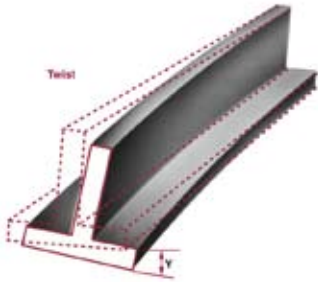
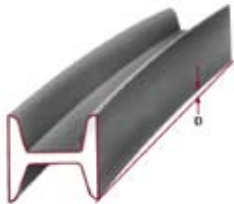
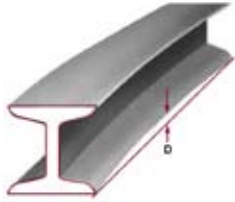




Aluminum Extrusion Profile Specs

Straightness



Product	Temper	Circumscribing Circle Diameter (Profiles) in.	Minimum Thickness (Profiles) in.	Tolerance (Note 1) in. plus	
				Allowable Deviation "D" from Straight	
				In Total Length or in any Measured Segment of One Foot or More of Total Length	
Profiles	All Except O	Up thru 1,499	Up thru .094	.050 x Measured length, ft.	
	TX510 TX511	1,500 and Over	.095 and Over (Note 2) All	.0125 x Measured length, ft.	

Product	Temper	Circumscribing Circle Diameter (Profiles) mm	Minimum Thickness (Profiles) mm	Tolerance (Note 1) mm	
				Allowable Deviation "D" from Straight	
				In Total Length or in any 300 mm or Longer Chord Segment of Total Length	
Profiles	All Except O	Up thru 40.00	Up thru 2.5 (Note 2)	4 mm/m	
	TX510 TX511	40.00 and Over	2.5 and Over	1 mm/m	

Twist

Product	Temper	Circumscribing Circle Diameter (Profiles) in.	Tolerance (Note 1) Degrees	
			Allowable Deviation "Y" from Straight	
			In Total Length or in any Measured Segment of One Foot or More of Total Length	Maximum For Total Length
Profiles	All Except O	Up thru 1,499	1 x Measured length, ft.	7
	TX510	1,500 – 2,999	½ x Measured length, ft.	5
	TX511	3,000 and Over	¼ x Measured length, ft.	3

Product	Temper	Circumscribing Circle Diameter (Profiles) mm	Tolerance (Note 1) Degrees	
			Allowable Deviation from Straight "Y" (max), in total length or in any 300 mm chord segment of the total	
Profiles	All Except O	Up thru 40.00	3°/m but not greater than 7°	
	TX510	40.00 – 80.00	1.5°/m but not greater than 5°	
	TX511	80.00 and Over	1°/m but not greater than 3°	

NOTES:

1. When weight of piece on the flat surface minimizes deviation.
2. Applies only if the thickness along at least 1/3 of the total perimeter is .094 (2.50mm) or less. Otherwise use tolerance shown for .095 (2.50 mm) and over.

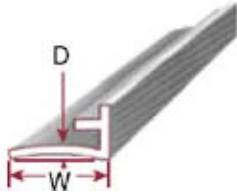
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132 Trowbridge Drive | P.O. Box 1107 | Fond du Lac, WI 54936-1107

ph 920.922.7207 | fax 920.926.7550 | sales@midstal.com



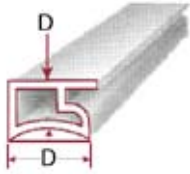
Flatness (semihollows & solids)

Surfaces Widths Up Thru 1 inch or any 1 Inch Increment of Wider Surfaces Maximum Allowable Deviation "D" = TOLERANCE (in.)		
Widths Over 1 in. Maximum Allowable Deviation "D" = TOLERANCE x "W" (in.)		
Minimum Thickness of Metal Forming the Surface "Inch"	Surface Width – in.	
	Up thru 5.999	6.000 to 7.999
Tolerance		
Up thru .124	.004	.006
.125 – .187	.004	.006
.188 – .249	.004	.006
.250 – .374	.004	.006
.375 and Up	.004	.004

Surfaces Widths Up Thru 25 mm or Any 25 mm Increment of Wider Surfaces Maximum Allowable Deviation "D" = TOLERANCE (mm)		
Widths Over 25mm Maximum Allowable Deviation "D" = TOLERANCE x "W" (mm)		
Minimum Thickness of Metal Forming the Surface "mm"	Surface Width – mm	
	Up thru 150.00	Over 150.00 thru 200.00
Tolerance		
Up thru 3.20	0.10	0.15
3.20 – 4.00	0.10	0.15
4.00 – 5.00	0.10	0.15
5.00 – 6.30	0.10	0.15
6.30 and Up	0.10	0.15



Flatness (Hollows)



Surfaces Widths Up Thru 1 inch or Any 1 Inch Increment of Wider Surfaces Maximum Allowable Deviation "D" = TOLERANCE (in.)		
Widths Over 1 in. Maximum Allowable Deviation "D" = TOLERANCE x "W" (in.)		
Minimum Thickness of Metal Forming the Surface "Inch"	Surface Width - in.	
	Up thru 5.999	6.000 to 7.999
Tolerance		
Up thru .124	.006	.008
.125 - .187	.006	.008
.188 - .249	.004	.006
.250 - .374	.004	.006
.375 - .499	.004	.006
.500 and Up	.004	.004

Surfaces Widths Up Thru 25 mm or Any 25 mm Increment of Wider Surfaces Maximum Allowable Deviation "D" = TOLERANCE (mm)		
Widths Over 25mm Maximum Allowable Deviation "D" = TOLERANCE x "W" (mm)		
Minimum Thickness of Metal Forming the Surface "mm"	Surface Width - mm	
	Up thru 150.00	Over 150.00 thru 200.00
Tolerance		
Up thru 3.20	0.15	0.20
3.20 - 4.00	0.15	0.20
4.00 - 5.00	0.13	0.18
5.00 - 6.30	0.10	0.15
6.30 - 8.00	0.10	0.15
8.00 and Up	0.10	0.15



Please reference Tolerance Inches/mm plus & minus charts (page 6 & 7)

Two Special Cases

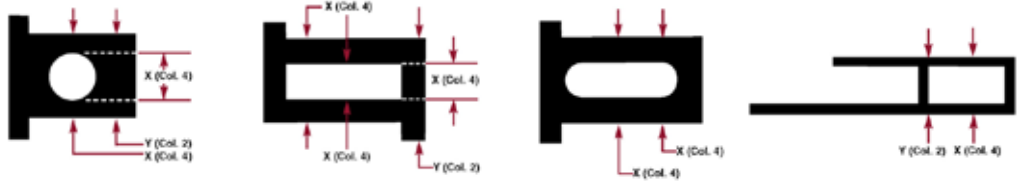
Tolerances applicable to dimensions “x” are determined as follows:

1. Locate distance “B” in Col. 1
2. Determine which of Col 4-9 is applicable, dependent on distance “A”
3. Locate proper tolerance in Col. 4, 5, 6, 7, 8 or 9 in the same line as value chosen in Col. 1



Closed Space Dimensions

All dimensions designated “Y” are classified as “metal dimensions” and tolerances are determined from Col. 2. Dimensions designated “X” are classified as “space dimensions through an enclosed void” and the tolerances applicable are determined from Col. 4 unless 75% or more of the dimension is metal, in which case Col. 2 applies.



Open Space Dimensions

Tolerances applicable to dimensions “X” are determined as follows:

1. Locate dimension “X” in Col. 1
2. Determine which of Col. 4-9 is applicable, dependent on distance “A”
3. Locate proper tolerance in Col. 4, 5, 6, 7, 8 or 9 in the same line as dimension “X”

Dimensions “Y” are “metal dimensions;” tolerances are determined from Col. 2

Distances “C” are shown merely to indicate INCORRECT values for determining which of Col. 4-9 apply.

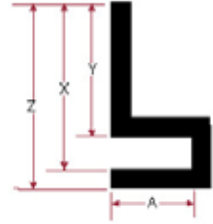




Please reference Tolerance Inches/mm plus & minus charts (page 6 & 7)

Open Space Dimensions continued.

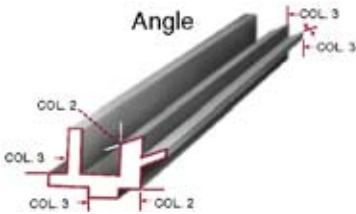
These tolerances do not apply to space dimensions such as dimensions “X” and “Z” of the example (above) even when “Y” is 75% or more of “X”. For the tolerances applicable to dimensions “X” and “Z”, use columns 4-9, dependent on distance “A”.



- At points less than .250 in. (6.35 mm) from base of leg and the tolerances in Col. 2 are applicable.
- The following tolerances apply where the space is completely enclosed (hollow shape).
For the width “A” the tolerance is the value shown in column 4 for the depth “D”.
For the depth “D” the tolerance is the value shown in column 4 for the width “A”.

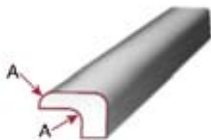
In no case is the tolerance for either width or depth less than at the corners (Col. 2, metal dimensions).

Angularity



- When the area between the surface forming an angle is all metal, values in Col. 2 apply if the larger surface length to metal thickness ratio is 1 or less.
- When two legs are involved the one having the larger ratio determines the applicable column.

Minimum Specified Leg Thickness (in. [mm])	Tolerance Degrees Plus & Minus	
	Allowable Deviation from Specified Radius	
	Ratio: Leg or Surface Length to Leg or Metal Thickness	
	1 and less	Over 1 thru 40
Col. 1	Col. 2	Col. 3
Up thru 0.187 [5.00]	1°	2°
.188 [5.00] – .749 [20.00]	1°	1 1/2°
.750 [20.00] & Over	1°	1°

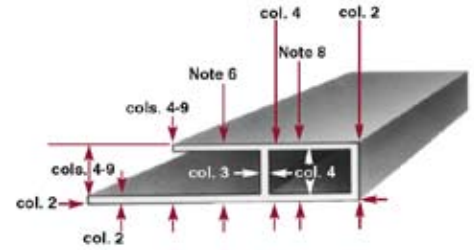


Corner & Fillet Radii

Specified Radius (in. [mm])	Tolerance
	Allowable Deviation from Specified Radius
	Difference between radius “A” and specified radius
Sharp Corners	+ .015 [0.5] (1 mm if unspecified)
.016 [0] – .187 [5.00]	+/- .015 [0.5]
.188 [5.00] and Over	+/- 10%



Tolerance Inches Plus & Minus



Specified Dimensions Inches	Metal Dimensions		Space Dimensions						
	Allowable deviation from specified dimensions where 75% or more of the dimension is metal		Allowable deviation from specified dimension where more than 25% of the dimension is space						
	All except those covered by column 3	Wall thickness completely enclosing space 0.11 sq/in and over (Eccentricity)	At dimensioned points .250 – .624 inches from base of leg	At dimensioned points .625 – 1.249 inches from base of leg	At dimensioned points 1.250 - 2.499 inches from base of leg	At dimensioned points 2.500 – 3.999 inches from base of leg	At dimensioned points 4.000 - 5.999 inches from base of leg	At dimensioned points 6.000 - 8.000 inches from base of leg	
Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9	
	6000 Alloys	6000 Alloys	6000 Alloys	6000 Alloys	6000 Alloys	6000 Alloys	6000 Alloys	6000 Alloys	6000 Alloys
Circumscribing Circle Sizes Less Than 10 Inches in Diameter									
Up thru .124	.006	(+/-) 10% of specified dimensions; (+/-) .060 max (+/-) .010 min	.010	.012	–	–	–	–	–
.125 – .249	.007		.012	.014	.016	–	–	–	–
.250 – .499	.008		.014	.016	.018	.020	–	–	–
.500 – .749	.009		.016	.018	.020	.022	–	–	–
.750 – .999	.010		.018	.020	.022	.025	.030	–	–
1.000 – 1.499	.012		.021	.023	.026	.030	.035	–	–
1.500 – 1.999	.014		.024	.026	.031	.036	.042	.050	–
2.000 – 3.999	.024		.034	.038	.048	.057	.068	.080	–
4.000 – 5.999	.034		.044	.050	.064	.078	.094	.110	–
6.000 – 7.999	.044		.054	.062	.082	.099	.120	.140	–
8.000 – 9.999	.054	.064	.074	.100	.120	.145	.170	–	

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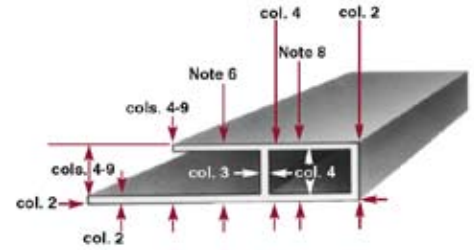
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132 Trowbridge Drive | P.O. Box 1107 | Fond du Lac, WI 54936-1107

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Tolerance MM Plus & Minus



Specified Dimensions mm	Metal Dimensions		Space Dimensions						
	Allowable deviation from specified dimensions where 75% or more of the dimension is metal		Allowable deviation from specified dimension where more than 25% of the dimension is space						
	All except those covered by column 3	Wall thickness completely enclosing space 70 sq mm and over (Eccentricity)	At dimensioned points .5 thru 15 mm from base of leg	At dimensioned points 15 thru 30 mm from base of leg	At dimensioned points 30 thru 60 mm from base of leg	At dimensioned points 60 thru 100 mm from base of leg	At dimensioned points 100 thru 150 mm from base of leg	At dimensioned points 150 thru 200 mm from base of leg	
Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9	
	6000 Alloys	6000 Alloys	6000 Alloys	6000 Alloys	6000 Alloys	6000 Alloys	6000 Alloys	6000 Alloys	6000 Alloys
Circumscribing Circle Sizes 250 mm in Diameter									
Up thru 3.20	0.15	(+/-) 10% of specified dimensions; (+/-) .060 max (+/-) .010 min	0.25	0.30	–	–	–	–	
3.20 – 6.30	0.18		0.30	0.36	0.41	–	–	–	
6.30 – 12.50	0.20		0.36	0.41	0.46	0.50	–	–	
12.50 – 20.00	0.23		0.41	0.46	0.50	0.56	–	–	
20.00 – 25.00	0.25		0.46	0.50	0.56	0.64	0.76	–	
25.00 – 40.00	0.30		0.54	0.58	0.66	0.76	0.88	–	
40.00 – 50.00	0.36		0.60	0.66	0.78	0.92	1.05	1.25	
50.00 – 100.00	0.60		0.86	0.96	1.20	1.45	1.70	2.05	
100.00 – 150.00	0.86		1.10	1.25	1.65	2.00	2.40	2.80	
150.00 – 200.00	1.10		1.35	1.55	2.10	2.50	3.05	3.55	
200.00 – 250.00	1.35		1.65	1.90	2.50	3.05	3.70	4.30	

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