International Standard 657/18

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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

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FOREWORD

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

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Japan
USA

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

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.

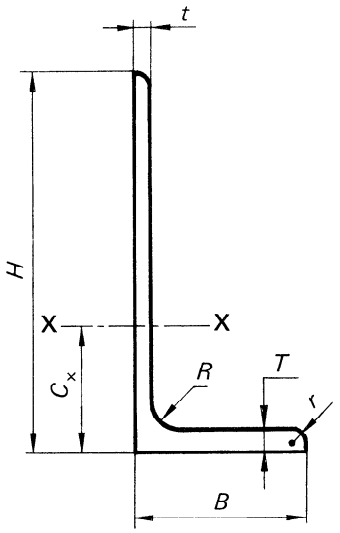

TABLE 1 — **Dimensions and sectional properties**

Designation	Mass	Sectional area	Dimensions						Centroid	Moment of inertia
	M	A	H	B	t	T	R	r	C_x	I_x
	kg/m	cm^2	mm	mm	mm	mm	mm	mm	cm	cm^4
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	± 3
200	–	± 4

4.2 Web thickness

The tolerance on t shall be $^{+\ 1,6}_{-\ 0,4}$ mm.

4.3 Flange thickness

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

TABLE 3

Values in millimetres

Thickness, T		Tolerance
Over	Up to and including	
–	20	$^{+\ 2,0}_{-\ 0,4}$
20	30	$^{+\ 2,0}_{-\ 0,5}$
30	35	$^{+\ 2,5}_{-\ 0,6}$

4.4 Camber

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

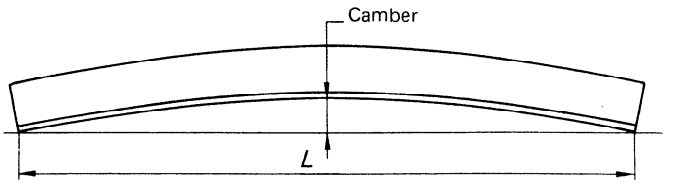

FIGURE 1 – **Measurement of camber**

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).

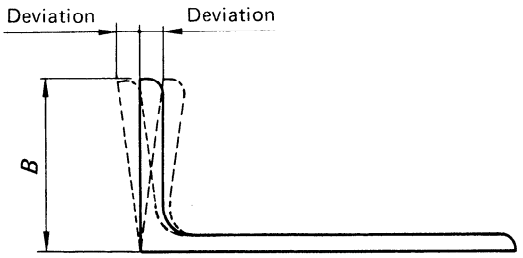

FIGURE 2 – **Measurement of out-of-square**

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.

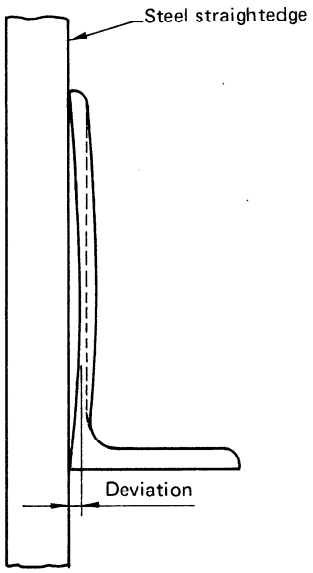

FIGURE 3 – **Measurement of deviation in flatness of web**

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.

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