

Dolomite quarry waste as sand replacement in sand brick

Abstract

Dolomite is a sedimentary rock resulting from the deposition of river or sea takes millions of years. The quarry waste from dolomite production had been used to replace sand in order to study the performance of modified brick sand. The objectives of this research are to determine the density, water absorption rate, and compressive strength of the new dolomite brick (d-brick) and to find out the optimum percentage of sand replacement with the dolomite waste. The bricks sample are then be tested using physical and mechanical approach. The percent of sand replacement is 25%, 50%, 75%, and 100% by weight. The optimum percentage mix of the modified sand brick using dolomite is D50 based on the density, water absorption, and compressive strength test of the sand brick. The result of the density of the D50 sand brick using dolomite is 1701 kg/m³, the water absorption of the sand brick 12%, and 14% at 7 days, and 28 days respectively. Meanwhile, the compressive strength of the D50 sand brick is 7.99 MPa, and 12.28 MPa at 7 days, and 28 days.

Keywords; Dolomite quarry waste as sand replacement in sand brick