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Cranes and hoists — Selection of wire ropes, drums and sheaves

Appareils de levage à charge suspendue — Choix des câbles, tambours et poulies

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Foreword

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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. www.iso.org/directives

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

The committee responsible for this document is ISO/TC 96, *Cranes*, Subcommittee SC 3, *Selection of wire ropes*.

This first edition of ISO 16625 cancels and replaces ISO 4308-1:2003, ISO 4308-2:1988 and ISO 8087:1985, of which it constitutes a technical revision.

Cranes and hoists — Selection of wire ropes, drums and sheaves

1 Scope

This International Standard specifies the minimum practical design factors, Z_p, for the various classifications of mechanism, rope types, rope duties and types of spooling and demonstrates how these are used in the determination of the minimum breaking force of the wire rope.

It specifies the selection factors for drums and sheaves for the various classifications of mechanisms, rope types and rope duties and how these are used in the determination of the minimum practical diameters of drums and sheaves that work in association with the selected wire rope.

A list of types of cranes and hoists to which this standard applies is given in Annex A.

Annex B gives factors, additional to those mentioned above, which might need consideration when selecting the wire rope and associated equipment.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2408, *Steel wire ropes for general purposes — Minimum requirements*

ISO 4301-1:1986, *Cranes and lifting appliances — Classification — Part 1: General*

ISO 4306-1, *Cranes — Vocabulary — Part 1: General*

ISO 4309, *Cranes — Wire ropes — Care and maintenance, inspection and discard*

ISO 10425, *Steel wire ropes for the petroleum and natural gas industries — Minimum requirements and terms of acceptance*

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 4306-1 and ISO 17893 apply.

NOTE 1 In this document, "single-layer ropes" and "parallel-closed ropes", as defined in ISO 17893, are referred to as "standard ropes" to distinguish them from "rotation-resistant ropes".

NOTE 2 Single-layer ropes and parallel-closed ropes are also sometimes referred to as "*non*-rotation-resistant ropes".

4 Group classification of the mechanism as a whole

The resulting classification of mechanism (M4, M5, etc.) shall be taken into account when establishing the minimum design factor and the minimum drum and sheave sizes.