

## Abstract

This study investigated the effect of waste of Aleppo pine wood on the rheological and mechanical properties of self-compacting concrete. Aleppo pine wood is a compound of cellulose, hemicelluloses and more than 25% lignin. The latter belongs to the admixture family used as plasticiser in concrete. An experimental study was conducted to evaluate the rheological and mechanical properties of mortar containing the coupons of Aleppo pine wood (in liquid form) at different dosages. According to the results, the main rheological parameters of cementitious pastes (shear stress and plastic viscosity) decreased with increasing dosage of waste Aleppo pine. The cementitious pastes containing 5% waste, became more fluid, compared to the reference cement paste (containing 1.0% superplasticiser). Also, compared to the reference mortar prepared with superplasticiser, a decrease in compressive strength of mortars with increasing dosage of Aleppo pine wood was found. However, the resistance values obtained by the mortars (5% of Aleppo pine) were very close and gave a mortar with 30 MPa strength, which is an acceptable value for construction