Concrete is exposed to various environmental influences and chemical attack because of the construction material, the widely and in many areas used. These influences are leads to the loss of service time and durability of concrete. The predict and/or known of the hardened concrete properties before from hardening process is essential due to the irreversible and unpreventable character of hardening process makes. Compressive strength is one of the most important of hardened concrete properties. Compressive strength is related to other properties of concrete such as water absorption, capillarity, elasticity modulus, tensile strength, etc. Compressive strength of concrete is affected by environmental influences, also affected other properties.

Nowadays, analysis methods and techniques (artificial intelligence methods), are used as successful in many different areas, examine of many factors effect and develop the prediction models. In this study, compressive strengths of designed concretes as durability to chemical attack (aggressive chemical environment) was modeled by fuzzy logic method, produced concrete in three different cement dosage (350, 400 and 450 kg/m³) and at three different water/cement rations (0.45, 0.48 and 0.51) for the three different curing period (7, 14 and 28 days). The result of the study concluded that compressive strengths of concretes exposure to chemical attack is predictable as acceptable ($R^2=0.996$) with developed model using fuzzy logic.