

APPARATUS AND METHOD FOR SURFACE TREATMENT OF A MOLD SURFACE

ABSTRACT OF THE DISCLOSURE

5 A surface treatment apparatus includes a lamp unit (114) having an excimer lamp (115), a rail (117) for moving the lamp unit (114) and a gas supply nozzle (112) emitting nitrogen gas to a region near the mold surface of upper and lower molds (103, 104). When the surface treatment apparatus is operated, the lamp unit (114) is moved to the space between the upper and lower molds (103, 104) to irradiate the mold surface in such regions as cavities (107, 110) with excimer ultraviolet radiation (118) for a certain period of time. The excimer ultraviolet radiation (118) has an energy value determined so that the state of the mold surface returns to an initial state which is a state immediately after a mold release layer is formed thereon and still the mold release layer does not peel off therefrom. Ozone and active oxygen generated by the irradiation with the excimer ultraviolet radiation (118) activate the surface of the mold release layer and thereby return the state of the mold surface to the initial state. A resin-molding mold is thus obtained, with releasability ensured between the mold surface on which the mold release layer is formed and cured resin which is produced by curing melted resin.

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Fig. 6