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BSI Standards Publication

## Steel wire ropes — Safety

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Part 5: Stranded ropes for lifts

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## National foreword

This British Standard is the UK implementation of EN 12385-5:2021, incorporating corrigendum November 2021. It supersedes BS EN 12385-5:2002, which is withdrawn.

The start and finish of text introduced or altered by corrigendum is indicated in the text by tags. Text altered by CEN corrigendum November 2021 is indicated in the text by **AC** **AC**.

The UK participation in its preparation was entrusted to Technical Committee MHE/2, Wire ropes.

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

This publication has been prepared under a mandate given to the European Standards Organizations by the European Commission and the European Free Trade Association. It is intended to support requirements of the EU legislation detailed in the European Foreword. A European Annex, usually Annex ZA or ZZ, describes how this publication relates to that EU legislation.

For the Great Britain market (England, Scotland and Wales), if UK Government has designated this publication for conformity with UKCA marking (or similar) legislation, it may contain an additional National Annex. Where such a National Annex exists, it shows the correlation between this publication and the relevant UK legislation. If there is no National Annex of this kind, the relevant Annex ZA or ZZ in the body of the European text will indicate the relationship to UK regulation applicable in Great Britain. References to EU legislation may need to be read in accordance with the UK designation and the applicable UK law. Further information on designated standards can be found at [www.bsigroup.com/standardsandregulation](http://www.bsigroup.com/standardsandregulation).

For the Northern Ireland market, UK law will continue to implement relevant EU law subject to periodic confirmation. Therefore Annex ZA/ZZ in the European text, and references to EU legislation, are still valid for this market.

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#### **Amendments/corrigenda issued since publication**

Date	Text affected
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## EUROPÄISCHE NORM

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English Version

**Steel wire ropes - Safety - Part 5: Stranded ropes for lifts**

Câbles en acier - Sécurité - Partie 5 : Câbles à torons  
pour ascenseurs

Drahtseile aus Stahldraht - Sicherheit - Teil 5:  
Litzenseile für Aufzüge

This European Standard was approved by CEN on 15 February 2021 and includes the Corrigendum issued by CEN on 10 November 2021.

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.

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**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## European foreword

This document (EN 12385-5:2021+AC:2021) has been prepared by Technical Committee CEN/TC 168, "Chains, ropes, webbing, slings and accessories – Safety", the secretariat of which is held by BSI.

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 September 2021 and conflicting national standards shall be withdrawn at the latest by September 2021.

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 supersedes EN 12385-5:2002.

This document includes the corrigendum EN 12385-5:2021/AC:2021 issued by CEN on 10 November 2021, which replaces typical examples for ropes "6 x 9 W" with "6 x 19 W" in Table 6 and "6 x 6 WS" with "6 x 36 WS" in Table 9.

The start and finish of text introduced or altered by corrigendum is indicated in the text by tags AC AC.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA and Annex ZB, which are integral parts of this document.

This document includes amendment to Annex ZB – Machinery Directive related – and inclusion of Annex ZA – Lift Directive related.

The other Parts of EN 12385 are:

- *Part 1: General requirements;*
- *Part 2: Definitions, designation and classification;*
- *Part 3: Information for use and maintenance;*
- *Part 4: Stranded ropes for general lifting applications;*
- *Part 6: Stranded ropes for mine shafts;*
- *Part 7: Locked coil ropes for mine shafts;*
- *Part 8: Stranded hauling and carrying-hauling ropes for cableway installations designed to carry persons;*
- *Part 9: Locked coil carrying ropes for cableway installations designed to carry persons;*
- *Part 10: Spiral ropes for general structural applications.*

Part 1 provides the general requirements of Parts 4 to 10.

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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, Turkey and the United Kingdom.

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## **Introduction**

This document is a type C standard as stated in EN ISO 12100.

This document has been prepared to be a harmonized standard to provide a means of complying with the essential safety requirements of the Lifts Directive and the Machinery Directive.

During the preparation of this standard, it was assumed that a negotiation would take place between the purchaser and the manufacturer concerning the intended purpose of the rope.

Although tables of breaking forces and masses are provided for a number of the more common classes, diameters and rope grades, this Part of this standard is not limited to those given, providing all of the other requirements are met.

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 wire ropes that have been designed and produced according to the provisions of this type C standard.

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## 1 Scope

This document specifies the particular materials, manufacturing and testing requirements for stranded ropes for suspension, compensating and governor duties for traction drive and hydraulic lifts moving between guides and similar applications.

The particular hazards covered by this Part are identified in Clause 4.

This document does not establish requirements for information for use other than those given in Clause 7 of Part 1. Neither does it cover the requirements for ropes fitted with terminations.

Minimum breaking force values for the more common classes, sizes and grades of rope are provided in Tables 6 to 10.

## 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 10264-2:2012, *Steel wire and wire products — Steel wire for ropes — Part 2: Cold drawn non alloy steel wire for ropes for general applications*

EN 12385-1:2002+A1:2008, *Steel wire ropes — Safety — Part 1: General requirements*

EN 12385-2:2002+A1:2008, *Steel wire ropes — Safety — Part 2: Definitions, designation and classification*

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

ISO 4346:1977, *Steel wire ropes for general purposes — Lubricants — Basic requirements*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and EN 12385-2:2002+A1:2008 apply.

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

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

## 4 List of hazards

In addition to the general hazards identified in Clause 4 of Part 1, Table 1 contains all the particular hazards which require action to reduce risk as being specific and significant for steel wire ropes for lifts.