

عنوان مقاله:

Production of Fe-TiN and Fe-Ti(N,C) composite powders by mechanical alloying

محل انتشار:

فصلنامه مواد پیشرفته و فرآوری، دوره 1، شماره 1 (سال: 1392)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

In this research, the production of Fe-TiN and Fe-Ti(N,C) composite powders by mechanical alloying was investigated and evaluated. Ferrotitanium (containing 70%Ti), titanium and graphite were used as the raw materials. Initial mixtures were milled in different time durations under the pure nitrogen atmosphere with the pressure of Δ atm. The results showed that when N_2 pressure is Δ atm and milling time lasts Δ h, reaction starts and after 10 h, FeTi₂ is completely converted to TiN. Also, the role of graphite as the active material of the reaction was investigated and it was found that it leads to the production of titanium carbonitride in the iron matrix.

کلمات کلیدی:

Metal Matrix Composite, mechanical alloying, Combustion synthesis, Titanium Nitride, Titanium Carbonitride

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