# INTERNATIONAL STANDARD

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# Forged steel eyebolts grade 4 for general lifting purposes

Anneaux à tige de classe 4 en acier forgé pour applications générales de levage



Reference number ISO 3266:2010(E)

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## Foreword

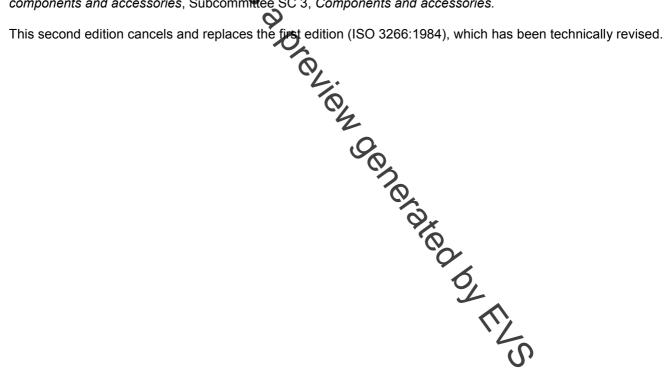
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ISO 3266 was prepared by Technicat Committee ISO/TC 111, Round steel link chains, chain slings, components and accessories, Subcommittee SC 3, Components and accessories.



# Introduction

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

The equipment concerned as well as the extent to which hazards, hazardous situations and hazardous events are covered are indicated in the scope of this International Standard.

The equipment concerned as well as the extent to which Hazardous studentions and Hazardous events are covered are indicated in the scope of this International Standard. When provisions of this type-C standard are different from those which are stated in type-A or type-B standards, the provisions of this type-C standard take precedence over the provisions of the other standards, for equipment that have been designed and built according to the provisions of this type-C standard.

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# Forged steel eyebolts grade 4 for general lifting purposes

### 1 Scope

This International standard specifies the general characteristics, performance and critical dimensions necessary for interchangeability and compatibility with other components, of forged steel eyebolts grade 4 for general lifting purposes. These eyebolts can be used for axial and inclined loading.

This International Standard specifies the dimensions of the eyes of eyebolts permitting direct connection with shackles of the same working load limit as those defined in ISO 2415. These dimensions also allow designs with a larger eye which can permit direct connection with sling hooks of similar working load limit.

This International Standard covers all significant hazards, hazardous situations and events relevant to eyebolts grade 4 as defined in Clause 4.

This International Standard is applicable to eyebolts grade 4 for use in the temperature range of -20 °C to 200 °C.

This International Standard is not applicable Devebolts which are not forged in one piece.

This International Standard is not applicable to forced steel eyebolts grade 4 manufactured before the date of its publication as an International Standard.

#### 2 Normative references

The following referenced documents are indispensable for the application 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 148-1, Metallic materials — Charpy pendulum impact test — Party Test method

ISO 148-2, Metallic materials — Charpy pendulum impact test — Part 2. Verification of testing machines

ISO 261, ISO general purpose screw threads — General plan

ISO 643, Steels — Micrographic determination of the apparent grain size

ISO 965-1, ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data

ISO 6506-1, Metallic materials — Brinell hardness test — Part 1: Test method

ISO 6508-1, *Metallic materials* — Rockwell hardness test — Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)

ISO 7500-1:2004, Metallic materials — Verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Verification and calibration of the force-measuring system

ISO/IEC 17025, General requirements for the competence of testing and calibration laboratories

EN 10228-1, Non-destructive testing of steel forgings — Part 1: Magnetic particle inspection

EN 10228-2, Non-destructive testing of steel forgings - Part 2: Penetrant testing

#### **Terms and definitions** 3

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

#### 3.1

#### nominal size

thread size diameter of the thread, d, of an eyebolt size related to the nominal

#### 3.2

#### working load limit

WLL

maximum mass that an eyebolt is authorized to sustain along its centreline axis in general lifting service

#### 3.3

#### traceability code

series of letters and/or numbers marked an eyebolt that enables its manufacturing history, including the identity of the cast of steel used, to be traced

#### 3.4

#### proof force

force applied to the eyebolt during the manufacturing proof test

#### 3.5

#### breaking force

the eyebolt at which the eyebolt fails to retain the load maximum force reached during the static tensile test of

#### 3.6

#### axial loading

 $F_{a}$ 

loading along the centreline axis of the eyebolt

See Figure 1.

#### 3.7

#### inclined loading

 $F_{\beta}$ 

loading at an angle  $\beta$  to the centreline axis

See Figure 1.

#### 3.8

#### lot

- Generated by FL/cr specified number of eyebolts from which samples are selected for testing purposes and which have been manufactured from the same cast of steel and subjected to the same heat treatment

NOTE Adapted from ISO 8539:2009, definition 3.6.