

Machinery and equipment for making beam splitters



Article Overview

Beam splitters are fabricated using precision optical materials, coating systems, and alignment tools, with equipment varying by type—cube, plate, polarizing, or dichroic.

Types of Beam Splitters and Materials

Beam splitters can be cube, plate, polarizing, non-polarizing, or dichroic, each requiring specific materials and fabrication techniques. Cube splitters are made by bonding two triangular glass prisms with epoxy or urethane resins, while plate splitters use thin optical glass with reflective or dielectric coatings applied at precise angles. Materials may include standard optical glass, calcium fluoride (CaF_2), or potassium bromide (KBr) for infrared applications.

Core Equipment for Fabrication

- Optical Polishing and Grinding Machines
 - Used to shape and polish glass prisms or plates to precise dimensions and surface quality.
 - Ensures flatness and smoothness critical for minimizing optical distortion.
- Coating Systems
 - Vacuum deposition chambers for thin-film coatings (metallic or dielectric) to control reflection and transmission ratios.
 - Sputtering or evaporation systems for applying polarizing or dichroic layers.
 - Coating thickness and uniformity are controlled to achieve desired wavelength or...

Article Content

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What is a Beam Splitter?

A beam splitter or power splitter is an optical device that can split an incident light beam e.g. a laser beam into two or

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Beamsplitters Guide: Principles, Types, and Applications

Dielectric film is used to improve the performance and less sensitive to the polarization of the incident beam, resulting

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Beam splitter

A beam splitter or beamsplitter is an optical device that splits a beam of light into a transmitted and a

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Beam Splitters: Explained

Diffractive beam splitters A diffractive beam splitter is a diffractive optical element (DOE) used to split a single

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Beamsplitters

Dichroic beam splitters split incident light by wavelength, making them ideal for fluorescence applications and other scenarios where

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Beam Splitters, Separators & Combiners | Other Items

If the separator is rotated by 180°, two laser beams of different wavelengths can be bundled. In addition to

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Photonics 101

As the name suggests, a beam splitter refers to an optical device which is used to split or divide a beam of light into

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Beam Splitter Production Technology

Manufacturers usually use high-precision CNC machine tools and polishing equipment to ensure that the geometry and optical

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42 Beamsplitter Manufacturers in 2026

The company primarily produces optical goods such as Fresnel cylindrical lenses, Fresnel beam splitters, and corner cube retro

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Optical Beam Splitters: Examination of Designs and

Adaptive beam splitters hold great potential for use in applications requiring real-time adjustment and fine

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What are Beamsplitters?

Optical components that create two beams by splitting incident light are beamsplitters. Read more about the different types of

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Optical Beamsplitters Explained | Cube & Polarizing Types

A beam splitter, or beamsplitter, is an optical component used to divide incident light into two separate beams based on wavelength,

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Beam Splitters & Their Applications: Your Ultimate Guide

A beam splitter is an instrument that splits a light beam into two or more beams. In this blog post, we will discuss

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Beamsplitters Made by Edmund Optics for OEM

Our beamsplitters are manufactured from a wide variety of SCHOTT, Ohara, and CDGM materials. Whether you require several

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How Beam Splitters Work

A beam splitter is capable of introducing phase shifts and quantum superpositions, making them a core component of Quantum Key

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Beam Splitters

When working with lasers, it is often necessary to split a laser beam into two or more defined partial beams. There are a variety of

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Custom Beamsplitters LightMachinery

Our supplier LightMachinery is extremely experienced with specifying, designing and manufacturing custom beamsplitters using the

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Beam Splitters – optical power splitter, beamsplitter, thin-film ...

Beam splitters are devices for splitting a laser beam into two or more beams. There are different types, including polarizing and non

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Covering the Basics of Beamsplitters — Firebird Optics

Advantages of Plate Beamsplitters Plate beamsplitters are less expensive than their cube

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Beam Splitters: Types, Applications, and Selection

Metasurfaces provide exceptional control over the amplitude, phase, and polarization of light,

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25 Jaw-Dropping Firewood Processors in Action | Dangerous

25 Jaw-Dropping Firewood Processors in Action | Dangerous Homemade Wood Cutting

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Beam expanders, delivery systems and splitters

Laser beam expanders are crucial optical devices used to increase the diameter of laser beams. They are essential in a range of

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Beam Splitter

A beam splitter is defined as an optical device that effects a linear transformation of fields presented at two input ports, producing

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Optical Beam Splitter Guide: Cube, Plate & Polarizing Types

Beam splitter technologies can be categorized according to their construction and optical behavior, including cube beamsplitters,

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What is a beam splitter and how do you make one?

Introduction to beam splitters. You can make one - as seen on MacGyver.

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CNC Beam Processing Machines for Steel Fabrication

CNC beam processing machines for drilling, cutting and fabrication of structural steel beams. Discover

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Thorlabs · Optical Beamsplitters

Thorlabs offers a wide range of optical beamsplitters. Our plate beamsplitters have a coated front surface

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Optical Beamsplitters | Beamsplitter Selection | Edmund Optics

Dichroic Beamsplitters, which split light by wavelength, are often used as laser beam combiners or as broadband hot or cold mirrors.

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42 Beamsplitter Manufacturers in 2026

The company's product lineup includes precision optical components for the display and semiconductor industries, such as

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