

# INTERNATIONAL STANDARD

ISO  
**657-2**

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## Hot-rolled steel sections —

### Part 2 :

Unequal-leg angles — Dimensions

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*Partie 2: Cornières à ailes inégales — Dimensions*  
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[ISO 657-2:1989](#)

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Reference number  
ISO 657-2 : 1989 (E)

## 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.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 657-2 was prepared by Technical Committee ISO/TC 17, *Steel*.

It cancels and replaces ISO Recommendation R 657-2 : 1968, of which it constitutes a technical revision.

ISO 657 consists of the following parts, under the general title *Hot-rolled steel sections*:

- *Part 1: Equal-leg angles — Dimensions*
- *Part 2: Unequal-leg angles — Dimensions*
- *Part 5: Equal-leg angles and unequal-leg angles — Tolerances for metric and inch series*
- *Part 6: Parallel flange sections (metric series) — Dimensions*
- *Part 10: Parallel flange sections — Tolerances*
- *Part 11: Sloping flange channel sections (metric series) — Dimensions and sectional properties*
- *Part 13: Tolerances on sloping flange beam, column and channel sections*
- *Part 15: Sloping flange beam sections (metric series) — Dimensions and sectional properties*
- *Part 16: Sloping flange column sections (metric series) — Dimensions and sectional properties*
- *Part 18: L sections for shipbuilding (metric series) — Dimensions, sectional properties and tolerances*
- *Part 19: Bulb flats (metric series) — Dimensions, sectional properties and tolerances*
- *Part 20: Parallel flange channel sections — Dimensions*
- *Part 21: T-sections with equal depth and flange width — Dimensions*

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## Hot-rolled steel sections —

### Part 2: Unequal-leg angles — Dimensions

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#### 1 Scope

This part of ISO 657 specifies dimensions of hot-rolled unequal-leg angles.

[ISO 657-2:1989](https://standards.iteh.ai/catalog/standards/iso/d92ece90-c798-4dea-91d7-db0d4423e119/iso-657-2-1989)

#### 2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 657. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 657 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 657-5 : 1976, *Hot-rolled steel sections — Part 5 : Equal-leg angles and unequal-leg angles — Tolerances for metric and inch series*.

#### 3 Dimensions

3.1 The dimensions of unequal-leg angles are given in table 1. Preferred dimensions are given in bold type.

3.2 The root radii given in table 1 are for information only.

3.3 The toe radius has not been specified and may, if considered necessary, be determined independently for national standards.

#### 4 Sectional properties

The mass, sectional area and sectional properties of unequal-leg angles are given for information in table 1. They have been calculated assuming a toe radius equal to half the root radius.

#### 5 Dimensional tolerances

Tolerances on the dimensions specified in table 1 are covered in ISO 657-5.

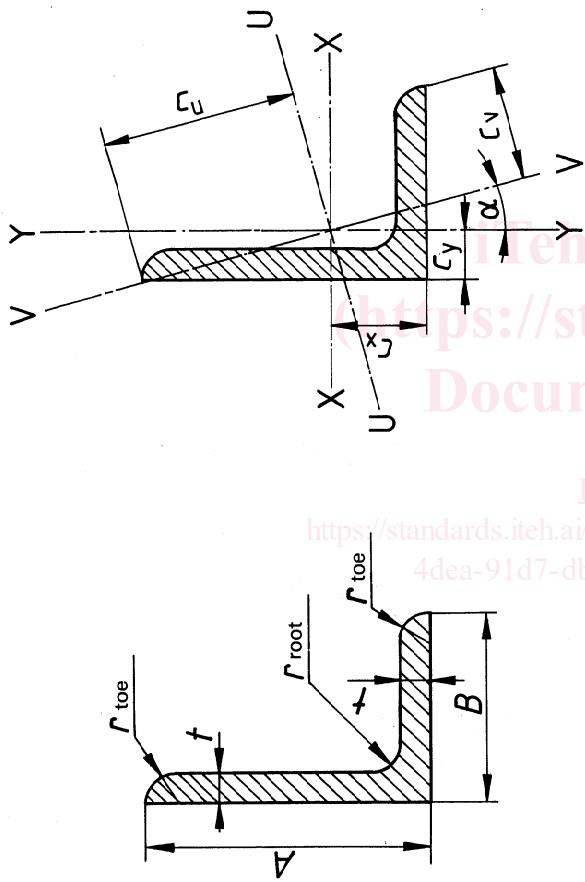


Table 1 – Dimensions and sectional properties of hot-rolled unequal-leg angles

Designation	Mass kg/m	Sectional area cm <sup>2</sup>	Dimensions						Distances of centre of gravity						Sectional properties about axes						Inclina- tion of V-V axis tan $\alpha$
			A mm	B mm	t mm	r <sub>root</sub> mm	c <sub>x</sub> cm	c <sub>y</sub> cm	c <sub>u</sub> cm	c <sub>v</sub> cm	I <sub>x</sub> cm <sup>4</sup>	I <sub>y</sub> cm <sup>4</sup>	r <sub>y</sub> cm	Z <sub>x</sub> cm <sup>3</sup>	I <sub>u</sub> cm <sup>4</sup>	r <sub>u</sub> cm	I <sub>v</sub> cm <sup>4</sup>	r <sub>v</sub> cm			
30 x 20 x 3	1,12	1,43	30	20	3	4	0,990	0,502	2,05	1,04	1,25	0,935	0,621	0,437	0,553	0,292	1,43	1,00	0,256	0,424	0,427
30 x 20 x 4	1,46	1,86	30	20	4	4	1,03	0,541	2,02	1,04	1,59	0,925	0,807	0,553	0,546	0,379	1,81	0,988	0,330	0,421	0,421
40 x 20 x 4	1,77	2,26	40	20	4	4	1,47	0,48	2,58	1,17	3,59	1,26	1,42	0,600	0,514	0,393	3,80	1,30	0,393	0,417	0,252
40 x 25 x 4	1,93	2,46	40	25	4	4	1,36	0,623	2,69	1,35	3,89	1,26	1,47	1,16	0,687	0,619	4,35	1,33	0,700	0,534	0,380
45 x 30 x 5	2,76	3,52	45	30	5	4	1,52	0,779	3,04	1,58	6,98	1,41	2,35	2,47	0,837	1,11	8,00	1,51	1,45	0,641	0,429
50 x 30 x 4	2,41	3,07	50	30	4	5	1,68	0,701	3,36	1,67	7,71	1,59	2,33	2,09	0,825	0,907	8,53	1,67	1,27	0,644	0,356
50 x 30 x 5	2,96	3,78	50	30	5	5	1,73	0,741	3,33	1,65	9,36	1,57	2,86	2,51	0,816	1,11	10,3	1,65	1,54	0,639	0,352
50 x 40 x 5	3,36	4,28	50	40	5	5	1,55	1,06	3,49	1,85	10,3	1,55	3,00	5,85	1,17	1,99	13,2	1,75	3,03	0,842	0,621
60 x 30 x 5	3,36	4,28	60	30	5	5	2,17	0,684	3,88	1,77	15,6	1,91	4,07	2,63	0,784	1,14	16,5	1,97	1,71	0,633	0,257
60 x 30 x 6	3,98	5,07	60	30	6	5	2,21	0,723	3,85	1,76	18,2	1,90	4,81	3,05	0,776	1,34	19,3	1,95	2,01	0,630	0,253