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## **STUDIES ON BUILDING CERAMICS MANUFACTURING BY INCORPORATING DRIED SLUDGE**

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### **Abstract**

The paper analyses the opportunity of recycling sewage sludge in the manufacturing of ceramic building materials. Wastewater treatment plants (WWTP) produce annually a great volume of sludge and its processing become more difficult. On the other hand, there is an increased need to develop new alternatives beyond the already known methods. The use of WWTP sludge as raw material for the production of bricks may become an interesting alternative, both from an industrial and environmental point of view. Therefore, in our study different rates of sludge (5-20%) were introduced directly to the green raw mixture of ceramic material. Further, the influence of sludge incorporation on physical and mechanical properties, structural parameters as well as mineralogical composition of the ceramic products was analysed in the research. Also, the environmental effects of the new raw material were investigated by leaching tests. The optimum amount of sludge in the brick was determined considering the principal characteristics of the product. The results indicated that incorporating 7% of sludge would be beneficial for bricks quality.

*Key words:* building, ceramics materials, recycling, sewage sludge

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