MICRO-EPSILON

Determination of the thermal conductivity of building materials

An important criterion for the quality of porous concrete is the thermal conductivity. It varies in the final product due to quality differences in the raw materials used (including sand and natural lime). An internal determination of the thermal conductivity using a double-plate device as in DIN 52612 Part 1 immediately after production enables a substantially faster reaction in comparison to the previous external testing of samples. The double-plate device available to the user was equipped with a computer system with application-specific evaluation software. The software was developed with the modular software toolbox ICONNECT.

An overview of the current state of the testing process can be obtained at any time with a combination of digital and analog displays as well as LEDs (Fig. 2). A test log is automatically printed out after termination of the preselected testing period or on request.

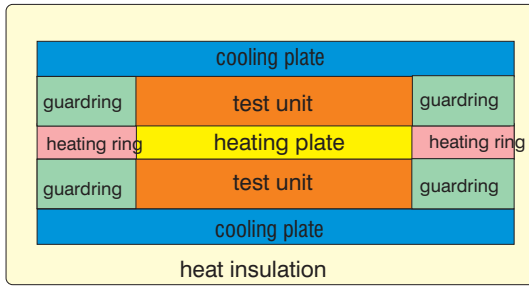
Reasons for selecting ICONNECT

- Fastest possible realization of the software concept using ICONNECT with high flexibility.
- Adaptation for modification of the double-plate device possible without problem due to the graphical user interface of ICONNECT which is simple to operate, also by the customer.
- Different hardware from various manufacturers can be used and retrofitted with later expansions.

Computer system
- PC Pentium 200 MHz
- Measuring card DAS 172 ST/DA, 12 bit, 160 kHz, 16 channel
- Measuring card ME 96, digital I/O
- Windows 95 or NT 4.0 operating system
- ICONNECT Developer

(graphical development system with application specific software)

Principle - double-plate device



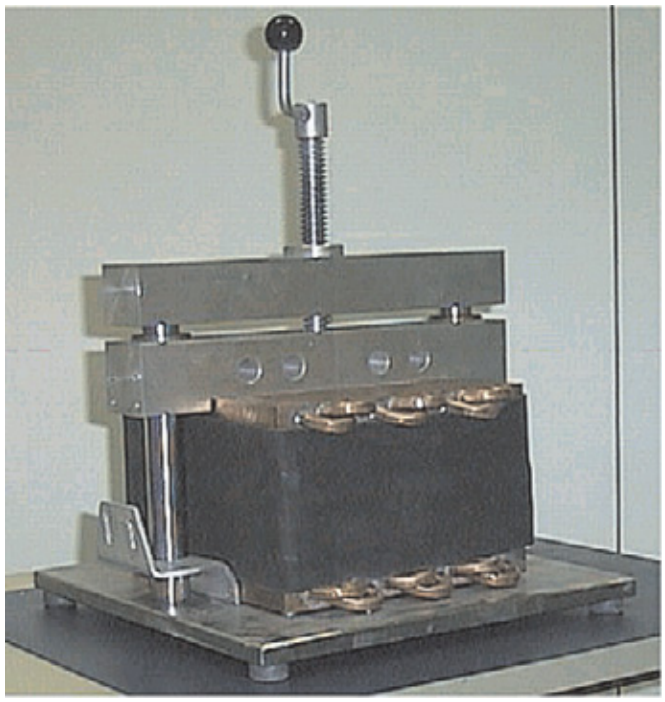


Foto: Zweiplattengerät, Firma F. X. Greisel, Ortenburg

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