# Relationship between Compressive Strength and Modulus of Elasticity of High-Strength Concrete

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**Abstract:** Modulus of elasticity of concrete is frequently expressed in terms of compressive strength. While many empirical equations for predicting modulus of elasticity have been proposed by many investigators, few equations are considered to cover the entire data. The reason is considered to be that the mechanical properties of concrete are highly dependent on the properties and proportions of binders and aggregates. More than 3,000 data, obtained by many investigators using various materials, on the relationship between compressive strengths and modulus of elasticity were collected and analyzed statistically. The compressive strength of investigated concretes ranged from 20 to 160 MPa. As a result, a practical and universal equation is proposed, which takes into consideration types of coarse aggregates and types of mineral admixtures.

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