Improve the Locally Manufactured Billets after Homogenizing to Match with Imported Billets

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6xxx series aluminum alloys have a combination of medium strength, good corrosion resistance, excellent formability, good weldability, easy recycling and especially good heat treatability. AA 6063 alloy is the most widely used of all extruded Aluminium alloys. The processing of AA 6063 billets always starts with a homogenization cycle since the homogenized billets are extruded easier and faster and gives better surface finish as well as good mechanical properties than as-cast billets. Homogenization is the creation of a homogeneous (uniform) structure in alloys by getting rid of concentrated micro irregularities formed in alloys during crystallization, diffusion metal spraying, and so forth. This study aims to improve mechanical properties of the AA 6063 aluminum alloy produced by the vertical continuous casting method. The imported billets were taken as reference samples. For this purpose, the billets were heat treated at different temperatures changing the soaking time. Specimens at each group were exposed to microstructure analyses and hardness tests in order to determine their mechanical properties. For microstructure analysis was done using both optical and scanning electron microscopes. According to the analysis, it was determined that the mechanical properties depending on casting temperature and heat treatment cycle. It was found that, at 580^{o}C – 8 hours is optimum heat treatment cycle and the 690^{o}C is the best casting temperature.