Afera 4021 (EN 12034) Test Method

Length of a Roll of Adhesive Tape

1. Scope

The test method is designed to measure the length of tape on a roll.

Provision is made for either including or excluding from the total length the portion of tape that is in direct contact with the core.

For non extensible tapes the length measured by this method will be the same as the length after unrolling. For extensible tapes the length after unrolling will be greater if the tape is stretched irreversibly by unrolling. It is also possible for an extensible tape to measure less after unrolling if stress built in during manufacture recovers after unrolling. This is important for all tapes with elongation at break of 80% or greater.

2. Summary of Test Method

The length is calculated from a measurement of the number of turns of tape on the roll and a measurement of the outer circumference of the tape and the outer circumference of the core.

3. Equipment

3.1 A measuring device which is capable of counting both whole revolutions and part revolutions which is continuously driven by a spindle. The spindle carries a suitable locking device by which means a wedge shaped shaft to suit the various internal diameters of cores of the rolls of tape can be quickly fitted. (The wedge shaped shaft, for example, for a nominal 25 mm internal diameter core will go from 24.5 mm diameter to 26.5 mm diameter over a shaft length of 50 mm.).

3.2 Measuring tape.

A narrow, flexible, steel tape (6 mm or narrower) graduated in mm.

4. Test Specimen

4.1 One roll of tape.

5. Procedure

5.1 Standard test conditions

The test shall be carried out at (23 ± 1) °C and (50 ± 5) % relative humidity.

5.2 Measure the circumference of the roll by means of a steel tape, applying the tape to the roll like a belt: CR mm.

5.3 Mount the roll on the wedge shaped shaft of the counter. Set the counter to zero and pull the tape from the roll in a direction perpendicular to the counter spindle. Remove all the tape from the core and record the number of revolutions (to the nearest tenth of a revolution) as read from the counter when the last layer of tape has left the core: N turns

5.4 Measure the circumference of the core CO mm.

6. Results

6.1 Calculate the length (L) of the tape as follows:

L (metres) = (N / 2000) x (CR + CO)

If the length of tape in contact with the core is not to be included in the total

length, then:

L (metres) = {(N / 2000) x (CR + CO)} – CO / 1000

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