INTERNATIONAL STANDARD

ISO 6361-4

Second edition
2011-08-15

Wrought aluminium and aluminium alloys — Sheets, strips and plates —

Part 4: Sheets and plates: Tolerances on shape and dimensions

Aluminium et alliages d'aluminium corroyés — Tôles, bandes et tôles épaisses —
Partie 4: Tôles et tôles épaisses: Tolérances sur forme et dimensions

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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 6361-4 was prepared by Technical Committee ISO/TC 79, *Light metals and their alloys*, Subcommittee SC 6, *Wrought aluminium and aluminium alloys*.

This second edition cancels and replaces the first edition (ISO 6361-4:1988), which has been technically revised.

ISO 6361 consists of the following parts, under the general title *Wrought aluminium and aluminium alloys — Sheets, strips and plates*:

— *Part 1: Technical conditions for inspection and delivery*

— *Part 2: Mechanical properties*

— *Part 3: Strips: Tolerances on shape and dimensions*

— *Part 4: Sheets and plates: Tolerances on shape and dimensions*

— *Part 5: Chemical composition*

Wrought aluminium and aluminium alloys — Sheets, strips and plates —

Part 4:
Sheets and plates: Tolerances on shape and dimensions

1 Scope

This part of ISO 6361 specifies the tolerances on shape and dimensions for wrought aluminium and aluminium alloy sheet and plate by hot-rolling or cold-rolling for general engineering applications.

It applies to products with a thickness over 0,15 mm up to and including 203 mm.

It does not apply to semi-finished rolled products in coiled form to be subjected to further rolling (reroll stock) or to special products such as those that are corrugated or embossed.

Technical conditions for inspection and delivery of products covered by this part of ISO 6361 are specified in ISO 6361-1.

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 6361-1, *Wrought aluminium and aluminium alloys — Sheets, strips and plates — Part 1: Technical conditions for inspection and delivery*

3 Dimensional tolerances

3.1 Thickness

Thickness tolerances for a cold-rolled product are specified in Tables 1 and 2.

Thickness tolerances for a hot-rolled product are specified in Tables 3 and 4.

When the tolerance is specified as either all plus or minus side, the value in Table 1, Table 2, Table 3 or Table 4 shall be doubled.

Tolerances for the products exceeding the range of specified thickness and width shall be agreed upon between the purchaser and the supplier.

Table 1 — Thickness tolerances for cold-rolled product

Dimensions in millimetres

Specified thickness		Alloy number					
		1050, 1050A, 1070, 1070A,1080, 1080A, 1085, 1100, 1100A, 1 200, 1230A, 3003, 3103, 3203, 3005, 3105, 4006, 4007, 4015, 5005, 5010, 5110A, 5050, 8011A, 8021, 8079					
		Specified width					
Over	Up to and including	Up to and including 450	Over 450, up to and including 900	Over 900, up to and including 1 400	Over 1 400, up to and including 1 800	Over 1 800, up to and including 2 300	Over 2 300, up to and including 2 600
		Tolerance					
≥0,15	0,20	±0,03	±0,03	±0,05			
0,20	0,25	±0,03	±0,04	±0,05			
0,25	0,45	±0,04	±0,04	±0,05	±0,06		
0,45	0,70	±0,04	±0,05	±0,06	±0,08		
0,70	0,90	±0,05	±0,05	±0,06	±0,09	±0,13	
0,90	1,1	±0,05	±0,06	±0,08	±0,10	±0,13	
1,1	1,7	±0,06	±0,08	±0,10	±0,13	±0,15	
1,7	1,9	±0,06	±0,08	±0,10	±0,15	±0,20	
1,9	2,4	±0,08	±0,08	±0,10	±0,15	±0,20	
2,4	2,7	±0,09	±0,10	±0,13	±0,18	±0,23	
2,7	3,6	±0,11	±0,11	±0,13	±0,18	±0,23	±0,25
3,6	4,5	±0,15	±0,15	±0,20	±0,23	±0,28	±0,30
4,5	5,0	±0,18	±0,18	±0,23	±0,28	±0,33	±0,38
5,0	6,5	±0,23	±0,23	±0,28	±0,33	±0,38	±0,43
6,5	8,0	±0,33	±0,33	±0,33	±0,38	±0,43	±0,51
8,0	11	±0,48	±0,48	±0,48	±0,48	±0,58	±0,66
11	16	±0,64	±0,64	±0,64	±0,64	±0,76	±0,89

Table 2 — Thickness tolerances for cold-rolled product

Dimensions in millimetres

Specified thickness		Alloy number: 2014, 2014A, 2017, 2017A, 2618A, 2219, 2024, 2124, 3004, 3104, 5021, 5026, 5040, 5042, 5049, 5449, 5251, 5052, 5154, 5154A, 5254, 5454, 5754, 5456, 5059, 5070, 5082, 5182, 5083, 5383, 5086, 6016, 6025, 6061, 6082, 7204,7010, 7020, 7021, 7022, 7050, 7075, 7475, 7178											
		Specified width											
Over	Up to and including	Up to and including 450	Over 450, up to and including 900	Over 900, up to and including 1 200	Over 1 200, up to and including 1 400	Over 1 400, up to and including 1 500	Over 1 500, up to and including 1 700	Over 1 700, up to and including 1 800	Over 1 800, up to and including 2 000	Over 2 000, up to and including 2 100	Over 2 100, up to and including 2 300	Over 2 300, up to and including 2 400	Over 2 400, up to and including 2 600
		Tolerance											
≥0,20	0,25	±0,03	±0,04	±0,06	±0,06								
0,25	0,45	±0,04	±0,04	±0,06	±0,09								
0,45	0,70	±0,04	±0,05	±0,06	±0,09	±0,10	±0,10	±0,10					
0,70	0,90	±0,05	±0,05	±0,06	±0,10	±0,13	±0,13	±0,13	±0,15				
0,90	1,1	±0,05	±0,06	±0,08	±0,10	±0,13	±0,13	±0,13	±0,15				
1,1	1,7	±0,06	±0,08	±0,10	±0,13	±0,15	±0,15	±0,15	±0,18				
1,7	1,9	±0,08	±0,08	±0,10	±0,13	±0,15	±0,15	±0,15	±0,18				
1,9	2,4	±0,09	±0,09	±0,10	±0,13	±0,15	±0,15	±0,15	±0,18	±0,18	±0,30		
2,4	2,7	±0,10	±0,10	±0,13	±0,13	±0,18	±0,18	±0,18	±0,20	±0,20	±0,41		
2,7	3,2	±0,11	±0,11	±0,13	±0,13	±0,18	±0,18	±0,18	±0,20	±0,20	±0,41	±0,46	±0,51
3,2	3,6	±0,11	±0,11	±0,13	±0,13	±0,18	±0,25	±0,30	±0,33	±0,36	±0,41	±0,46	±0,51
3,6	4,5	±0,15	±0,15	±0,20	±0,20	±0,23	±0,30	±0,36	±0,38	±0,41	±0,43	±0,48	±0,58
4,5	5,0	±0,18	±0,18	±0,25	±0,25	±0,28	±0,36	±0,41	±0,43	±0,43	±0,43	±0,56	±0,66
5,0	6,5	±0,23	±0,23	±0,28	±0,28	±0,33	±0,41	±0,46	±0,46	±0,46	±0,46	±0,61	±0,71
6,5	8,0	±0,33	±0,33	±0,33	±0,33	±0,38	±0,46	±0,51	±0,51	±0,51	±0,51	±0,64	±0,76
8,0	11	±0,48	±0,48	±0,48	±0,48	±0,51	±0,51	±0,58	±0,58	±0,64	±0,64	±0,66	±0,84
11	16	±0,64	±0,64	±0,64	±0,64	±0,64	±0,64	±0,64	±0,76	±0,76	±0,76	±0,89	±0,89

Table 3 — Thickness tolerances for hot-rolled product

Dimensions in millimetres

Specified thickness		Alloy number 1050, 1050A, 1070, 1070A, 1080, 1080A, 1085,1100, 1100A, 1 200, 1230A, 3003, 3103, 3203, 3005, 3105, 4006, 4007, 4015, 5005, 5010, 5110A, 5050, 8011A					
		Specified width					
Over	Up to and including	Up to and including 900	Over 900, up to and including 1 400	Over 1 400, up to and including 1 800	Over 1 800, up to and including 2 300	Over 2 300, up to and including 2 600	Over 2 600, up to and including 3 400
		Tolerance					
≥4	5	±0,25	±0,30	±0,35	±0,40		
5	6	±0,30	±0,40	±0,45	±0,50		
6	8	±0,45	±0,45	±0,55	±0,65	±0,75	±0,85
8	11	±0,55	±0,55	±0,65	±0,75	±0,85	±0,95
11	16	±0,65	±0,65	±0,75	±0,85	±0,95	±1,0
16	22	±0,80	±0,80	±0,80	±0,90	±1,1	±1,1
22	29	±0,90	±0,90	±0,90	±1,1	±1,4	±1,4
29	35	±1,0	±1,0	±1,0	±1,3	±1,7	±1,7
35	40	±1,1	±1,1	±1,1	±1,5	±1,9	±1,9
40	50	±1,3	±1,3	±1,3	±1,8	±2,2	±2,2
50	55	±1,5	±1,5	±1,5	±2,0	±2,5	±2,5
55	70	±1,9	±1,9	±1,9	±2,5	±3,2	±3,2
70	75	±2,3	±2,3	±2,3	±3,0	±3,8	±3,8
75	100	±2,8	±2,8	±2,8	±3,6	±4,1	±4,1
100	150	±3,2	±3,2	±3,8	±4,1		
150	203	±4,1	±4,1	±4,1	±4,1		
This specification shall be applied to the products of temper grade H112 and those finished by the hot-rolled condition.							

Table 4 — Thickness tolerances for hot-rolled product

Dimensions in millimetres

Specified thickness		Alloy number 2014, 2014A, 2017, 2017A, 2618A, 2219, 2024, 2124, 3004, 3104, 5021, 5026, 5040, 5042, 5049, 5449, 5251, 5052, 5154, 5154A, 5254, 5454, 5754, 5456, 5059, 5070, 5082, 5182, 5083, 5383, 5086, 6016, 6025, 6061, 6082, 7204,7010, 7020, 7021, 7022, 7050, 7075, 7475, 7178					
		Specified width					
Over	Up to and including	Up to and including 900	Over 900, up to and including 1 400	Over 1 400, up to and including 1 800	Over 1 800, up to and including 2 300	Over 2 300, up to and including 2 600	Over 2 600, up to and including 3 400
		Tolerance					
≥4	5	±0,30	±0,35	±0,50	±0,60		
5	6	±0,40	±0,45	±0,55	±0,65		
6	8	±0,50	±0,50	±0,60	±0,70	±0,80	±0,90
8	11	±0,60	±0,60	±0,70	±0,80	±0,90	±1,0
11	16	±0,70	±0,70	±0,80	±0,90	±1,0	±1,1
16	22	±0,80	±0,80	±0,80	±0,90	±1,1	±1,1
22	29	±0,90	±0,90	±0,90	±1,1	±1,4	±1,4
29	35	±1,0	±1,0	±1,0	±1,3	±1,7	±1,7
35	40	±1,1	±1,1	±1,1	±1,5	±1,9	±1,9
40	50	±1,3	±1,3	±1,3	±1,8	±2,2	±2,2
50	55	±1,5	±1,5	±1,5	±2,0	±2,5	±2,5
55	70	±1,9	±1,9	±1,9	±2,5	±3,2	±3,2
70	75	±2,3	±2,3	±2,3	±3,0	±3,8	±3,8
75	100	±2,8	±2,8	±2,8	±3,6	±4,1	±4,1
100	150	±3,2	±3,2	±3,6	±4,1	±4,1	
150	203	±4,1	±4,1	±4,1	±4,1	±4,1	
This specification shall be applied to the products of temper grade H112 and those finished by the hot-rolled condition.							

3.2 Width

Width tolerances for shared sheet and plate are specified in Table 5.

Width tolerances for sawed sheet and plate are specified in Table 6.

Width is measured at room temperature during cutting. The allowable maximum deviation shall be 0,23 mm per 1 000 mm in width, by a temperature difference of 10 °C against the reference temperature of 20 °C.

When the width tolerance for the product with a thickness up to and including 6,5 mm is specified as either all plus or minus side, the value in Table 5 or Table 6 shall be doubled.

Tolerances for the products exceeding the range of specified thickness and width shall be agreed upon between the purchaser and the supplier.