

2. Effectiveness of Wet and Warm Insulation Mats for Curing Tunnel Lining Concrete

Toshiyuki Ishii, Kunikazu Azuma, Toshiyuki Majima, Yoshihiro Mori

The durability is enhanced and service life prolonged for lining concrete of mountain tunnels by improving high density on surface, controlling cracking and taking other measures. As specific means, various curing methods have been proposed and implemented. No sufficient verifications have, however, been made of the effectiveness for curing. In order to verify the effectiveness of wet and warm insulation mats that were applied to the curing of lining concrete in tunnel construction, measurements were made in cured and non-cured sections. Applying the curing mats kept the lining concrete in wet and warm insulated curing condition. As a result, improvements in compressive strength and air permeability and reductions in internal strain were verified. Enhanced durability of the surface of lining concrete was thus verified.

Key words: lining concrete, wet and warm insulated curing, durability, high density on surface, cracking control