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NSAI Standards

Irish Standard
I.S. EN 13048:2009

Packaging - Flexible aluminium tubes - Internal lacquer film thickness measurement method

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W **NSAI.ie**

Sales:
T +353 1 857 6730
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W standards.ie

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E

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EUROPEAN STANDARD

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Supersedes EN 13048:2000

English Version

Packaging - Flexible aluminium tubes - Internal lacquer film thickness measurement method

Emballage - Tubes souples en aluminium - Méthode de détermination de l'épaisseur de vernis intérieur

Packmittel - Aluminiumtuben - Verfahren zur Bestimmung der Dicke des Innenschutzlackes

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Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 13048:2009) 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of an identical text or by endorsement, at the latest by October 2009, and conflicting national standards shall be withdrawn at the latest by October 2009.

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.

This document supersedes EN 13048:2000.

It is based on the professional recommendations of the European Tube Manufacturers Association (ETMA)

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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1 Scope

This document specifies a method for the determination of the thickness of the lacquer film applied inside cylindrical and conical aluminium tubes. The method is a reference. It can also be used as a reference when calibrating other electronic instruments suitable for determining coating weight thickness, e.g. by capacitance measurement by eddy current. It is applicable to aluminium tubes used for packing pharmaceutical, cosmetic, hygiene, food and other domestic products.

NOTE Although not specified in this standard there are available suitable automatic film thickness measurement instruments that provide instantaneous results with good accuracy (< 1µm).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12374:1998, *Packaging – Flexible Tubes – Terminology*

EN ISO 2360:2003, *Non-conductive coatings on non-magnetic electrically conductive basis materials – Measurement of coating thickness – Amplitude-sensitive eddy-current method (ISO 2360:2003)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12374:1998 and EN ISO 2360:2003 apply.

4 Principle

The measurement of the thickness of the lacquer film inside aluminium tubes with a micrometer or dial indicator after separation of the film from the aluminium tube and its enamel decoration by chemical means.

Through a chemical reaction the aluminium is dissolved and hydrogen gas is generated. The internal lacquer film remains intact.

5 Apparatus

5.1 Test measuring and other equipment

a) Micrometer or dial indicator giving a precision of 0,001 mm (1 µm);

b) Oven;

c) Extractor fan;

d) Glass container of a size capable of containing a tube cut as in Figure 1;

e) Scissors;

f) Tweezers;

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