

## **Towards Optimal Mix Design Using Local Materials in Damascus City and its Surroundings<sup>1</sup>**

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### **Abstract**

Concrete is the primary building material. It has many important characteristics such as high compression strength and the availability of its raw components. Many studies have proved that about 50% of concrete samples didn't achieve the required compression resistance which is 200 kg/cm<sup>2</sup> for controlled concrete and 180kg/cm<sup>2</sup> for uncontrolled concrete when using locally available materials and cement of 350kg/m<sup>3</sup> within the conditions of the workshop.

Concrete resistance is determined mainly by the characteristics of its components (aggregates, cement, and water). Since cement is manufactured in accordance with the Syrian technical standards and water used for concrete complies with the required standards, the importance of this work comes from the fact that it studies the characteristics of the aggregates that come from the area of Damascus and its surroundings in order to reach required recommendations for achieving the required concrete resistance within the conditions of the workshop.

<sup>1</sup> For the paper in Arabic see pages (87-112).

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