

RESIN MOLD FOR NANOIMPRINTING AND PRODUCTION METHOD THEREOF

Abstract

Problem: An object of the present invention is to provide a resin mold for nanoimprinting without transfer defects, that has excellent mold releasability from the resin to be imprinted, and that does not cause imprinting defects. Moreover, another object of the present invention is to provide a resin mold for nanoimprinting such that peeling does not occur between various layers and the substrate during imprinting.

Means to Solve the Problem: The resin mold for nanoimprinting of the present invention has a substrate, a resin layer formed upon the substrate and having a depressions and protrusions pattern on a surface, an inorganic substance layer formed of uniform thickness on at least the surface having the depressions and protrusions pattern of the resin layer, and a mold release agent layer formed of uniform thickness on at least the surface having the depressions and protrusions pattern of the inorganic substance layer. The resin of the resin layer includes constituent units derived from an epoxy group-containing unsaturated compound at a concentration of 1 to 50 percent relative to total constituent units, and the epoxy value is 7.0×10^{-4} to 4.0×10^{-2} .

(FIG. 1)