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Packaging - Test method to determine the porosity of the internal coating of flexible aluminium tubes - Part 1: Sodium chloride test

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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.
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ICS 55.120

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 15384-1

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Supersedes EN 15384:2007

English Version

Packaging - Test method to determine the porosity of the internal coating of flexible aluminium tubes - Part 1: Sodium chloride test

Emballage - Méthode d'essai pour déterminer la porosité du revêtement intérieur des tubes souples en aluminium - Partie 1 : Méthode au chlorure de sodium

Packmittel - Prüfverfahren zur Bestimmung der Porosität der Innenbeschichtung von Aluminiumtuben - Teil 1: Natriumchlorid-Verfahren

This European Standard was approved by CEN on 21 November 2016.

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European foreword

This document (EN 15384-1:2017) 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of an identical text or by endorsement, at the latest by July 2017, and conflicting national standards shall be withdrawn at the latest by July 2017.

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1 Scope

This European Standard is applicable for internally coated cylindrical and conical aluminium tubes, mainly used for the packing of pharmaceutical, cosmetic, hygiene, food or other household products.

The internal coating is used as a barrier and should avoid any contact between aluminium and the product. This standard defines the sodium chloride method to detect the electrolyte conductivity as one criterion for the quality of the internal coating.

NOTE The electrolyte conductivity of the internal coating is only one criterion for evaluation of the quality of an internal coating. It does not give any information on the quantity or size of any pores or uncoated areas, nor any hint on possible reactions between the aluminium tube and the product.

The electrolyte conductivity should never be used as the sole criterion for quality evaluation of the internal coating, but always with other parameters e.g. film thickness, acetone and/or ammonia resistance and of course results of enhanced stability studies.

2 Principle

The electrolyte conductivity of internally coated aluminium tubes is tested by an enamel conductometer. The aluminium tubes are filled with an electrolyte solution up to a fixed level at its open end. One electrode is connected to the tube nozzle, the second electrode is dipped into the solution. A defined voltage is applied for a fixed time. The induced current is a measure for the quality (pores and/or film thickness) of the internal coating.

3 Apparatus

3.1 Enamel conductometer

3.2 Moveable electrode

3.3 Electrolyte

NOTE A schematic diagram of the test equipment is given in Figure 1.

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