

# DIAMONDBACK® PUTS MUSCLE IN URETHANE.



 Bailey-Parks Urethane

# DIAMONDBACK® AND DIAMONDBACK CERAMIC CHIP URETHANE LINERS. TOUGH AS A RATTLESNAKE.



iamondback was developed by Bailey-Parks in response to a need for longer-wearing, more-wear-resistant urethane liners in several bulk handling industries. It is a registered trademark product manufactured only by Bailey-Parks.

## POLYURETHANE: TOUGH ENOUGH FOR THE JOB.

Polyurethane, or "urethane", is an elastomeric material with outstanding properties and wear characteristics.

- Superior cut and abrasion resistance
  - Ability to "self-heal"
    - Can be formulated to possess specific properties (i.e. co-efficient of friction, resiliency and compression set can be formulated high or low)
  - Excellent resistance to ozone and aging
- Can be molded and bonded to a variety of substrates
  - Resistant to many oils and solvents
  - Lightweight
- Outstanding low temperature properties

## BAILEY-PARKS MAKES URETHANE TOUGHER.

Urethane is a generic term. How this urethane is manufactured and fabricated determines how effective it is in a specific application. To assume that all urethane has the same properties or price is like assuming all cars are the same.

You can purchase a less expensive urethane than Bailey-Parks', but



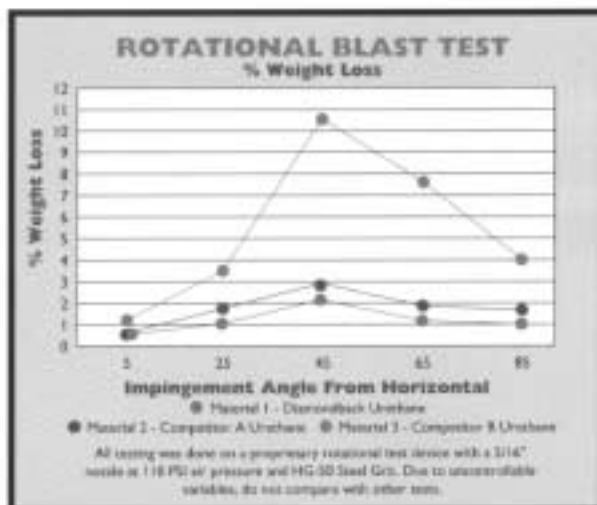
you may sacrifice quality, durability or service. With urethane, as with most things in life, you get what you pay for. With Bailey-Parks, you get the reliable, high-quality product and service that usually proves to be most cost-efficient in the long run.

## DIAMONDBACK®: THE TOUGH URETHANE.

Diamondback provides outstanding resistance to both impingement and frictional abrasion. It is relatively easy to fabricate and install and the cost is competitive with other abrasion-resistant materials. Its softness cushions to protect grain, feed and other materials from breakage. And Diamondback liners meet FDA standards for dry food handling.

Limitations are those inherent to most urethanes. Diamondback should not be used in conditions that constantly exceed 180°F dry heat or 100°F wet heat and it has poor resistance to some chemicals and solvents.

Industries that benefit from the use of Diamondback include the grain, sand and gravel, crushed stone, coal, gold, silver, copper, salt and many others involved in the handling or conveying of bulk materials.

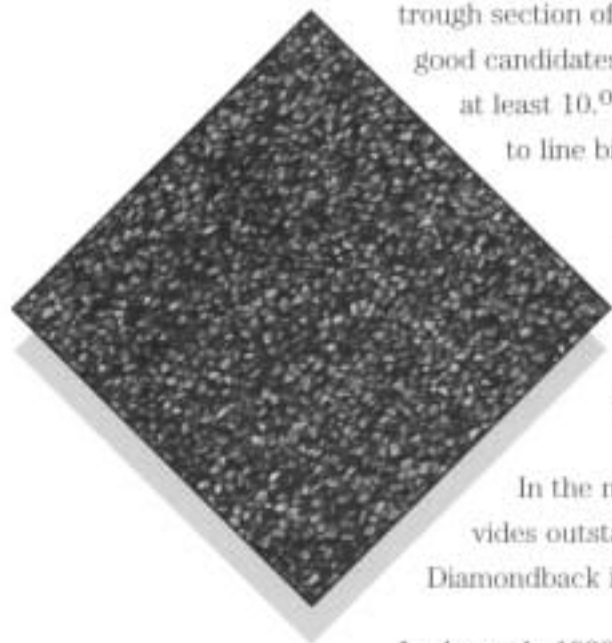


MATERIAL	STRENGTHS	WEAKNESSES
UHMW Ultra High Molecular Weight Polyethylene	Cost, low co-efficient of friction, light-weight, easy to fabricate	Very rigid, difficult to form or bend, high rate of thermal expansion/ contraction, poor resistance to severe cutting abrasion
Steel	Structural strength, non flammable	Heavy (roughly 6x the weight of urethane), poor corrosion resistance, difficult to fabricate due to weight, poor overall abrasion resistance
Alloy Steel	Abrasion resistance (in best grades), resistance to high temperature	Same as steel: extreme difficulty in fabrication and very high cost
Ceramics	Abrasion resistance, nonflammable, resistance to high temperature, electrical insulation properties	High cost, fragile (impact can break ceramic tile), difficult to fabricate in field application
Rubber	Cost, availability, good impact resistance (in high grades of SBR and natural gum)	Poor overall abrasion resistance

Each of these materials is used by industry to some extent for abrasion resistance, noise or vibration abatement, cushioning of product or insulation. Bailey-Parks Diamondback is among the most versatile of all lining materials.

## **DIAMONDBACK® IS TOUGH ENOUGH FOR YOUR APPLICATIONS.**

Typical handling components lined with Diamondback include spouts, distributors, transitions, elbows and bucket elevator head sections. The trough section of both drag and screw conveyors experience wear and are good candidates for Diamondback lining when the incline angle exceeds at least 10.<sup>o</sup> Within aggregate handling facilities, Diamondback is used to line bins and hoppers, and as belt scrapers.



### **DIAMONDBACK CERAMIC CHIP URETHANE LINER IS EVEN TOUGHER THAN STANDARD DIAMONDBACK.**

In the majority of wear applications, standard Diamondback provides outstanding resistance to abrasion. But for some applications Diamondback isn't tough enough.

In the early 1980s, Bailey-Parks began experimenting with ceramic chips combined with urethane. And pioneered a system that allows a much higher ratio of ceramic to urethane per sheet than was available from other manufacturers. The result is Diamondback Ceramic Chip Urethane.

We impregnate the top 38% of the urethane regardless of sheet thicknesses to produce a smooth ceramic surface. Ceramic is 85% alumina with a hardness of 9 on MOH's scale. Urethane is 85A durometer.

This product is most effective in applications with abrasion caused by small, sharp particles or very high volumes of abrasion. Grain elevators handling large amounts of soybeans have used Diamondback Ceramic Chip liners and reported wear advantages of as much as 2/1 over standard Diamondback.

### **QUALITY CONTROL AS TOUGH AS THE PRODUCT.**

You can rely on Bailey-Parks Diamondback for reliable, consistent performance. Each and every sheet is produced using high tech casting and monitoring equipment.

We go beyond standard verification of thickness, width, length and hardness. We also check and maintain statistical data and records of ultimate tensile strength, percent elongation at break, 100% and 300% modulus and durometer on every lot. This data is compiled during the physical pouring of the material and again after the final post cure is completed.

All manufacturers do not monitor quality so rigorously. But we do at Bailey-Parks, because it is the only way to assure you of the best, most consistent quality urethane.

**WE CAN SOLVE YOUR TOUGH  
CUSTOM AND DESIGN PROBLEMS.**

Diamondback® Urethane and Diamondback Ceramic Chip Urethane come in a variety of standard sizes, as shown on the back. In addition, we can provide urethane and other wear resistant materials in virtually any shape or size for engineering parts in grain, mining, sand and gravel, crushed stone, aggregate mixing, general bulk handling and other industrial applications.

We also offer a complete design and engineering department to create the most workable and cost-efficient product for you. Our in-house capabilities include engineering design, machine shop and fabrication, including equipment such as CAD-CAM and CNC machine center.



## **WE CAN MEET YOUR TOUGH DEADLINES.**

Bailey-Parks maintains a finished goods inventory of Diamondback® urethane sheets of up to 36,500 sq. ft. Diamondback is also available from the inventory of stocking distributors throughout North America.

Our plant is located in Memphis, TN, the Distribution Center of America. Our access to major trucking and airlines serving all the continental U.S. and Canada enables us to minimize delivery times and provide the high level of service your operation demands.

We also reduce delivery times by producing all orders on a timely basis. Based on the study of an entire month's shipments, which numbered in the hundreds, we actually *produced and shipped orders on an average of 2.87 days faster* than the mutually agreed upon delivery time.

A large capacity of sheet molds, along with advanced technological capability, allows us to produce up to 5700 sq. ft. of finished Diamondback urethane sheets per shift.

Bailey-Parks can produce what you need and get it to you when you need it!

## **SOLUTIONS FOR ALL YOUR TOUGH REQUIREMENTS.**

At Bailey-Parks, we're dedicated to creating solutions for all your urethane and wear-resistant needs. Call us to discuss how we can serve you.

## **WEDGIE BOLT® & OTHER FASTENING SYSTEMS.**

Bailey-Parks has engineered the best, longest-wearing fastening for urethane and synthetic rubbers. With superior leakage resistance tested up to 1200 PSI with water.

The exclusive Bailey-Parks Wedgie Bolt is made of tough Diamondback urethane that can outwear even heat treated alloy steel by a 6:1 margin. Available in sizes for use with urethane sheet thicknesses 1/4 to 1".



In addition to the Wedgie Bolt system, Bailey-Parks produces and uses all of these fastening systems with Diamondback.



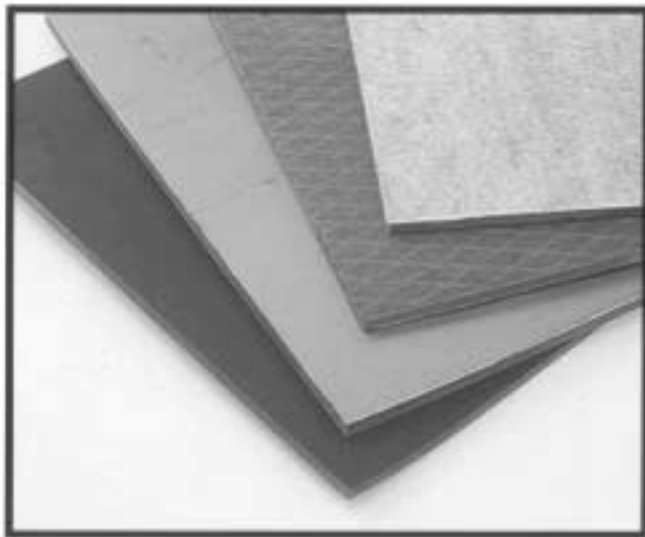
- **Weldable Diamondback**—Weldable metal plates on the bottom surface of Diamondback sheets allow the sheet to be welded to steel.
- **Perfo™ Screw**—For use with Perfoback metal.
- **Molded-in Bolts**—Custom made per your specification.
- **Molded-in Inserts with Holes**—Per your specification.
- **Specialty Adhesives**—For gluing Diamondback and cotton fabric-backed Diamondback.

## BACKINGS FOR DIAMONDBACK®

**Non reinforced**—No backing. Most lightweight and flexible of all the Diamondbacks. Can be hand formed. A special adhesive allows gluing to metal and other materials.

**Cotton Fabric**—Lightweight, flexible and allows Diamondback to be glued to metal and other materials with commercial adhesives.

**Expanded Metal**—Flattened, expanded steel, typically 16-gauge. Makes Diamondback more rigid and flatter when installed. Decreases the amount of thermal expansion/contraction. Metal backing provides a structurally sound “stopping point” for bolt heads, so the bolt cannot pull entirely through the sheet.



**Perfoback Metal**—A relatively new, specialized metal with many small openings that create a perforated effect. Provides all of the advantages of expanded metal. In addition, the small openings permit use of self-tapping metal screws through the backing. Perfoback is a replacement for solid metal and is especially effective with Diamondback Ceramic Chip.

**Custom**—Specialty fabrics and light or heavy gauge solid steel.

# DIAMONDBACK® SPECIFICATIONS

## Available Sizes

- Metal-backed in thicknesses 3/16" — 1"
- Nonreinforced and cotton fabric-backed 1/8" — 1"

## Standard Diamondback

*Nonreinforced & Cotton Fabric-Backed*

- 2' x 4'
- 4' x 4'
- 4' x 8'
- 4' x 10'
- 4' x 25'
- 4' x 50'
- 4' x over 50'

## Nonreinforced Only

- 10' x 50' (up to 3/8" thick)
- any size between 1' x 1' and 10' x 50'

## Expanded Metal Back

- 4' x 10'
- any size between 1' x 1' and 4' x 10'

## Perfoback™ Metal Backed

- 4' x 10'

## Diamondback Ceramic Chip Urethane

- Available nonreinforced, with expanded metal backing and Perfoback™ metal backing in 4' x 10' sheets.



Bailey-Parks  
Urethane

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URETHANE SOLUTIONS