The Effect of Water Absorption on the Compressive Strength of Conventional Cement-sand Brick

ABSTRACT

This research was conducted on the conventional cement-sand bricks from the market. Heavy rainfall during rainy seasons dampens building brick walls resulting having bubbling paint, crumbling plaster, powdery deposits and crack fissures on wall surfaces. The water absorption was conducted for 24 hours, 7, 14 and 28 days shows water was absorbed by conventional cement-sand bricks are 5.94%, 6.09%, 6.12% and 6.23%, results revealed conventional cement-sand bricks are porous. The compressive strength was conducted on the dry and wet conditions of conventional cement-sand bricks for 24 hours, 7, 14 and 28 days showed the compressive strength of dry conditions are 11.28 N/mm², 10.28 N/mm2, 10.27 N/mm² and 10.27 N/mm² and wet conditions are 11.02 N/mm2, 7.81 N/mm², 7.80 N/mm2 and 7.80 N/mm2. As stated by the BS 5628 1:2005, 11.28 N/mm2 classified as M12(i), designation 50, with the strength of 11.6 N/mm2 for 24 hours and 10.28 N/mm² classified as M12 (i), designation 40, with the strength of 10.0 N/mm2 for 7, 14 and 28 days.