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Third edition
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Steel wire ropes for lifts — Minimum requirements

Câbles en acier pour ascenseur — Exigences minimales

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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 105, *Steel wire ropes*.

This third edition cancels and replaces the second edition (ISO 4344:2004), which has been technically revised.

The main changes are as follows:

— added more rope grades commonly used in lifts and deleted rope grades rarely used in lifts;

— added more rope constructions commonly used in lifts;

— revised the requirement of lubricant content for rope cores;

— added the requirement of lubricant content for strands;

— revised diameter tolerances of steel core ropes;

— added the requirement of tensile strength for wires after rope making;

— added the information for rope selection, installation and maintenance;

— revised rope discard criteria.

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.

Introduction

This document was developed in response to a worldwide demand for a specification giving minimum requirements for ropes for use on lifts.

It is desirable in such cases that the equipment designer, rope manufacturer or other competent person be consulted prior to ordering a rope.

This document does not limit itself to those classes and constructions covered by the tables.

Other stranded rope constructions may also conform to the minimum requirements, and in such cases the manufacturer would specify the minimum breaking force and rope grade.

Steel wire ropes for lifts — Minimum requirements

1 Scope

This document specifies the minimum requirements for the manufacture and testing of stranded carbon steel wire ropes for lifts, made from bright and galvanized wire finish in various constructions from 6 mm to 38 mm diameter.

It is applicable to ropes used for suspension duty on traction drive and roped hydraulic lifts, and for compensation and governor duties on passenger lifts, freight lifts, service lifts, and man lifts moving between guides.

It is not applicable to ropes for

— builder's hoists,

— temporary hoists not running between permanent guides,

— cable-ways,

— mine hoists.

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 2232, *Round non-alloy steel wires for general purpose wire ropes, large diameter wire ropes and mine hoisting wire ropes —Specifications*

ISO 3108, *Steel wire ropes — Test method — Determination of measured breaking force*

ISO 4101, *Drawn steel wire for elevator ropes — Specifications*

ISO 4345:1988, *Steel wire ropes — Fibre main cores — Specification*

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

ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature*

ISO 17893, *Steel wire ropes — Vocabulary, designation and classification*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 17893 and the following 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/

3.1
composite steel core
CSC
wire rope core which is made of steel wires plus a fibre or polymer core