

Pilot Plant Melt Services Facilities



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A four tonne capacity A.C. electric arc furnace is available to produce melts in a wide range of compositions, including low carbon steels and conventional stainless steels.

The EAF is powered by a 1500 kVA supply and is used to melt a scrap charge and, using conventional steelmaking practices, produce the different liquid steel compositions. The availability of an on-site analytical laboratory is used to monitor the progress of the refining stage and is an important link in ensuring that good control of melt composition can be achieved.

The furnace can also be used to evaluate the effects on liquid metal yield and energy consumption of adding alternative charge materials to the furnace. These may include steelmaking wastes containing high residual elements and low iron content, or alternatives such as direct reduced iron.

In addition different grades of fluxes can be evaluated and compared for dissolution performance.

Once the melt specification is attained, the steel is tapped from the furnace into a preheated transfer ladle supported from a 25 tonne crane. Ladle additions to trim the composition can be made in the arc furnace pit prior to transportation to one of the test rigs being developed and evaluated in the pilot plant, or to the ingot casting bay.

The main benefits of using the Corus melt facilities are to be gained from the in-house expertise and experience in the melting and the downstream processes, and the complementing facilities.

