

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

## ESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 15421:2021 sisaldab Euroopa standardi EN 15421:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 15421:2021 consists of the English text of the European standard EN 15421:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
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EUROPEAN STANDARD  
NORME EUROPÉENNE  
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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 30 August 2021.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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Contents	Page
European foreword .....	3
1 Scope .....	4
2 Normative references .....	4
3 Terms and definitions.....	4
4 Principle.....	4
5 Apparatus.....	4
6 Test conditions.....	6
7 Procedure.....	6
7.1 Type 1.....	6
7.2 Type 2.....	7
8 Test report.....	7
Bibliography .....	8

## European foreword

This document (EN 15421:2021) 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 April 2022, and conflicting national standards shall be withdrawn at the latest by April 2022.

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

This document will supersede EN 15421:2007.

In comparison with the previous edition, the following technical modifications have been made:

- two types of compression devices have been considered.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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## 1 Scope

This document 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 Normative references

There are no normative references in this document.

## 3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp/ui>

## 4 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.

## 5 Apparatus

Two types of compressing device exist:

- a) Type 1 (according to Figure 1);
- b) Type 2 (according to Figure 2).