50% of original values.



3001 LOOP

Circular knit, knapped high pile



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FORM AN ATTACHMENT WITH VELCRO® FASTENERS

Greater than glue.

Tough as nails.

Smarter than screws.

VELCRO® CONSTRUCTION FASTENING SYSTEMS

are ready to be incorporated into your next construction product or project.

Start thinking about how you could apply our innovative technology to your next great idea. Incorporate our existing construction-focused technology into your plans. Or let us research your challenge and use our technology to create a custom solution for you.



To learn more, contact the Construction Division at Velcro USA Inc. by calling 803-889-4888.

Our solution-focused team can help you form a lasting bond with VELCRO® brand products and technology—a more efficient, cost-effective, environmentally friendly way to build.

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construction@velcro.com

Velcro USA Inc.

406 Brown Avenue

Manchester, NH 03103



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VELCRO



THIS IS THE
HOOK

YOU'RE IN THE
LOOP



**CHALLENGE
YOUR PERCEPTION**

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Manchester, NH 03103

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