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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 Avogadro<sup>TM</sup>s number, molarity of the alkali solution and impurities and losses during weighing and admixing of the aluminosilicate material.



Figure 2A

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