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Brief Introduction of Characterization Technology of Radioactive Solidified Form

The performance characterization of radioactive waste is an important part of the safety management process of radioactive waste. It runs through the whole process of waste generation, pretreatment, treatment, preparation and disposal, and is the basis for the selection of technical route of radioactive waste treatment and disposal. The technological process of radioactive waste performance characterization includes radioactive sample preparation, sample transportation, sample pretreatment, sample parameter measurement, performance characterization and performance evaluation. Performance characterization includes: free liquid, compressive strength, impact resistance, freeze-thaw resistance, leaching resistance, immersion resistance and gamma irradiation resistance. According to the requirements of GB 14569.1-2011, the performance characterization of waste form was evaluated.

The laboratory has established the most comprehensive performance test and evaluation platform and capability of waste cement solidified form in China, including cold laboratory and hot laboratory, with solidified form performance characterization and evaluation test platform; developed a number of proprietary equipment and molding equipment including sample preparation, sample pretreatment and sample performance test; established a complete quality assurance system.

Key words: radioactive solidified form, performance characterization, compressive strength

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