

## **9. A Study on Curing of Lining Concrete**

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In order to enhance the quality of concrete structures, it is necessary to place and cure concrete properly. Besides conventional wet curing, various new technologies for the curing of tunnel lining concrete have been developed and put to practical use. Very few studies have been conducted, however, to evaluate curing performance parametrically under varied concrete mix design and curing conditions. A series of simulation tests using small specimens were conducted, therefore, by parameterizing the curing method (water curing, water spray curing, wet curing, drying shrinkage reducers, modifiers), curing temperature, curing humidity, curing period, etc., and using standard mix proportions for lining concrete. From the test results, basic data needed to make a rational choice of lining concrete curing methods have been obtained, and the relationship between the method and effect of curing has been identified by using the drying shrinkage ratio as an index for effectiveness in reducing cracking.

**Key words :** lining concrete, curing, drying shrinkage strain, water content, coefficient of air permeability