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## **Mechanical properties of ITER PF conductor jacket material at low temperatures**

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The 316L stainless steel (SS) has been used as the conductor jacket of ITER poloidal field (PF) coil. The mechanical properties of the conductor jacket should be investigated at liquid helium temperature. In this work, tension, plain strain fracture toughness, and fatigue crack growth rate were studied at low temperature with specimens machined from the final state of the conductor jacket, i.e. after cold work including compaction, bending, and straightening. The plain strain fracture toughness was tested by J-integral according to JIS Z 2284 and the fatigue crack growth behavior was tested according to ASTM E 647. Results show that the tensile, fracture toughness, and fatigue crack growth rate of the 316L SS after mimicked production steps satisfy ITER IO's requirements.

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