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Preliminary studies on melting of Im25 grade aluminium alloy for industrial applications

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Abstract:Aluminium is remarkable for the metal's low density and for its ability to resist corrosion due to the phenomenon of passivation. Far from being rare, Aluminium is in fact the third most common element in the Earth's crust, and it is the most common metallic element on Earth. Aluminium cannot be produced by an aqueous electrolytic process because hydrogen is electrochemically much nobler than aluminium. About 75percentage of this total volume is extracted directly from the ore and the remaining will be derived from recycling of Aluminium scrap. About 55percentage of the scraps are normally being converted into usable Aluminium and remaining will be lost as metal oxides and impurities in the form of a slag. Conventional recycling techniques generate dangerous residues that require elimination usually at high cost. This traditional recovery procedure is inefficient and leads to at least 50percentage loss. This paper discussed about melting characteristics of LM25 and their mechanical, X-ray and porosity results have been discussed. This research has been done for both pure ingots as well as return melts of LM25 seperately.

Keywords:AluminiumLM25,pure ingots,returnmelts,recycling,gravity die casting.

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