SOOT IMFLUENCE ON MECHANICAL PROPERTIES OF CERAMIC BRICK

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Construction is one of the most important segments in global economies, currently it is intended that this will be sustainable and environmentally friendly mainly with the materials that are used in many applications of this type. Recent research shows that it is possible to produce materials for the industry with industrial waste, which seeks to reduce the environmental impact. [1]

Results obtained in the mechanical properties of the addition of soot which is a byproduct of the firing of the bricks used in the brick Santander, characterized by a mainly composed of impure pulverized coal particulate material on clay mixtures used are presented in the manufacture of clay bricks. The clay used was characterized initially by manual granulometric following the standard method NSR 10. Chemical and mineralogical compositions The analyzed using the technique of ray Diffraction - X, (XRD). The analysis of the mechanical properties of ceramic developed by the compression test according to the guidelines of the Colombian Technical Standard NTC: 4017: 2005 - Methods of Sampling and Testing Units Masonry and other clay products.
The results show that less than 60% by mass of soot residues addition when added to the clay increases the capacity of compressive strength in an average value of 265.31 kgf / cm^2, this increase is significant since the minimum value compression according to standard is 140 kgf / cm^2

References

[1] P. Muñoz Velasco, M.P. Morales Ortíz, M.A. Mendívil Giró, L. Muñoz Velasco. Fired clay bricks manufactured by adding wastes as sustainable construction material – A review “Construction and Building Materials” Volume 63, 30 July 2014, pp. 97–107 [2]