



Mechanical and Thermal Properties of Fly Ash-based Geopolymer Cement

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Taschenbuch. Book Condition: Neu. 220x150x6 mm. This item is printed on demand - Print on Demand Neuware - French scientist Prof. Davidovits proved that the Pyramids in Egypt 5000 years ago and the Great Wall in China in Song Dynasty 600 years ago were all built by geopolymer technology. The geopolymer cement has been recognized as a more durable 'green' material with less CO₂ emission and less energy consuming as compared with the widely used Portland cement. It is predicted that the geopolymer will replace the Portland cement and lead to a revolution in civil engineering. Every great breakthrough in the civil engineering history is due to the research and application of new materials in civil engineering, such as the occurrence of concrete and steel, etc. In this book, an experimental study of the thermo-mechanical properties of a cement prepared using a class F fly ash and three different alkali-activators (NaOH, KOH, and Na₂SiO₃) under different hydroxide/silicate ratios is presented. The tested results show that the geopolymer cement cured at appropriate conditions can reach a compressive strength of 113.8MPa and it also has an excellent heat resistance with a remarkable residual strength 95.9...



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