TORNKRAANAD. KOKKUPÕRKEVASTASED SÜSTEEMID. OHUTUSNÕUDED

Tower cranes - Anti-collision systems - Safety requirements

EESTI STANDARDIMIS- JA AKREDITEERIMISKESKUS
ESTONIAN CENTRE FOR STANDARDISATION AND ACCREDITATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 17076:2020+A1:2025 sisaldab Euroopa standardi EN 17076:2020+A1:2025 ingliskeelset teksti.	This Estonian standard EVS-EN 17076:2020+A1:2025 consists of the English text of the European standard EN 17076:2020+A1:2025.
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 and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 18.06.2025.	Date of Availability of the European standard is 18.06.2025.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 53.020.20

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 17076:2020+A1

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Supersedes EN 17076:2020

English Version

Tower cranes - Anti-collision systems - Safety requirements

Grues à tour - Systèmes anti-collision - Prescriptions de sécurité

Turmdrehkrane - Antikollisionssysteme - Sicherheitstechnische Anforderungen

This European Standard was approved by CEN on 21 September 2020 and includes Amendment 1 approved by CEN on 4 May 2025.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of 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 United Kingdom.

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

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European foreword

This document (EN 17076:2020+A1:2025) has been prepared by Technical Committee CEN/TC 147 “Cranes - Safety”, the secretariat of which is held by [A1] SFS [/A1].

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 December 2025, and conflicting national standards shall be withdrawn at the latest by December 2025.

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.

[A1] This document supersedes EN 17076:2020.

The major changes in comparison with the previous version are the following:

— update of 5.1.1, "Components of anti-collision devices and systems";

— modification of 6.2, “Normal operation mode of an anti-collision device”;

— modification of 6.9, “Outside indicators”;

— modification of Clause 7, “Verification of the safety requirement and/or protective measures. [/A1]

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A1] [/A1].

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of of this document.

To select a suitable set of standards for a given application, see Annex A.

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.

Introduction

This document has been prepared to be a harmonized standard to provide one means for the mechanical design and theoretical verification of cranes to conform with the essential health and safety requirements of the Machinery Directive 2006/42/EC modified.

This document is a type C standard as stated in ⟦A1⟩ EN ISO 12100:2010 ⟨A1⟧.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this standard.

⟦A1⟩ This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

— machine manufacturers (small, medium and large enterprises);

— health and safety bodies (regulators, accident prevention organizations, market surveillance, etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

— machine users/employers (small, medium and large enterprises);

— machine users/employees (e.g. trade unions, organizations for people with special needs);

— service providers, e.g. for maintenance (small, medium and large enterprises);

— consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate in the drafting process of this document. ⟨A1⟧

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

1 Scope

A1 This document specifies the safety characteristics and the requirements:

— of anti-collision devices and systems intended for installation on self-erecting tower cranes and tower cranes erected from parts for construction work (as defined in EN 14439:2006+A2:2009) to avoid:

  — the risks of collision between several cranes;

  — the risks of collision between a crane in service and fixed obstacles;

  — travelling over prohibited zones;

— of working range limiting devices.

NOTE Anti-collision devices and systems and working range limiting devices according to this document are safety components.

This document deals with all significant hazards, hazardous situations and events relevant to anticollision devices and systems installed on tower cranes, when used as intended and under conditions foreseen by the manufacturer. This document specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards (see Clause 4).

This document is not applicable to anti-collision devices and systems which are manufactured before the date of publication by CEN of this document. A1

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.

EN 13557:2003+A2:2008, *Cranes — Controls and control stations*

EN 14439:2006+A2:2009, *Cranes — Safety — Tower cranes*

EN 60204-32:2008, *Safety of machinery — Electrical equipment of machines — Part 32: Requirements for hoisting machines (IEC 60204-32:2008)*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13849-1:2015, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2015)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology 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/