

Experience in Codes and Standards for Blankets at SWIP

The blankets in Fusion reactor include both shielding blankets and tritium breeding blankets, both of which have been extensively researched at the Southwestern Institute of Physics (SWIP) under the Nuclear Industry Corporation. Based on the absorption of hot helium leak detection technology for shielding blankets, SWIP has published an international standard, ISO 4233: Reactor technology —Nuclear fusion reactors —Hot helium leak testing method for high temperature pressure-bearing components in nuclear fusion reactors. Currently, SWIP is drafting the standard Beryllium and Beryllide Alloy Pebbles for Neutron Multiplier based on the absorption of neutron multiplier technology for tritium breeding blankets. This standard will help ensure the tritium self-sustainability and applicability of beryllium and beryllide in fusion reactors or devices. It will specify the general technical requirements, test methods, quality certification documents, packaging, transportation, and storage requirements for beryllium and beryllide alloy pebbles used as neutron multipliers in fusion reactors.

Technical Categories Addressed

Tritium breeder blankets (ex. molten salts, liquid metals)

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