

SUPERCONDUCTING WIRE for ENERGY & ENVIRONMENT

FUSION ENERGY

◆ Fusion Energy

Fusion is the energy source of the sun and the stars. This energy source is expected to be used to produce electricity in a safe and environmentally benign way.

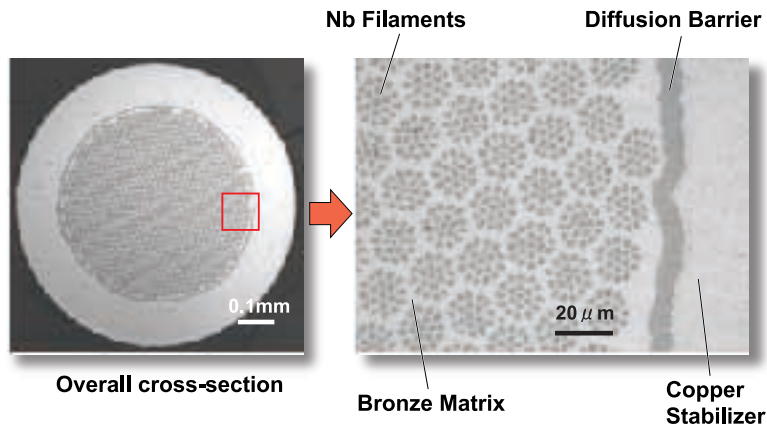
◆ ITER Project

ITER is a joint international research and development project that aims to demonstrate the scientific and technical feasibility of fusion power.

◆ Key Technologies

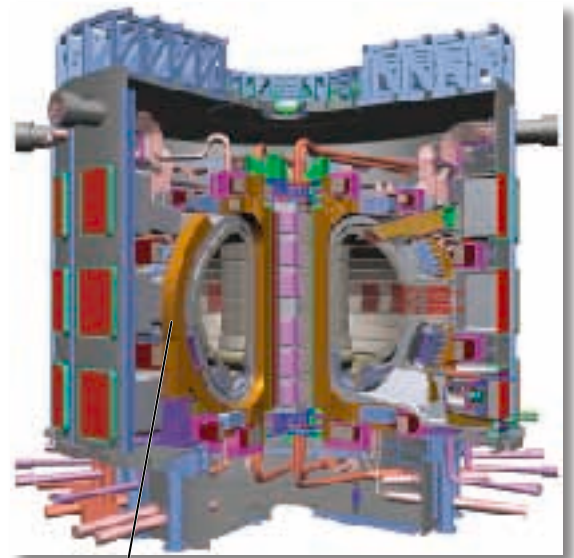
Confinement and control of the reacting plasma.
Temperature : 10^8 degrees.
Magnetic field : 11.8 Tesla (in Toroidal field coil)

◆ JASTEC superconducting wire for ITER Project



Nb₃Sn Superconducting Wire for ITER

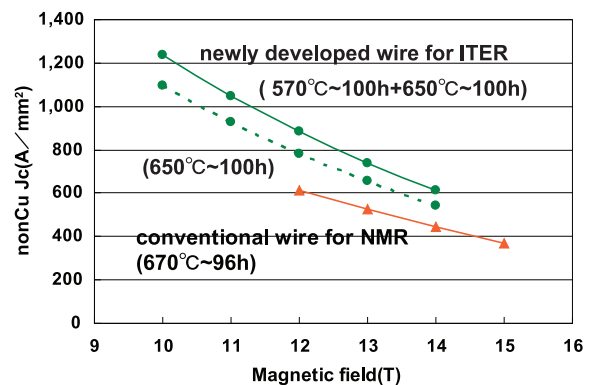
Diameter	0.82mm
Stabilizer	Copper
Copper/Supercon Ratio	1.0
Critical current density without copper	800~900A/mm ² at 12Tesla, 4.2K
n-value	30~40 at 12Tesla, 4.2K



Toroidal Field Superconducting Coil



Tokamak Fusion Reactor and Conductor of ITER Project (picture by JAEA)



Non-Copper Jc of Developed Wire

JASTEC is the world leading supplier of Nb₃Sn superconducting wire for very high field NMR magnets.

Based on the rich experiences in the supply of Nb₃Sn wires, **JASTEC** received an order to supply high performance wires to the ITER Project.