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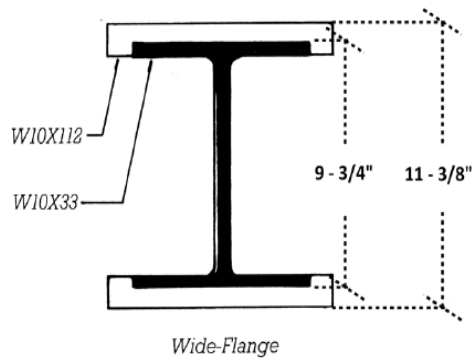
WATTS #3



**Structural Steel Sizes:** Structural steel framing members used in the United States are designated in American Institute of Steel Construction (AISC) format which expresses member shape with a letter abbreviation, gives a general idea of member depth in inches, and provides their weight expressed as pounds per linear foot. An example is the designation for a **Wide Flange** Beam approximately **10"** deep and weighing **49** pounds per linear foot, which is written as **W 10x49**. An exception to this standard is that angles are classified by the thickness of their legs, not linear foot weight.

**Steel Shapes:** The most common shapes and their abbreviations include Wide Flange beams (W,) American Standard Beams (S,) American Standard Channels (C) and Angles (L.) These letter abbreviations are the first character in the member designation.

**Member Depths and Weights:** Beam depths are expressed in whole inches, but the **actual depth varies for members of different weights**. The W 10x49 beam is exactly 10" deep, but the full range of actual W 10 depth starts at 9-7/8" for a W 10x12 beam, and tops out at 11-3/8" for the W 10x112 section.



W SHAPES Dimensions

Designation	Area <i>A</i>	Depth <i>d</i>		Web		Flange				
				Thickness <i>t<sub>w</sub></i>	<i>t<sub>w</sub></i> / 2	Width <i>b<sub>f</sub></i>	Thickness <i>t<sub>f</sub></i>			
							In.	In.	In.	In.
W 10x112	32.9	11.36	11 3/8	0.755	3/4	3/8	10.415	10 3/8	1.250	1 1/4
x100	29.4	11.10	11 1/8	0.680	11/16	3/8	10.340	10 3/8	1.120	1 1/8
x88	25.9	10.84	10 7/8	0.605	5/8	3/16	10.265	10 3/8	0.990	1
x77	22.6	10.60	10 5/8	0.530	1/2	1/4	10.190	10 3/8	0.870	3/4
x68	20.0	10.40	10 3/8	0.470	1/2	1/4	10.130	10 3/8	0.770	3/4
x60	17.6	10.22	10 1/4	0.420	3/16	1/4	10.080	10 3/8	0.680	13/16
x54	15.8	10.09	10 1/8	0.370	3/16	3/16	10.030	10	0.615	3/8
x49	14.4	9.98	10	0.340	3/16	3/16	10.000	10	0.560	3/16
W 10x45	13.3	10.10	10 1/8	0.350	3/16	3/16	8.020	8	0.620	3/8
x39	11.5	9.92	9 7/8	0.315	3/16	3/16	7.985	8	0.530	1/2
x33	9.71	9.73	9 7/8	0.290	3/16	3/16	7.960	8	0.435	3/16
W 10x30	8.84	10.47	10 1/2	0.300	3/16	3/16	5.810	5 3/4	0.510	1/2
x26	7.61	10.33	10 3/8	0.260	1/4	1/8	5.770	5 3/4	0.440	7/16
x22	6.49	10.17	10 1/8	0.240	1/4	1/8	5.750	5 3/4	0.360	3/8
W 10x19	5.62	10.24	10 1/4	0.250	1/4	1/8	4.020	4	0.395	3/8
x17	4.99	10.11	10 1/8	0.240	1/4	1/8	4.010	4	0.330	3/16
x15	4.41	9.99	10	0.230	1/4	1/8	4.000	4	0.270	1/4
x12	3.54	9.87	9 7/8	0.190	3/16	1/8	3.960	4	0.210	3/16

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