
Forged steel eyebolts grade 4 for general lifting purposes

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



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

This document is a preview generated by EVS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2010

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 List of significant hazards	4
5 Dimensions and tolerances	4
6 Screw threads	6
7 Workmanship	7
8 Material	7
9 Heat treatment.....	8
10 Hardness.....	8
11 Mechanical properties.....	8
12 Type test	8
13 Manufacturing tests.....	10
14 Marking	11
15 Manufacturer's declaration.....	12
16 Information for use	12
Annex A (informative) Recommendations for the selection, care and use of eyebolts.....	13
Bibliography	16

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

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

This second edition cancels and replaces the first edition (ISO 3266:1984), which has been technically revised.

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.

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.

This document is a preview generated by EVS

This document is a preview generated by EVS

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 $-20\text{ }^{\circ}\text{C}$ to $200\text{ }^{\circ}\text{C}$.

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

This International Standard is not applicable to forged 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 — Part 1: 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*

3 Terms and definitions

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

3.1

nominal size

thread size

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

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 on 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

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

3.6

axial loading

F_a

loading along the centreline axis of the eyebolt

See Figure 1.

3.7

inclined loading

F_β

loading at an angle β to the centreline axis

See Figure 1.

3.8

lot

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.