



BSI Standards Publication

# Packaging — Flexible aluminium tubes — Test method to measure the deformation of the aluminium tube body (Guillotine test)

**National foreword**

This British Standard is the UK implementation of EN 16285:2013.

The UK participation in its preparation was entrusted to Technical Committee PKW/0/-/10, Packaging - Plastics.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

## Packaging - Flexible aluminium tubes - Test method to measure the deformation of the aluminium tube body (Guillotine test)

Emballage - Tubes souples en aluminium - Méthode d'essai pour mesurer la déformation du corps du tube en aluminium (essai Guillotine)

Packmittel - Aluminiumtuben - Prüfverfahren zur Messung der Verformung des Mantels von Aluminiumtuben (Guillotine-Prüfung)

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## Contents

Page

Foreword.....	3
1 Scope .....	4
2 Testing equipment .....	4
3 Requirements.....	5
4 Execution.....	5
5 Test report .....	6

## Foreword

This document (EN 16285:2013) has been prepared by Technical Committee CEN/TC 261 “Packaging”, the secretariat of which is held by AFNOR.

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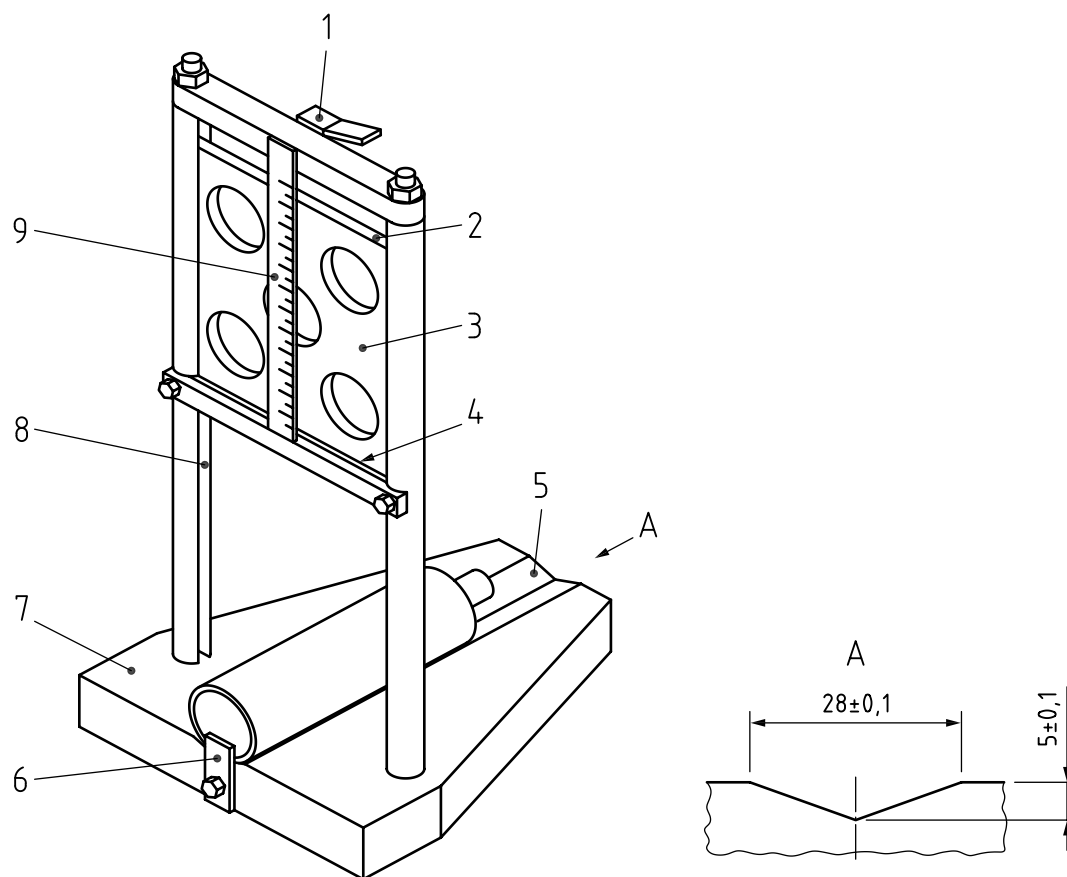
## 1 Scope

This European Standard specifies a method to measure the deformation of the aluminium tube body.

It is applicable to cylindrical aluminium tubes used for packing pharmaceutical, cosmetic, hygiene, food and other domestic and industrial products.

## 2 Testing equipment

The testing equipment (see Figure 1) shall conform to the information given below. Appropriate data should be chosen where no details are given.



### Key

- 1 locking lever for drop weight
- 2 upper edge of drop weight
- 3 drop weight
- 4 lower edge of drop weight burr-free
- 5 prism-shaped support
- 6 limit stop
- 7 base plate
- 8 width of guide groove
- 9 scale

Figure 1 – Test equipment

With the drop weight locked in position (the situation shown), the lower edge of the drop weight is in line with the value '0' on the scale. If the drop weight is released and there is no test piece, the drop weight will rest on the base plate. The upper edge of the drop weight then corresponds to the value '0' on the scale. The scale is 0 mm to 120 mm. The width of the guide groove is  $5,3_0^{+0,2}$  mm.

The height of the fall of the drop weight is  $(115 \pm 1)$  mm. The thickness of the drop weight is  $5_0^{+0,1}$  mm. The total weight is  $(25 \pm 0,1)$  g or  $(75 \pm 0,1)$  g.

The distance between the drop weight and the limit stop is 32 mm.

### 3 Requirements

When carrying out tests according to Clause 4, the deformation values shall conform to the values given in Table 1.

**Table 1 — Deformation values**

Nominal diameter of tube mm	Weight of drop weight g	Deformation values	
		min	max
11	25	1	4
13,5		4	7
16		5	9
19		8	12
22		11	15
25	75	8	13
28		9	14
30		11	17
32		13	20
35		16	24
38		19	27
40		23	31
45		28	36
50		33	43

a) The deformation values are based on tubes with and without internal lacquer. Tighter tolerances are subject to agreement between the producer and the user.

### 4 Execution

Testing is carried out on an empty tube at room temperature. The drop weight having the appropriate test weight for the tube diameter as given in the table is raised until the locking lever engages. The tube to be tested is placed in the prism-shaped support of the base plate in such a way that it abuts against the limit stop. Using the locking lever, the drop weight is released manually so that it drops down. In doing so it compresses the tube being tested by an amount equal to its deformation value. This is read off the scale.

## 5 Test report

The test report shall contain the following information:

- a) reference to this standard and, if necessary, a specification for the method of sampling and acceptance of the batch;
- b) the complete identification of the batch and of the tubes checked;
- c) the date of production;
- d) the number of tubes checked;
- e) the number of defects;
- f) the test result;
- g) all factors which could have affected the results or all operating details not specified in this standard;
- h) date, place of test and name of tester.





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