

Prediction Equation for Shrinkage Strain of Concrete Considering the Effect of Mixed Cement

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In order to cope with various design conditions of concrete structures, a prediction equation for the shrinkage strain of concrete has been developed, which allows input of the effects of cement types, aggregate shrinkage strain, and the application of liquid water, in addition to the conventionally indicated mix proportion of concrete and ambient relative humidity. The prediction equation is formulated based on the 3D material-structure interaction analysis system (DuCOM-COM3). The prediction equation can explain the phenomena that appear to be caused in part by concrete shrinkage, such as strain of concrete in prestressed concrete (PC) girders in service using blast furnace cement concrete (Class B).