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Influence of vanadium-chromium carbide on the microstructure of reinforced FeCrV15 hardfacing

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Abstract

The increasing manufacturing technologies are a crucial aspect of industrialization. Laser additive manufacturing is the process of manufacturing using laser (heat) technology to manufacture components from scratch and or strengthening and repairing components with the aid of functionally graded material to upgrade the properties of the components. The combination of Chromium-rich and Vanadium-rich Carbide reinforced iron-based hard facings have gotten progressively significant in enhancing the corrosion and wear resistance of tools subject to adverse abrasive and impact conditions. This study investigates the effect of vanadium-chromium carbide on the microstructure of the clad with respect to its laser processing parameters.