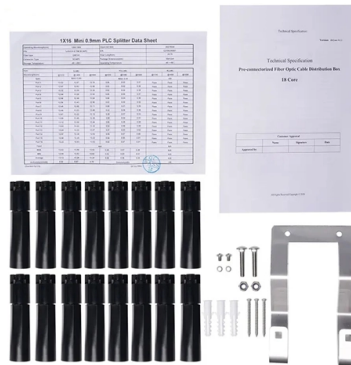


Injection Molding of Optical Module Pull Ring



AI Overview

Injection molding of optical module pull rings requires precision mold design, suitable polymer selection, and careful process control to ensure durability, optical compatibility, and reliable functionality.

Pull Ring Design Considerations

Optical module pull rings are mechanical components used to unlock or remove optical modules from devices. Modern designs, such as those described in CN216927180U, feature a rotating pull ring connected to a pivot shaft, which prevents accidental detachment and ensures smooth unlocking of the optical module. The pull ring typically interfaces with the module base and top cover, requiring precise tolerances to maintain functionality and avoid mechanical failure.

Material Selection

Pull rings are commonly made from thermoplastic elastomers (TPE/TPV) or other durable plastics that provide flexibility, impact resistance, and dimensional stability. The material must withstand repeated mechanical stress, maintain shape under temperature variations, and be compatible with the optical module's housing.

Injection Molding Techniques

For high-precision optical components like pull rings, injection molding and injection-compression molding are widely used. Key aspects include:

Article Content

Review on Fabrication Technologies for Optical Mold Inserts

Polymer optics have gained increasing importance in recent years. With advancing requirements for the optical

Design Tip: Injection Moulding for Optical Applications

Injection moulding can be useful in prototyping optical components with a few caveats. Work within those limits to produce quality

Injection molding of high precision optics for LED applications made of ...

Therefore, a high integrated injection molding process is developed. For the production of combined LED primary and

MOLDED OPTICS: Precision molded glass challenges plastic optics

FIGURE 1. Molded optics can start with raw materials made of plastic (left) or glass (right). Thermoplastic resins for

Precision Injection Molding

Basic assessment of Precision Injection Molding Injection molding is well known from the field of plastics production. The conventi

A pull ring unlocking structure of an optical module

The utility model provides a pull-ring unlocking structure of an optical module, which integrates an upper cover and a sliding block

Optical module using pull tab for unlocking

The optical module is applicable to a photoelectric module for limiting the maximum height after rotation of the pull tab (1), and is

CN217561784U

However, the injection molding handle and the sheet metal part of the pull ring on the existing optical module are rigidly connected,

Review on Fabrication Technologies for Optical Mold Inserts

injection molding or injection compression molding, respectively. There is a broad range of technologies which can be used t produce

Injection Molded Fiber-Optic Connector Components for

Injection-molded fiber-optic connection devices are described for highly reliable and ultra-precise single-mode

Toolmaking for optical precision parts

In order to achieve reliable repeatability, tolerances in the micrometer range and optimum component performance during injection

Optical module pull ring and optical module

Another object of the present invention is to provide an optical module, which includes the optical module pull ring. Therefore, the

When Plastic Injection Molding Works for Optical Applications

Injection molding can be useful in prototyping optical components with a few caveats. See how to work within those limits to produce

CN217561784U

An existing optical module is provided with an unlocking assembly with a pull ring, and the unlocking assembly can be displaced

Injection molding of high-precision optical lenses: A review

In this review, is present the work accomplished so far in the development of optical lenses produced by IM and its

Pull ring device suitable for optical module

The utility model relates to a pull ring device, in particular to a pull ring device suitable for an optical module, and belongs to the

Review on Fabrication Technologies for Optical Mold Inserts

In combination with microstructured features, their optical properties can be enhanced to overcome the limitations

Mold Design for Complex Optical Plastics Components

This mold allows the investigation of two different injection-compression molding variants, either by integrated hydraulic pistons or by

Optical module pull ring and optical module

On the one hand, this pull ring body is cyclic annular enclosed construction, and has intensity height, and non-deformable's

Pull ring, unlocking mechanism and optical communication module

The invention aims to overcome the defects in the prior art, and provides an unlocking mechanism which is simple in structure and

The Role of Injection Molding in Crafting Optical Lenses

Their versatile polymers can be molded into intricate shapes for innovative optical designs. Polymer optics can even

Design and manufacturing of molds for spherical monofocal intraocular ...

The cast molding method, a form of injection molding, is commonly used for manufacturing intraocular lenses. In this

Injection molding of high-precision optical lenses: A review

The mold insert is integrated into an injection compression molding tool to replicate the optical elements. Results show

5G Optical Module Pull Ring Stamping Line: High-Speed Setup

Implementing a specialized 5G optical module pull ring stamping line directly dictates the yield rate and output volume

An Introduction to the Optics Manufacturing Process

Polishing is the final fine grinding stage where the surface and shape of the optic is finished to specification. The optic

Injection molding of high-precision optical lenses: A review

Abstract Injection molding (IM) is the most efficient mass production technology for manufacturing polymers in complex

Precision Polymer Injection Molding

Apollo Optical Systems specializes in precision polymer injection molding to produce high-quality optical components for many

Injection moulding

Injection moulding (U.S. spelling: Injection molding) is a manufacturing process for producing parts by

Introduction To Two Common Unlocking Mechanisms For Optical Modules

SFP optical modules generally support hot-plugging, which requires an unlocking operation when inserting or removing the module

An Introduction to the Optics Manufacturing Process

In this process, melted plastic is pressed into a mold (spherical or aspheric), then cooled and ejected from the mold.

Injection Molding of Optical Components

Injection molding of optical components is one of the most efficient mass production technologies for manufacturing

Optical module pull ring unlocking mechanism and method

The optical module pull-ring unlocking mechanism provided by the invention has a simple structure, combines several functions on a

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