

# Steelmaking Process Route Optimisation



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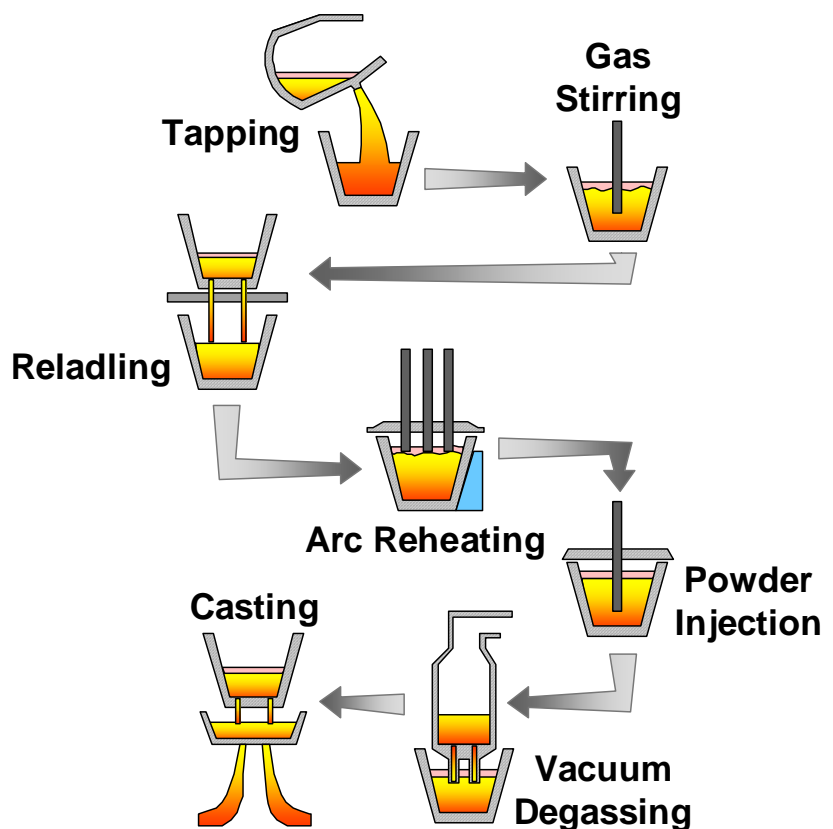
## CONSULTANCY ADVICE ON PROCESS ROUTE OPTIMISATION USING TECHNICO-ECONOMIC MODEL

### CONCEPT:-

Corus have many years experience in developing process routes for different product mixes of steel grades, including the use of technico-economic models to estimate the relative cost of different proposed process routes. Advice is offered on a consultancy basis.

### DETAILS:-

As well as drawing on the practical experience of developing process routes for a very broad range of steel products, technico-economic models are available which are used to examine the economics of alternative process routes and plant configurations. This type of model covers each stage of the integrated process route from ironmaking through to the semi-finished product, but concentrates in particular on the BOS and ladle steelmaking areas.



A wide variety of alternative process options may be examined. For any steel product, or product mix, combinations of different routes may be used to evaluate the optimum operation for the works as a whole. The model also takes into account the resulting effect of constraints on steel output due to the production capacity of the individual units. The model is tailored to a specific works, normally by tuning to a base case derived from the works Operating Standards of material costs and material consumptions.

**BENEFITS:-** Past studies using the technico-economic model have included:

- Feasibility study to support design of new steel plant,
- Optimisation of hot metal chemistry to minimise cost and maximise profit,
- Optimisation for technical viability at a minimum cost,
- Technical / financial assessment of process route and capital equipment,
- Effect of process changes on steel cost and product contribution,
- Guidance on future development strategy,
- Simulation of plant operations for training plant staff.