

USASEALING BULK-PS-UHMW-888

User Manual

USA SEALING BULK-PS-UHMW-888 WHITE UHMW POLYETHYLENE PLASTIC BAR

Brand: USASEALING | **Model:** BULK-PS-UHMW-888

1. Introduction

This manual provides essential information for the proper handling, use, and maintenance of the USA Sealing BULK-PS-UHMW-888 White UHMW Polyethylene Plastic Bar. UHMW (Ultra-High Molecular Weight) Polyethylene is a high-performance engineering plastic known for its excellent impact resistance, low coefficient of friction, and high abrasion resistance. This product is designed for various industrial applications where these properties are beneficial.

Product Description: UHMW Polyethylene has excellent impact resistance and a slippery surface that reduces abrasion and wear. In addition, it is a strong electrical insulator and moisture-resistant. This Product is Manufactured in China.

2. Product Features

The USA Sealing BULK-PS-UHMW-888 bar offers a range of beneficial characteristics:

- **Material:** UHMW Polyethylene, Standard Grade, Plain Backing.
- **Dimensions:** 3" Thickness, 6" Width, 24" Length.
- **Color:** White, Opaque.
- **High Impact Strength:** Rated Excellent with 16.0 ft. - lbs./in.
- **Low Friction:** Coefficient of Friction 0.15, rated Very Slippery.
- **Moisture Resistance:** Water Absorption 0.0001, rated Excellent.
- **Electrical Insulation:** Strong electrical insulator.
- **Temperature Range:** Operates effectively from -70° to 180° F.
- **Density:** 0.034 lbs / cu. in.
- **Hardness:** 70D.
- **Compliance:** Meets FDA and UL 94 HB specifications.

3. Setup and Preparation

This UHMW Polyethylene bar is a raw material intended for fabrication and industrial applications. Proper

preparation ensures optimal performance and safety.

3.1. Inspection

Upon receipt, inspect the bar for any visible damage or defects that may have occurred during shipping. Ensure the dimensions match your requirements before proceeding with any cutting or machining.

3.2. Cleaning

Before use, clean the surface of the bar to remove any dust, debris, or contaminants. A mild detergent and water can be used, followed by thorough rinsing and drying. Avoid harsh chemicals that may degrade the material.

3.3. Cutting and Machining

UHMW can be cut, drilled, and machined using standard woodworking or metalworking tools. Ensure tools are sharp and appropriate for plastics to prevent melting or burring. Always wear appropriate personal protective equipment (PPE) such as safety glasses and gloves when cutting or machining.

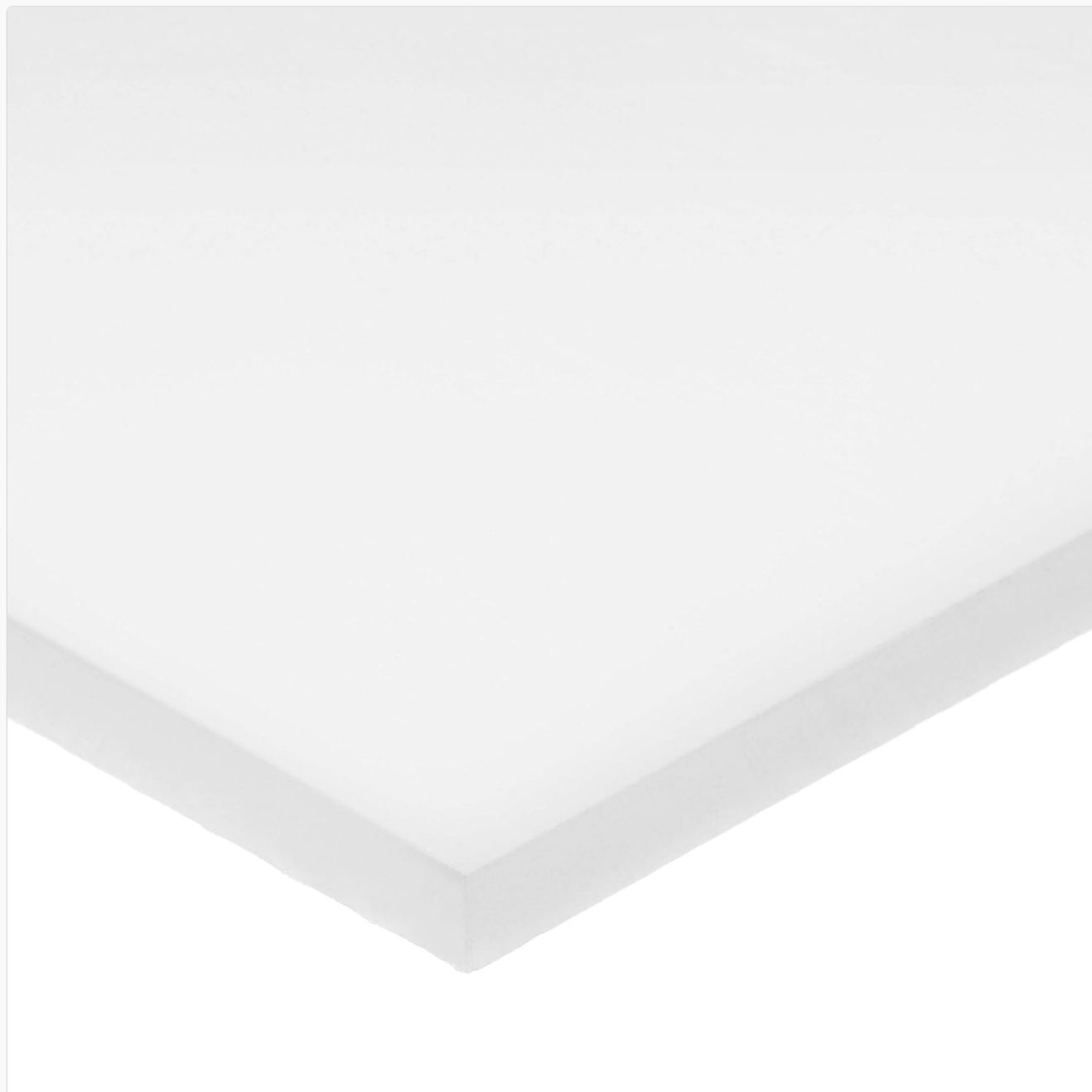


Figure 1: A close-up view of the white UHMW Polyethylene plastic bar, showcasing its smooth, opaque surface and uniform thickness. This image illustrates the material's appearance as a raw stock for various industrial applications.

4. Operating and Application

UHMW Polyethylene is highly versatile and used in a wide range of applications due to its unique properties. Common uses include wear strips, chain guides, chute linings, bearings, and other low-friction, high-wear components.

4.1. Adhesion and Fastening

UHMW is difficult to bond with adhesives due to its low surface energy. Mechanical fastening (screws, bolts, rivets) is generally recommended for secure attachment. If adhesive bonding is necessary, specialized surface preparation (e.g., flame treatment, plasma treatment) and specific adhesives designed for polyolefins may be required.

4.2. Environmental Considerations

While UHMW has a good temperature range, avoid prolonged exposure to temperatures exceeding 180° F (82° C) as this can lead to material degradation. It exhibits excellent resistance to many chemicals but may be affected by strong oxidizing acids at elevated temperatures.

5. Maintenance and Storage

Proper maintenance and storage will extend the lifespan and maintain the performance of your UHMW Polyethylene bar.

5.1. Cleaning

Regular cleaning with mild soap and water is sufficient to remove dirt and grime. For stubborn stains, a non-abrasive plastic cleaner can be used. Avoid abrasive pads or cleaners that could scratch the surface.

5.2. Storage

Store UHMW bars in a cool, dry place away from direct sunlight and extreme temperatures. Lay flat to prevent warping. Protect from physical damage and contamination.

6. Troubleshooting

While UHMW is a durable material, certain issues can arise during handling or application. Here are some common concerns and their solutions:

- **Issue:** Material warping or bending.
Solution: Ensure proper storage conditions (flat, cool, dry). Avoid uneven support during application.
- **Issue:** Difficulty in machining (melting, burring).
Solution: Use sharp tools designed for plastics. Reduce cutting speed or increase feed rate. Ensure adequate chip clearance.
- **Issue:** Poor adhesion when attempting to bond.
Solution: UHMW is inherently difficult to bond. Consider mechanical fasteners. If bonding is critical, research specialized surface treatments and adhesives for polyolefins.
- **Issue:** Surface scratches or abrasion.
Solution: While UHMW is abrasion-resistant, sharp objects can still scratch it. Protect the surface during handling and installation. For applications requiring extreme scratch resistance, consider alternative materials or protective coatings.

7. Specifications

Property	Value	Rating/Notes
Shape	Bar (Rectangular)	
Material	UHMW Polyethylene	Standard Grade
Backing Type	Plain	
Thickness	3"	Tolerance: (-0.047" - +0.031")
Width	6"	Tolerance: (-0.25" - +0.25")
Length	24"	Tolerance: (-1" - +1")
Color	White	Opaque
Tensile Strength	4,400 psi	Rating: Poor
Impact Strength	16.0 ft. - lbs./in.	Rating: Excellent
Coefficient of Friction	0.15	Rating: Very Slippery
Water Absorption	0.0001	Rating: Excellent
Hardness	70D	
Density	0.034 lbs / cu. in.	
Temperature Range	-70° to 180° F	
Specifications Met	FDA, UL 94 HB	
Product Dimensions (Packaged)	24 x 6 x 24 inches	Weight: 18.15 Pounds
Manufacturer	USA Sealing Inc.	
Date First Available	February 3, 2020	

8. Safety Information

When handling or fabricating with the UHMW Polyethylene bar, observe the following safety precautions:

- Always wear appropriate Personal Protective Equipment (PPE), including safety glasses or goggles, gloves, and dust masks, especially when cutting, drilling, or sanding.
- Ensure adequate ventilation when machining to prevent inhalation of plastic dust.
- Use sharp tools and proper techniques to avoid material overheating and melting, which can produce fumes.
- Secure the material properly before cutting or drilling to prevent movement and potential injury.
- Keep out of reach of children.

9. Warranty and Support

For information regarding product warranty, returns, or technical support, please contact USA Sealing directly or refer to the purchase documentation. As a raw material, specific application warranties may depend on the end-use and fabrication methods.

Manufacturer: USA Sealing Inc.

For further assistance, please visit the [USASEALING brand page on Amazon](#) or contact your supplier.

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Model number, symptoms, what you tried, or the section of the manual you are using.

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