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BSI Standards Publication

## **Packaging — Test methods and requirements to demonstrate that plastic caps and lids remain attached to beverage containers**

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## National foreword

This British Standard is the UK implementation of EN 17665:2022.

The UK participation in its preparation was entrusted to Technical Committee PKW/0/-/10, Packaging - Plastics.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Published by BSI Standards Limited 2022

ISBN 978 0 539 15158 9

ICS 55.100

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 September 2022.

### Amendments/corrigenda issued since publication

Date	Text affected
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## EUROPÄISCHE NORM

September 2022

ICS 55.100

English Version

## Packaging - Test methods and requirements to demonstrate that plastic caps and lids remain attached to beverage containers

Emballage - Méthodes d'essai et exigences pour démontrer que les bouchons et les couvercles en plastique restent attachés aux récipients pour boissons

Verpackung - Prüfverfahren und Anforderungen die nachweisen, dass Kunststoffverschlüsse von Einweggetränkebehältern mit einem Fassungsvermögen von bis drei Litern während der vorgesehenen Verwendungsdauer am Behälter befestigt bleiben

This European Standard was approved by CEN on 24 July 2022.

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

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (EN 17665:2022) 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 March 2023, and conflicting national standards shall be withdrawn at the latest by March 2023.

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 has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association.

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.

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

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## Introduction

The Directive (EU) 2019/904 “on the reduction of the impact of certain plastic products on the environment” introduces the requirement that plastic caps and lids of single-use plastic beverage containers and composite beverage packaging up to 3 litres capacity shall remain attached to the container during the intended use stage.”

This document was developed with the principal objective of:

- Characterizing the attachment of the cap or lid to the container by a minimum resistance to a tensile force and the ability to remain attached to the container over the products intended use stage.
- Defining the test methods and performance criteria to ensure that the beverage container has met legal requirements.
- Ensuring that safety aspects of the attachment feature have been considered.

The intended use stage of the product infers that the attachment feature must resist normal handling of the cap or lid by the consumer to access the contents and, if necessary, reclose the container for subsequent further servings of the beverage. Intentional forced separation of the cap from the container will always be possible and is formally excluded from “intended use” as considered in this document.

The development of this document takes into account the necessity not to undermine the requirements of the Packaging and Packaging Waste Directive (94/62/EC) and its amendments in particular terms of:

- Prevention, limiting the packaging volume and weight to the minimum adequate amount to maintain the necessary functionality, by avoiding the use of excessive material.
- Recyclability and recycling capability.

In the course of the development of this document it was identified that the attachment of caps and lids to the container may interfere with established and efficient plastic bottle recycling equipment, particularly if attached caps or lids hang loose. This aspect is outside of the scope of this document, but it is recommended that the user takes into consideration best practice guidelines established by the stakeholders.

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## 1 Scope

This document specifies the requirements and test methods to demonstrate that plastic caps and lids of single-use beverage containers with a capacity of up to three litres remain attached to the container during the product's intended use stage. This document also addresses the need to ensure the necessary strength, reliability and safety of beverage container closures, including those for carbonated drinks.

This document applies to the strength, reliability and safety impacted by the attachment features and does not apply to the overall closure system.

## 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/IEC GUIDE 51:2014, *Safety aspects — Guidelines for their inclusion in standards*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC GUIDE 51:2014 and the following apply.

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

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

### 3.1

#### **attachment feature**

physical link maintained between the cap or lid and the container during the intended use stage

### 3.2

#### **neck finish**

specific part of a container which forms the opening, manufactured with a defined geometry to accommodate the corresponding closure (cap, lid or other form of seal) and tamper-evidence feature if appropriate

### 3.3

#### **intended use stage**

opening in a normal way, consuming the contents, closing in a normal way, potentially multiple times, followed by proper disposal

Note 1: Intended use excludes intentional forced separation by the consumer for whatever reason.

Note 2: Proper disposal excludes littering.

### 3.4

#### **strength**

ability of the product to withstand forces that occur during the product's intended use stage

### 3.5

#### **reliability**

quality of the product to perform consistently well during the product's intended use stage