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

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

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Published in Switzerland

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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.

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 4347 was prepared by Technical Committee ISO/TC 100, *Chains and chain wheels for power transmission and conveyors*.

This fourth edition cancels and replaces the third edition (ISO 4347:1992), which has been technically revised.

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## 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”.

All dimensions are given in millimetres, converted from the original dimensions given in inches.

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# Leaf chains, clevises and sheaves — Dimensions, measuring forces and tensile 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 and minimum tensile strengths. It is not applicable to 8 × 8 lacing.

## 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 286-2:1988, *ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts* (standards.iteh.ai)

ISO 606, *Short-pitch transmission precision roller and bush chains, attachments and associated chain sprockets*<sup>1)</sup> (standards.iteh.ai)

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ASME<sup>2)</sup> B29.8, *Leaf chains, clevises and sheaves*

## 3 Chains

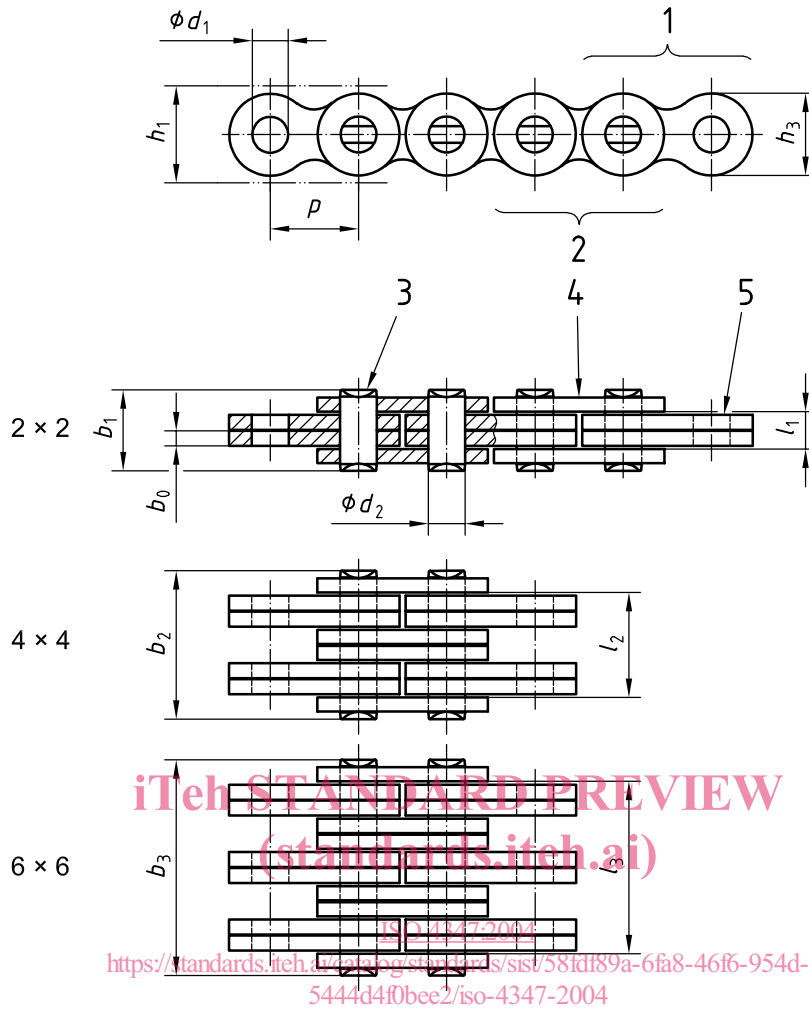
### 3.1 Nomenclature

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 Tables 1 and 2.

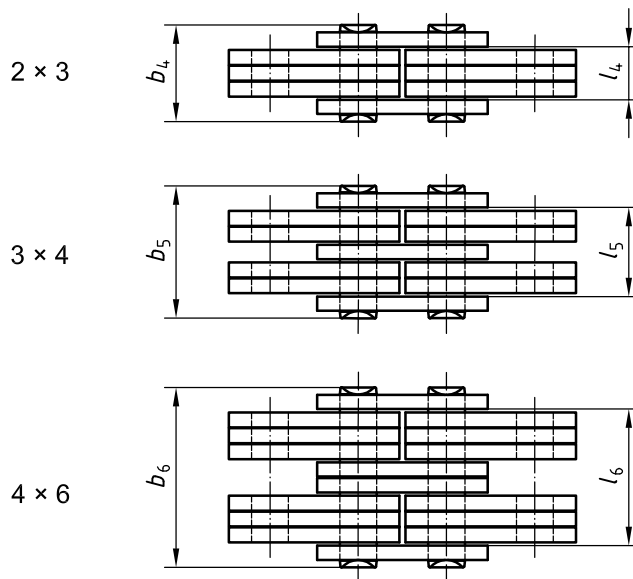
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1) To be published. (Revision of ISO 606:1994)

2) American Society of Mechanical Engineers



a) Even lacing



b) Uneven lacing

**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 Tables 1 and 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 and tensile strengths, LH series

ISO chain number	ASME chain number	Pitch $p$		Lacing	Thickness of plates $b_0$ max.	Hole diameter of inner plates $d_1$ min.	Pin diameter $d_2$ max.	Chain path depth $h_1^a$ min.	Plate depth $h_3$ max.	Width over riveted pin $b_1$ to $b_6$ max.	Width between outer plates $l_1$ to $l_6$ min.	Measuring force	Minimum tensile strength
		nom.	mm										
mm													
LH 0822 <sup>b</sup>	BL 422	12,7	12,7	2 × 2	2,08	5,11	5,09	12,32	12,07	11,1	4,2	222	22,2
LH 0823	BL 423	12,7	12,7	2 × 3	2,08	5,11	5,09	12,32	12,07	13,2	6,3	222	22,2
LH 0834	BL 434	12,7	12,7	3 × 4	2,08	5,11	5,09	12,32	12,07	17,4	10,4	334	33,4
LH 0844 <sup>b</sup>	BL 444	12,7	12,7	4 × 4	2,08	5,11	5,09	12,32	12,07	19,6	12,4	445	44,5
LH 0846	BL 446	12,7	12,7	4 × 6	2,08	5,11	5,09	12,32	12,07	23,8	16,6	445	44,5
LH 0866	BL 466	12,7	12,7	6 × 6	2,08	5,11	5,09	12,32	12,07	28	21	667	66,7
LH 1022 <sup>b</sup>	BL 522	15,875	15,875	2 × 2	2,48	5,98	5,96	15,34	15,09	12,9	4,9	334	33,4
LH 1023	BL 523	15,875	15,875	2 × 3	2,48	5,98	5,96	15,34	15,09	15,4	7,4	334	33,4
LH 1034	BL 534	15,875	15,875	3 × 4	2,48	5,98	5,96	15,34	15,09	20,4	12,3	489	48,9
LH 1044 <sup>b</sup>	BL 544	15,875	15,875	4 × 4	2,48	5,98	5,96	15,34	15,09	22,8	14,7	667	66,7
LH 1046	BL 546	15,875	15,875	4 × 6	2,48	5,98	5,96	15,34	15,09	27,7	19,5	667	66,7
LH 1066	BL 566	15,875	15,875	6 × 6	2,48	5,98	5,96	15,34	15,09	32,7	24,6	1000	100,1
LH 1222 <sup>b</sup>	BL 622	19,05	19,05	2 × 2	3,3	7,96	7,94	18,34	18,11	17,4	6,6	489	48,9
LH 1223	BL 623	19,05	19,05	2 × 3	3,3	7,96	7,94	18,34	18,11	20,8	9,9	489	48,9
LH 1234	BL 634	19,05	19,05	3 × 4	3,3	7,96	7,94	18,34	18,11	27,5	16,5	756	75,6
LH 1244 <sup>b</sup>	BL 644	19,05	19,05	4 × 4	3,3	7,96	7,94	18,34	18,11	30,8	19,8	979	97,9
LH 1246	BL 646	19,05	19,05	4 × 6	3,3	7,96	7,94	18,34	18,11	37,5	26,4	979	97,9
LH 1266	BL 666	19,05	19,05	6 × 6	3,3	7,96	7,94	18,34	18,11	44,2	33,2	1468	146,8
LH 1622 <sup>b</sup>	BL 822	25,4	25,4	2 × 2	4,09	9,56	9,54	24,38	24,13	21,4	8,2	845	84,5
LH 1623	BL 823	25,4	25,4	2 × 3	4,09	9,56	9,54	24,38	24,13	25,5	12,3	845	84,5

Table 1 (continued)

ISO chain number	ASME chain number	Pitch $p$		Lacing	Thickness of plates $b_0$ max.	Hole diameter of inner plates $d_1$ min.	Pin diameter $d_2$ max.	Chain path depth $h_1^a$ min.	Plate depth $h_3$ max.	Width over riveted pin $b_1$ to $b_6$ max.	Width between outer plates $l_1$ to $l_6$ min.	Measuring force	Minimum tensile strength
		nom.	mm										
LH 1634	BL 834	25,4	25,4	3 × 4	4,09	9,56	9,54	24,38	24,13	33,8	20,5	1290	129
LH 1644 <sup>b</sup>	BL 844	25,4	25,4	4 × 4	4,09	9,56	9,54	24,38	24,13	37,9	24,6	1690	169
LH 1646	BL 846	25,4	25,4	4 × 6	4,09	9,56	9,54	24,38	24,13	46,2	32,7	1690	169
LH 1666	BL 866	25,4	25,4	6 × 6	4,09	9,56	9,54	24,38	24,13	54,5	41,1	2536	253,6
LH 2022 <sup>b</sup>	BL 1022	31,75	31,75	2 × 2	4,9	11,14	11,11	30,48	30,18	25,4	9,8	1156	115,6
LH 2023	BL 1023	31,75	31,75	2 × 3	4,9	11,14	11,11	30,48	30,18	30,4	14,8	1156	115,6
LH 2034	BL 1034	31,75	31,75	3 × 4	4,9	11,14	11,11	30,48	30,18	40,3	24,5	1824	182,4
LH 2044 <sup>b</sup>	BL 1044	31,75	31,75	4 × 4	4,9	11,14	11,11	30,48	30,18	45,2	29,5	2313	231,3
LH 2046	BL 1046	31,75	31,75	4 × 6	4,9	11,14	11,11	30,48	30,18	55,1	39,4	2313	231,3
LH 2066	BL 1066	31,75	31,75	6 × 6	4,9	11,14	11,11	30,48	30,18	65	49,2	3470	347
LH 2422 <sup>b</sup>	BL 1222	38,1	38,1	2 × 2	5,77	12,74	12,71	36,55	36,2	29,7	11,6	1512	151,2
LH 2423	BL 1223	38,1	38,1	2 × 3	5,77	12,74	12,71	36,55	36,2	35,5	17,4	1512	151,2
LH 2434	BL 1234	38,1	38,1	3 × 4	5,77	12,74	12,71	36,55	36,2	47,1	28,9	2446	244,6
LH 2444 <sup>b</sup>	BL 1244	38,1	38,1	4 × 4	5,77	12,74	12,71	36,55	36,2	52,9	34,4	3025	302,5
LH 2446	BL 1246	38,1	38,1	4 × 6	5,77	12,74	12,71	36,55	36,2	64,6	46,3	3025	302,5
LH 2466	BL 1266	38,1	38,1	6 × 6	5,77	12,74	12,71	36,55	36,2	76,2	57,9	4537	453,7
LH 2822 <sup>b</sup>	BL 1422	44,45	44,45	2 × 2	6,6	14,31	14,29	42,67	42,24	33,6	13,2	1913	191,3
LH 2823	BL 1423	44,45	44,45	2 × 3	6,6	14,31	14,29	42,67	42,24	40,2	19,7	1913	191,3
LH 2834	BL 1434	44,45	44,45	3 × 4	6,6	14,31	14,29	42,67	42,24	53,4	32,7	3 158	315,8
LH 2844 <sup>b</sup>	BL 1444	44,45	44,45	4 × 4	6,6	14,31	14,29	42,67	42,24	60,0	39,1	3 826	382,6