# FEFCO TESTING METHOD N° 3

April 1966 (amended July 1985)

# *Determination of the thickness (calliper) of corrugated fibreboard*

## 1 Scope

To define the apparatus and test procedure to measure the thickness (calliper) of corrugated fibreboard used in packing cases bearing the manufacturer's certificate. The test is applicable to all kinds of corrugated fibreboard. This method is applicable to all types of corrugated fibreboard.

## 2 References

FEFCO testing method n° 1 : sampling procedure

EN 20 187 : paper, board and pulps - Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples.

## 3 Principle

The thickness (calliper) of corrugated fibreboard is the distance in millimetres measured between two plane parallel faces of a micrometer, between which the test specimen is subjected to a specified pressure.

## 4 Apparatus

The measuring apparatus shall be a dead-weight dial gauge micrometer with a plane circular anvil and a concentric plane plunger. The area of the anvil and of the plunger shall be 10 $cm^2$ ± 0.2 $cm^2$.

The measuring surfaces shall be parallel within 0.001 of their diameter, and the dead-weight loading of the plunger shall be 20 ± 0.5 kPa.

The instrument shall be sufficiently accurate to permit measurement to be made to the nearest 0.05 mm.

## 5 Sampling

Sample in accordance with FEFCO Testing Method N° 1.

## 6 Conditioning

Samples shall be conditioned accordance with EN 20 187 (i.e. 23° C ± 1° C, 50 % ± 2 % r.h.).

## 7 Preparation of test pieces

Individual samples selected from the batch must be large enough to permit the cutting of test specimens with an area of 500 $cm^2$ (200 mm x 250 mm). Test specimens must be free from converting machine marks, damage, or other irregularities.

## 8 Procedure

The testing shall be carried out in the standard atmosphere defined in clause 6.

The plunger is to be lowered slowly, without impact.

Two measurements are to be made on each test specimen, at least 50 mm from an edge, and at least ten test specimens shall be measured.

## 9 Test report

The test report will provide the following information :

- a *Date and place of testing*
- b *Description and identification of the material tested*
- c *Number of individual measurements*
- d *Arithmetic mean of all measurements in millimeters*
- e *Details of any deviation from this testing method*
- f *Any other information which may assist in the interpretation of the test results ; in particular whether any areas compressed by printing or converting machines are involved.*

**Recommendations :** the measuring capacity of the dead-weight dial gauge micrometer should be at least 20 mm.

The depth of throat of the micrometer should be not less than 50 mm.