
**Leaf chains, clevises and sheaves —
Dimensions, measuring forces, tensile
strengths and dynamic strengths**

*Chaînes de levage à mailles jointives, chapes et galets de renvoi —
Dimensions, forces de mesurage, forces de résistances à la traction et
forces de résistances dynamique*

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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).

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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/TC 100, *Chains and chain sprockets for power transmission and conveyors*.

ISO 4347:2015

This fifth edition cancels and replaces the fourth edition (ISO 4347:2004), which has been technically revised. This edition specifies the minimum dynamic strength of the chains.

Introduction

This International Standard includes two series of chains: one derived from the ISO 606 A/ASME B29.8 series, designated by the symbol “LH” or “BL”; the other derived from the ISO 606 B series, designated by the symbol “LL”.

In [Table 1](#) and [Table 2](#), requirements for minimum dynamic strengths are specified. See informative [Annex A](#) for calculation details.

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Leaf chains, clevises and sheaves — Dimensions, measuring forces, tensile strengths and dynamic strengths

1 Scope

This International Standard specifies the characteristics of chains used for general lifting purposes, together with the rim profiles of sheaves and the chain attachment ends of clevises. It gives dimensions, limits for interchangeability, length measurement, preloading, minimum tensile strengths and minimum dynamic strengths.

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 606, *Short-pitch transmission precision roller and bush chains, attachments and associated chain sprockets*

ISO 15654¹⁾, *Fatigue test methods for transmission precision roller chains and leaf chains*

ASME²⁾ B29.8, *Leaf chains, clevises and sheaves*

3 Chains

ISO 4347:2015

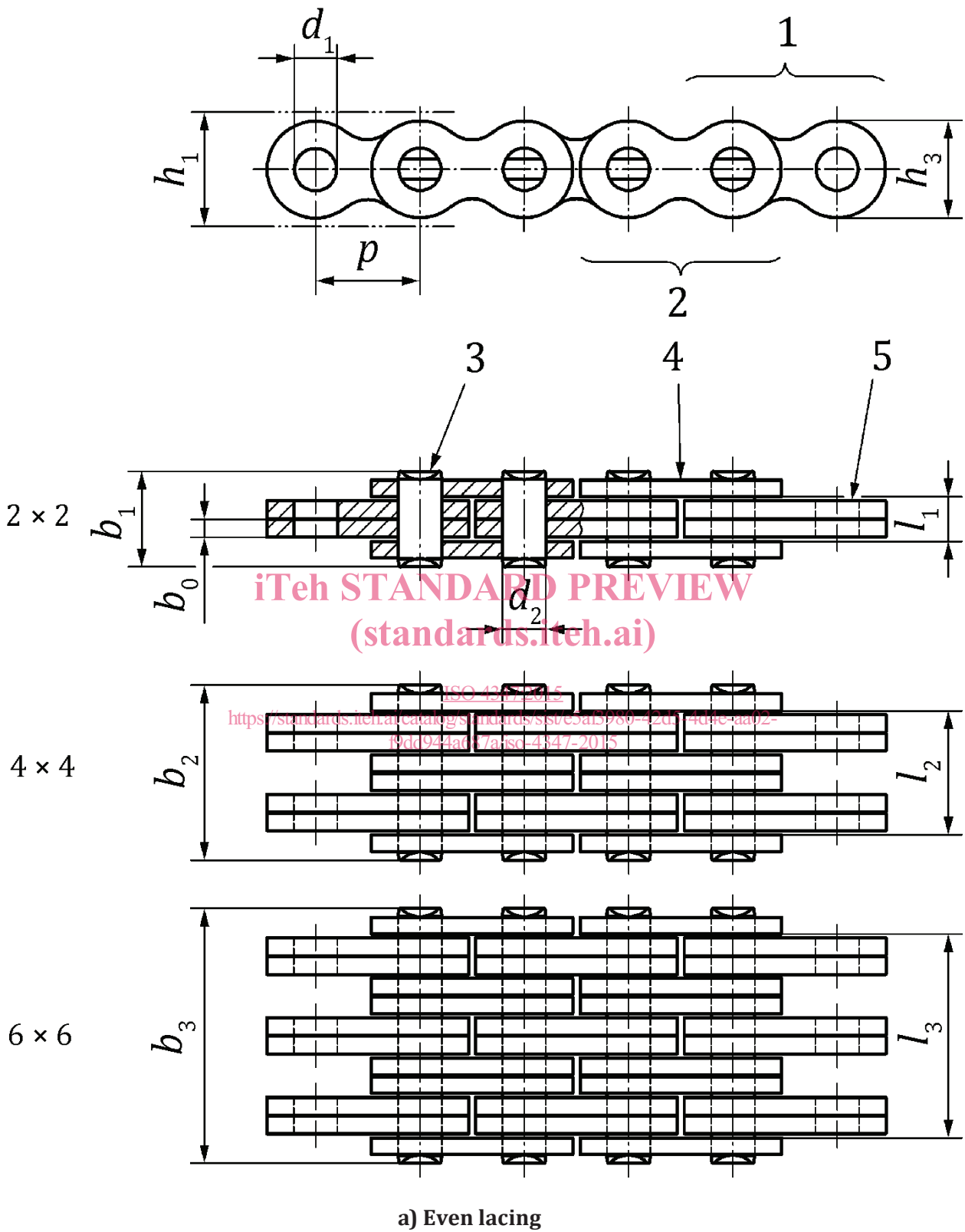
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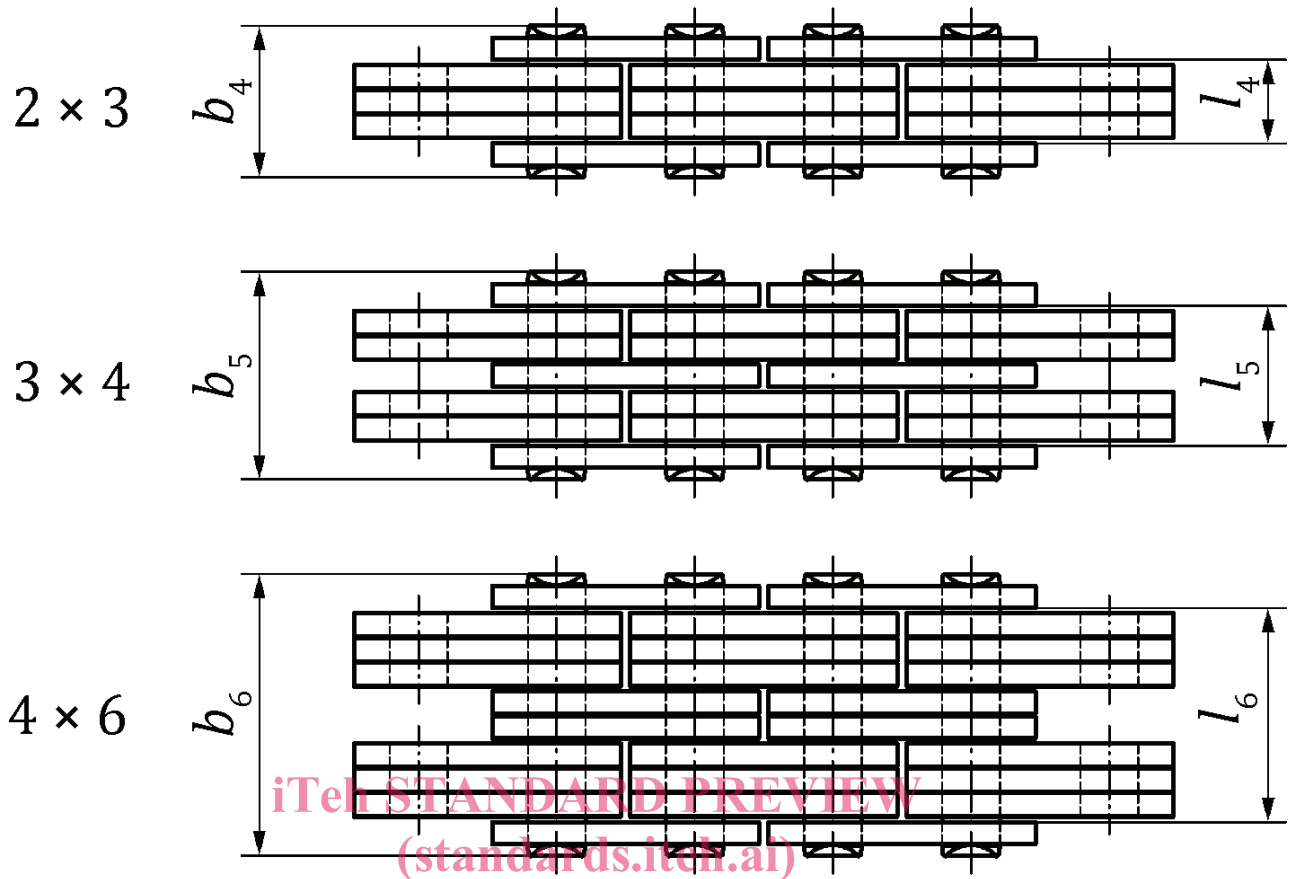
3.1 Nomenclature

The nomenclature of chains is shown in [Figure 1](#) (which does not necessarily define the actual form of the chain plates) and as given in [Table 1](#) and [Table 2](#).

1) To be published (Revision of ISO 15654:2004).

2) American Society of Mechanical Engineers.





b) Uneven lacing

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Key

- 1 inner link
- 2 outer link
- 3 pin
- 4 outer plate
- 5 inner plate

Figure 1 — Symbols related to [Tables 1](#) and [2](#)

3.2 Chain designation

Leaf chain shall be designated by the prefix “LH” [“BL”] for chains derived from the ISO 606 A [ASME B29.8] series, or by the prefix “LL” for chains derived from ISO 606 B series, followed by a number of which the first two digits indicate the pitch expressed in sixteenths of an inch and the last two digits indicate the lacing (number of plates in the outer plate pitch and inner plate pitch).

To obtain the ASME “BL” reference, the same principle is used, except that the pitch is expressed in eighths of an inch using only one or two digits, dependent on pitch.

EXAMPLE 1 A chain with nominal pitch of 12,7 mm derived from chain ISO 08B, consisting of outer plates and inner plates each comprising two plates would be designated by

LL 0822

EXAMPLE 2 A chain with nominal pitch of 19,05 mm derived from ISO 12A [ASME chain No. 60], consisting of outer plates comprising three plates and inner plates comprising four plates would be designated by

LH 1234 [BL 634]

3.3 Dimensions

The dimensions given in [Table 1](#) and [Table 2](#) provide minimum and maximum limits, ensuring interchangeability and connection to standard design clevises.

Manufacturers are responsible for the actual dimensional features of their products.

Chains from different manufacturers shall never be placed together within the same application.

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Table 1 — Principal chain dimensions, measuring forces, tensile strengths and dynamic strengths, LH series

ISO chain number	ASME chain number	Pitch		Thickness of plates	Hole diameter of inner plates	Pin diameter	Chain path depth	Plate depth	Width over riveted pin	Width between outer plates	Measuring force	Minimum tensile strength	Minimum dynamic strength ^c
		p nom.	p mm										
LH 0822 b	BL 422	12,7	2 × 2	2,08	5,11	5,09	12,32	12,07	11,1	4,2	222	22,2	3,10
LH 0823	BL 423	12,7	2 × 3	2,08	5,11	5,09	12,32	12,07	13,2	6,3	222	22,2	3,74
LH 0834	BL 434	12,7	3 × 4	2,08	5,11	5,09	12,32	12,07	17,4	10,4	334	33,4	4,13
LH 0844 d	BL 444	12,7	4 × 4	2,08	5,11	5,09	12,32	12,07	19,6	12,4	445	44,5	4,66
LH 0846	BL 446	12,7	4 × 6	2,08	5,11	5,09	12,32	12,07	23,8	16,6	445	44,5	4,65
LH 0866	BL 466	12,7	6 × 6	2,08	5,11	5,09	12,32	12,07	28,0	21,0	667	66,7	6,21
LH 1022 b	BL 522	15,875	2 × 2	2,48	5,98	5,96	15,34	15,09	12,9	4,9	334	33,4	4,80
LH 1023	BL 523	15,875	2 × 3	2,48	5,98	5,96	15,34	15,09	15,4	7,4	334	33,4	5,77
LH 1034	BL 534	15,875	3 × 4	2,48	5,98	5,96	15,34	15,09	20,4	12,3	489	48,9	6,39
LH 1044 d	BL 544	15,875	4 × 4	2,48	5,98	5,96	15,34	15,09	22,8	14,7	667	66,7	7,20
LH 1046	BL 546	15,875	4 × 6	2,48	5,98	5,96	15,34	15,09	27,7	19,5	667	66,7	7,19
LH 1066	BL 566	15,875	6 × 6	2,48	5,98	5,96	15,34	15,09	32,7	24,6	1 000	100,1	9,60
LH 1222 b	BL 622	19,05	2 × 2	3,3	7,96	7,94	18,34	18,11	17,4	6,6	489	48,9	7,05
LH 1223	BL 623	19,05	2 × 3	3,3	7,96	7,94	18,34	18,11	20,8	9,9	489	48,9	8,47
LH 1234	BL 634	19,05	3 × 4	3,3	7,96	7,94	18,34	18,11	27,5	16,5	756	75,6	9,38
LH 1244 d	BL 644	19,05	4 × 4	3,3	7,96	7,94	18,34	18,11	30,8	19,8	979	97,9	10,6
LH 1246	BL 646	19,05	4 × 6	3,3	7,96	7,94	18,34	18,11	37,5	26,4	979	97,9	10,6
LH 1266	BL 666	19,05	6 × 6	3,3	7,96	7,94	18,34	18,11	44,2	33,2	1 468	146,8	14,1
LH 1622 b	BL 822	25,4	2 × 2	4,09	9,56	9,54	24,38	24,13	21,4	8,2	845	84,5	12,3
LH 1623	BL 823	25,4	2 × 3	4,09	9,56	9,54	24,38	24,13	25,5	12,3	845	84,5	14,8
LH 1634	BL 834	25,4	3 × 4	4,09	9,56	9,54	24,38	24,13	33,8	20,5	1 290	129,0	16,3
LH 1644 d	BL 844	25,4	4 × 4	4,09	9,56	9,54	24,38	24,13	37,9	24,6	1 690	169,0	18,4
LH 1646	BL 846	25,4	4 × 6	4,09	9,56	9,54	24,38	24,13	46,2	32,7	1 690	169,0	18,4
LH 1666	BL 866	25,4	6 × 6	4,09	9,56	9,54	24,38	24,13	54,5	41,1	2 536	253,6	24,6