HIGH PERFORMANCE ADHESIVES

EPOXIES

Hardman® DOUBLE/BUBBLE epoxies are strong and versatile. They contain no solvents, will not shrink, and cure at room temperature. Epoxies are effective over a wide range of temperatures for bonding to metal, glass, ceramics, wood, concrete and most hard plastics. They are cost-efficient adhesives and do not induce galvanic corrosion.

Extra Fast Setting
- Description: Extra fast setting for quick repairs. Excellent adhesive for bonding wood, glass, metal, stone, concrete, ceramics and leather. Typical uses: Repairing of tools, auto parts, electrical and electronic components, furniture and other applications that require a fast-setting adhesive.
- Work time: 3 minutes
- Handling strength: 15-30 minutes
- Color: Light amber (translucent)
- Viscosity: Syrup
- Reorder #04001

Clear Impact-Resistant
- Description: Use as an adhesive or coating. Bonds to metal, ceramics, glass, porcelain and wood. Covers and fills scratches. Impact resistant.
- Typical uses: Repair of printed circuit boards (does not electrically corrode copper), optical fibers, lenses and other optical equipment, jewelry, art objects and other applications where a clear bond is desired.
- Work time: 2 hour
- Handling strength: 8 hours
- Color: Clear
- Viscosity: Motor oil
- Reorder #04004

General Purpose
- Description: A long work-life adhesive for bonding wood, metal, ceramics, concrete, rubber and plastics.
- Typical uses: Repair of tools, furniture and sports equipment. An excellent adhesive for use with fiberglass cloth.
- Work time: 2 hours
- Handling strength: 8 hours
- Color: Amber
- Viscosity: Heavy syrup
- Reorder #04005

Extra Fast Setting Non-Sag
- Description: Extra fast setting, non-sag (thixotropic) adhesive for quick repairs. Bonds to wood, glass, metal, stone, ceramics, and leather. Typical uses: Ideal for quick, permanent, vertical and overhead repairs. For fixtureing, tacking, sealing, gap filling and staking in electrical and industrial applications.
- Work time: 3 minutes
- Handling strength: 15-30 minutes
- Color: White (translucent)
- Viscosity: Paste
- Reorder #04008

Machineable, Fast Setting
- Description: A machineable tooling and body patch that adheres to metal, wood and hard plastics. Can be machined, sanded, drilled and tapped.
- Typical uses: Patching and filling voids and scratches in plastic and metal tooling, patterns and furniture.
- Work time: 25 minutes
- Handling strength: 4 hours
- Color: Aluminum
- Viscosity: Honey
- Reorder #04002

Regular Setting
- Description: A low-viscosity adhesive, with a fairly long work-life. Cures to a light color and bonds well to wood, metal, concrete, fabrics and most plastics.
- Typical uses: Excellent for applications requiring a thin glue line. Ideal for fine furniture, hobby use and sports equipment repair.
- Work time: 45 minutes
- Handling strength: 4 hours
- Color: Light (almost colorless)
- Viscosity: Maple syrup
- Reorder #04006

Very High Peel Strength
- Description: A flexible, tough and durable vibration resistant adhesive. High peel and shear strengths. Bonds to polystyrene, ABS nylon, metal, wood, masonry and rubber.
- Typical uses: For repair of sports equipment, marine, aircraft, auto, truck and tractor parts. Excellent adhesive for grinding wheel hubs, door and window gaskets.
- Work time: 3 hours
- Handling strength: 18 hours
- Color: Gray
- Viscosity: Soft paste
- Reorder #04007

Wet Surface Patching
- Description: A gap-filling adhesive for use in damp or moist environments. Cures and bonds under water. Bonds to stone, concrete, metal, glass, china, wood and fiberglass.
- Typical uses: Wet crack sealant and plumbing patch. For repair of gutters, battery cases and boats. Excellent adhesive for use with fiberglass tape.
- Work time: 25 minutes
- Handling strength: 3 hours
- Color: Gray
- Viscosity: Heavy syrup
- Reorder #04003

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DOUBLE/BUBBLE®

HIGH PERFORMANCE ADHESIVES

URETHANES
Hardman DOUBLE/BUBBLE urethanes are strong, two-part, rigid and flexible adhesives with excellent resistance to tearing, abrasion, wear and scratching. Quick curing, they are recommended for bonding metal, glass, ceramics, most plastics and flexible materials of all types. They contain no solvents and cure with very low shrinkage.

**Flexible**
Shore Hardness D-50
Description: A good combination of high peel and lap shear strengths. It is semi-flexible and will bond to rubber, leather, china and many plastics.
Typical uses: For automotive repairs, bonding aftermarket replacement mirrors, etc., repair of shoes, ski boots, and other sports equipment, repair of conveyor belts.
Work time: 3-5 minutes
Handling strength: 1 hour
Color: Beige
Viscosity: Light syrup
Reorder #04022

**Semi-Rigid**
Shore Hardness D-85
Description: Extra fast setting, semi-rigid. Combines very high lap shear strength with good peel strength.
Typical uses: For repair of urethane RIM parts. Recommended for repair of rubber hoses and flexible electrical connections.
Work time: 3-5 minutes
Handling strength: 1 hour
Color: White
Viscosity: Heavy syrup
Reorder #04023

**Very Flexible**
Shore Hardness A-85
Description: Fast setting with high peel strength. Tough and flexible. Bonds to most metals, plastics, rubber, glass and leather. Good for low-temperature, sub-zero applications.
Typical uses: Repair of construction and off-road tires, flexible conveyor belts, printing press rollers, rubberized fabrics, shoes, ski boots and other sports equipment. For bonding refrigeration and air-conditioning equipment.
Work time: 8 minutes
Handling strength: 45 minutes
Color: Black
Viscosity: Heavy syrup
Reorder #04024

SILICONE
Hardman Specialties Silicone is a versatile, non-sagging adhesive/sealant that cures at room temperature to a tough, rubbery solid. It has excellent temperature, moisture, vibration and ozone resistance. It performs throughout a wide temperature range of -85°F to 450°F.

**Versatile Adhesive/Sealant**
Description: Fast-setting and non-sag (thixotropic). Excellent temperature, moisture, vibration and ozone resistance. It will not sag on vertical surfaces. Silicone bonds to most materials including metal, glass, wood, ceramics and many plastics.
Typical uses: For caulking around tubs, replacing loose tiles or repairing rubber and glass. Excellent for forming in-place gaskets. Sealing of joints and lead wire entries, weather-stripping and auto glass sealing.
Work time: 10 minutes
Handling strength: 24 hours
Color: Off-white
Viscosity: Paste
Reorder #04030

**Waterless Hand Cleaner**
Removes:
- Resins
- Epoxies
- Gasket cement
- Partially dried paint
- Pitch
- Polyesters
- Silicones
- Tars
- Urethanes
- Carbon black
- Dirt
- Grease
- Grime
- Inks
- Putty

Features:
- Dispensable “One-Wash” Portion.
- Soothing lanolin formula... no harsh solvents or abrasives.
- Floating “beadlets” promote scrubbing action — gentle on hands.

Reorder #04040

NOTE: The information herein is currently believed to be accurate. We do not guarantee its accuracy. Purchasers shall not rely on statements herein when purchasing any products. Purchasers should make their own investigations to determine if such products are suitable for a particular use. The products discussed are sold without warranty, express or implied, including a warranty of merchantability and fitness for use. Purchases will be subject to a separate agreement, which will not incorporate this document.

BJ-6210-A-10/05

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SUGGESTED USES

General Repairs
• Offers multiple, highly-reliable, one-time use possibilities for job-site and home repair use.

Sports
Ideal for repairs on:
• Skis/Snowboards & Surfboards
• Hockey Equipment
• Sporting goods that need to withstand rugged use, moisture and extreme temperatures.

Marine
• Perfect for fiberglassing, coating, and gluing new wood construction and repair as well as for gelcoat blister repair and general repair of fiberglass boats.
• Repairs traditional plywood construction, stitch and glue plywood construction, and cold molded construction.
• Provides advanced adhesion, toughness, resiliency, and moisture resistance
• Helps prevent cracking, splitting, or delaminating.
• May be applied underwater.

Striking Tools
• Ideal for the replacement of fiberglass, wood, metal and plastic striking tool heads.
• Maintains a super-strong bond under constant, high-impact use.

Special line of Golf DOUBLE/BUBBLE available
• Effective on graphite, steel and alloy shafts as well as classic wood shafts.
• Suitable for fixing heads of irons, woods and putters, regardless of material.
• Durable enough to withstand consistent use, striking, torque, general wear and temperature extremes.

Tips for Better Bonding
Surface Preparation
• Parts (substrates) to be bonded must be clean; remove oil, grease, paint and residue.
• Roughen surfaces with emery cloth or sand paper.
• Wipe parts with alcohol (if possible) and let dry.

Application Techniques
• Apply a thin, even coat of mixed adhesive to each substrate to be bonded.
• Connect parts to be bonded. Hold secure with clamps, if possible.
• Allow maximum cure time.
Subject Preparation: Surfaces must be clean and dry before application. Remove all contaminants, dirt, wax and oil.

For bonding steel to nylon, double/bubble can be epoxy package is the product of choice.

NOTES: When joining different substrates, select the adhesive recommended for both substrates.

Silicone is an adhesive as well as an excellent moisture resistant sealant.

Water Resistance Codes:
- Fair (F)
- Good (G)
- Very Good (VG)
- Excellent (E)

Cures on wet surfaces.

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<tr>
<td>10</td>
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Other | Plastic | Metal | Substrates