

MC-Supernormal Metallurgy & Processing—

Recent EPM Activities in Shanghai University

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Abstract:

This report reviews recent advances in magnetically controlled supernormal metallurgy at Shanghai University. By applying contactless and clean electromagnetic forces along with electromagnetic energy effects to the continuous casting and purification processes of ferrous, non-ferrous, and rare scattered metals, heat and mass transfer as well as momentum transport have been significantly enhanced. This approach has achieved purification, refinement, grain refinement, homogenization, and high performance of metallic materials while reducing production costs. The study offers new insights and technical pathways for the preparation of high-performance metal materials.

Keywords: Electromagnetic metallurgy, Materials preparation.

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