

## Effect of Texture of Orthorhombic Martensite on Thermal Expansion of Metastable Titanium Alloy

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**Abstract :** This paper examines the so-called invar-type behavior of metastable titanium alloy subjected to cold rolling. The effect was shown to occur due to the anisotropy of thermal expansion of titanium orthorhombic martensite. By means of X-ray diffraction analysis and dilatometry analyses, the influence of crystallographic texture of orthorhombic martensite on the coefficient of thermal expansion of sheets of metastable titanium alloy VT23 was examined. Anisotropy of the coefficient of thermal expansion has been revealed. It was lower in the rolling plane and higher along the transverse direction of the cold-rolled sheet comparing to the coefficient of thermal expansion of the unprocessed alloy.

**Keywords :** invar-type, cold rolling, metastable titanium alloy, texture

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