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**Forged shackles for general lifting  
purposes — Dee shackles and bow  
shackles**

*Manilles forgées pour levage — Manilles droites et manilles lyres*



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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](http://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](http://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](http://www.iso.org/iso/foreword.html).

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

This fourth edition cancels and replaces the third edition (ISO 2415:2004), which has been technically revised.

The main changes are as follows:

- modification of the grades to 6, 8 and 10;
- corresponding adaption of preferred dimensions, heat treatment and mechanical requirements;
- selective method to ensure product material toughness; and
- including the guidance for safe use of shackles in [Annex B](#).

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](http://www.iso.org/members.html).

# Forged shackles for general lifting purposes — Dee shackles and bow shackles

## 1 Scope

This document specifies the general characteristics of forged dee and bow shackles in a range of sizes having working load limits from 0,5 t to 120 t and in grades 6, 8 and 10, and presents their performance and preferred dimensions necessary for their interchangeability and compatibility with other components for use in the temperature range of -20 °C to 200 °C.

## 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 148-1, *Metallic materials — Charpy pendulum impact test — Part 1: Test method*

ISO 261, *ISO general purpose metric screw threads — General plan*

ISO 263, *ISO inch screw threads — General plan and selection for screws, bolts and nuts — Diameter range 0,06 to 6 in*

ISO 3452-1, *Non-destructive testing — Penetrant testing — Part 1: General principles*

ISO 9934-1, *Non-destructive testing — Magnetic particle testing — Part 1: General principles*

ISO 7500-1, *Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system*

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.

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

#### **shackle**

component consisting of two readily separable parts, the *body* (3.2) and the *pin* (3.5)

### 3.2

#### **body**

one of the two parts of a *shackle* (3.1), consisting of a bar of suitable cross section formed or forged to the appropriate shape and terminating in coaxial *eyes* (3.4)

### 3.3

#### **crown**

part of the *shackle* (3.1) body opposite the *pin* (3.5)