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## FULLY AUTOMATIC LABORATORY

### **AUTOLAB**

FULLY AUTOMATIC LABORATORY FOR BOARD QUALITY CONTROL

AUTOLAB is a complete, independent test laboratory which can perform all the board tests required without any need for manual intervention.

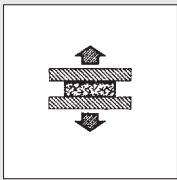
It is usually located in the vicinity of the production line and operated by the press operator. It has the task of performing various test sequences, which range from "complete", for carrying out comprehensive tests providing a wide variety of information, to "fast", which supply key information in just a few minutes.

Each test strip has a complete test protocol that provides results for one test sequence or, if net connected, for all the data relating to the production from which the test strip was taken. Each test produces various graphs and data pages that can be displayed on the screen or printed as required, which is also applicable for any previously performed tests.

The advantage of this is that the manufacturer can supply each customer with test results relative to the boards delivered and thereby demonstrate that the materials received do in fact meet their requirements.

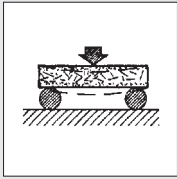
The possibilities of this software prove even more useful for internal quality controls. All tests and data are saved on standard DATA BASE. By means of a very simple function, the system creates multiple graphs showing various statistical curves and calculations.

AUTOLAB is THE solution to many laboratory problems and the total optimization of Quality Control.



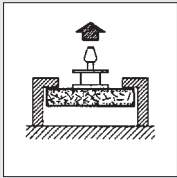
### INTERNAL BOND

The test may be carried out using wooden or aluminium supports. The 5 x 5 cm test sample, is glued between two 10 cm long strips. When dry, the strips are clamped into place and slowly pulled apart until fracture occurs. A highly accurate load cell registers the total load fracture.



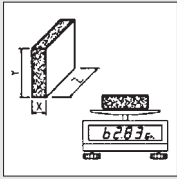
### BENDING STRENGTH + MODULE OF ELASTICITY

Four 25 cm long test samples are cut from a test strip. All four test samples, two of which are turned upside down, are clamped into place and bent, one after the other, until they fracture. Again, a highly accurate load cell registers the total load at fracture.



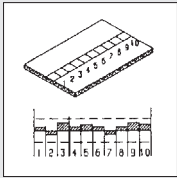
### SURFACE STRENGTH

A 3.5 cm diameter hollow is cut into a 5 x 5 cm test sample in which a metal knob is then glued. When dry, the test sample is clamped in place and the metal knob pulled until fracture. A highly accurate load cell is used to register total load at fracture.



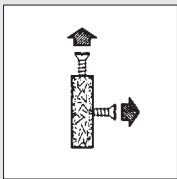
### WEIGHT AND MASS

Each test strip is cut into many test samples. Each test sample is then weighed (precision: 0.01 g) and the dimensions are measured (precision: 0.01 mm) directly after the cutting station.



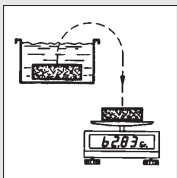
### FORMING LINE DISTRIBUTION AND SPECIFIC DENSITY

The exact weight and measurements previously taken for each test sample, are used to determine specific density. The combination of all test sample data, used to determine specific density on a particular test strip, can be used to elaborate the forming line distribution diagram.



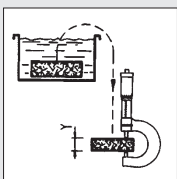
### EDGE AND FACE SCREW

A screw is screwed into the board (side or surface). The force required to pull the screw out of the sample is accurately measured.



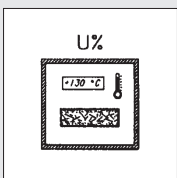
### WATER ABSORPTION 2/24 H (optional)

Test samples 5 x 5 cm are weighed and placed in a water bath for either 2 or 24 h. At the end of each period, each sample is weighed again to determine weight variation which represents the water absorption of the board.



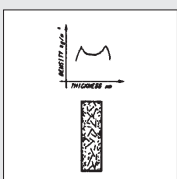
### SWELLING 2/24 H (optional)

The thickness of each test sample 5 x 5 cm is measured and placed in a water bath for either 2 or 24 h. At the end of each period, each sample is measured again to determine thickness variation which represents the water absorption of the board.



### MOISTURE RESIDUE (optional)

A 5 x 5 cm test sample is weighed and then dried in an oven at 105 °C. It is then weighed again. The difference in weight represents the moisture residue of the board.



### DENSITY PROFILE (optional)

A test sample 5 x 5 cm is measured using X-ray technology. The accurate movement of the mobile mount on which the sample is fixed, ensures measuring precision.