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(57) Abstract:

The present disclosure relates to a process for the preparation of geopolymer-composite articles. The process includes dry mixing a pre-determined amount of at least one aluminosilicate material and foundry sand to obtain a dry mixture; preparing an activating solution by admixing alkali solution(s) with alkali silicate solution(s) in a ratio ranging from 1: 1.5 to 1: 2; admixing the activating solution and the dry mixture to effect a geopolymerization reaction and obtain a slurry comprising a geopolymer; adding waste paper sludge into the slurry to obtain a pliable geopolymer matrix; molding the matrix followed by the step of curing to obtain the geopolymer-composite article. The pre-determined amount of the aluminosilicate material is determined on the basis of the reactivity of the activating agent with the aluminosilicate material by using AvogadroTMs number, molarity of the alkali solution and impurities and losses during weighing and admixing of the aluminosilicate material.

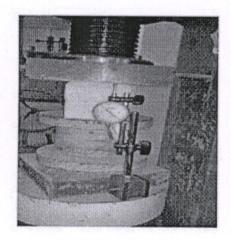


Figure 2A

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