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Mechanism of adherence of ceramics in its elaboration than confer properties of mechanical strength

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The research study will allow to understand the operation of physical mechanism of clay adherence to sand during the process of slapping, drying and burning in manufacturing ceramics, in order to lead to a contribution to the theory that explains the interactions of both phases and how they work to achieve mechanical properties and little absorption, important requirements for the quality of these products, some of them structural. Raw material is obtained from deposits that are used to manufacture ceramics in the Western (Paraguayan Chaco) and Eastern Regions of Paraguay and with these materials half brick test tubes both of solid and hollow ceramic bricks submitted to drying and cooking temperature processes interrupting said process according to proposed temperature each 150° C up to 750° C and from then on each 50° C up to 900° C or 1200° C according to the mineralogic composition of raw material, in order to continue studying macroscopically and microscopically and validate the theoretical contribution that we seek to verify in the aforementioned theory. Using techniques such as XRD, Spectrophotometry among others. Besides physical density tests will be done on unit weight, bending and compression in semi-pressed solid bricks of small scale sizes in order to facilitate investigation. In this study at least three different types of clays will be chosen, some will be combined to form other ceramic products and take advantage of this variation for the conclusions of this theoretical study.

Biography

Roberto A Rojas Holden has completed his PhD in higher education and completed his Masters in environmental impact evaluation, Civil Engineer at UNA, Asuncion National University. He is Director of Extension, Faculty of Engineering UNA and also Professor of environmental management for civil construction of Post-graduate program at Faculty of Engineering UNA, main Professor of Concrete Technology at UNCA, Caaguazú National University.

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