

Welding and Allied Processes.

A series of books and monographs on welding, cutting, surfacing, brazing, coating deposition and other processes of metal treatment.

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Electron Beam Melting of Titanium, Zirconium and Their Alloys

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The book considers peculiarities of metallurgical production of titanium and zirconium ingots by the electron beam melting method. Mechanisms and patterns of behaviour of impurities, non-metallic inclusions and alloying elements during the process of electron beam melting of titanium and zirconium are detailed. Optimal technological parameters for melting of high-reactivity metals are suggested, providing high quality, technical and economic indices of this metallurgical process. Quality characteristics of the resulting ingots, including their chemical composition, micro- and macrostructure, as well as some mechanical properties of metal in the cast and wrought states, are given. Flow diagrams of melting and glazing of surfaces of the ingot are presented, and specific features of designs of electron beam units are described.

The book is meant for scientists, engineers and technicians, as well as for students of metallurgical departments of institutes of higher education.

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