

INTERNATIONAL PREDICTION EVENT  
**Behaviour of CFA, Driven and Bored  
Piles in Residual Soil**  
EXPERIMENTAL SITE - ISC'2

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About this book

In the preparation of the 2<sup>nd</sup> International Conference on Site Characterization (ISC'2), held in Sept. 2004 at the Faculty of Engineering of the University of Porto (FEUP), Portugal, an experimental site, here situated, was launched for the purpose of organizing an international PPE, organized by FEUP and Instituto Superior Técnico of the Technical University of Lisbon under the auspices of TC-16 and TC-18 of ISSMGE.. A very extensive site characterization including a large variety of in-situ tests and also pile load tests were prepared in this experimental site, under the sponsorship of 4 construction companies.

In the experimental site, 3 different kinds of piles were executed: bored piles with temporary casing, continuous flight auger, CFA, piles (bored - drilled shafts - and CFA piles with circular section - nominal diameter Ø600mm) and driven piles (with square section - width B=350mm). These 3 different types of piles were loaded axially side by side up to failure (piles E9-bored, T1-CFA and C1-driven).

The participants were provided information on pile geometry, soil profile, equipment and high strain dynamic tests results. They were challenged to predict the static load bearing behaviour of piles including:

- (i) a table giving load vs. settlement at the pile head;
- (ii) parameters and models used;
- (iii) calculation methodology;
- (iv) pile base resistance and shaft resistance, separately if applied;
- (v) ultimate compressive resistance and criteria used to determine such resistance;
- (vi) allowable bearing capacity and factor of safety used to determine such capacity;
- (vii) explanation of the method used to reach all the previous items.

A total of 32 predictions were received from 17 countries.

In this book, the authors and responsible for the exercise, describe the process, present the available data, which was accessible by request to the participants, compile the received predictions - including the received documents in annex (when permitted by the predictors) - present the results of the tests, with the utmost and possible detail, and analyse them.

Discussion is made on the reasons that may explain some surprising deviations. Some recent analysis, which were presented in recent published papers, are included giving emphasis to the interpretation of the pile head load-settlement curve and the determination of the shaft and toe resistances, apart from the toe residual load.

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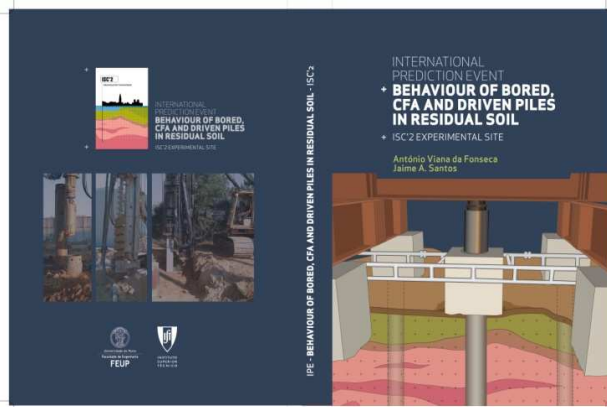
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**CD EXTRAS**

- ORIGINAL PORTUGUESE PREDICTORS DOCUMENTS
- PREDICTORS ATTACHMENTS
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