

# Investigate the Effect of Curing Methods for Different Types of Binder Concrete

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**Abstract.** Various curing techniques are typically used to achieve the required concrete strengths. The laboratory results of this study investigate the effects of curing techniques (namely water, air-dry, burlap, membrane, and chemical spray) on compressive strength ( $F_{cu}$ ) and indirect tensile strength ( $F_t$ ) using 200 specimens. To determine the optimum method for concrete curing, two different cement contents were used ( $350 \text{ kg/m}^3$  and  $450 \text{ kg/m}^3$ ) with and without chemical admixture (superplasticizer, SP). Compressive and indirect tensile strengths were determined for the four different concrete mixes. Based on the experimental results, adding superplasticizer and increasing the cement content improved the mechanical properties of the concrete mix, as indicated by both compressive and tensile strength. Additionally, it was found that the longer the curing period of the concrete, the higher the  $F_{cu}$ . Furthermore, adding 1% SP has a more significant impact on  $F_{cu}$  than adding 100 kg of cement.

**Keywords:** Curing; Cement; Compressive strength; Core test; Tensile strength; Binder; Concrete.

