



Stretching the capability of an existing and installed concast machine

THE PROJECT

The client wanted to produce 200mm thick slabs in a plant previously limited to the production of 225mm, 250mm, 300mm thicknesses. To enable the integration of 200mm slab production, the existing casting equipment needed to be adjusted, re-designed and in some cases re-engineered.

RESEARCH SUMMARY

The Materials Processing Institute instigated a research programme involving mathematical and physical modelling to assess the feasibility of 200mm slab production.

Analysis focussed on variables around the caster including:

- Casting speeds – solidification lengths, machine capability
- Tundish design – furniture, argon flows
- SEN design – port design, flow rates, immersion depths, water modelling
- MTM – impact of 200mm cast
- Secondary cooling waters – appendices, spray patterns, cooling rate



THE OUTCOME

This research programme provided an understanding of the many casting variables and was able to define and recommend the ideal casting values to plant.

This research gave the plant the ability and much needed confidence to be able to cast 200mm slab.