



# Pile Static Load Test Equipments Calibration Procedure

## Micrometers calibration

### 1. Aim of this document

The aim of this document is to establish the protocol followed for calibrate the equipments used for the pile load tests, referring on that case to the micrometers used for the load system.

### 2. Generalities

The micrometers from Controls used on the pile tests, all of them with a range of measurement from 0 to 50 mm with an appreciation of 0,01 mm each

### 3. Procedure of calibration

For the calibration, a Gauge Block from Mitutoyo was used. The documents of its calibration and traceability were presented at the corresponding Pile Static Load Tests Equipment Calibration Protocol.

Two cycles of measurements were done, comparing the measures obtained with the corresponding micrometer in 1/100 mm, as it can be see on the right colons presented on the calibrations, with the height indicated for each gauge presented on the left colons of the sheets.

For both cycle data, a linear regression by Minimum Squares be done and the linear model, its equation and the corresponding  $R^2$  is presented on a graphic.

### 4. Results of calibration

As it can be see on the graphics, the regression coefficients  $R^2$  are very close than the unity. That signifies the model is very representative. If we consider now the dependent term of the linear model, it can be appreciate that it is very close than the unity too. Considering that the Load Press data are the reference, the correction factor is in order of 1.003 or less relating the Gauge Block data with all the Micrometer data.

The correction factor to be applied is close than the unity. For these raison we can consider that no correction will be applied for the field measurements.