

INFLUENCE OF CARBON ADMIXTURES ON ELECTRICAL PROPERTIES OF INORGANIC FIBRE-CEMENT COMPOSITES

René Čechmánek, Jiří Junek, Pavel Šteffan, Peter Barath
Research Institute of Building Materials, JSC,
Hněvkovského 30/65, 61700 Brno, Czech Republic, cechmanek@vustah.cz
Brno University of Technology, Faculty of Electrical Engineering and Communication,
Údolní 53, 602 00 Brno, Czech Republic

Keywords: Cement composite, carbon, electrical properties, tempered element

Abstract.

With utilization of a certain component addition into a cement matrix it is possible to achieve specific electrical properties. For achievement of specified electrical properties were searched mostly suitable carbon particles in a sphere of micro and nano-size. Though carbon fibres are less conductive than metal fibres, composites with carbon fibres were evaluated as better current conductors than composites with metal fibres. Structurally-technical elements made of these newly composed fibre inorganic composites can be able to shield electromagnetic fields, to transform electricity to heat or to scan weight of moving vehicles. This paper particularly deals with a task of tempered elements for pavements or access ramps, especially for disabled people, and its function in real conditions.