

TEST OF ITER CONDUCTORS IN SULTAN: AN UPDATE

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The Toroidal Field (TF) *conductor qualification phase* has been carried out by testing short sample prototype conductors in the SULTAN test facility. This phase, started in 2007, has been substantially completed after minor adjustment of the conductor specification and test procedures. All the parties involved in the TF conductor procurement passed the qualification phase. Starting 2010, the samples for TF *process qualification phase* are tested in SULTAN. In 2010 the first prototype samples of Central Solenoid (CS) and Poloidal Field (PF) conductors have been also tested in SULTAN.

Beside a summary of the results for all the ITER Qualification samples, an updated statistics is presented for the V-I and V-T characteristics of the cable-in-conduit conductors (CICC), including Nb₃Sn and NbTi samples assembled with either a “bottom joint” or a “U-bend”.

The technical improvements of the test facility and of the sample preparation methods are reported, including the use of gas flow calorimetry for current sharing measurements, the enhanced cyclic loading rate and the calibration of the current meter.

An outlook for the ITER conductor test in the coming years is also presented.