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P3.132 Fabrication and Factory Acceptance Test of ITER Sector Sub-assembly Tool

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An ITER Tokamak machine with a torus shape is composed of nine units of 40° sectors. The sector sub-assembly tool (SSAT) is dedicated assembly tool to integrate vacuum vessel (VV) sector, VV thermal shield (VVTS) segments, VVTS port shrouds, two toroidal field coils (TFC) and various intercoil structures into 40° sector.

For the sub-assembly of 40° sector, SSAT shall have sufficient strength to support and handle heavy components up to 1200 tonnes. And fine alignment system to adjust components considering assembly tolerance should be designed and verified by appropriate means. Although the structural analysis and mock-up tests were completed, structural stability and alignment system should be verified through factory test with real component and system.

In this paper, the factory test results of the sector sub-assembly tool including VV load simulation and partial load test of VVTS outboard sector frame will be presented to verify the structural assessment and adjustment component.

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