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Article 1

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Reducing the negative impact on the environment in production of cement

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Key words: environmental protection, production of cement, best available techniques, complex ecological permissions

Abstract

The state and ways of development of the cement industry in Russia are considered. It is shown that the transition to complex ecological permissions and application of the best available techniques in the production of cement will allow to reduce environmental pollution.

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Article 2

Berdov G. I., Zyryanova V. N., Ilyina L. V., Nikonenko N. I., Sukharenko V. A.

Interfacial interaction and mechanical strength of the composite binding materials. Part 1. Magnesium binders

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Key words: magnesium binders, mineral microfillers, mechanical strength, water resistance, frost resistance

Abstract

Mineral microfillers (wollastonite, diopside, limestone flour, etc.) contribute to strengthening the structure of hydration products of inorganic binders (Portland cement, magnesium binders). This improves the most important properties of building materials: mechanical strength, frost resistance, water resistance, chemical resistance. The optimal number of microfillers depends on their dispersion and decreases with increase it.

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Article 3

Samchenko S. V., Zemskova O. V., Kozlova I. V. Stabilization of dispersions of carbon nanotubes by ultrasonic treatment

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Key words: ultrasonic treatment, carbon nanotubes, aggregate stability, sedimentation, coagulation, colloidal solution, hydrosol, stabilization, plasticizers, disperse system, dispersion medium, cement stone

Abstract

Presents the results of investigations on the stabilization of carbon nanotubes using ultrasonic treatment. Studied aggregate stability of a solution of carbon nanotubes and the optimal conditions under which for a long time retained its properties, thereby increasing mechanical properties of a cement stone.

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Article 4

Sviderskiy V. A., Tokarchuk V. V., Fleysher A. Yu. Using of waste vegetable oil as plasticizer

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Key words: plasticizer, water reducing additive, normal density, cement spreadability, compressive strength

Abstract

The possibility of using recycled waste food industry in the construction industry was studied. Food processing waste sunflower oil were used as chemical additives in the preparation of cement and cement mortar. Results of the investigation have confirmed the possibility of using such additives as high range plasticizers.

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Article 5

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Substandard sand in the technology of glass materials for construction purposes

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Key words: raw materials, substandard sand, enrichment, building glass

Abstract

The physical and chemical properties of substandard sand are investigated and the possibility of their enrichment is shown. After enrichment this sand can be used in the production of glass for construction purposes, in particular the heat-shielding.

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