

Fourth edition
2022-07

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

Manilles forgées pour levage — Manilles droites et manilles lyres



Reference number
ISO 2415:2022(E)

© ISO 2022



COPYRIGHT PROTECTED DOCUMENT

© ISO 2022

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

This is a preview of ISO 2415:2022. Click [here](#) to purchase the full version from the ANSI store.

Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Form and dimensions	3
4.1 Dee shackles.....	3
4.2 Bow shackles.....	3
4.3 Hole diameter.....	5
4.4 Types of shackle pin.....	5
5 Mechanical properties	7
5.1 General.....	7
5.2 Deformation resistance test.....	7
5.3 Breaking force.....	8
5.4 Fatigue resistance.....	8
6 Material	8
6.1 General.....	8
6.2 Grade.....	9
6.3 Specific requirements.....	9
6.4 Charpy impact test.....	9
7 Heat treatment	10
7.1 Grades 6, 8 and 10.....	10
8 Workmanship	10
8.1 Manufacture.....	10
9 Screw threads	11
10 Type testing	11
10.1 General.....	11
10.2 Deformation resistance test.....	12
10.3 Breaking force test.....	12
10.4 Fatigue test.....	12
10.5 Charpy impact test.....	12
10.6 Acceptance criteria for type testing.....	12
10.6.1 Deformation resistance test.....	12
10.6.2 Static strength test and fatigue test.....	12
10.6.3 Charpy impact test.....	13
11 Manufacturing testing	13
11.1 Visual examination.....	13
11.2 Proof force test.....	13
11.3 Hardness testing.....	13
11.4 Non-destructive testing.....	13
12 Marking	14
12.1 Shackle body.....	14
12.2 Shackle pins.....	14
13 Manufacturer's certificate	14
14 Instructions for use	15
Annex A (informative) Designation	16
Annex B (informative) Safe use of shackles	17
Bibliography	24

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 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.