

EISCO PH0566A

EISCO Rectangular Refraction Block PH0566A User Manual

Model: PH0566A | Brand: EISCO

1. PRODUCT OVERVIEW

The EISCO Rectangular Refraction Block is a precision-crafted optical component designed for educational and experimental purposes in physics, as well as for creative applications in photography. It is made from high-quality optical glass, ensuring clarity and accurate optical properties.

Key features include:

- **Material:** Imported optical glass with optically worked surfaces.
- **Construction:** All angles are accurately worked, and edges are slightly beveled for durability and safety. The glass is bubble-free.
- **Dimensions:** Measures 3 inches (75mm) in length, 1.5 inches (50mm) in width, and 0.5 inches (12mm) in thickness.
- **Applications:** Suitable for various experiments involving light refraction and reflection, and for creating unique lighting and distortion effects in photography.



Image 1.1: The EISCO Rectangular Refraction Block, a clear glass block used for optical experiments.

2. SETUP AND PREPARATION

The EISCO Rectangular Refraction Block is designed for immediate use upon removal from its packaging. No assembly or complex setup is required.

1. **Unpacking:** Carefully remove the refraction block from its protective packaging.
2. **Inspection:** Before use, inspect the block for any signs of damage, chips, or cracks that may have occurred during transit.
3. **Cleaning:** If necessary, gently clean the surfaces with a soft, lint-free cloth to remove any dust or fingerprints. Refer to the Maintenance section for detailed cleaning instructions.
4. **Placement:** Place the block on a stable, flat surface suitable for your experiment or photographic setup.

3. OPERATING INSTRUCTIONS

This section outlines general guidelines for using the refraction block in various applications.

3.1. Physics Experiments (Refraction and Reflection)

The block is ideal for demonstrating fundamental principles of optics.

- **Refraction:** Place the block on a sheet of paper. Shine a narrow beam of light (e.g., from a laser pointer or ray box) at an angle onto one of the block's faces. Observe how the light beam bends as it enters the glass (refraction) and again as it exits. Mark the path of the incident and refracted rays to measure angles and verify Snell's Law.
- **Total Internal Reflection:** By directing a light beam from within the glass towards an interface with

air at a sufficiently large angle, you can demonstrate total internal reflection.

- **Displacement:** Observe the apparent shift in position of objects viewed through the block due to refraction.

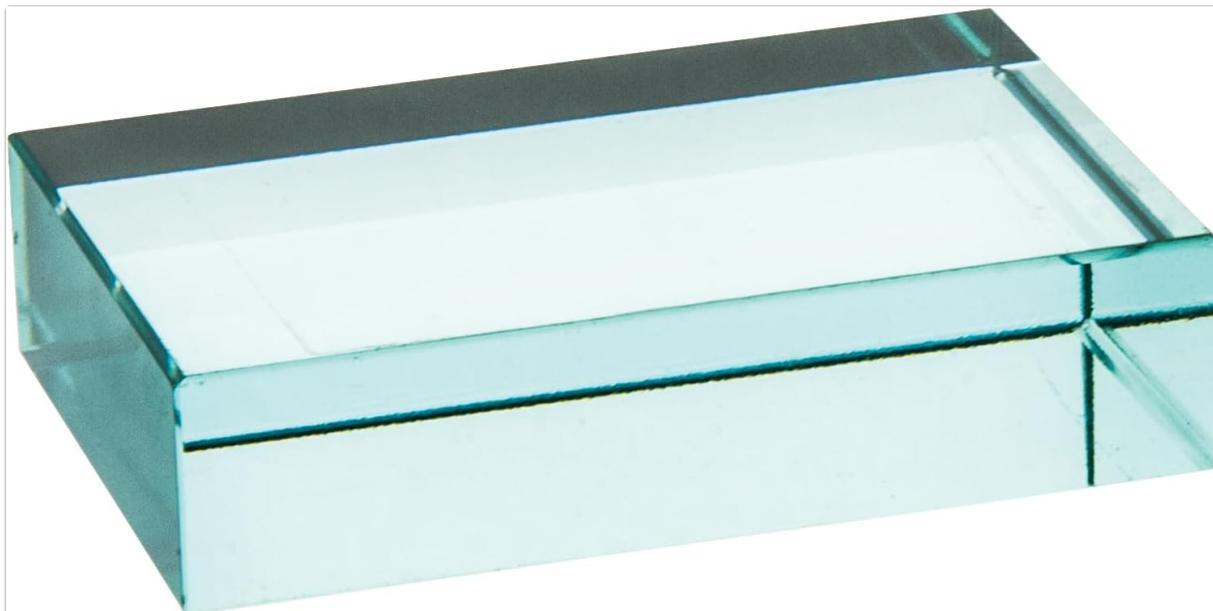


Image 3.1: An angled view of the refraction block, illustrating its clear optical glass construction.

3.2. Photography Applications

The block can be used to create interesting visual effects.

- **Distortion Effects:** Place the block in front of your camera lens or between the lens and the subject to create unique distortions, refractions, and light bending effects in your photographs.
- **Light Play:** Use the block to manipulate light sources, creating interesting patterns, reflections, or diffused light in your scene.

4. MAINTENANCE AND CARE

Proper care will ensure the longevity and optical clarity of your refraction block.

- **Cleaning:** To clean fingerprints or smudges, use a soft, lint-free cloth (e.g., a microfiber cloth) and a small amount of optical cleaning solution or distilled water. Avoid abrasive cleaners or materials that could scratch the glass surface.
- **Handling:** Always handle the block by its edges to minimize fingerprints on the optical surfaces.
- **Storage:** Store the block in its original packaging or a padded container when not in use to protect it from dust, scratches, and accidental impact.
- **Avoid Impact:** Although durable, glass can break. Avoid dropping the block or subjecting it to sharp impacts.

5. TROUBLESHOOTING

Most issues with a glass refraction block are related to its physical condition or cleanliness.

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Unclear or blurry optical effects	Smudges, fingerprints, or dust on the glass surfaces.	Clean the block thoroughly using a lint-free cloth and optical cleaning solution as described in Section 4.
Scratches or chips on the glass	Improper handling or storage; contact with abrasive materials.	Minor scratches may not significantly affect performance for general use. For critical optical applications, replacement may be necessary. Prevent future damage by following care instructions.
Block appears to have internal bubbles	Manufacturing defect (unlikely for EISCO's bubble-free claim).	If bubbles are present and affect performance, contact EISCO customer support for assistance.

6. SPECIFICATIONS

Detailed technical specifications for the EISCO Rectangular Refraction Block.

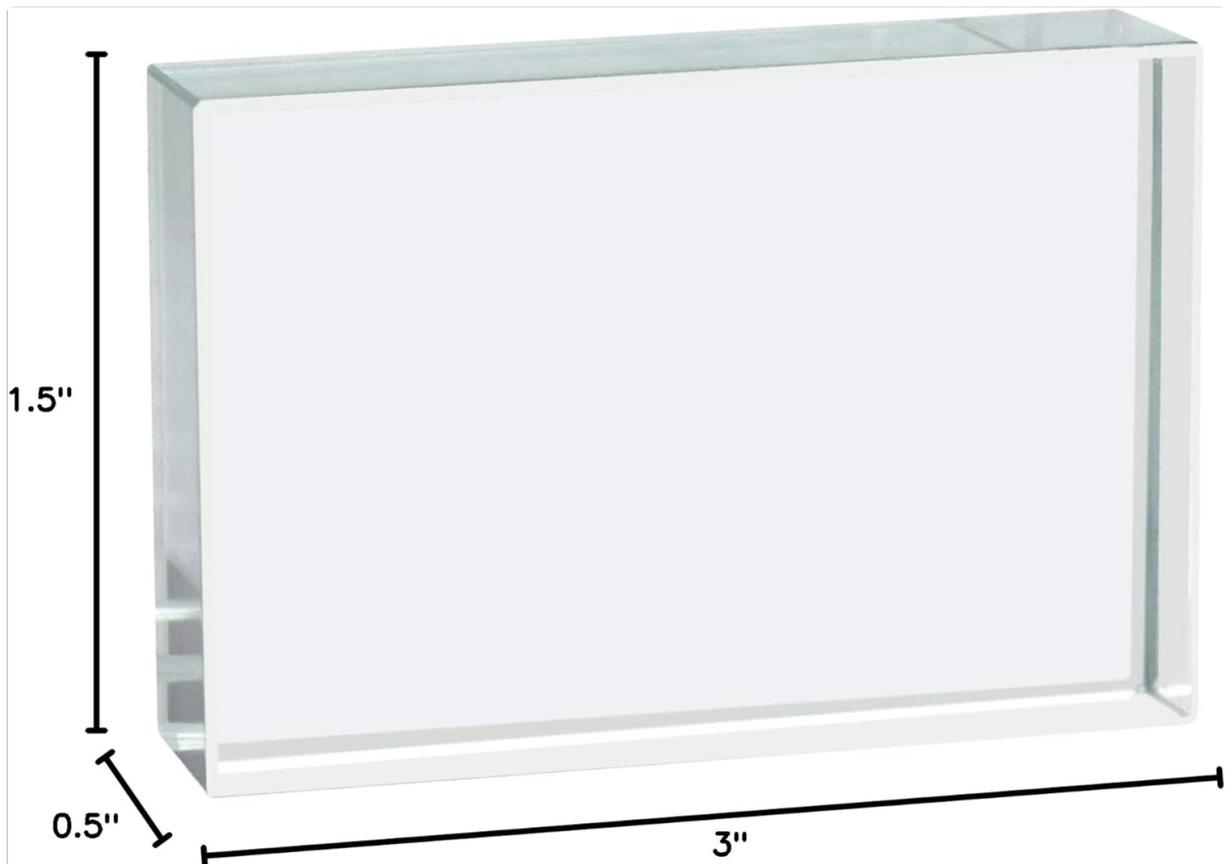


Image 6.1: The refraction block with its dimensions labeled: 3 inches (length), 1.5 inches (width), and 0.5 inches (thickness).

Attribute	Value
Model Number	PH0566A

Attribute	Value
Material	Optically Worked Glass
Product Dimensions (L x W x H)	3 x 1.5 x 0.5 inches (75mm x 50mm x 12mm)
Item Weight	3.68 ounces
Edges	Slightly Beveled
Optical Quality	Bubble-free glass, accurately worked angles

7. WARRANTY AND SUPPORT

EISCO products are manufactured with quality and durability in mind. For specific warranty information or support inquiries, please refer to the official EISCO website or contact their customer service directly.

- **Manufacturer:** EISCO Scientific
- **Customer Service:** Please visit the [EISCO Store on Amazon](#) or the official EISCO website for contact details.
- **Return Policy:** Products purchased through Amazon are subject to Amazon's return policy, typically 30 days for refunds/replacements.