Title (en)

Neutron-shielding hydraulic hardening material and method of manufacturing neutron shields using the same

Title (de)

Hydraulisch erhärtendes Neutronschutzmaterial und Verfahren zur Neutronschutzherstellung derselben

Title (fr)

Matériau de protection contre les neutrons à durcissement hydraulique et procédé de fabrication d'écrans neutroniques qui l'utilise

Publication

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Application

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Priority

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Abstract (en)

[origin: EP0773555A1] The present invention provides a neutron-shielding hydraulic hardening material containing 10-50% by weight of hydraulic cement, 30-88% by weight of aluminum hydroxide, and 0.1-35% by weight of boron carbide. The invention also provides a method of manufacturing a neutron shield. The method includes the steps of mixing 100 parts by weight of the hydraulic hardening material, 15-50 parts by weight of water, and not more than 5 parts by weight of at least one chemical admixture selected from the group consisting of air-entraining agents, air-entraining and water reducing agents, high-range water reducing agents, plasticizers, air-entraining and high-range water reducing agents, and foaming agents; and kneading the resultant mixture. The neutron-shielding hydraulic hardening material of the invention has an excellent neutron shielding effect, satisfactory strength of afterhardening product, and has good workability of fresh mortar. Therefore, when neutron shields are manufactured according to the method of the present invention, neutron shields with enhanced uniformity can be obtained.

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G21F 1/04

IPC 8 full level (invention and additional information)

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CPC (invention and additional information)

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