

---

International Standard



657/18

---

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

---

**Hot-rolled steel sections —  
Part 18 : L sections for shipbuilding (metric series) —  
Dimensions, sectional properties and tolerances**

*Profilés en acier laminé à chaud —*

*Partie 18 : Profilés en L pour la construction navale (série métrique) — Dimensions, caractéristiques rapportées aux axes et tolérances*

ITC STANDARD PREVIEW  
(standards.iteh.ai)

First edition — 1980-02-15

ISO 657-18:1980

<https://standards.iteh.ai/catalog/standards/sist/0879615f-5e82-4aa8-9db8-c36483e568be/iso-657-18-1980>

---

UDC 669.14-423 : 629.12

Ref. No. ISO 657/18-1980 (E)

**Descriptors** : metal sections, steel products, hot rolled products, shipbuilding, sectional properties, dimensions, dimensional tolerances

## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 657/18 (formerly ISO/DIS 4973) was developed by Technical Committee ISO/TC 17, *Steel*, and was circulated to the member bodies in January 1978.

It has been approved by the member bodies of the following countries:

Belgium	India	Norway
Bulgaria	Iran	Romania
Canada	Ireland	South Africa, Rep. of
Czechoslovakia	Italy	Spain
Denmark	Korea, Dem. P. Rep. of	Sweden
Egypt, Arab Rep. of	Korea, Rep. of	Switzerland
Finland	Mexico	Turkey
France	Netherlands	United Kingdom
Germany, F.R.	New Zealand	USSR

The member bodies of the following countries expressed disapproval of the document on technical grounds:

Japan  
USA

# Hot-rolled steel sections — Part 18 : L sections for shipbuilding (metric series) — Dimensions, sectional properties and tolerances

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies dimensions, sectional properties and dimensional tolerances for metric series hot-rolled steel L sections for shipbuilding.

## 2 DESIGNATION

Hot-rolled steel L sections for shipbuilding shall be designated by the letter L followed by the height of the web,  $H$ , the width of the flange,  $B$ , the thickness of the web,  $t$ , and the thickness of the flange,  $T$ .

*Example* : L 250 × 90 × 9 × 13

3 DIMENSIONS

The dimensions of L sections shall be as given in table 1.

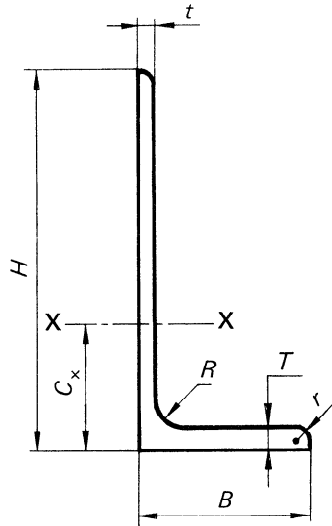


TABLE 1 - Dimensions and sectional properties

Designation	Mass	Sectional area	(standards.iteh.ai)						Centroid	Moment of inertia
	$M$		Dimensions							
	kg/m	$A$	$H$	$B$	$t$	$T$	$R$	$r$	$C_x$	$I_x$
		cm <sup>2</sup>	mm	mm	mm	mm	mm	mm	cm	cm <sup>4</sup>
L 200 × 90 × 9 × 12	22,0	28,1	200	90	9	12	15	7,5	6,63	1160
L 225 × 90 × 9 × 12	23,8	30,3	225	90	9	12	15	7,5	7,71	1610
L 250 × 90 × 9 × 13	26,2	33,4	250	90	9	13	15	7,5	8,64	2190
L 250 × 90 × 10,5 × 15	30,3	38,5	250	90	10,5	15	15	7,5	8,76	2510
L 250 × 90 × 11,5 × 16	32,7	41,7	250	90	11,5	16	15	7,5	8,90	2710
L 275 × 100 × 10,5 × 14	32,8	41,8	275	100	10,5	14	15	7,5	9,72	3330
L 300 × 100 × 10,5 × 15	35,6	45,3	300	100	10,5	15	15	7,5	10,6	4290
L 300 × 100 × 11,5 × 16	38,5	49,0	300	100	11,5	16	15	7,5	10,7	4630
L 325 × 120 × 10,5 × 14	39,3	50,1	325	120	10,5	14	20	10	11,3	5600
L 325 × 120 × 11,5 × 15	42,6	54,3	325	120	11,5	15	20	10	11,4	6060
L 350 × 120 × 10,5 × 16	43,1	54,9	350	120	10,5	16	20	10	12,0	7110
L 350 × 120 × 11,5 × 18	47,4	60,4	350	120	11,5	18	20	10	12,0	7780
L 375 × 120 × 10,5 × 18	46,9	59,7	375	120	10,5	18	20	10	12,7	8850
L 375 × 120 × 11,5 × 20	51,4	65,4	375	120	11,5	20	20	10	12,7	9650
L 400 × 120 × 11,5 × 23	56,2	71,6	400	120	11,5	23	20	10	13,3	11900
L 425 × 120 × 11,5 × 24	59,3	75,5	425	120	11,5	24	20	10	14,2	14200
L 450 × 120 × 11,5 × 25	62,4	79,5	450	120	11,5	25	20	10	15,1	16800
L 475 × 120 × 11,5 × 28	67,2	85,6	475	120	11,5	28	20	10	15,7	20100
L 475 × 120 × 12,5 × 30	72,4	92,2	475	120	12,5	30	20	10	15,9	21600
L 500 × 120 × 12,5 × 33	77,4	98,6	500	120	12,5	33	20	10	16,5	25500
L 500 × 120 × 13,5 × 35	82,8	105	500	120	13,5	35	20	10	16,6	27100

4 TOLERANCES

4.1 Height of web and width of flange

The tolerance on  $H$  and  $B$  shall be as given in table 2.

TABLE 2

Values in millimetres

Height of web, $H$		Tolerance on $H$ and $B$
Over	Up to and including	
—	200	$\pm 3$
200	—	$\pm 4$

4.2 Web thickness

The tolerance on  $t$  shall be  $\begin{matrix} + 1,6 \\ - 0,4 \end{matrix}$  mm.

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

4.3 Flange thickness

The tolerance on  $T$  shall be as given in table 3.

ISO 657-18:1980

<https://standards.iteh.ai/catalog/standards/iso-657-18-1980>

TABLE 3

Values in millimetres

Thickness, $T$		Tolerance
Over	Up to and including	
—	20	$\begin{matrix} + 2,0 \\ - 0,4 \end{matrix}$
20	30	$\begin{matrix} + 2,0 \\ - 0,5 \end{matrix}$
30	35	$\begin{matrix} + 2,5 \\ - 0,6 \end{matrix}$

4.4 Camber

The maximum permissible camber, when measured over the entire length, is 0,3 %  $L$  (see figure 1).

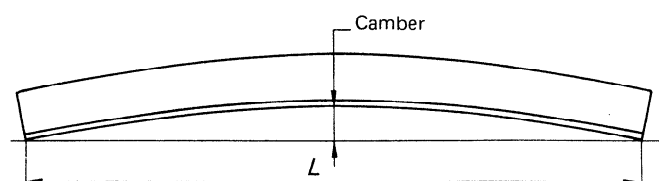


FIGURE 1 – Measurement of camber

#### 4.5 Out-of-square

The legs shall be perpendicular to each other within a maximum deviation of 2,5 %  $B$ . The deviation shall be measured at the end of the shorter leg (see figure 2).

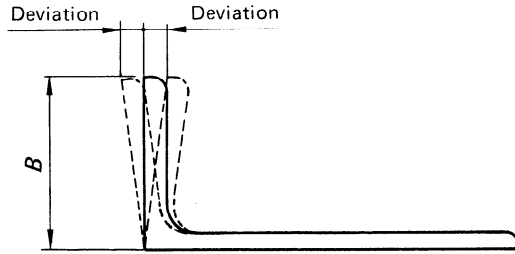


FIGURE 2 – Measurement of out-of-square

#### 4.6 Flatness

The tolerance on flatness of the web shall be subject to agreement between the purchaser and manufacturer. The deviation from flatness shall, however, be measured as shown in figure 3.

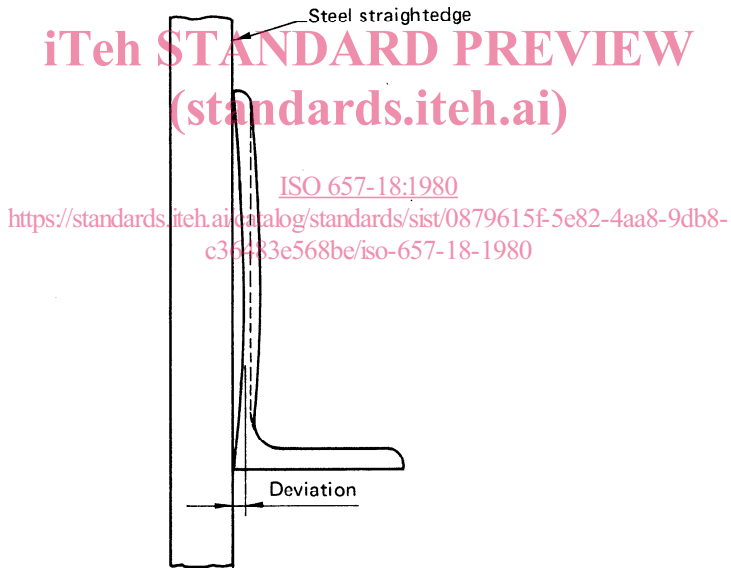


FIGURE 3 – Measurement of deviation in flatness of web

#### 4.7 Length

The tolerance on length shall be  $+ 100_0$  mm. The L sections may be supplied to tighter length tolerances subject to agreement between the purchaser and supplier.

## iTeh STANDARD PREVIEW

This page intentionally left blank  
(standards.iteh.ai)

ISO 657-18:1980

<https://standards.iteh.ai/catalog/standards/sist/0879615f-5e82-4aa8-9db8-c36483e568be/iso-657-18-1980>

## iTeh STANDARD PREVIEW

This page intentionally left blank  
(standards.iteh.ai)

ISO 657-18:1980

<https://standards.iteh.ai/catalog/standards/sist/0879615f-5e82-4aa8-9db8-c36483e568be/iso-657-18-1980>