



Overview

The Materials Processing Institute is an independent not-for-profit technology centre serving organisations seeking expertise in materials, materials processing and energy related to metals manufacture.



Pouring from EAF to ladle

The Institute was originally the process research centre for the UK steel industry and is equipped with a range of state of the art steel making and refining equipment together with ingot and continuous casting facilities – the Normanton Plant.



Lifting ladle ready for casting

The Normanton Plant

The Normanton Plant is used as a specialist contract ingot manufacturer producing special grades not readily available in relatively small quantities.

The Institute operates a modern Electric Arc Furnace with melts capacity up to 7 tonnes (min. 3.5 tonnes) using high grade scrap plus precise alloying elements.

Secondary steel making is achieved in a ladle arc furnace with vacuum degassing, argon purging and steam ejectors.



Bottom filling of ingot

During melting, the samples are analysed within a few minutes in our laboratories using our Optical Emission Spectrometer with computer-calculated adjustments made to alloy composition in the melt.

Ingot casting is achieved by bottom filling of the ingot moulds using a trumpet and runner arrangement into square or slab moulds. The trumpet and runner can be pre-purged and the ingot top shrouded with inert gas. Ingot weights of nominally 5 tonnes are standard although other weights can be produced. Continuous casting is provided by a vertical with bending caster producing square or rectangular cast billets.



Pouring from EAF to ladle

Benefits

- Special grades of carbon, alloy and stainless steels, not readily available elsewhere
- Square or slab ingot or cast billet forms
- Manufactured to customer specifications
- High degree of cleanliness using vacuum degassing and argon purging
- Supported by extensive metallurgical laboratories and expert staff
- Fast turnaround of orders
- Relatively low cast weights of around 5 tonnes - other foundries usually require melts of 30-120 tonnes
- A variety of cast ingot and concast billet sizes
- Competitive pricing

Metals

Steel manufacture ranges from conventional carbon/manganese steel through the full range of engineering grades to complex multi-alloy stainless steels.

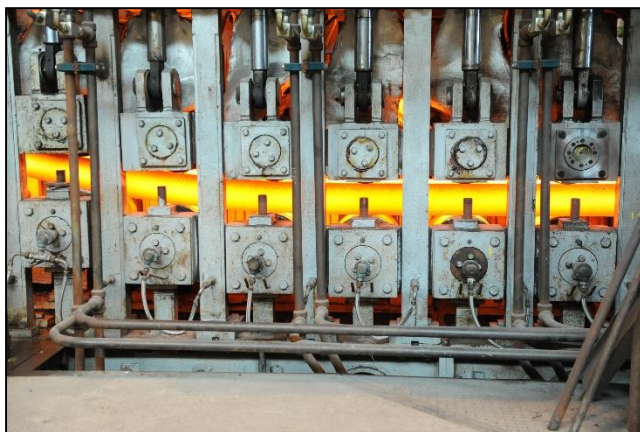
With enclosed secondary steel making facilities including ladle furnace with vacuum degassing, the Institute's plant has the capability to produce a very wide range of grades



Secondary steel making and casting

Purposes

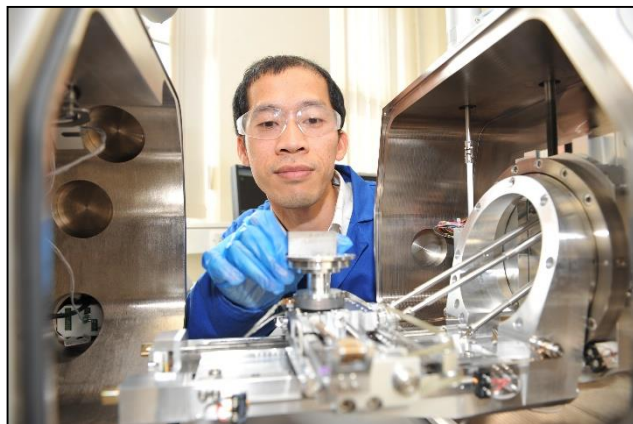
- The facilities can be used to produce ingots or cast billets for:
- Special commercial orders of non-standard grades
- Product development including new steel grades
- Process development support
- Processing of revert material



Concasting of billet

Associated Facilities

The Normanton Plant is supported by a suite of laboratories and analytical facilities including fully equipped metallurgical laboratories undertaking analysis of melts and slag.



Sample analysis

We welcome your enquiries for special grades of materials as ingots or cast billet.

For more information please contact:
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