

Shape memory properties and transformation temperature of Ti50-XVXPt50 alloy

Intermetallics

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Abstract

Improvement of functional properties of binary TiPt shape memory alloy by adding a third element to partially substitute for Ti, has to date resulted in a decreased martensitic transformation temperature. In this study, the effect of substituting titanium (Ti) with varying amounts of vanadium (V) on microstructure, crystal structure and phase transformation was investigated using scanning electron microscopy-energy dispersive spectroscopy (SEM-EDS), X-ray diffraction (XRD) and differential scanning calorimetry (DSC). The results showed that the addition of V to TiPt improved the functional properties and increased the martensitic transformation temperature.