

Speaker 4



## Ladle stirring monitoring for inclusion floatation

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### ABSTRACT:

Within production of bearing and aerospace steels, consistency of ladle stirring is critical for inclusion floatation. This a process occurring at the end of steelmaking aiming to encourage detrimental inclusions to float out of the liquid steel. An effective inclusion floatation operation is closely linked to superior mechanical properties and has thus far satisfactorily been controlled by the experience of steelmakers allowing for steels to provide exemplary performance in service. Recently, a great effort has been expended researching ladle stirring monitoring using sound, vibration and video based technologies, with an aim to quantify stirring so that it can be even more closely and consistently controlled.

This project looked at implementing ladle vibration monitoring technology at Liberty Speciality Steels with a view to linking vibration and process data to a number of product quality measures in order to link the gentle stirring during inclusion floatation to product performance.



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