

APPLICATION SHEET

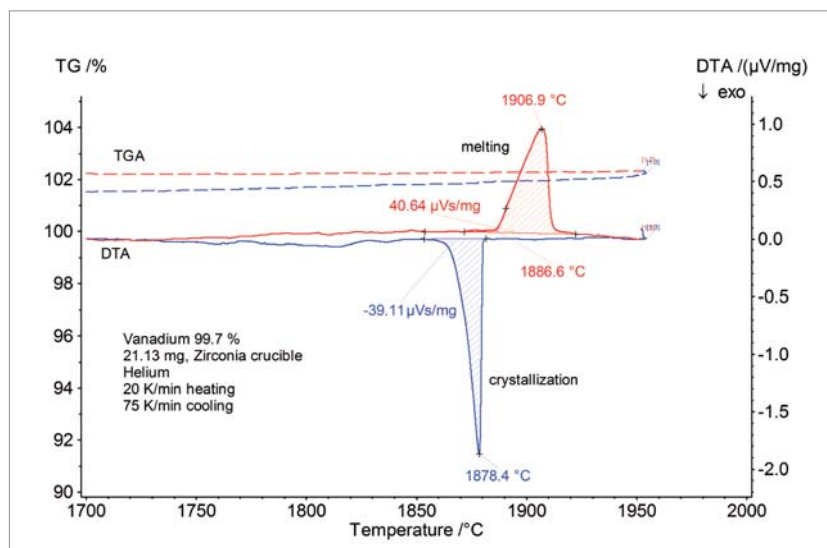
STA Accessories – Crucible Variety

Melting Point Determination on Vanadium

For DTA and TGA measurement in the very high temperature range, zirconia crucibles are available for tests up to 2000°C. These crucibles can be used for testing metals such as vanadium.



DSC and TGA-DSC crucible variety, see also *Accessories for Differential Scanning Calorimeters and Thermobalances*



Vanadium melting point determination in ZrO_2 crucibles with the STA 449 **F1 Jupiter**®

In this example, the melting point of a vanadium sample (99.7%) was determined with the STA 449 **F1 Jupiter**®. ZrO_2 crucibles were used. Melting occurs at an onset temperature of 1886°C. During cooling, the sample recrystallizes with only a small supercooling effect at 1878°C. The

typical oxidation effects for vanadium (starting at 660°C in air) cannot be observed. Even in the liquid state above melting, neither the DSC nor the TGA curve shows effects or a mass increase. This proves the vacuum tightness of the instrument and the suitability of the zirconia crucible.