

11. Study on Concrete Compaction by Vibration - Range of Concrete Compaction by Vibration and Timing of Re-vibration -

Tetsuya Hironaka, Toshiyuki Ishii, Koji Tsukamoto, Shohei Kawaguchi

Placing concrete homogeneously and densely is important to the quality improvement of concrete structures. To that end, the effect and method of compaction by internal vibrators should be identified that are used for compacting concrete. Laboratory tests were conducted using small specimens concerning the method of vibrating compaction by internal vibrators focusing on the area of compaction. Laboratory tests using small specimens were also conducted concerning the method of re-vibration focusing on the timing of compaction. As a result, the area of compaction with internal vibrators was identified in relation to compaction using internal vibrators based on the vibration acceleration in the concrete. For the re-vibration method, a method was identified for determining the timing of re-vibration based on the penetration resistance where concrete mix proportion and thermal condition varied. The effect of re-vibration could be verified.

Key words: vibrating compaction, internal vibrators, acceleration, re-vibration, penetration-resistance tests, settlement cracks