

OPTICAL ELEMENT, ITS MANUFACTURING METHOD AND OPTICAL ELEMENT
MANUFACTURING METAL DIE

ABSTRACT OF THE DISCLOSURE

An object of this invention is to provide an optical element having a complex structure of diffraction grating, an inclined surface, a difference in level and the like and of good optical characteristics and its manufacturing method as well as an optical element manufacturing metal die capable of injection molding of the optical element even with the complex structure. By using an optical element manufacturing metal die constituted to have nestings which have mirror surface forming portions two adjoining pairs of mirror surfaces of the optical element are molded by two adjoining pairs of mirror surface forming portions which are formed on the same nesting.

Of a plurality of mirror surface forming portions of the nestings of the optical element manufacturing metal die one or more mirror surface forming portions are formed by a mirror surface grinding method.

The optical element manufacturing metal die is constituted to include the nesting having a diffraction grating forming portion in which a predetermined concave-convex pattern for molding the diffraction grating of the optical element is formed on one surface of a substrate.

FIGURES 1A, 1B AND 1C