

Studying the Composition and Properties of Ash and Slag Waste for their Disposal in the Construction Industry

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Abstract: The results of a study of the composition, properties and structural features of ash and slag waste (Chita, Trans-Baikal Territory) are presented to establish the possibility of their disposal in the construction industry. Samples of fly ash and ash and slag mixture were studied by differential scanning calorimetry, thermogravimetry, inductively coupled plasma atomic emission spectrometry, X-ray phase analysis. It has been established that ash and slag wastes belong to the category of non-porous, the indicator of the specific effective activity of natural radionuclides A_{eff} (^{226}Ra , ^{232}Th , ^{40}K) was less than 370 Bq/kg, so they can be used in the construction industry without restrictions. It was revealed that the hydraulic properties of fly ash are classified as latently active, and the ash and slag mixture is inert materials, therefore, it is not possible to use them as an independent binder. When adding ash and slag wastes to the composition of building materials, their modification with various stabilizing additives is required.

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