

## Advanced Properties for ceramic product prepared from local raw materials

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### Abstract

Recently, there are many researches on developing the conditions of residential and industrial buildings, thus heating insulation play important role in these researches. So we try to use our local raw materials with industrial waste to get ceramic product with high efficiency in the field of heating insulation. The industrial waste as husk dust, wood dust, are burning totally and leaves voids and pores in the body of ceramic product, these pores reduce the unit weight, and increase the insulation properties. We recommend using wastes with percentage less or equal 11% from total weight of components, in order to keep the module of rupture within the international standards, at this percentage we could reduce the unit weight 20% ( $1.62\text{gr/cm}^3$ ) and thermal conductivity was reduced 30% ( $0.5412\text{ W/m.degree}$ ). We could reach solid product with lower unit weight ( $1.3\text{gr/cm}^3$ ) and thermal conductivity ( $0.38\text{wt/m.degree}$ ) by increasing wastes percentage up to 20%, but should use 1.5% of sodium alkali solution in the paste. Also we could prepare ceramic product with same raw materials and 11% wastes but, in hollow molded, then we get unit weight ( $1.134\text{gr/cm}^3$ ) and thermal conductivity of ( $0.29\text{W/m.degree}$ ).

For the paper in Arabic see pages (125-136)

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