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Study of physico-chemical properties of diatomiteAlgeria: Application to the thermal insulation ofliquid steel bath

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Abstract: The purpose of this paper is to characterize and to evaluate the diatomite powder of Sig region (West Algeria) withoutfluorine by powder generally used in tundish to thermal insulation of steel bath contain fluorine, that affecting the environment andhealth of workers. Thermal and physicochemical characterization showed different endothermic and exothermic peaks. Thescanning microscopy method was used and a large porosity was observed, which is very beneficial for improving the thermalconductivity of the product. The trial industrial in steelwork with diatomite powder, showed a weak loss temperature of steel (10 °Cmax), and filled fully function in thermal insulation of the steel bath.

Keywords : diatomite, fluorine, Tundish, steelwork, thermal insulation, DSC