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Case study on the improved reliability and efficiency of the HD moldFO+ fiber optic mold monitoring system

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The implementation of the optical fibers revolutionized mold monitoring and provides signals with previously unattained resolution and quality. The biggest challenge with this technology is to connect fiber optics in harsh environments because dust and dirt can easily block the optical connector and cause signal loss. The newly upgraded HD moldFO+ brings with it important progress, including a permanent connection between the optical fiber and the evaluation unit as well as the electrical cabling to the PLC room, which increases plant availability and operational reliability.

A case study by a Japanese customer shows the advantages of the HD moldFO+ system. According to customer reports, the copper plates in the molds can be remachined and plated more than ten times while the functionality of the optical fiber equipment remain maintained. The durability and cost-effectiveness of the system can thus be demonstrated. The HD moldFO+ system uses ultra-compact interrogators housed directly on the mold. This configuration enables the transition from optical to more resilient electrical connections, effectively reducing dust and moisture ingress problems common in casting environments.

The compact design of the system and the improved sensor bundling facilitate handling and maintenance, thus ensuring the longevity of the fiber optics. These improvements not only simplify retrofitting and new plants, but also offer a robust solution for continuous casting, which is also reflected in the positive results of the Japanese customer. In this way, the HD moldFO+ represents a significant advance in mold monitoring technology and offers higher performance and reliability.

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