

Properties of Sand-Lime Bricks Containing Ground Limestone and/or Chalcedonite

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The paper contains results of laboratory studies leading to improvement of strength behaviour of sand-lime bricks. Effect of higher compression strength was obtained as a result of proper modification of raw materials mixture (sand and burnt lime) used for the sand-lime bricks industry production. The modification relied on introducing mineral additives in the form of ground limestone and/or chalcedonite. Mentioned mineral additives introduced into the batch separately lead to small increase in the mechanical strength of autoclaved bricks but when they are introduced jointly the synergistic effect is observed manifesting in high increase in compressive strength. The mechanism of interaction is different for each additive however they lead to improvement in the structure and microstructure obtained sand-lime bricks so improvement in mechanical properties is observed as a final result. Modification of these specific parameters were studied and confirmed by X-ray analysis and scanning electron microscopy combined with EDS analysis.