

ITER: 50 HEAVY NUCLEAR DOORS FOR THE TOKAMAK

From design to commissioning on site

Design, manufacture, installation, testing and commissioning of 50 heavy doors on the five levels of the ITER vacuum vessel (Tokamak)

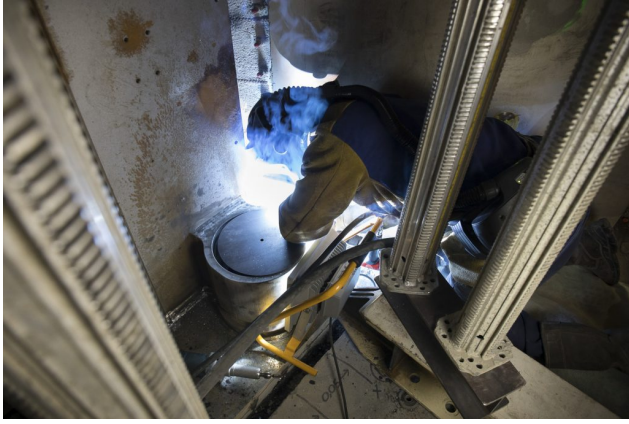
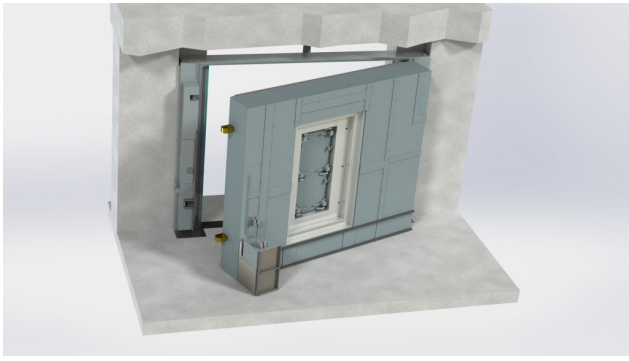
As part of the development of the ITER (thermonuclear fusion) project, **the Cegelec CEM-Sommer consortium** (led by Cegelec CEM) **is designing, manufacturing and installing the 50 [heavy doors](#) for the tokamak, which will perform radiological protection, confinement, impact protection and fire protection functions, as well as withstand the effects of the intense magnetic field.**

This non-standard service involved:

- ✓ **Mechanical [engineering](#)**
- ✓ **Design and of qualification of the doors:**
 - ✓ Electrical and automatic control studies
 - ✓ Radiation studies
 - ✓ Interface studies
 - ✓ Simulation of magnetic field effects
 - ✓ Contribution to mechanical design of the doors
- ✓ Transportation
- ✓ **Mechanical and electrical installation of the doors:** creation of door installation scenario and development of the three tools required to fit them:
 - ✓ **LMT (Leaf Mounting Tool)**
 - ✓ **FMT (Frame Mounting Tool)**
 - ✓ **TMT (Threshold Mounting Tool)**
- ✓ **Testing and commissioning**

One door: 70 tonnes, 4 x 4 x 0.7 metres and 14 kg of welds

Cegelec CEM used its [virtual reality platform](#) to prepare the tools prior to industrial production, as well as to train teams in the installation process, including tool manoeuvring.



<https://youtu.be/UWCKn7Hks0E>

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