Features of smelting of heat-resistant titanium alloy of the Ti–Nb–Al–Mo–Zr alloying system by electron beam melting with a cold hearth

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Abstract

In order to develop the technique and technology of smelting ingots of heat-resistant alloys based on titanium with the content of the Ti2AlNb ortho-phase, experimental works were carried out to produce the experimental Ti–39Nb–16Al–2.6Mo–1.4Zr alloy. The results of studies of the produced ingot made by double electron beam remelting are presented. The developed technology and experimental melting of the 110 mm diameter Ti–39Nb–16Al–2.6Mo–1.4Zr ingot by the electron beam melting method with a cold hearth showed the prospects of using the EBM method for producing ingots of heat-resistant alloys based on titanium containing the Ti2AlNb ortho-phase. 12 Ref., 1 Tabl., 6 Fig.

Keywords: electron beam melting, cold hearth, ingot, refractory elements, chemical composition, titanium aluminide, ortho-phase

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