Progress of Qualification Testing for Full-Scale Plasma-Facing Unit Prototype of Full Tungsten ITER Divertor in Japan


Through full-scale prototyping, JAEA demonstrated the manufacturing ability of the full-tungsten plasma facing unit.

- All joint surfaces in four PFUs with a casting Cu interlayer successfully passed ultrasonic testing.
- Surface profile in the target part stayed within the required profile tolerance of ± 0.25 mm.
- Full-scale prototype withstood the repetitive heat load of 10 MW/m² × 5000 cycles and 20 MW/m² × 1000 cycles which are three times higher than the requirement (300 cycles).