TECHNICAL REPORT

ISO/TR 15069

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Series 1 freight containers — Handling and securing — Rationale for ISO 3874:2017, Annexes A to E

Conteneurs de la série 1 — Manutention et fixation — Complément aux annexes A à E de l'ISO 3874

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 104, *Freight containers*, Subcommittee SC 1, *General purpose containers*.

This second edition cancels and replaces the first edition (ISO/TR 15069:1997), which has been technically revised. The main changes compared to the previous edition are as follows:

— old subclause 4.1 has been removed, as definitions are contained in ISO 3874;

— the header of subclause 4.2 has been amended to the more specific “Dimensions for manual and semi-automatic twistlocks”;

— new sub-clauses 4.3, 4.4.1 and 4.4.2 have been added.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The methods of handling and securing series 1 freight containers built and tested in accordance with the latest editions of the ISO 1496 series are specified in ISO 3874.

This document is published in the form of a Technical Report with the intention of providing the technical and operational background to the requirements specified in ISO 3874:2017, Annexes A to E.

Dimensions, tolerances and strength requirements noted in ISO 3874 and this document were validated against the approved Container Securing Manual for the largest vessels afloat at the time namely the Maersk Line "Triple E" class.

Noting that ISO 17905:2015 was published early in the period of revision, it was decided, in order to avoid conflicting data, to adopt the strength requirements therein directly in this version of ISO 3874. Items not in common use were removed from the tables before inclusion in ISO 3874.

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Series 1 freight containers — Handling and securing — Rationale for ISO 3874:2017, Annexes A to E

1 Scope

This document gives the background to the requirements specified in ISO 3874:2017, Annexes A to E.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 830, *Freight containers — Vocabulary*

ISO 3874:2017, *Series 1 freight containers — Handling and securing*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 830 and ISO 3874:2017 apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Twistlocks

4.1 General

New definitions were introduced in ISO 3874:2017 based on the terms commonly used by the manufacturer's representatives in the expert working group to describe the products currently on the market: Fully automatic twistlocks (FAT), Automatic Container Locks (AL) and Midlocks.

All types of lock as defined in ISO 3874 are referred to by the more general term "twistlock" in this document.

4.2 Dimensions for manual and semi-automatic twistlocks

4.2.1 Top and bottom cones

The top and bottom cones have been designed so that the load-carrying area, in a fully locked position, in an ISO 1161 corner fitting, is larger than 800 mm^2.

The load-carrying area 800 mm^2 is taken from ISO 1161, minimum bearing area, BS 5237 and SIS 842105.

JIS Z 1617, has no requirement on load-carrying area, but the twistlock itself has the same dimensions as those given in ISO 3874, BS 5237 and SIS 842105.

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