Contribution of Microscopy to Clarify the Mechanism of Ni-Ti Phases Formation During Reactive Sintering

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NiTi alloy exhibits the shape memory effect, which implies the application in medicine and also many industrial branches. This paper is devoted to the manufacture of these alloys by the use of powder metallurgy using reactive sintering. This method could enable easier production of this alloy and achievement of higher purity. However, for the optimization of this technology, the deeper knowledge of the mechanism of the process is needed. This work uses microscopy on real powder mixtures subjected to reactive sintering, as well as on model samples processed under various conditions.

Keywords: NiTi, reactive sintering, mechanism, microscopy

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