

Demanding environment and high level of required accuracy were the challenges our team has successfully faced in this project.

Alignment of beam transfer system

Overview

The purpose of the measurements was the alignment inspection & alignment correction of charge and discharge rollers on a continuous homogenizing furnace.

Fieldwork: 2 days, 2 staff members

Office work: 2 days, 1 staff member

Measurements were taken in two telescope faces and dual sampling to enhance accuracy.

A local geodetic control network was established and measured by taking under consideration the following parameters:

- geometrical strength (concerning the available working areas)
- visibility of the majority of control points between different station setups
- minimization of errors on desired directions (prescribed precision)
- ability to detect blunders (reliability) & visibility of interest areas

Benefits

- Accurate and robust method of inspection
- Adaptable to the custom mechanical arrangement via jig development
- Results and documentation according to the specific needs



Continuous homogenizing furnace walking beam system



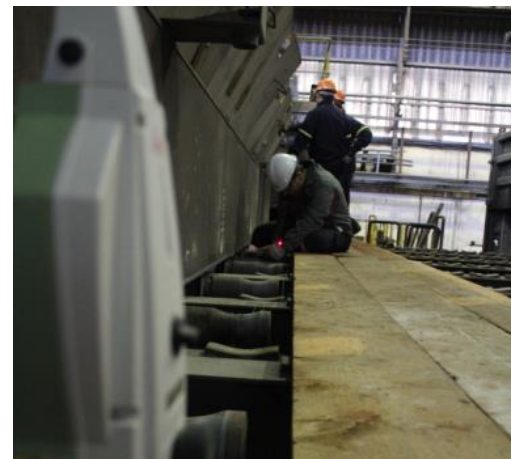
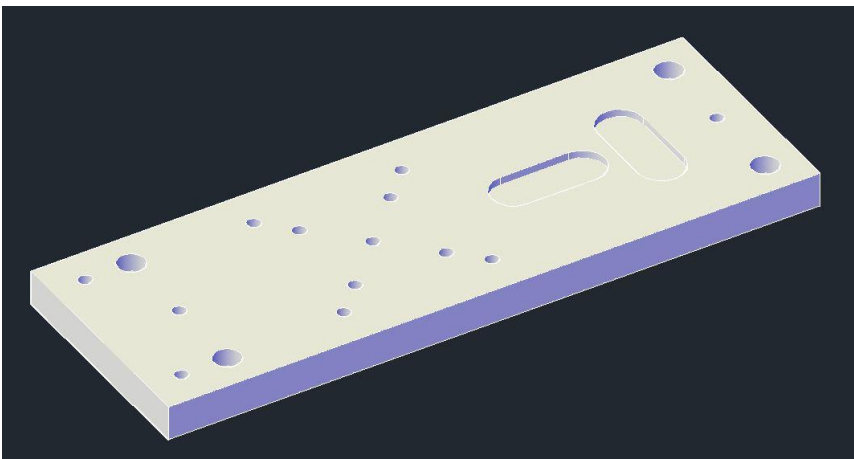
Measurement procedure

Fieldwork

The local geodetic network was realized through 5 spherical reflectors (control points). Targets were periodically checked for the prevention of possible instrument drifts. Results were directly announced to the project engineers and workshops for evaluation and action.

Totally 19 rollers were geometrically inspected and adjusted for possible misalignments and positioned to the proper offsets to compensate for thermal expansion as the corrections took place in cold conditions. Measurements were taken with the use of a high – end industrial total station Leica TDRA6000, spherical reflectors and measurement tools that were designed for this project.

Along with industrial total station Leica TDRA6000, a special jig that holds the reflector in place was used to achieve maximum accuracy.



Special Jig designed by METRICA S.A.

Instrumentation / Software

- Leica TDRA6000



Deviverables

- Tables including all measured points coordinates
- Tables showing horizontal and vertical deviations

Do you have a similar project?

Contact our team at info@metrica.gr