

Implementation of D18+ Technology in Potline 1 at EGA Jebel Ali

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Abstract

To take the next step in efficiency and productivity, EGA initiated the modernisation of the D18 Technology potlines in its Jebel Ali smelter. Utilising the latest cell technology, seven D18+ test cells were constructed and started-up in March 2012. The test cells quickly met their key design targets with net specific energy consumption of 12.75 kWh/kg Al and anode effect frequency of less than 0.02 /cell-day. After thorough industrial testing and a feasibility study, a project commenced in August 2015 to convert all 248 cells in Potline 1 to the new D18+ Technology. Despite many challenges in the construction and installation of the new cell technology in an operating potroom, the full potline conversion was successfully achieved ahead of schedule. With full Potline 1 conversion completed, amperage will be increased to 235 kA, thus increasing EGA’s hot metal production capacity by more than 23 kt/year while reducing energy consumption by a targeted 2 kWh/kg. Further conversion of 272 cells in Potline 3 from D18 Technology to D18+ Technology will commence in September 2016, resulting in further capacity and energy efficiency increases. The D18+ Technology project has also significantly reduced EGA’s environmental footprint and enabled EGA to increase its competitive edge in the industry.

Keywords: D18+ Technology; DUBAL modernisation to D18+ Technology; DUBAL Potline 1 conversion; DUBAL Potline 3 modernisation.