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Reuse of Crushed Glass and Aluminum Filings Wastes as Partial Replacement of Sand in Concrete Mixture

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Abstract : The development in inhabited areas lead to accumulate solid wastes which is considered an essential trouble in the world. The modren studies affectingthe used materials that have less environmental effect. The aim of this study is to develop an effective and environmentally disposal method of Crushed Glass Waste (CGW), and Aluminum Filings Waste (AFW) that collected from different locations to reduce the disposal problem of these Wastes and examined their performance properties in concrete mixtures. Different percentages(10, 15, 20 and 30)% of CGW and AFW are used as a partial replacement by sand's weight, and checking their effect on the mechanical properties of concrete. Mixing, casting, and curing at (7, 28, and 56) days are applied subsequently. The fresh and hardened properties of concrete are performed such as (slump, oven dry density, compressive strength, flexural strength, splitting tensile strength, and water absorption). The obtain results of CGW and AFW are showed that, the possibly utilized CGW up to 30% without any adverse effect on concrete, while the utilized of AFW make the concrete lightweight. **Keywords :** Crushed Glass, Aluminum Filings, slump, oven dry density, compressive strength, flexural strength, splitting tensile strength, flexural strength, splitting tensile strength, flexural strength, splitting tensile strength.

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