

Roll containers - Part 3: Test methods

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 12674-3:2004 sisaldab Euroopa standardi EN 12674-3:2004 + AC:2006 ingliskeelset teksti. Käesolev dokument on jõustatud 21.12.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 12674-3:2004 consists of the English text of the European standard EN 12674-3:2004 + AC:2006. This document is endorsed on 21.12.2004 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: This European Standard covers the load testing of roll containers and dollies for safety, fitness for purpose and the development of new designs	Scope: This European Standard covers the load testing of roll containers and dollies for safety, fitness for purpose and the development of new designs
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ICS 55.180.10

Võtmesõnad: design, fitness for purpose, foldable, impact tests, means of transport, operating requirements, rigidity, roll containers, safety, stackable, stiffness, strength of materials, testing, transport packing, transportation safety, types, welded joints, vocabulary

ICS 55.180.10

English version

Roll containers - Part 3: Test methods

Conteneurs à roulettes - Partie 3: Méthodes d'essai

Rollbehälter - Teil 3: Prüfverfahren

This European Standard was approved by CEN on 16 August 2004.

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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 Central Secretariat has the same status as the official versions.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document (EN 12674-3:2004) 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 2005, and conflicting national standards shall be withdrawn at the latest by April 2005.

This draft document is part of a series of 4 documents for roll containers, other parts are titled as follows:

Roll containers - Part 1: Terminology

Roll containers - Part 2: General design and safety principles

Roll containers - Part 4: Performance requirements

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

Introduction

Roll containers and dollies are equipment intended for moving goods. They comprise apparatus fitted with wheels and/or castors. For roll containers the superstructure comprises two or more frames which provide retention for items requiring transportation and/or distribution.

Dollies can be supplied in a variety of materials and additionally roll containers are supplied in four main styles. One of these styles, the Nesting style, is further sub-divided into five derived forms and the Demountable style is sub-divided into 2 derived forms. Part 1 of this document, Terminology, gives details of how these styles differ. Part 2 - General design and safety principles gives methods of measuring working dimensions and aspects of design that manufacturers need to be aware of. The test methods given in this Part 3 are supported by performance levels in Part 4 which take account of the normal static and dynamic loads applied in use.

This Part 3 of the document sub-divides into 3 classes of tests. Clause 4.2 contains the main safety and performance tests for complete roll containers or dollies. Clause 4.3 contains tests on component parts of roll containers and dollies and is intended for quality control purposes. Annex A (informative) covers tests requiring further industry development, which are not yet sufficiently defined to go into the normative section.

In general the earlier tests are intended to be the most stringent in order to achieve early failure in inadequate roll container or dolly designs to cut down on time of design and development. As these tests are type tests and not proof tests, untested roll containers are used for each test rather than risking accumulated damage affecting subsequent results. This will result in a better understanding of weak design features and the exact mechanical cause of each failure. There is no intention in this document to test for the effects of long-term roll container or dolly wear by using extended or cyclic repeat tests other than the tests in 4.3 on steel welds where the principal objective is to examine fatigue.

1. Scope

This document covers the load testing of roll containers and dollies for safety, fitness for purpose and the development of new designs.

All designs, styles and derived forms of roll containers and dollies intended for fitment of sides or not are subject to certain of the tests in Part 3, as stipulated in Part 4. Also included in the scope are roll containers partly made from non-metallic materials, such as plastic or plywood.

Dollies are subject to a more limited range of these tests as stipulated in Part 4.

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 12674-1:1999, *Roll containers - Part 1: Terminology*

3. Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12674-1:1999 and the following apply.

3.1

line of tilt,

axis in the horizontal plane about which an unstable roll container or dolly will eventually topple (shown as xx in Figure 2)

3.2

angle of tilt α

angle measured against the major horizontal axis of the length or width (as defined in Part 2) of the roll container and the line of tilt (shown as α in Figure 2)

3.3

angle of inclination β

angle in a vertical plane, normal to the line of tilt, at which the roll container becomes unstable and topples sideways (shown as β in Figures 1a and 1b)

3.4

optimum castor start position

orientation with the castor arranged in the normal trailing (running) position

3.5

transverse 90 castor start position

orientation with the castor arranged at 90 degrees to the trailing (running) position

NOTE

This will be pointing outwards on the right hand side of a roll container, inwards on the left hand side of a roll container

3.6

adverse castor start position

orientation with the castor arranged at 180 degrees to the trailing (running) position

3.7

transverse 270 castor start position

orientation with the castor arranged at 270 degrees to the trailing (running) position