

## U-Channel

U-Channel is used in many common bridging and bracing applications. U-channel is available in 54 mil (16ga.) steel with 1/2" legs. Standard widths are 3/4", 1-1/2", 2" and 2-1/2".

### Designation

Industry standard nomenclature is used to identify MBA's products. The Steel Framing Industry Association has established standard designation codes for U-Channel. In each case, the identification starts with the measurement of the width of the member, followed by a letter (U = Channel Sections) followed by the flange dimension. A hyphen is used to separate all of this from the thickness of the metal.

**Member Depth:**

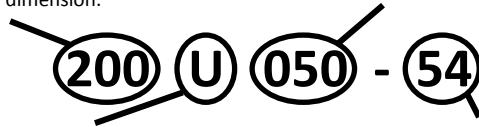
(Example: 2" = 200 x 1/100 inches)

All member depths are taken in 1/100 inches. For all "T" sections member depth is the inside to inside dimension.

**Flange Width:**

(Example: 1/2" = 0.50" = 050 x 1/100 inches)

All flange widths are taken in 1/100 inches.



**Style:**

(Example: Channel Section = U)

The alpha character utilized by the designation system is:

U = Channel Sections

**Material Thickness:**

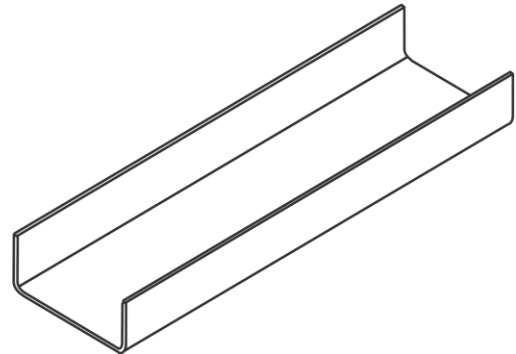
(Example: 0.054 in. = 54 mils; 1 mil = 1/1000 in.)

Material thickness is the minimum base metal thickness in mils. Minimum base metal thickness represents 95% of the design thickness.

### Steel Thickness

Mils	Gauge	Thickness (in)	
		Design	Minimum <sup>1</sup>
54	16	0.0566	0.0538

<sup>1</sup> Minimum Thickness represents 95% of the design thickness and is the minimum acceptable thickness delivered to the job site based on Section A3.4 of the 1996 AISI Specification.



### General Notes

1. Physical properties and load tables have been calculated in conformance with the 2001 NASPEC for the Design of Cold-Formed Steel Structural Members, including the 2004 Supplement, and the IBC 2006, unless noted otherwise.
2. Structural framing members have a protective coating conforming to ASTM C 955.
3. Reference ASTM specification A 1003/A 1003 M table 1 for the universe of allowable coatings for light gauge steel framing.
4. All delivered material must be kept dry, preferably by being stored inside a building under a roof. If it is necessary to store material outside, it must be stacked off the ground, properly supported on a level platform, and fully protected from the weather. Reference ASTM C 754 section 8 and ASTM C 1007 section 4.

### LEED Green Building Credits

MR Credit 2: Construction Waste Management – MBA steel framing is 100% recyclable.

MR Credit 4: Recycled Content – MBA steel framing is formed from no less than 25.5% post-consumer and 6.8% pre-consumer recycled content.

MR Credit 5: Regional Materials – MBA has manufacturing facilities in multiple states.

# Channel Properties

## U-Channel Section Properties

Section	Design Thickness <sup>1</sup> (in)	Gross Properties					Effective Properties <sup>3</sup> (33ksi)			
		Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	Rx (in)	Iy (in <sup>4</sup> )	Ry (in)	Ix <sup>2</sup> (in <sup>4</sup> )	Sx (in <sup>3</sup> )	Ma (in-k)	Va (lb)
075U50-54	0.0566	0.087	0.007	0.288	0.002	0.155	0.007	0.019	0.45	315
150U50-54	0.0566	0.129	0.039	0.547	0.003	0.144	0.039	0.052	1.22	840
200U50-54	0.0566	0.157	0.079	0.709	0.003	0.136	0.079	0.079	1.87	1190
250U50-54	0.0566	0.186	0.139	0.866	0.003	0.128	0.139	0.111	2.64	1540

<sup>1</sup> Minimum base metal thickness is 95% of design thickness.

<sup>2</sup> Moment of inertia given is for deflection calculations.

<sup>3</sup> Effective properties are given as the minimum value for positive or negative bending.

## U-Channel Allowable Ceiling Spans L/240

Section	Spans	4 psf Channel Spacing (in) o.c.					6 psf Channel Spacing (in) o.c.				
		24	36	48	60	72	24	36	48	60	72
075U50-54	Single	3' 11"	3' 5"	3' 1"	2' 10"	2' 8"	3' 5"	3' 0"	2' 8"	2' 6"	2' 4"
	Multiple	4' 10"	4' 2"	3' 10"	3' 7"	3' 4"	4' 2"	3' 8"	3' 4"	3' 1"	2' 10"
150U50-54	Single	5' 6"	4' 10"	4' 5"	4' 1"	3' 10"	4' 10"	4' 3"	3' 10"	3' 7"	3' 5"
	Multiple	7' 1"	6' 2"	5' 8"	5' 3"	4' 11"	6' 2"	5' 5"	4' 11"	4' 7"	4' 4"
200U50-54	Single	5' 10"	5' 1"	4' 8"	4' 4"	4' 1"	5' 1"	4' 6"	4' 1"	3' 10"	3' 7"
	Multiple	7' 5"	6' 6"	5' 11"	5' 6"	5' 2"	6' 6"	5' 8"	5' 2"	4' 10"	4' 7"
250U50-54	Single	6' 1"	5' 4"	4' 10"	4' 6"	4' 3"	5' 4"	4' 8"	4' 3"	4' 0"	3' 9"
	Multiple	7' 9"	6' 9"	6' 2"	5' 9"	5' 5"	6' 9"	5' 11"	5' 5"	5' 0"	4' 9"

Section	Spans	13 psf Channel Spacing (in) o.c.				15 psf Channel Spacing (in) o.c.					
		24	36	48	60	72	24	36	48	60	72
075U50-54	Single	2' 7"	2' 4"	2' 1"	1' 11"	1' 9"	2' 6"	2' 2"	2' 0"	1' 10"	1' 8"
	Multiple	3' 3"	2' 9"	2' 4"	2' 1"	1' 11"	3' 1"	2' 7"	2' 2"	2' 0"	1' 9"
150U50-54	Single	3' 9"	3' 3"	3' 0"	2' 9"	2' 7"	3' 7"	3' 2"	2' 10"	2' 7"	2' 5"
	Multiple	4' 10"	4' 2"	3' 9"	3' 4"	3' 0"	4' 7"	4' 0"	3' 6"	3' 1"	2' 9"
200U50-54	Single	4' 0"	3' 6"	3' 2"	3' 0"	2' 10"	3' 10"	3' 4"	3' 1"	2' 10"	2' 8"
	Multiple	5' 1"	4' 5"	4' 0"	3' 9"	3' 6"	4' 10"	4' 3"	3' 10"	3' 7"	3' 2"
250U50-54	Single	4' 2"	3' 8"	3' 4"	3' 1"	2' 11"	4' 0"	3' 6"	3' 2"	3' 0"	2' 10"
	Multiple	5' 3"	4' 7"	4' 3"	3' 11"	3' 9"	5' 0"	4' 5"	4' 0"	3' 9"	3' 7"

## U-Channel Allowable Ceiling Spans L/360

Section	Spans	4 psf Channel Spacing (in) o.c.				6 psf Channel Spacing (in) o.c.					
		24	36	48	60	72	24	36	48	60	72
075U50-54	Single	3' 5"	3' 0"	2' 8"	2' 6"	2' 4"	3' 0"	2' 7"	2' 4"	2' 2"	2' 1"
	Multiple	4' 2"	3' 8"	3' 4"	3' 1"	2' 11"	3' 8"	3' 2"	2' 11"	2' 8"	2' 7"
150U50-54	Single	5' 6"	4' 10"	4' 5"	4' 1"	3' 10"	4' 10"	4' 3"	3' 10"	3' 7"	3' 5"
	Multiple	7' 1"	6' 2"	5' 8"	5' 3"	4' 11"	6' 2"	5' 5"	4' 11"	4' 7"	4' 4"
200U50-54	Single	5' 10"	5' 1"	4' 8"	4' 4"	4' 1"	5' 1"	4' 6"	4' 1"	3' 10"	3' 7"
	Multiple	7' 5"	6' 6"	5' 11"	5' 6"	5' 2"	6' 6"	5' 8"	5' 2"	4' 10"	4' 7"
250U50-54	Single	6' 1"	5' 4"	4' 10"	4' 6"	4' 3"	5' 4"	4' 8"	4' 3"	4' 0"	3' 9"
	Multiple	7' 9"	6' 9"	6' 2"	5' 9"	5' 5"	6' 9"	5' 11"	5' 5"	5' 0"	4' 9"

Section	Spans	13 psf Channel Spacing (in) o.c.				15 psf Channel Spacing (in) o.c.					
		24	36	48	60	72	24	36	48	60	
075U50-54	Single	2' 4"	2' 0"	1' 10"	1' 8"	1' 7"	2' 2"	1' 11"	1' 9"	1' 7"	1' 6"
	Multiple	2' 10"	2' 6"	2' 3"	2' 1"	1' 11"	2' 8"	2' 4"	2' 2"	2' 0"	1' 9"
150U50-54	Single	3' 9"	3' 3"	3' 0"	2' 9"	2' 7"	3' 7"	3' 2"	2' 10"	2' 7"	2' 5"
	Multiple	4' 10"	4' 2"	3' 9"	3' 4"	3' 0"	4' 7"	4' 0"	3' 6"	3' 1"	2' 9"
200U50-54	Single	4' 0"	3' 6"	3' 2"	3' 0"	2' 10"	3' 10"	3' 4"	3' 1"	2' 10"	2' 8"
	Multiple	5' 1"	4' 5"	4' 0"	3' 9"	3' 6"	4' 10"	4' 3"	3' 10"	3' 7"	3' 2"
250U50-54	Single	4' 2"	3' 8"	3' 4"	3' 1"	2' 11"	4' 0"	3' 6"	3' 2"	3' 0"	2' 10"
	Multiple	5' 3"	4' 7"	4' 3"	3' 11"	3' 9"	5' 0"	4' 5"	4' 0"	3' 9"	3' 7"

Allowable ceiling spans based on effective properties.

Multiple span indicates two or more equal spans with channel continuous over center support.

Bearing length = 0.75".

Table values based on the compression flange laterally unsupported.

Listed spans are based on unbraced compression flanges.