

## **REINVENTING THE STRUCTURAL FIRED CLAYEY BRICKS THROUGH THE GEOPOLYMERISATION OF LATERITES**

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Fired clayey products have been successfully used as structural materials for many engineering applications as building and construction all around the world. In the tropical area, however, the most available raw clayey materials are laterites (kaolinite with associated iron minerals). The kaolinite present in the laterites based concretes is amorphous or metastable prompt to be activated with alkaline solution. In this work, the results of the investigations regarding the geopolymerisation of laterites are presented. It was found that in the presence of amorphous silica, the iron minerals of laterites reacts to form low temperature iron silicates with particularly good mechanical properties (15-35 MPa) as the results of the combination of polysialates, ferrosialates and ferrosilicates. Composites obtained can be valorized as products of substitution of structural fired clayey products.