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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 47618-2026

**Technical requirements for specialty doors and windows in
nuclear power buildings**

核电建筑专用门窗技术要求

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1 Scope

GB/T 47618-2026 is the Chinese national standard covering the doors and windows of a nuclear plant building - the pressure, radiation shielding, fire, airtightness and blast requirements of an opening in a containment or an auxiliary building, and the interlocks that keep an airlock an airlock. First edition, in force from 1 December 2026. It was issued on 25 May 2026 and takes effect on 1 December 2026, as a first edition. The document is under the responsibility of the Ministry of Housing and Urban-Rural Development. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the classification, specifications and markings, materials, requirements, test methods, inspection rules, and products for doors and windows specifically designed for nuclear power plant buildings. Markings and accompanying documents, packaging, transportation and storage. This document applies to the design, manufacture, and inspection of doors and windows specifically designed for nuclear power plant buildings.

4.1 Classification

4.1.1 Classification and designation by material of main load-bearing members The classification and codes according to the material of the main load-bearing members are shown in Table 1.

4.1.2 Classification and Codes by Performance The classification and codes according to performance are shown in Table 2.

4.2 Specification Representation The specifications for specialized doors and windows are presented in a six-digit table, with the thousands, hundreds, and tens digits of the

door/window opening dimensions arranged sequentially. The thousands digit is represented by "0".

4.3 Marking The marking order for specialized doors and windows is. product name, standard number, material code of main load-bearing members, performance classification code and indicators, and opening mechanism. Type code and specification code (represented by the width x height of the opening mark).

5.1 Component Materials

5.1.1 The materials of the components include the main load-bearing members and the panels.

5.1.2 The main load-bearing members can be made of carbon steel, stainless steel, or aluminum alloy. The panels can be made of carbon steel, stainless steel, or glass.

5.1.3 Steel-framed doors should be made of hot-rolled steel or cold-rolled steel sheet, while the panel should be made of cold-rolled steel sheet. Hot-rolled steel should conform to GB/T 706. According to regulations, cold-rolled steel sheets should comply with the provisions of GB/T 708.

5.1.4 The properties of carbon steel shall conform to the requirements of GB/T 700.

5.1.5 Stainless steel profiles and panels shall comply with the provisions of GB/T 3280.

5.1.6 Aluminum alloy profiles shall comply with the provisions of GB/T 5237 (all parts).

5.1.7 For special gates exposed to neutron irradiation fields, the content of easily activated nuclides in the gate material should be limited, with the cobalt content being relatively low. The concentration is set at 0.1% to avoid activation of the door material.

5.2 Welding Materials

5.2.1 Welding materials should be selected according to the type of component material, welding method and design requirements.

5.2.2 Welding electrodes shall conform to the requirements of GB/T 5117, and welding wire shall conform to the requirements of GB/T 10045 and GB/T 8110.

5.2.3 The quality of the gas used in gas shielded welding shall meet the requirements of GB 50661.

5.3 Fireproof materials

5.3.1 The fire resistance rating of the fire-resistant materials used in fire doors shall meet the Class A requirements of GB 8624-2025.

5.3.2 The fire-resistant expansion sealing strip shall comply with the provisions of GB

16807, and its fire resistance integrity shall not be lower than that of the fire-resistant electrode of the matching fire-resistant doors and windows. Limited requirements.

5.3.3 The adhesive shall meet the requirements of the smoke toxicity hazard classification ZA, as specified in GB/T 20285-2006.

5.4 Sealing material

5.4.1 The sealing strip material should preferably be EPDM rubber.

5.4.2 The sealing strip and the material of its contact parts shall be compatible. The sealing strip shall comply with the provisions of GB/T 24498.

5.4.3 The sealing strips should be easy to replace.

5.5.1 Glass includes fire-resistant glass, tempered glass, laminated glass, bulletproof glass, radiation-resistant/radiation-resistant glass and their products.

5.5.2 Fire-resistant glass shall comply with the provisions of GB 15763.1.

5.5.3 Tempered glass shall comply with the provisions of JG/T 455.

5.5.4 Laminated glass shall comply with the provisions of GB 15763.3.

5.5.5 Bulletproof glass shall comply with the provisions of GB 17840.

5.5.6 The technical requirements for radiation-proof/radiation-resistant glass are given in Appendix B.

5.6 Radiation Shielding Materials

5.6.1 Carbon steel, stainless steel, lead-antimony alloy, and concrete are suitable materials for gamma-ray shielding.

5.6.2 Neutron shielding materials should preferably be polyethylene, boron-containing polyethylene, boron-containing polypropylene, or concrete.

5.7 Other Materials Other material requirements are detailed in Appendix A.

5.8 Material Re-inspection Upon Arrival at the Factory When materials and accessories for specialized doors and windows arrive at the factory, product certificates or quality assurance certificates and other accompanying technical documents should be checked, or necessary inspections should be conducted. Measure and test to verify that the indicated performance and quality indicators conform to the corresponding standards (or contract requirements) shown in Appendix A.

6.1 Appearance and Surface Quality

6.1.1 The appearance of special doors and windows should not have obvious color