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Investigation of the Fading Time Effects on Microstructure and Mechanical Properties in Vermicular Cast Iron

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Abstract : In this study, the fading time affecting the mechanical properties and microstructures of vermicular cast iron were studied. Pig iron and steel scrap weighing about 12 kg were charged into the high-frequency induction furnace crucible and completely melted for production of vermicular cast iron. The slag was skimmed using a common flux. After fading time was set at 1. 3 and 5 minutes. In this way, three vermicular cast iron was produced that same composition but different phase structures. The microstructure of specimens was investigated, and uni-axial tensile test and the Charpy impact test were performed, and their micro-hardness measurements were done in order to characterize the mechanical behaviours of vermicular cast iron.

Keywords : vermicular cast iron, fading time, hardness, tensile test and impact test
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