

Determination of the basis weight of corrugated fibreboard

1 Scope

To define the apparatus and procedure used to determine the basis weight of corrugated fibreboard for packing cases bearing the manufacturer's certificate. The test is applicable to all kinds 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

Test specimens of given area, taken from a representative sample of corrugated fibreboard, are brought into equilibrium with a standard atmosphere and are then weighed on a suitable accurate balance.

Test results (basis weights) are expressed in g/m².

4 Apparatus

A balance with sensitivity of 0.5 g, or better, over the entire measuring range, shall be used to make the determinations.

5 Sampling

Sample in accordance with FEFCO Testing Method N° 1.

6 Conditioning

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

7 Preparation of test pieces

Representative samples from corrugated fibreboard to be tested shall be large enough to permit the cutting of test specimens of 500 cm² area (200 mm ± 0.5 mm x 250 mm ± 0.5 mm).

Test specimens shall be free from machine marks and other irregularities ; the surface must be free from printing or other treatments which may affect the weight ; and the edges must be cut clean and square.

8 Procedure

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

Each test specimen will be separately weighed and the weight recorded to the nearest 0.5 g.

Unless otherwise stipulated, at least ten determinations are to be made.

9 Calculation of basis weight

For each determination the basis weight will be calculated by the formula:

$$G = \frac{g \times 10^6}{a \times b}$$

Where :

G = basis weight in g/m²

g = weight of test specimen in g

a = length of test specimen in mm

b = width of test specimen in mm

10 Test report

The test report will contain the following details :

- a** *Date and place of testing*
- b** *Description and identification of the product tested*
- c** *Results of individual tests to the nearest g/m²*
- d** *Arithmetic mean and standard deviation of all the replicate tests*
- e** *Details of any deviation from this testing method*
- f** *Any other information which may assist in the interpretation of the test results.*