

Transfer of stamper business-related equipment from Kuraray Co., Ltd. and inheritance of the technology

The Miyakawa Group is pleased to announce that it has acquired the stamper (metal mold with micro-shape) business-related equipment owned by Kuraray Co., Ltd. (Headquarters: Chiyoda-ku, Tokyo, President: Hitoshi Kawahara) and will be receiving the transfer of manufacturing technology.

By receiving and reliably inheriting the equipment transfer and technology transfer of this business, we will continue to provide a stable supply of products that can be used by existing customers with peace of mind, and we will work to provide products that will please everyone more through synergy with our production technology of light guide plates, LCD front lights, and backlight-related components.

[Example of technology transferred from Kuraray Co., Ltd.]

■ Maskless photolithography

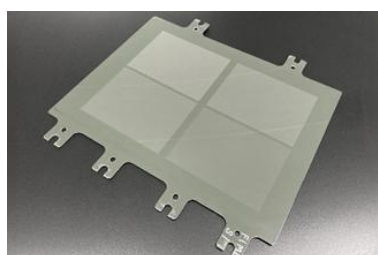
The instrument is capable of patterning complex 2.5D structures in the order of microns (minimum feature size resolution of 250 nm) over a large area (500 mm × 500 mm).

*The print size depends on the shape.

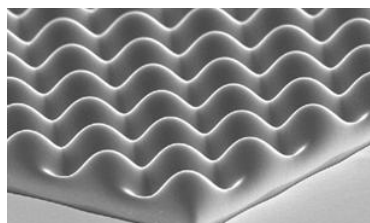
■ Electroforming stamper

We transfer 2.5D structural patterns formed by maskless photolithography equipment and provide them with high-precision nickel electroforming stampers. It is also possible to accurately transfer microscopic 2.5D shapes formed on various materials using various manufacturing methods, such as cutting processing products, inkjet, laser processing, and chemical etching.

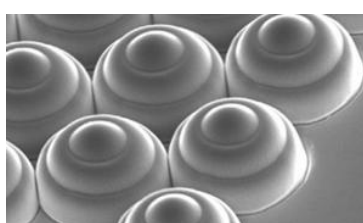
*There are some manufacturing restrictions regarding shape and materials.



<example of stamper>



<example of micro pattern>



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[Example of the Miyakawa Group's existing technologies]

■ Light guide plate, mold manufacturing equipment (STYLUS) (Workpiece size: 250mm×350mm)

Micro lenses (concave and hemispherical) of different diameters of $\phi 20 \mu\text{m} \sim \phi 50 \mu\text{m}$ can be mixed to be stamped directly on molds or PMMA plates. It can clock in at a maximum speed of 35 times per second.

■ Large inkjet light guide plate manufacturing equipment (workpiece size: 1450mm×850mm×15mm)

Microlens pattern formation (convex and hemispherical shape) with inkjet using proprietary technology eliminates the need for molds and can support shortening the development period.

■ Femtosecond laser device (transmitting wavelength 1552nm)

The workpiece size is 340mm×220mm, and it is possible to process precise microlens patterns (concave and hemispherical with high precision and low heat impact) by direct drawing.

■ Continuous thermal imprinting machine MSI (Multi-Scale Imprint: compatible size: approx. 8 inches)

This is a roll-to-roll device that thermally imprints fine patterns, cools and, cuts to external shape.

【Contacting Details】

Miyakawa Corporation

Mr. Masatoshi Yasuda (myasuda@mcp-hybec.co.jp)

Ms. Shiho Kazama (skazama@mcp-hybec.co.jp)