

# Recycling of demolished concretes as coarse aggregate

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**Abstract:** This paper presents a physical characterization for recycling in new concretes of three comminuted concretes: C16/20 (“ordinary concrete”), C50/60 (“high strength concrete”), and C70/85 (“very high strength concrete”). The top size of the crushed concretes was 19.1 mm and the size range of 4.75 to 19.1 mm. The characterization was carried out with coarse aggregate liberation to be prepared and concentrated in a gravity concentration process. Density distribution of the coarse aggregate, cement paste, and sand was carried out in different size ranges (4.75/19.1 mm; 4.75/8.0 mm; 8.0/12.5 mm; and 12.5/19.1 mm) for the three concretes studied. Factor form of the samples, as well as porosity determination of particles in different density ranges, is presented. The obtained results indicate that coarse aggregates liberation is more intensive for the low resistance concrete (C16/20), but a reasonable Coarse Aggregate recovery is possible for all concretes.

**Keywords:** Concrete; Recycling; Density Distribution; Liberation; Gravity Concentration