

General information

We have installed eight prefabricated piles with lengths between 5 m and 20 m. These are used to determine the precision of the method. The results will be used for a precision statement and will be published anonymously.

We have installed eight CFA piles with defects created by erroneous execution, such as loss of concrete height during concrete pouring or wrong speed during pulling the casing. The results will be used for an anonymous comparison of the findings. Four piles have a tube installed in the shaft that can be used to lower special equipment.

This is a unique opportunity to bring science forward and evaluate your own skills in practical cases. These measurements are foreseen at Monday 19 September. If you want to participate or need more information, please contact p.holscher@deltares.nl, with cc. SW2022@kivi.nl

Description of the Interlaboratory Study at the Stress Wave Conference, prefabricated piles

Target of the experiment is to gather information on the precision of the method. Precision is here defined as the variation that might be expected for a repeated measurement by e.g. other equipment or other personnel.

1. We have installed eight prefabricated piles with different lengths and cross-section.
2. The participants are asked to determine the length using a wave speed based on their own estimation.
3. The measured length and number of accepted test results (hammer blows) are written in a prescribed excel file. The complete field is measured two times in the prescribed order.
4. The Excel file is sent to KIVI and ASTM.
5. KIVI or ASTM sends an anonymous version to the SWC.
6. These results are shortly interpreted and presented at the Test and Demonstration Day. This presentation shows:
 - a. the variation in estimated wave speed
 - b. the variation in estimated length
 - c. using the beforehand measured wave speed per pile, the variation in the picked arrival times of the reflections
 - d. using the beforehand measured wave speed per pile, the variation in the measured length compared with the real length of the pile (measured before pile driving)
7. After the conference
 - a. We will publish the basic results at our web site.
 - b. We plan to write a paper in literature that presents the test description, the relative influence of wave speed and other aspects and recommendations for further research and practical applications
 - c. ASTM plans derive a formal precision statement for this test. Here all companies are mentioned, and all results will be mentioned anonymously acc. the ASTM procedures. This report is distributed acc. ASTM procedures.
8. All results are confidential. Before the Test and Demonstration day no communication about the information is allowed.

Description of the Interlaboratory Study at the Stress Wave Conference, CFA piles

The target of the experiment is to gather information on the possibilities of the method on CFA piles. Such piles have much more heterogeneity and are more sensitive to problems during execution.

1. We have installed eight CFA piles. Some of these have installation defects. These defects are created intentionally by execution errors.
2. The participants are asked to apply a PIT to the piles and present their observations from the measured signals.
3. The observations are written in a prescribed excel file. The complete field is measured once in the prescribed order.
4. The Excel file is sent to KIVI.
5. KIVI sends an anonymous version to the SWC.
6. These results are shortly interpreted and presented at the Test and Demonstration Day. This presentation shows per pile an overview of
 - a. the intended defect
 - b. the observations from participants (including the statistics if possible)
7. After the conference
 - a. We will publish the basic results at our web site.
 - b. We will try to get additional information after removal of the piles by photographs and measurement of the circumference of the pile versus depth to get good insight in the real diameter. We will publish this information at our web site.
 - c. We plan to write a paper in literature that presents the test description, the findings and recommendations for further research and practical applications.
8. All results are confidential. Before the Test and Demonstration day no communication about the information is allowed.