



SLOVENSKI STANDARD

SIST EN 15421:2008

01-januar-2008

Embalaža - Prožne aluminijaste tube - Ugotavljanje adhezije notranjih in zunanjih zaščitnih lakov

Packaging - Flexible aluminium tubes - Determination of the adhesion of the internal and external protective lacquering

Verpackung - Aluminiumtuben - Bestimmung der Haftfestigkeit des Innen- und Außenschutzlackes

iTeh STANDARD PREVIEW
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Emballage - Tubes souples en aluminium - Détermination de l'adhérence des vernis de protection intérieure et extérieure

[SIST EN 15421:2008](#)

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Ta slovenski standard je istoveten z: EN 15421:2007

ICS:

55.120	Pločevinke. Tube	Cans. Tins. Tubes
77.150.10	Aluminijski izdelki	Aluminium products

SIST EN 15421:2008

en,fr,de

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EUROPEAN STANDARD

EN 15421

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2007

ICS 55.120

English Version

Packaging - Flexible aluminium tubes - Determination of the adhesion of the internal and external protective lacquering

Emballage - Tubes souples en aluminium - Détermination
de l'adhérence des vernis de protection intérieure et
extérieure

Packmittel - Aluminiumtuben - Bestimmung der
Haftfestigkeit des Innen- und Außenschutzlackes

This European Standard was approved by CEN on 7 October 2007.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 15421:2007) has been prepared by Technical Committee CEN/TC 261 "Packaging", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2008, and conflicting national standards shall be withdrawn at the latest by May 2008.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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EN 15421:2007 (E)**1 Scope**

This standard specifies a method for the determination of the adhesion of the internal and external protective lacquer of aluminium tubes.

It is applicable to aluminium tubes that are coated with an internal or external protective lacquer and which are used for packing, e.g. pharmaceutical, cosmetic, hygiene, food and other household products.

2 Principle

By means of a compressing device the tube is compressed to a defined extent and under defined temperature conditions to create a standardized and sharp-edged deformation of the tube. The kinks are checked visually for any cracks and/ or delamination of internal or external lacquer.

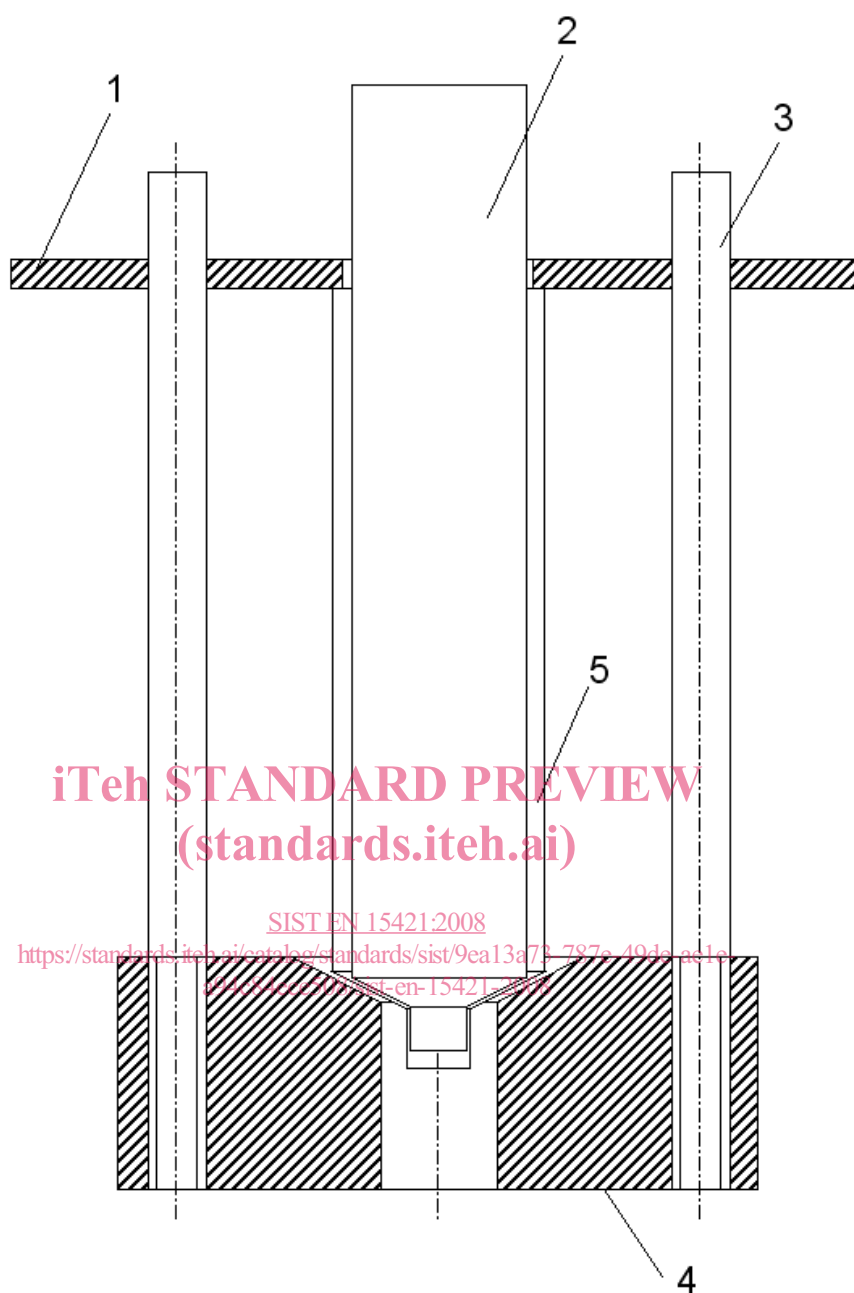
3 Apparatus

Compressing device according to Figure 1 (example).

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**Key**

- 1 Compressing clamp
- 2 Guide pin (for tubes diameter ≤ 19 mm = \varnothing 8 mm, for tubes diameter > 19 mm = \varnothing 15 mm)
- 3 Guide bolt
- 4 Base plate
- 5 Tube

Figure 1 – Test device

EN 15421:2007 (E)**4 Test conditions**

The tests are carried out at a temperature between (23 ± 5) °C.

For testing the adhesive strength of inner and outer protective lacquers of products stored or used under cold conditions, (5 ± 3) °C, the samples have to be stored under the same conditions for at least 2 h prior to testing. The test has to be done immediately after taking the samples out of the refrigerator.

5 Procedure

Insert the tube in the compressing device. In order to keep the tube straight during compression an internal guide pin should be used.

Compress the tube until the tube body is reduced to (15 ± 5) % of the original tube body length.

Remove the crushed tube from the compressing device and stretch it again in the axial direction.

Check the stretched tubes for cracked and detached lacquer parts of the inner and outer protective lacquering. If there are any cracks or detached lacquer parts, the samples have failed.

6 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) Complete identification of the batch and of the tubes checked.
- c) Description and the dimensions of the samples.
- d) Nature of the internal and external protective lacquering.
- e) Test temperature.
- f) Number of samples checked.
- g) Number and description of defects.
- h) If necessary, acceptance or refusal of the batch depending on the specifications.
- i) All factors which could have affected the results or all operating details not specified in this standard.
- j) Date, place of test and name of tester.