

Study The EffectsofPartially Substitution of Sand with Fine Glass on Mechanical Properties of Mortar

Abstract

Study the effect of using fine glass as a substitute for sand in cement mixtures on the mechanical properties of building samples (compressive strength and hardness). Samples were prepared (50 x 50) mm, multiple experiments were performed that included changing the mixing ratios by using fine glass as a substitute for sand between (0, 10, 15, 25, 50)% of the sand size, and the results of the samples were compared with previously prepared samples according to the standards Global and tested on 7, 14, and 28 days, the results showed that the pressure strength of the sample increased by (25.50)% by volume for samples containing greater proportions of fine glass, and the values of hardness decreased slightly in the replacement levels 0.10, 15% while the values started In a noticeable increase in the replacement levels 25 and 50% the hardness values (59, 62, 69.1, 74.3, 80.2) were N / mm², respectively.