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Arcelormittal Industeel slab caster conversion to ODS fibers with the Fiberstrand® technology.

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Arcelormittal Industeel Belgium is steel plant producing carbon, low alloy, stainless steels and nickel based alloys through a single strand continuous caster, in combination with a plate mill.
Following a trial with FBG fibers horizontally installed in the broad face plates that took place in 2024, Industeel has decided to convert their slab caster to the latest technology of EBDS Engineering: the ODS fibers with the Fiberstrand ® solution to install them, behind electron beam welded inserts in the broad face copper plates.
The Optical Distributed Sensing (ODS) is a technique that can read, with a very high resolution, the temperature of an optical fiber, with more than 1000 measuring values per horizontal line in the copper plate. The Fiberstrand® technique is unique solution, that allows to store permanently the fibers at the caster. Only the mold that is installed on the strand is receiving the fibers, traveling through special guiding hoses up to the copper plate.
The chosen solution will comprise 3 horizontal fiber lines per broad face plate. They are being prepared with electron beam welded inserts that leave a small cavity behind them to allow the fiber introduction.
The present paper describes the implemented technical solutions and the first results of the use of these technologies.

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