

Internship

Simulation of the continuous casting of high carbon steel billets

Influence of solidification structure on the segregation level



From 02 February 2026, for 6 months
Maizières-lès-Metz, France.

Who are we

ArcelorMittal is one of the world's leading steel companies. Every day, its 154,000 employees in 60 countries help build a better world with smarter steels that consume less energy and emit less carbon.

The Maizières campus

The Maizières campus is the group's largest R&D site with more than 700 employees who work daily to make steel a cutting-edge product. Coming from the best academic backgrounds, its community of researchers, made up of more than 35 nationalities, designs and industrializes new products for the automotive, packaging and construction markets. To meet the group's ambitions, the decarbonization of steel production is now one of the main drivers of research carried out on the site.

What we are looking for

Level of Study:	Bac+5 / Master
Domain:	Fluid Mechanics' Modeling / Simulation Metallurgy / Microstructure
Skills:	CFD, metallurgy, Python coding
Languages:	English, French

Your role

The objective is to conduct a study on the influence of casting process parameters on the evolution of the solidification structure and on the chemical homogeneity of the casted billet.

For this mission, the intern will work on advanced simulation models describing the fluid flow of molten steel, the solidification kinetics, the solidification structure and its impact on segregation. The numerical results will be confronted to metallographic analyses and chemical analyses conducted at different scales.

Accountabilities and activities:

Through the bibliography work, the intern will improve his/her knowledge of high temperature thermo-physical properties and the solidification of steels. The intern will familiarize him/herself with the steel industry processes.

The intern will work in Institut Jean Lamour to enhance a digital model of a continuous casting based on the OpenSOLID software. This model will be used to conduct advanced numerical simulations that will enable us to study the influence of the process conditions on the solidification of the product. Particular attention will be given to the influence of solidification structure on central segregation in high-carbon steel billets.

The intern will also collaborate with ArcelorMittal researchers to prepare and characterize steel samples cast in ArcelorMittal plants. These analyses will support the evaluation and validation of the simulation results.

What do we propose

Personalized support with tutors capable of helping you grow in your profession. A pleasant and stimulating work environment that promotes balance with personal life. A quality canteen is available on campus and sports activities and other benefits are offered by the works council. Attractive remuneration and additional measures to support you. A free shuttle system connects the campus by public transport.



Contact

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Apply (QRCode or link hereafter)



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