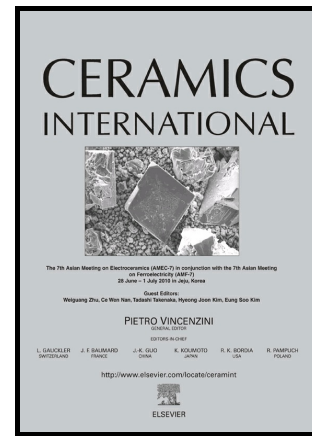


# Author's Accepted Manuscript

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**Coating of unreactive and reactive surfaces by aluminosilicate binder**

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**Abstract**

Currently, many applications require the assembly of different materials to improve their properties in use. This work focuses on the production of a geopolymer binder coating based on metal or agglomerated sand. For this, several compositions based on sodium or potassium and different reactivities of metakaolin and their interactions in the presence of different types of support were studied. The interactions between the binder and carrier were analysed by measurements of the wetting angles. Coating trials conducted over tin-plated copper and bonded sand highlighted the influences of the binder composition and the drying and deposition parameters. Scanning electronic and optical microscopy observations confirm the chemical adhesion between the various components. FTIR spectroscopic analyses have also identified the parameters for obtaining a geopolymer network such as the reactive aluminium concentration (5 mol / L) and the molar Si / Al and M / Al (M = K or Na) ratios (2 and 1.2, respectively). It is therefore possible, by determining the wetting angle, to control the deposition on either a metal or silica sand.

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