

Effects of Microstructures on the Thermal Properties of Refractory Materials.

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Abstract:

The factors controlling the thermal properties of refractory clays obtained from Omi-Adio were investigated. Methods of controlling these factors in refractory bricks were also looked into. A complete feasible step in making of typical refractory bricks out of these clays was suggested, taking note of critical parameters like water content, particle size, compaction pressure and firing temperatures involved. It was found that porosity and pore size played major roles in controlling the thermal properties of the refractories obtained from the clays. Strengths after firing at various temperatures were noted too, including source and mode of failure. The suitability of the bricks as structural materials in terms of strength, and as decorating materials in terms of colour, was found to be good.

Keywords: Thermal properties/ Refractory materials

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