



December 14, 2021

NEWS RELEASE

**Mass Production of the HRDP[®] Special Carrier for Next-generation
Semiconductor Packaging Device begins for the Overseas market
Commencing mass production and shipment to an overseas customer in November 2021**

Mitsui Mining and Smelting Co., Ltd (NOU Takeshi, President and Representative Director; hereinafter, “Mitsui Kinzoku”) has been working with GEOMATEC Co., Ltd (KENTARO Matsuzaki, CEO; hereinafter, “GEOMATEC”) on the commercialization of HRDP[®], a special carrier for next-generation Semiconductor packaging devices.¹ Mitsui Kinzoku is pleased to announce that shipments of HRDP[®] for an overseas customer's mass production activities have begun.

HRDP[®] is a special carrier capable of realizing Fan-Out technology for next generation semiconductor packaging applications, including ultra-high density interconnect designs with $L/S = 2/2 \mu\text{m}$ or less, with high production efficiency.

In our press release dated January 25, 2021, "Mass Production of Special Glass Carrier HRDP[®] for the Next Generation Semiconductor Package Device Market," we announced the commencement of the mass production of HRDP[®] for domestic customers and the order for the adoption of the product in mass production. Mitsui Kinzoku has now succeeded in receiving orders for mass production from an overseas customer, and shipments began in November 2021. This customer plans to use HRDP[®] to manufacture and expand sales of SiP modules for a variety of advanced applications, including the 5G market.²

In addition, more than 30 customers in Japan and overseas are currently developing advanced devices based on the Fan-Out Chip-Last method using HRDP[®], and mass production is scheduled to start in FY2022 for customers whose evaluations are progressing faster than others.

In terms of manufacturing, Mitsui Kinzoku intends to improve the production efficiency and quality levels at GEOMATEC's Ako Plant through the promotion of production based on the automation of equipment and the smartification of all processes using AI, and it will consider investing in increased production to further expand the HRDP[®] market.

Under the slogan, "Material Intelligence," Mitsui Kinzoku will contribute to the semiconductor packaging market by expanding our HRDP[®] business, and at the same time, we will contribute to the creation of a sustainable society through our business activities.

[Contact for inquiries about this release and HRDP[®] products]

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Terms

¹ HRDP[®]: High Resolution Debondable Panel

² SiP: System in Package

Reference

Development of HRDP[®], Material for Formation of Ultra-Fine Circuits with Glass Carrier for FO-PLP (Release dated January 25,2018).

https://www.mitsui-kinzoku.com/Portals/0/resource/uploads/topics_180125e.pdf?TabModule1277=1

Initiation of the Mass Production of HRDP[®], a Special Glass Carrier for Next-Generation Semiconductor Packaging Devices. Beginning mass production and shipment for a multi-chip module manufacturer in January 2021. (Release dated January 25, 2021).

<https://www.mitsui-kinzoku.com/LinkClick.aspx?fileticket=rh%2bDH1M4W%2bs%3d&tabid=278&mid=824&TabModule1277=1>

Video of the RDL First method using HRDP[®]

<https://www.youtube.com/watch?v=vHhng-NV9QA>