

Steelmaking

Secondary Steelmaking Models corus

Corus Consulting Limited, Teesside Technology Centre, P.O. Box 11, Grangetown, Middlesbrough,
Teesside TS6 6UB U.K. Telephone: +44 (0)1642 467144 Fax: +44 (0)1642 460321
E-mail: colin.notman@corusgroup.com

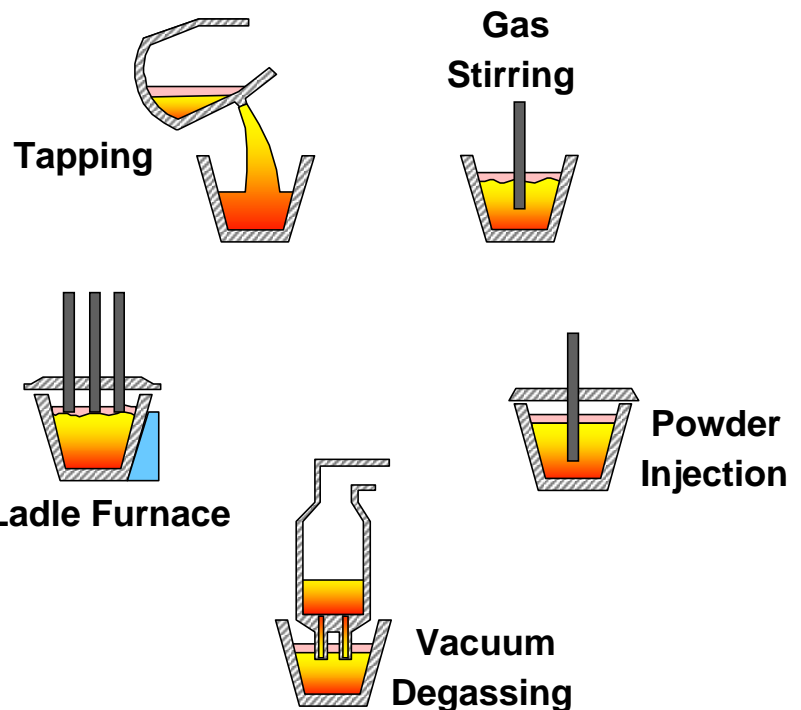
MODELS TO CALCULATE PRIMARY ADDITIONS, ALLOY TRIMMING AND SLAG ENGINEERING

CONCEPT:-

A suite of mathematical models developed by Corus to calculate alloying requirements, both for primary additions and for trimming to the final analysis. A further model allows for the slag composition to be adjusted at a Ladle Arc Furnace on specific steel qualities to meet requirements of, for example, desulphurisation or steel cleanliness.

DETAILS:-

The Primary Alloy Additions model calculates the weights of materials to be added to the ladle at tap. The target analysis at this point will make allowance for expected pick-ups and fade of elements during subsequent transport and processing, or for trimming to tighter composition control at planned secondary steelmaking stages.



The Secondary Steelmaking Additions Model enables the steel composition to be trimmed up to meet the final target specification during ladle steelmaking.

The Flux Additions Model enables the slag composition to be adjusted by adding mineral additions (e.g. lime, doloma, bauxite, silica) to meet a target for the steel grade to promote a specific metallurgical treatment (e.g. desulphurisation, cleanliness). This model would normally require a facility for rapid analysis of the ladle slag before treatment and a measurement of the slag depth.

Advice is given on specification and design of the system, and training given in the method of use.

BENEFITS:- Include:

- Improved composition control to meet tight specification.
- Ability adjust slag composition.
- Minimises the waste of expensive alloys and flux additions.

STATUS:- Alloying model installed and operating at three Corus BOS shops.
Flux Additions Model installed and operating at one Corus BOS shop.