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 include galvanic corrosion.

Extra Fast Setting
Description: Extra fast setting for quick repairs. Excellent adhesive for bonding
Typical uses: Repairing of tools, auto parts, electrical and electronic components, furniture and other applications that require a fast-setting adhesive.
Work Time: 3-5 minutes
Handling Strength: 45-60 minutes
Color: Amber
Viscosity: Honey
Reorder # 04009

Non-Sag Extra Fast Setting
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 fixturing, 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

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 radiators, battery cases and boats. Excellent adhesive for use with fiberglass tape.
Work Time: 25 minutes
Handling Strength: 5 hours
Color: Gray
Viscosity: Heavy Syrup
Reorder # 04003

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 hours
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

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 sheer 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

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.
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 after-market 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.
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 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

ONCE
Hardman ONCE hand cleanser quickly and safely cleans tough to remove stains like epoxies, resins and grease. It is specially designed for maintenance use. No water needed!

Waterless Hand Cleaner
Removes:
• Resins • Epoxies • Gasket cement
• Partially dried paint • Pitch • Polysters
• Silicons • Tar • 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

Mixing Instructions
1. Fold glue pak in half.
2. Snip off ends with scissors.
3. Squeeze out glue with wooden stick.
4. Stir combined mixture together with stick.
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Surface Preparation: Surfaces must be clean and dry before application. Remove all debris, dirt, wax and oil.

For bonding steel to nylon, double-ended or eutectic epoxy pads are the product of choice.

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

Water Resistance Codes:

- Fair (F)
- Good (G)
- Very Good (VG)
- Excellent (E)

<table>
<thead>
<tr>
<th>KEY</th>
<th>MISC.</th>
<th>URETHANES</th>
<th>EPOXIES</th>
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<td>10</td>
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Materials:
- Leather
- Glass
- Wood
- Stone
- Rubber
- Nylon
- Fiberglass
- ABS
- Urethane
- Polyethylene
- Polyester
- Polycarbonate
- Phenolic
- Epoxy
- Acrylic
- Acetate
- Zinc
- Tin
- Copper / Brass
- Aluminum
- Stainless Steel
- Carbon Steel
- Water Resistance
- Temperature (°F)
- Work Time (minutes)
- Adhesive
- Substrates
- Other
- Plastic
- Metal

Double/Bubble