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Lingopti Project: Semi-Continuous Casting Process of Copper–Nickel Alloys

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Lingopti Project is a First Europe project. The research, performed in University of Liège, consists in the optimisation of the mould and the whole casting process of the enterprise LBP (Chènèe-Liège) to obtain better cast products. In fact, cast products sometimes present long oscillation marks ($\lambda \simeq 500$ mm) and some ingots have many internal cracks. The semi-continuous process consists in the vertical casting of 7 m height ingots and the section is 960×310 mm. The research is focused on two points: laboratory and bibliography researches and development of numerical modelizations. Laboratory tests provide thermal and mechanical properties of the ingot and the mould but also heat transfer coefficients between the ingot and the environment (mould, air and water coolings). These parameters are required in the numerical simulations. Currently, numerical calculations by the finite element method are focused on an horizontal slice. This one, by progression in the casting process give a 3D view of the ingot in stationary situation by a 2D modelization.

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