

Overview About Sludge Produced From Treatment Plant of Bahr El-Baqar Drain and Reusing It With Cement in Outdoor Paving

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Abstract : This paper aims to achieve many goals such as knowing (quantities produced- main properties- characteristics) of sludge produced from Bahr EL-Baqar drains treatment plant. This prediction or projection was made by laboratory analysis and modelling of Model samples from sludge depending on many studies that have previously done, second check the feasibility and do a risk analysis to know the best alternatives for reuse in producing secondary products that add value to sludge. Also, to know alternatives that have no value to add. All recovery methods are relatively very expensive and challenging to be done in this mega plant, so the recommendation from this study is to use the sludge as a coagulant to reduce some compounds or in secondary products. The study utilized sludge-cement replacement percentages of 10%, 20%, 30%, 40% and 50%. Produced tiles were tested for water absorption and breaking (bending) strength. The study showed that all produced tiles exhibited a water absorption ratio of around 10%. The study concluded that produced tiles, except for 50% sludge-cement replacement, comply with the breaking strength requirements of 2.8 MPa for tiles for external use.

Keywords : cement, tiles, water treatment sludge, breaking strength, absorption, heavy metals, risk analysis

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