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Studies of the Manufacturing and Mechanical Properties of Vanadium High Grade Cast Iron*

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Abstract

We studied on the manufacturing of vanadium high grade cast iron, in which we used the raw iron materials of blast pig iron, pig iron made of vanadium contained iron sand, steel scrap, Fe-V and vanadium contained oxidized slag. Then compared with plain high grade cast iron, we clarified the mechanical properties of this cast iron. It is much better to add in furnace than in ladle, to add vanadium to cast iron by Fe-V alloy. The addition of vanadium by oxidized slag containing vanadium is almost completely alloyed. High carbon cast iron of about 3.4% carbon has tensile strength of about 35 kg/mm² if it contained 0.5~0.7% vanadium.

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