

**EFFECT OF AGGREGATE TYPE ON MORTARS WITHOUT CEMENT**

**Hanifi BINICI**

Department of Civil Engineering,  
Kahramanmaras Sutcu Imam University  
**Turkey**  
E-mail: [hbini@ksu.edu.tr](mailto:hbini@ksu.edu.tr)

**ABSTRACT**

The purpose of this study is to investigate the usability of polyethylene (PET) wastes in cementless mortar production. It was examined the effects of PET wastes, silica, river and crushed-stone sands on different properties of mortar. In this sense, cementless mortars were prepared by mixing sands homogeneously with molten PET waste after PET wastes had been molten at the temperature of 200°C. Specific weight of each sample was measured and then thermal conductivity, water absorption capacity, bending strength and sound conductivity of samples were tested. According to the obtained test results, it was shown that most of the properties of cementless mortars produced with PET wastes were strongly related with type of sand.

**Keywords:** Acoustical properties, mechanical properties, thermal conductivity