

Measurement of the liquid pool height in a continuous casting process for steel production

Description:

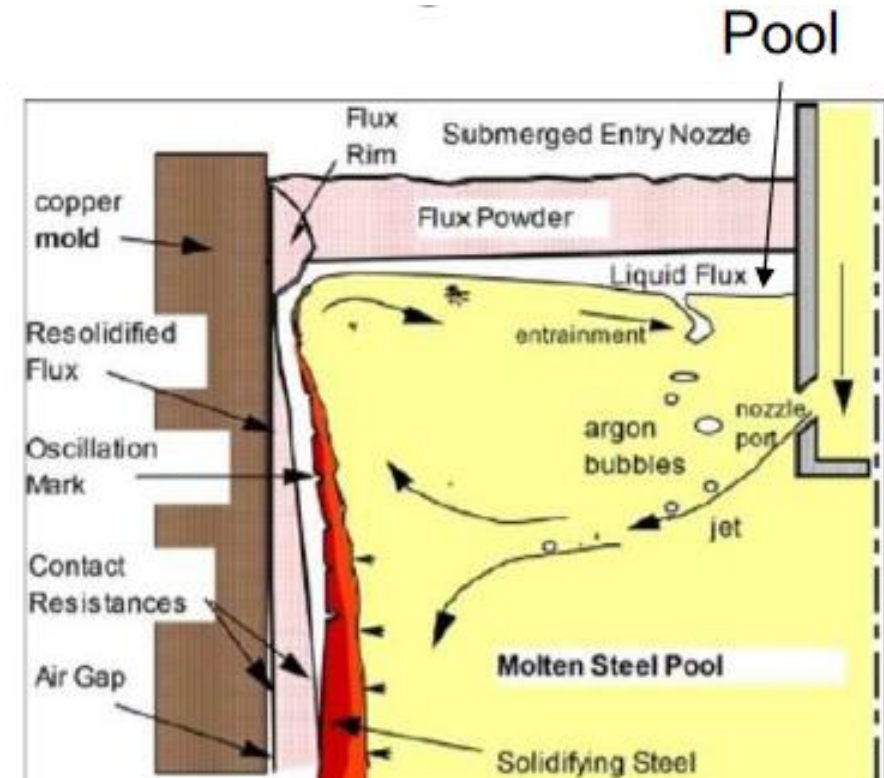
In the process of continuous casting for steel production, liquid steel is poured into a mould where the steel cools down and forms a solid shell at the outside. On top of the liquid steel, flux powder is distributed which melts and forms the Liquid Flux Pool on top of the molten steel. The liquid flux flows between the solidified steel and the mould wall towards the bottom. Hereby, the flux acts as lubricant layer and prevents the mould to be damaged. The height of this liquid pool on top is essential for estimating how much lubricant is available along the wall of the mould.

Goal:

The aim of this work is to investigate possible measurement principles for measuring the liquid pool height and to verify the principle in a laboratory environment.

Working steps:

- Literature research on existing measuring systems for measuring the height of liquid pools in various applications.
- Research on possible sensors and physical phenomena for the measurement task.
- Derivation of the necessary instrumentation for the application of the measuring principle.
- Construction of a demonstrator in a laboratory environment to verify the measuring principle.



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