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Porous Geopolymer Grout Composite for Geotechnical Applications

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ABSTRACT

The objective of this study is to develop an innovative porous geopolymer cement grout that is specifically designed for enhancing grouting applications in soil stabilization and sealing projects. Geopolymer cements, known for their excellent mechanical properties and environmental sustainability, present a promising alternative to traditional Portland cement. However, their application in grouting for soil stabilization has been limited by the need for tailored porosity to facilitate better permeation and interaction with the soil. This research aims to bridge this gap by formulating a porous geopolymer grout composite that optimizes these characteristics, as well as maintaining enough workability to perform its purpose.

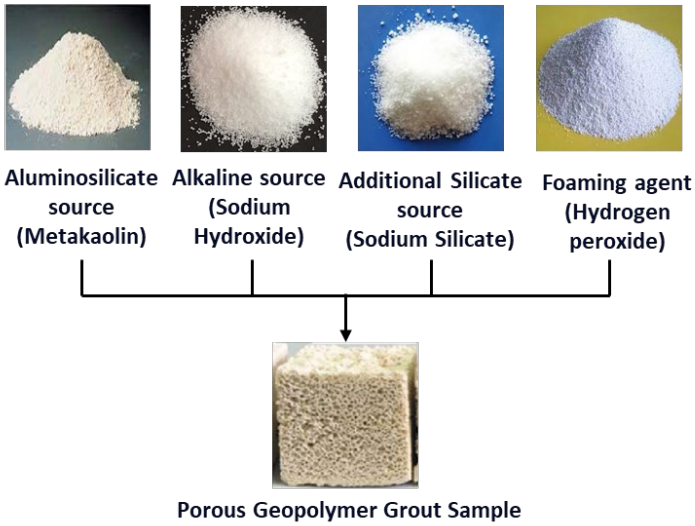

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Fig. 1 Preparation of porous geopolymer grout

REFERENCES

Zhang et al 2020a. “Preparation of carbon nanofiber/geopolymer composites by direct foaming.”

Bai & Colombo 2018, “Compressive strength vs. Porosity of porous geopolymers using different fabrication methods.”