The experimental investigation of behaviour of expanded polystyrene (EPS)

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Abstract:
Low-strength substrates and anthropogenic soils are always an issue in civil engineering. Based on the soil layer types, several methods could be used to improve the basic/foundation layer however it would be difficult to make sure if the specified requirements are achieved. Nowadays, Expandable Polystyrene (EPS) as a lightweight material found as a substitution for traditional methods like soil replacement, soil mixing, using piles driving and other treatment techniques. This paper will demonstrate the static properties of EPS foams in a view point of construction material which will be a key for the future study of these materials. A series of compression tests were carried out on different types of EPS foam to study the effect of EPS geofoam density on the mechanical behaviour of these materials.

Key words:
Expanded Polystyrene (EPS), Geofoam, Strain rate, Uniaxial loading