

Bäst i test

Ett utdrag av test från provningsanstalten VTT i Finland

VTT, COMMUNITIES AND INFRASTRUCTURE

Concrete moisture measuring methods for bridge construction site

The aim of the study was to find out new easy-to-use concrete moisture measuring devices for bridge deck waterproofing sites. The present methods in use are drying concrete samples in oven or measuring the relative humidity in holes drilled into the bridge deck. The research method was to measure moisture with 13 different devices in the same concrete samples stored at laboratory in different humidity conditions. The study was carried out by VTT Communities and Infrastructure and VTT Building Technology and it was ordered by the Finnish National Road Administration. Based on the study it was possible to rank the devices which worked best at laboratory. Several devices which were tested were not applicable for measuring high moisture contents with an adequate accuracy. For measuring the moisture content of concrete the **Tramex Concrete Moisture Encounter gave results that were best comparable with the results of the oven drying method.** Among the test methods based on relative humidity, a Rotronic AWVC-device and a test tube method (using a Vaisala sensor) gave results that were relatively near to the values measured in holes drilled in concrete. These test results are valid only in the constant laboratory climate conditions used in the study. On a bridge site also many variables (e.g. temperature changes, rain, wind and in old bridges chlorides) affect the results. That is why the study should be continued using the three methods with best laboratory results in real bridge site climate conditions.

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