

EXPERIMENTAL STUDIES TOUGHNESS PROPERTIES OF METALLIC MATERIALS ALUMINIUM CASTING RESULTS OVER LABORATORY-SCALE ELECTRIC FURNACE

By

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ABSTRACT

This adult other problems arising from the development of the aluminium casting industry occurred at the level of domestic industry. Very extensive use of aluminium will result in the generation of waste that the impact would be very dangerous for the environment. The foundry industry that many developing now been widely using the blast furnace that is less polluting, the electric furnace pollution level less into solution, in this study the electric furnace be re-aluminium foundry media and determine the temperature of the castings.

To Know the toughness of the materials aluminum results of casting re-using electric arc furnaces scale laboratory, the temperature of the casting set is 700 °C, 750 °C, 800 °C The result is the result of testing toughness or impact with methods charpy, the results obtained at a temperature of pouring 700 °C shows energy absorbed 72,5 joules, 72,5 joules, 71,5 joules and results at the pouring temperature of the energy absorbed 750 °C 72 joules, 72 joules, 71 joules, and the pouring temperature 800 °C absorbed energy of 71,5 joules, 71,25 joules, 70,8 joules, the results of this test indicate the results of re-temperatur foundry castings 700 °C have impact toughness 0,902 J / mm², 750 °C tuangn temperature impact toughness value of 0,895 J / mm², and the lowest was at a temperature of 800 °C is 0,889 J / mm².

Keywords : Aluminium , electric furnaces , impact test.