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To whom it may concern

Kohoku Kogyo Co., Ltd.

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Kohoku Kogyo succeeded in developing an ultra-thin fly-eye lens made of quartz (SSG®) with a thickness of 0.5 mm.

Kohoku Kogyo Co., Ltd. (Headquarters: Nagahama City, Shiga Prefecture, President and CEO: Futoshi Ishii) has recently announced that it has developed a 0.5mm-thick product using SSG® (slurry cast silica glass), a manufacturing technology for high-purity quartz glass products have successfully developed an ultra-thin quartz fly-eye lens.

SSG® is characterized by having physical properties such as transmittance and purity equivalent to synthetic quartz.

Synthetic quartz has superior corrosion resistance and heat resistance compared to general transparent glass, and is used in medical testing equipment, semiconductor manufacturing equipment, industrial products, etc.

On the other hand, synthetic quartz is a material that is difficult to be melted and molded at high temperatures, so machining and polishing are the main processing methods, making it extremely difficult to manufacture lenses in the shape of this project.

The newly developed fly-eye lens takes advantage of the SSG® manufacturing method, which allows molding at normal temperature and pressure, and further advances sintering technology to achieve a uniform thickness of 0.5 mm. It is believed that this technology can contribute to improving the performance of equipment, measuring devices, etc., and to developing new products.

We hope to display a prototype of this new technology at Photonix 2023, an exhibition held at Makuhari Messe from October 4th to 6th, and explore new uses for SSG®.

<Example of quartz parts manufactured using SSG®>



Thickness 0.5mm, Φ 1mm 'shave a cell fly eye lens

About SSG® (Slurry cast Silica Glass)

*SSG®: SSG is a registered trademark of Kohoku Kogyo Co., Ltd.

SSG® is a high purity quartz glass product established by Kohoku Kogyo. Mix quartz powder and additives to create slurry, mold this in a mold at normal temperature, and vitrify it by sintering. The resulting material has purity and physical properties equivalent to synthetic quartz. It has the advantage of an extremely high degree of freedom in shape, making it possible to create high-purity quartz glass products with complex shapes that are difficult to achieve using conventional cutting methods.

About Photonix 2023

Photonix 2023 is a comprehensive exhibition of high-performance materials, laser technology, and electronic displays organized by RX Japan, Japan's largest trade fair organizer, and will be held at Makuhari Messe from October 4th to 6th, 2023.

<Term explanation>

Fly eye lens

A lens array in which multiple convex lenses are arranged vertically and horizontally in a matrix. By using a fly-eye lens, uneven brightness of the light source is homogenized. Generally, it is used to irradiate uniform light energy with semiconductor exposure equipment, liquid crystal projectors, and various inspection equipment.

<Overview of Kohoku Kogyo Co., Ltd.>

Kohoku Kogyo Co., Ltd. was founded in 1959 as a manufacturer of lead terminals for aluminum electrolytic capacitors, and then expanded into the optical components and device business in 2000. Currently, 53% of our sales come from the lead terminal business and 47% from the optical components and devices business. In the optical components and devices business, we hold a 50% market share in the optical isolator market for submarine cables, making us a leading company in this field. Additionally, as our third growth business, we are moving forward with the commercialization of high-purity quartz glass using the slurry casting method.

<Contact information regarding this matter>

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