



ISTITUTO ITALIANO
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TITLE

Methods and a mold assembly for fabricating polymer structures by imprint techniques

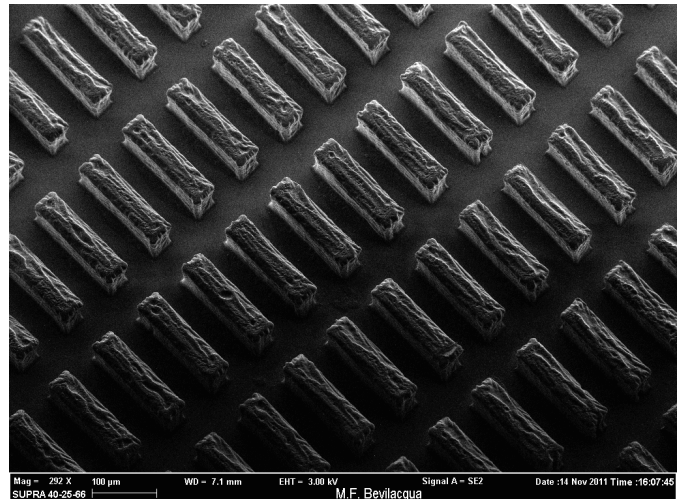
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DESCRIPTION

The present disclosure relates to mold components and imprint lithography techniques applied on the basis of organic mold materials in order to form polymer microstructure elements. It has been recognized that adapting surface characteristics of at least one mold component may significantly enhance performance of the lithography process, in particular with respect to suppressing residual polymer material, which in conventional strategies may have to be removed on the basis of an additional etch process.

This technique may be used for fabricating polymer-based microstructures, wherein an appropriate adaptation of the surface characteristics of at least one mold part may result in the avoidance or at least significant reduction of a residual polymer layer upon performing an imprint lithography process, i.e., upon performing a process for forming a polymer microstructure by using an elastomeric mold assembly. Due to the ability to tune the surface energy of the mold assembly, in this disclosure the patterning of a large number of polymer materials is made possible as compared to other known alternatives, which are limited to the bulk properties of the mold material.



APPLICATIONS

Micromolding, micromachining

KEYWORDS

imprint lithography, polymer-based microstructures

BIBLIOGRAPHIC DATA

Metodi e assemblaggi di stampo per la fabbricazione di strutture polimeriche tramite tecniche di stampa

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Applicants

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