

Injection behavior of a biopolymer-based grout material for hydraulic conductivity control in sandy soil

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ABSTRACT

Environmentally friendly biological approaches are spotlighted as sustainable soil methods to improve the geotechnical properties of soil. Biopolymers, excretory products from living organisms, have shown significant soil hydraulic conductivity reduction via bio-clogging as well as soil strengthening (Bouazza, Gates *et al.* 2009; Chang, Im *et al.* 2016). This study evaluated the injection behavior and permeability control of a biopolymer-based grout material in sandy soil under confined boundaries. Hydraulic conductivity of soil reduced during biopolymer injection, while grouting efficiency shows dependency to injection pressure which requires consideration for optimization.

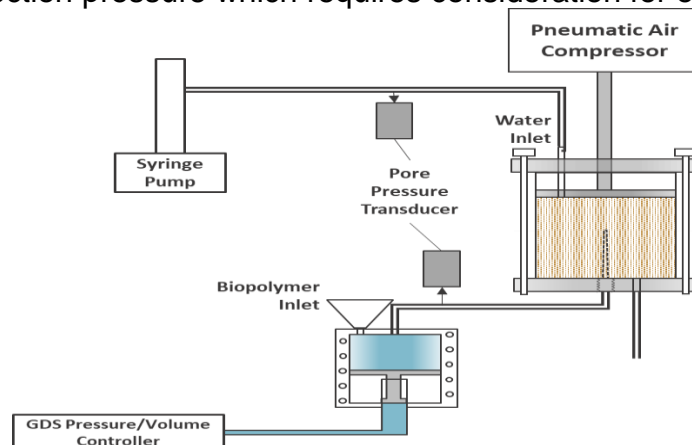


Fig. 1 Experimental setup for injection of biopolymer-based material in soil

REFERENCES

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