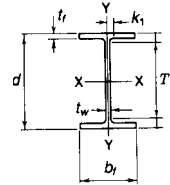
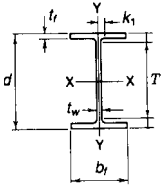


## W Shapes Dimensions



Shapes	Area A	Depth d		Web		Flange				Distance		
				Thickness $t_w$		Width $b_f$		Thickness $t_f$		$k_1$	T	Workable Gage
	in. <sup>2</sup>	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
W 4 x 13	3.83	4.16	4 1/8	0.280	1/4	4.06	4	0.345	3/8	1/2	2 5/8	2 1/4
W 5 x 16	4.71	5.01	5	0.240	1/4	5.00	5	0.360	3/8	7/16	3 1/2	2 3/4
W 5 x 19	5.56	5.15	5 1/8	0.270	1/4	5.03	5	0.430	7/16	7/16	3 1/2	2 3/4
W 6 x 9	2.68	5.90	5 7/8	0.170	3/16	3.94	4	0.215	3/16	1/2	4 1/2	2 1/4
W 6 x 12	3.55	6.03	6	0.230	1/4	4.00	4	0.280	1/4	9/16	↓	↓
W 6 x 16	4.74	6.28	6 1/4	0.260	1/4	4.03	4	0.405	3/8	9/16	↓	↓
W 6 x 15	4.43	5.99	6	0.230	1/4	5.99	6	0.260	1/4	9/16	4 1/2	3 1/2
W 6 x 20	5.87	6.20	6 1/4	0.260	1/4	6.02	6	0.365	3/8	9/16	↓	↓
W 6 x 25	7.34	6.38	6 3/8	0.320	5/16	6.08	6 1/8	0.455	7/16	9/16	↓	↓
W 8 x 10	2.96	7.89	7 7/8	0.170	3/16	3.94	4	0.205	3/16	1/2	6 1/2	2 1/4
W 8 x 13	3.84	7.99	8	0.230	1/4	4.00	4	0.255	1/4	9/16	↓	↓
W 8 x 15	4.44	8.11	8 1/8	0.245	1/4	4.02	4	0.315	5/16	9/16	↓	↓
W 8 x 18	5.26	8.14	8 1/8	0.230	1/4	5.25	5 1/4	0.330	5/16	9/16	6 1/2	2 3/4
W 8 x 21	6.16	8.28	8 1/4	0.250	1/4	5.27	5 1/4	0.400	3/8	9/16	6 1/2	2 3/4
W 8 x 24	7.08	7.93	7 7/8	0.245	1/4	6.50	6 1/2	0.400	3/8	9/16	6 1/8	4
W 8 x 28	8.24	8.06	8	0.285	5/16	6.54	6 1/2	0.465	7/16	5/8	6 1/8	4
W 8 x 31	9.12	8.00	8	0.285	5/16	8.00	8	0.435	7/16	3/4	5 3/4	5 1/2
W 8 x 35	10.3	8.12	8 1/8	0.310	5/16	8.02	8	0.495	1/2	13/16	↓	↓
W 8 x 40	11.7	8.25	8 1/4	0.360	3/8	8.07	8 1/8	0.560	9/16	13/16	↓	↓
W 8 x 48	14.1	8.50	8 1/2	0.400	3/8	8.11	8 1/8	0.685	1 1/16	13/16	↓	↓
W 8 x 58	17.1	8.75	8 3/4	0.510	1/2	8.22	8 1/4	0.810	1 3/16	7/8	↓	↓
W 8 x 67	19.7	9.00	9	0.570	9/16	8.28	8 1/4	0.935	1 5/16	1 5/16	↓	↓



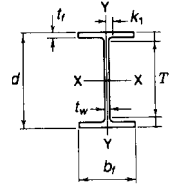
# W Shapes

## Dimensions

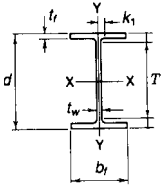
Shapes	Area A	Depth d		Web		Flange				Distance		
				Thickness t <sub>w</sub>		Width b <sub>f</sub>		Thickness t <sub>f</sub>		k <sub>1</sub>	T	Work- able Gage
				in.	in.	in.	in.	in.	in.	in.	in.	in.
W 10 x 12	3.54	9.87	9 <sup>7</sup> / <sub>8</sub>	0.190	<sup>3</sup> / <sub>16</sub>	3.96	4	0.210	<sup>3</sup> / <sub>16</sub>	<sup>9</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>
x 15	4.41	10.0	10	0.230	<sup>1</sup> / <sub>4</sub>	4.00	4	0.270	<sup>1</sup> / <sub>4</sub>	<sup>9</sup> / <sub>16</sub>	↓	↓
x 17	4.99	10.1	10 <sup>7</sup> / <sub>8</sub>	0.240	<sup>1</sup> / <sub>4</sub>	4.01	4	0.330	<sup>5</sup> / <sub>16</sub>	<sup>9</sup> / <sub>16</sub>	↓	↓
x 19	5.62	10.2	10 <sup>1</sup> / <sub>4</sub>	0.250	<sup>1</sup> / <sub>4</sub>	4.02	4	0.395	<sup>3</sup> / <sub>8</sub>	<sup>5</sup> / <sub>8</sub>	↓	↓
W 10 x 22	6.49	10.2	10 <sup>7</sup> / <sub>8</sub>	0.240	<sup>1</sup> / <sub>4</sub>	5.75	5 <sup>3</sup> / <sub>4</sub>	0.360	<sup>3</sup> / <sub>8</sub>	<sup>5</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>4</sub>
x 26	7.61	10.3	10 <sup>3</sup> / <sub>8</sub>	0.260	<sup>1</sup> / <sub>4</sub>	5.77	5 <sup>3</sup> / <sub>4</sub>	0.440	<sup>7</sup> / <sub>16</sub>	<sup>11</sup> / <sub>16</sub>	↓	↓
x 30	8.84	10.5	10 <sup>1</sup> / <sub>2</sub>	0.300	<sup>5</sup> / <sub>16</sub>	5.81	5 <sup>3</sup> / <sub>4</sub>	0.510	<sup>1</sup> / <sub>2</sub>	<sup>11</sup> / <sub>16</sub>	↓	↓
W 10 x 33	9.71	9.73	9 <sup>3</sup> / <sub>4</sub>	0.290	<sup>5</sup> / <sub>16</sub>	7.96	8	0.435	<sup>7</sup> / <sub>16</sub>	<sup>3</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>
x 39	11.5	9.92	9 <sup>7</sup> / <sub>8</sub>	0.315	<sup>5</sup> / <sub>16</sub>	7.99	8	0.530	<sup>1</sup> / <sub>2</sub>	<sup>13</sup> / <sub>16</sub>	↓	↓
x 45	13.3	10.1	10 <sup>7</sup> / <sub>8</sub>	0.350	<sup>3</sup> / <sub>8</sub>	8.02	8	0.620	<sup>5</sup> / <sub>8</sub>	<sup>13</sup> / <sub>16</sub>	↓	↓
W 10 x 49	14.4	10.0	10	0.340	<sup>5</sup> / <sub>16</sub>	10.0	10	0.560	<sup>9</sup> / <sub>16</sub>	<sup>13</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>
x 54	15.8	10.1	10 <sup>7</sup> / <sub>8</sub>	0.370	<sup>3</sup> / <sub>8</sub>	10.0	10	0.615	<sup>5</sup> / <sub>8</sub>	<sup>13</sup> / <sub>16</sub>	↓	↓
x 60	17.6	10.2	10 <sup>1</sup> / <sub>4</sub>	0.420	<sup>7</sup> / <sub>16</sub>	10.1	10 <sup>7</sup> / <sub>8</sub>	0.680	<sup>11</sup> / <sub>16</sub>	<sup>13</sup> / <sub>16</sub>	↓	↓
x 68	20.0	10.4	10 <sup>3</sup> / <sub>8</sub>	0.470	<sup>1</sup> / <sub>2</sub>	10.1	10 <sup>1</sup> / <sub>4</sub>	0.770	<sup>3</sup> / <sub>4</sub>	<sup>7</sup> / <sub>8</sub>	↓	↓
x 77	22.6	10.6	10 <sup>5</sup> / <sub>8</sub>	0.530	<sup>1</sup> / <sub>2</sub>	10.2	10 <sup>1</sup> / <sub>4</sub>	0.870	<sup>7</sup> / <sub>8</sub>	<sup>7</sup> / <sub>8</sub>	↓	↓
x 88	25.9	10.8	10 <sup>7</sup> / <sub>8</sub>	0.605	<sup>5</sup> / <sub>8</sub>	10.3	10 <sup>1</sup> / <sub>4</sub>	0.990	1	<sup>15</sup> / <sub>16</sub>	↓	↓
x100	29.4	11.1	11 <sup>1</sup> / <sub>8</sub>	0.680	<sup>11</sup> / <sub>16</sub>	10.3	10 <sup>3</sup> / <sub>8</sub>	1.12	<sup>11</sup> / <sub>8</sub>	1	↓	↓
x112	32.9	11.4	11 <sup>3</sup> / <sub>8</sub>	0.755	<sup>3</sup> / <sub>4</sub>	10.4	10 <sup>3</sup> / <sub>8</sub>	1.25	<sup>11</sup> / <sub>4</sub>	1	↓	↓
W 12 x 14	4.16	11.9	11 <sup>7</sup> / <sub>8</sub>	0.200	<sup>3</sup> / <sub>16</sub>	3.97	4	0.225	<sup>1</sup> / <sub>4</sub>	<sup>9</sup> / <sub>16</sub>	10 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>
x 16	4.71	12.0	12	0.220	<sup>1</sup> / <sub>4</sub>	3.99	4	0.265	<sup>1</sup> / <sub>4</sub>	<sup>9</sup> / <sub>16</sub>	↓	↓
x 19	5.57	12.2	12 <sup>7</sup> / <sub>8</sub>	0.235	<sup>1</sup> / <sub>4</sub>	4.01	4	0.350	<sup>3</sup> / <sub>8</sub>	<sup>9</sup> / <sub>16</sub>	↓	↓
x 22	6.48	12.3	12 <sup>1</sup> / <sub>4</sub>	0.260	<sup>1</sup> / <sub>4</sub>	4.03	4	0.425	<sup>7</sup> / <sub>16</sub>	<sup>5</sup> / <sub>8</sub>	↓	↓
W 12 x 26	7.65	12.2	12 <sup>1</sup> / <sub>4</sub>	0.230	<sup>1</sup> / <sub>4</sub>	6.49	6 <sup>1</sup> / <sub>2</sub>	0.380	<sup>3</sup> / <sub>8</sub>	<sup>3</sup> / <sub>4</sub>	10 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>
x 30	8.79	12.3	12 <sup>3</sup> / <sub>8</sub>	0.260	<sup>1</sup> / <sub>4</sub>	6.52	6 <sup>1</sup> / <sub>2</sub>	0.440	<sup>7</sup> / <sub>16</sub>	<sup>3</sup> / <sub>4</sub>	↓	↓
x 35	10.3	12.5	12 <sup>1</sup> / <sub>2</sub>	0.300	<sup>5</sup> / <sub>16</sub>	6.56	6 <sup>1</sup> / <sub>2</sub>	0.520	<sup>1</sup> / <sub>2</sub>	<sup>3</sup> / <sub>4</sub>	↓	↓
W 12 x 40	11.7	11.9	12	0.295	<sup>5</sup> / <sub>16</sub>	8.01	8	0.515	<sup>1</sup> / <sub>2</sub>	<sup>7</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub>
x 45	13.1	12.1	12	0.335	<sup>5</sup> / <sub>16</sub>	8.05	8	0.575	<sup>9</sup> / <sub>16</sub>	<sup>15</sup> / <sub>16</sub>	↓	↓
x 50	14.6	12.2	12 <sup>1</sup> / <sub>4</sub>	0.370	<sup>3</sup> / <sub>8</sub>	8.08	8 <sup>1</sup> / <sub>8</sub>	0.640	<sup>5</sup> / <sub>8</sub>	<sup>15</sup> / <sub>16</sub>	↓	↓
W 12 x 53	15.6	12.1	12	0.345	<sup>3</sup> / <sub>8</sub>	10.0	10	0.575	<sup>9</sup> / <sub>16</sub>	<sup>15</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub>
x 58	17.0	12.2	12 <sup>1</sup> / <sub>4</sub>	0.360	<sup>3</sup> / <sub>8</sub>	10.0	10	0.640	<sup>5</sup> / <sub>8</sub>	<sup>15</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub>

# W Shapes

## Dimensions



Shapes	Area		Depth		Web		Flange			Distance		
	A		d		Thickness		Width		Thickness	k <sub>1</sub>	T	Workable Gage
	in. <sup>2</sup>		in.		t <sub>w</sub>		b <sub>f</sub>		t <sub>f</sub>			
W 12 x 65	19.1	12.1	12½	0.390	⅜	12.0	12	0.605	⅝	1	9½	5½
x 72	21.1	12.3	12¼	0.430	7/16	12.0	12	0.670	11/16	1 1/16	↓	↓
x 79	23.2	12.4	12⅝	0.470	½	12.1	12⅝	0.735	¾	1 1/16		
x 87	25.6	12.5	12½	0.515	½	12.1	12⅝	0.810	13/16	1 1/16		
x 96	28.2	12.7	12¾	0.550	9/16	12.2	12⅝	0.900	7/8	1 1/8		
x 106	31.2	12.9	12⅞	0.610	⅝	12.2	12¾	0.990	1	1 1/8		
x 120	35.3	13.1	13⅝	0.710	1 1/16	12.3	12⅝	1.11	1 1/8	1 3/16		
x 136	39.9	13.4	13⅝	0.790	13/16	12.4	12⅝	1.25	1 1/4	1 1/4		
x 152	44.7	13.7	13¾	0.870	7/8	12.5	12½	1.40	1 3/8	1 1/4		
x 170	50.0	14.0	14	0.960	15/16	12.6	12⅝	1.56	1 9/16	1 5/16		
x 190	55.8	14.4	14⅝	1.060	1 1/8	12.7	12⅝	1.74	1 3/4	1 9/8		
x 210	61.8	14.7	14¾	1.180	1 3/16	12.8	12¾	1.90	1 7/8	1 7/16		
x 230	67.7	15.1	15	1.290	1 5/16	12.9	12⅞	2.07	2 1/16	1 1/2		
x 252	74.0	15.4	15⅝	1.400	1 3/8	13.0	13	2.25	2 1/4	1 1/2		
x 279	81.9	15.9	15⅞	1.530	1 1/2	13.1	13⅝	2.47	2 1/2	1 9/8		
x 305	89.6	16.3	16⅝	1.630	1 5/8	13.2	13¾	2.71	2 11/16	1 5/8		
x 336	98.8	16.8	16⅞	1.780	1 3/4	13.4	13⅝	2.96	2 15/16	1 11/16		
W 14 x 22	6.49	13.7	13¾	0.230	¼	5.00	5	0.335	5/16	¾	11⅝	2¾
x 26	7.69	13.9	13⅞	0.255	¼	5.03	5	0.420	7/16	¾	11⅝	2¾
W 14 x 30	8.85	13.8	13⅞	0.270	¼	6.73	6¾	0.385	⅝	¾	11⅝	3½
x 34	10.0	14.0	14	0.285	5/16	6.75	6¾	0.455	7/16	¾	↓	↓
x 38	11.2	14.1	14⅝	0.310	5/16	6.77	6¾	0.515	1/2	13/16	↓	↓
W 14 x 43	12.6	13.7	13⅝	0.305	5/16	8.00	8	0.530	1/2	1	10⅞	5½
x 48	14.1	13.8	13¾	0.340	5/16	8.03	8	0.595	5/8	1	↓	↓
x 53	15.6	13.9	13⅞	0.370	⅜	8.06	8	0.660	1 1/16	1	↓	↓
W 14 x 61	17.9	13.9	13⅞	0.375	⅜	10.0	10	0.645	5/8	1	10⅞	5½
x 68	20.0	14.0	14	0.415	7/16	10.0	10	0.720	¾	1 1/16	↓	↓
x 74	21.8	14.2	14⅝	0.450	7/16	10.1	10⅝	0.785	13/16	1 1/16	↓	↓
x 82	24.0	14.3	14¾	0.510	1/2	10.1	10⅝	0.855	7/8	1 1/16	↓	↓
W 14 x 90	26.5	14.0	14	0.440	7/16	14.5	14½	0.710	1 1/16	1 7/16	10	5½
x 99	29.1	14.2	14⅝	0.485	1/2	14.6	14⅝	0.780	¾	1 7/16	↓	↓
x 109	32.0	14.3	14⅝	0.525	1/2	14.6	14⅝	0.860	7/8	1 1/2	↓	↓
x 120	35.3	14.5	14½	0.590	9/16	14.7	14⅝	0.940	15/16	1 1/2	↓	↓
x 132	38.8	14.7	14⅝	0.645	⅝	14.7	14¾	1.03	1	1 9/16	↓	↓



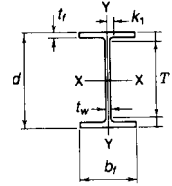
# W Shapes

## Dimensions

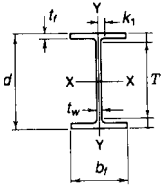
Shapes	Area A	Depth d		Web		Flange				Distance		
				Thickness t <sub>w</sub>		Width b <sub>f</sub>		Thickness t <sub>f</sub>		k <sub>1</sub>	T	Work-able Gage
				in.	in.	in.	in.	in.	in.	in.	in.	
W 14 x 145	42.7	14.8	14¾	0.680	1½	15.5	15½	1.09	1½	1½	10	3-7½-3
x 159	46.7	15.0	15	0.745	¾	15.6	15⅝	1.19	1¾	1½	↓	↓
x 176	51.8	15.2	15¼	0.830	13/16	15.7	15⅝	1.31	1½	1⅝	↓	↓
x 193	56.8	15.5	15½	0.890	7/8	15.7	15¾	1.44	1¾	1⅞	↓	↓
x 211	62.0	15.7	15¾	0.980	1	15.8	15¾	1.56	1¾	1⅞	↓	↓
x 233	68.5	16.0	16	1.070	1½	15.9	15⅞	1.72	1¾	1¾	↓	↓
x 257	75.6	16.4	16⅜	1.180	1¾	16.0	16	1.89	1⅞	1⅞	↓	↓
x 283	83.3	16.7	16¾	1.290	1⅞	16.1	16⅞	2.07	2¼	1⅞	↓	↓
x 311	91.4	17.1	17⅛	1.410	1⅞	16.2	16¼	2.26	2¼	1⅞	↓	↓
x 342	101.0	17.5	17½	1.540	1⅞	16.4	16⅝	2.47	2½	2	↓	↓
x 370	109.0	17.9	17⅞	1.660	1⅞	16.5	16½	2.66	2⅞	2¼	↓	↓
x 398	117.0	18.3	18¼	1.770	1¾	16.6	16⅝	2.85	2⅞	2½	↓	↓
x 426	125.0	18.7	18⅝	1.880	1⅞	16.7	16¾	3.04	3¼	2½	↓	↓
x 455	134.0	19.0	19	2.020	2	16.8	16⅞	3.21	3¼	2¼	↓	↓
x 500	147.0	19.6	19⅝	2.190	2⅞	17.0	17	3.50	3½	2⅞	↓	↓
x 550	162.0	20.2	20¼	2.380	2⅞	17.2	17¼	3.82	3⅞	2⅞	↓	↓
x 605	178.0	20.9	20⅞	2.600	2⅞	17.4	17⅝	4.16	4⅞	2½	↓	↓
x 665	196.0	21.6	21⅝	2.830	2⅞	17.7	17⅞	4.52	4½	2⅞	↓	↓
x 730	215.0	22.4	22⅝	3.070	3⅞	17.9	17⅞	4.91	4⅞	2¾	↓	↓
W 16 x 26	7.68	15.7	15¾	0.250	¼	5.50	5½	0.345	⅝	¾	13⅝	3½
x 31	9.13	15.9	15⅞	0.275	¼	5.53	5½	0.440	7/16	¾	13⅝	3½
W 16 x 36	10.6	15.9	15⅞	0.295	5/16	6.99	7	0.430	7/16	¾	13⅝	3½
x 40	11.8	16.0	16	0.305	5/16	7.00	7	0.505	½	13/16	↓	↓
x 45	13.3	16.1	16⅛	0.345	⅝	7.04	7	0.565	9/16	13/16	↓	↓
x 50	14.7	16.3	16¼	0.380	⅝	7.07	7⅞	0.630	⅝	13/16	↓	↓
x 57	16.8	16.4	16⅜	0.430	7/16	7.12	7⅞	0.715	11/16	7/8	↓	↓
W 16 x 67	19.7	16.3	16⅜	0.395	⅝	10.2	10¼	0.665	11/16	1	13¼	5½
x 77	22.6	16.5	16½	0.455	7/16	10.3	10¼	0.760	¾	1⅞	↓	↓
x 89	26.2	16.8	16¾	0.525	½	10.4	10⅝	0.875	7/8	1⅞	↓	↓
x 100	29.5	17.0	17	0.585	9/16	10.4	10⅝	0.985	1	1⅞	↓	↓

# W Shapes

## Dimensions



Shapes	Area A	Depth d		Web		Flange			Distance			
				Thickness t <sub>w</sub>		Width b <sub>f</sub>		Thickness t <sub>f</sub>		k <sub>1</sub>	T	Workable Gage
				in.		in.		in.		in.	in.	in.
W 18 x 35	10.3	17.7	17¾	0.300	⅝	6.00	6	0.425	⅞	¾	15½	3½
x 40	11.8	17.9	17⅞	0.315	⅝	6.02	6	0.525	½	13/16	↓	↓
x 46	13.5	18.1	18	0.360	⅜	6.06	6	0.605	⅝	13/16	↓	↓
W 18 x 50	14.7	18.0	18	0.355	⅜	7.50	7½	0.570	⅞	13/16	15½	3½
x 55	16.2	18.1	18⅞	0.390	⅜	7.53	7½	0.630	⅝	13/16	↓	↓
x 60	17.6	18.2	18¼	0.415	⅞	7.56	7½	0.695	11/16	13/16	↓	↓
x 65	19.1	18.4	18⅝	0.450	⅞	7.59	7⅝	0.750	¾	7/8	↓	↓
x 71	20.8	18.5	18½	0.495	½	7.64	7⅝	0.810	13/16	7/8	↓	↓
W 18 x 76	22.3	18.2	18¼	0.425	⅞	11.0	11	0.680	11/16	11/16	15⅝	5½
x 86	25.3	18.4	18⅝	0.480	½	11.1	11⅞	0.770	¾	11/16	↓	↓
x 97	28.5	18.6	18⅝	0.535	⅞	11.1	11⅞	0.870	7/8	11/8	↓	↓
x 106	31.1	18.7	18¾	0.590	⅞	11.2	11¼	0.940	15/16	11/8	↓	↓
x 119	35.1	19.0	19	0.655	⅝	11.3	11¼	1.06	11/16	13/16	↓	↓
x 130	38.2	19.3	19¼	0.670	11/16	11.2	11⅞	1.20	13/16	13/16	↓	↓
x 143	42.1	19.5	19½	0.730	¾	11.2	11¼	1.32	15/16	13/16	↓	↓
x 158	46.3	19.7	19¾	0.810	13/16	11.3	11¼	1.44	17/16	11/4	↓	↓
x 175	51.3	20.0	20	0.890	7/8	11.4	11⅝	1.59	19/16	11/4	↓	↓
x 192	56.4	20.4	20⅝	0.960	15/16	11.5	11½	1.75	1¾	11/8	↓	↓
x 211	62.1	20.7	20⅝	1.060	11/16	11.6	11½	1.91	115/16	13/16	15½	↓
x 234	68.8	21.1	21	1.160	13/16	11.7	11⅝	2.11	21/8	13/16	↓	↓
x 258	75.9	21.5	21½	1.280	1¼	11.8	11¾	2.30	25/16	11/4	↓	↓
x 283	83.3	21.9	21⅞	1.400	1⅝	11.9	11⅞	2.50	21/2	15/16	↓	↓
x 311	91.6	22.3	22⅝	1.520	1½	12.0	12	2.74	2¾	1⅝	↓	↓
W 21 x 44	13.0	20.7	20⅝	0.350	⅜	6.50	6½	0.450	7/16	13/16	18⅝	3½
x 50	14.7	20.8	20⅞	0.380	⅜	6.53	6½	0.535	9/16	13/16	↓	↓
x 57	16.7	21.1	21	0.405	⅜	6.56	6½	0.650	⅝	13/16	↓	↓
W 21 x 48	14.1	20.6	20⅝	0.350	⅜	8.14	8⅞	0.430	7/16	13/16	18⅝	5½
x 55	16.2	20.8	20¾	0.375	⅜	8.22	8¼	0.522	½	13/16	↓	↓
x 62	18.3	21.0	21	0.400	⅜	8.24	8¼	0.615	⅝	13/16	↓	↓
x 68	20.0	21.1	21⅞	0.430	⅞	8.27	8¼	0.685	11/16	7/8	↓	↓
x 73	21.5	21.2	21¼	0.455	⅞	8.30	8¼	0.740	¾	7/8	↓	↓
x 83	24.3	21.4	21⅝	0.515	½	8.36	8⅝	0.835	13/16	7/8	↓	↓
x 93	27.3	21.6	21⅝	0.058	9/16	8.42	8⅝	0.930	15/16	15/16	↓	↓



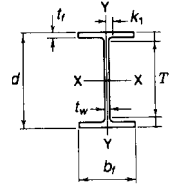
# W Shapes

## Dimensions

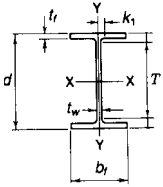
Shapes	Area A	Depth d		Web		Flange				Distance		
				Thickness t <sub>w</sub>		Width b <sub>f</sub>		Thickness t <sub>f</sub>		k <sub>1</sub>	T	Work-able Gage
				in.	in.	in.	in.	in.	in.	in.	in.	in.
W 21 x 101	29.8	21.4	21 <sup>3</sup> / <sub>8</sub>	0.500	1/2	12.3	12 <sup>1</sup> / <sub>4</sub>	0.800	1 <sup>3</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	18	5 <sup>1</sup> / <sub>2</sub>
x 111	32.7	21.5	21 <sup>1</sup> / <sub>2</sub>	0.550	9 <sup>1</sup> / <sub>16</sub>	12.3	12 <sup>3</sup> / <sub>8</sub>	0.875	7 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	↓	↓
x 122	35.9	21.7	21 <sup>5</sup> / <sub>8</sub>	0.600	5 <sup>1</sup> / <sub>8</sub>	12.4	12 <sup>3</sup> / <sub>8</sub>	0.960	1 <sup>5</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>		
x 132	38.8	21.8	21 <sup>7</sup> / <sub>8</sub>	0.650	5 <sup>1</sup> / <sub>8</sub>	12.4	12 <sup>1</sup> / <sub>2</sub>	1.04	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>		
x 147	43.2	22.1	22	0.720	3/4	12.5	12 <sup>1</sup> / <sub>2</sub>	1.15	1 <sup>1</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>16</sub>		
x 166	48.8	22.5	22 <sup>1</sup> / <sub>2</sub>	0.750	3/4	12.4	12 <sup>3</sup> / <sub>8</sub>	1.36	1 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>16</sub>		
x 182	53.6	22.7	22 <sup>3</sup> / <sub>4</sub>	0.830	1 <sup>3</sup> / <sub>16</sub>	12.5	12 <sup>1</sup> / <sub>2</sub>	1.48	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>4</sub>		
x 201	59.2	23.0	23	0.910	1 <sup>5</sup> / <sub>16</sub>	12.6	12 <sup>3</sup> / <sub>8</sub>	1.63	1 <sup>9</sup> / <sub>16</sub>	1 <sup>5</sup> / <sub>16</sub>		
W 24 x 55	16.2	23.6	23 <sup>3</sup> / <sub>8</sub>	0.395	3/8	7.01	7	0.505	1/2	1		
x 62	18.2	23.7	23 <sup>3</sup> / <sub>4</sub>	0.430	7 <sup>1</sup> / <sub>16</sub>	7.04	7	0.590	9 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	20 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>
W 24 x 68	20.1	23.7	23 <sup>3</sup> / <sub>4</sub>	0.415	7 <sup>1</sup> / <sub>16</sub>	8.97	9	0.585	9 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	20 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub>
x 76	22.4	23.9	23 <sup>7</sup> / <sub>8</sub>	0.440	7 <sup>1</sup> / <sub>16</sub>	8.99	9	0.680	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>16</sub>	↓	↓
x 84	24.7	24.1	24 <sup>1</sup> / <sub>8</sub>	0.470	1/2	9.02	9	0.770	3/4	1 <sup>1</sup> / <sub>16</sub>		
x 94	27.7	24.3	24 <sup>1</sup> / <sub>4</sub>	0.515	1/2	9.07	9 1/8	0.875	7/8	1 <sup>1</sup> / <sub>16</sub>		
x 103	30.3	24.5	24 <sup>1</sup> / <sub>2</sub>	0.550	9 <sup>1</sup> / <sub>16</sub>	9.00	9	0.980	1	1 <sup>1</sup> / <sub>8</sub>		
W 24 x 104	30.6	24.1	24	0.500	1/2	12.8	12 <sup>3</sup> / <sub>4</sub>	0.750	3/4	1 <sup>1</sup> / <sub>16</sub>		
x 117	34.4	24.3	24 <sup>1</sup> / <sub>4</sub>	0.550	9 <sup>1</sup> / <sub>16</sub>	12.8	12 <sup>3</sup> / <sub>4</sub>	0.850	7/8	1 <sup>1</sup> / <sub>8</sub>	↓	↓
x 131	38.5	24.5	24 <sup>1</sup> / <sub>2</sub>	0.605	5/8	12.9	12 <sup>7</sup> / <sub>8</sub>	0.960	1 <sup>5</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>		
x 146	43.0	24.7	24 <sup>3</sup> / <sub>4</sub>	0.650	5/8	12.9	12 <sup>7</sup> / <sub>8</sub>	1.09	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>		
x 162	47.7	25.0	25	0.705	1 <sup>1</sup> / <sub>16</sub>	13.0	13	1.22	1 <sup>1</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>16</sub>		
x 176	51.7	25.2	25 <sup>1</sup> / <sub>4</sub>	0.750	3/4	12.9	12 <sup>7</sup> / <sub>8</sub>	1.34	1 <sup>5</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>16</sub>		
x 192	56.3	25.5	25 <sup>1</sup> / <sub>2</sub>	0.810	1 <sup>3</sup> / <sub>16</sub>	13.0	13	1.46	1 <sup>7</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub>		
x 207	60.7	25.7	25 <sup>3</sup> / <sub>4</sub>	0.870	7/8	13.0	13	1.57	1 <sup>9</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub>		
x 229	67.2	26.0	26	0.960	1 <sup>5</sup> / <sub>16</sub>	13.1	13 <sup>1</sup> / <sub>8</sub>	1.73	1 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>16</sub>		
x 250	73.5	26.3	26 <sup>3</sup> / <sub>8</sub>	1.04	1 <sup>1</sup> / <sub>16</sub>	13.2	13 <sup>1</sup> / <sub>8</sub>	1.89	1 <sup>7</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>		
x 279	82.0	26.7	26 <sup>3</sup> / <sub>4</sub>	1.16	1 <sup>3</sup> / <sub>16</sub>	13.3	13 <sup>1</sup> / <sub>4</sub>	2.09	2 <sup>1</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>16</sub>		
x 306	89.9	27.1	27 <sup>1</sup> / <sub>8</sub>	1.26	1 <sup>1</sup> / <sub>4</sub>	13.4	13 <sup>3</sup> / <sub>8</sub>	2.28	2 <sup>1</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>16</sub>		
x 335	98.4	27.5	27 <sup>1</sup> / <sub>2</sub>	1.38	1 <sup>3</sup> / <sub>8</sub>	13.5	13 <sup>1</sup> / <sub>2</sub>	2.48	2 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>		
x 370	109.0	28.0	28	1.52	1 <sup>1</sup> / <sub>2</sub>	13.7	13 <sup>3</sup> / <sub>8</sub>	2.72	2 <sup>3</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>16</sub>		

# W Shapes

## Dimensions



Shapes	Area A	Depth d		Web		Flange				Distance		
				Thickness t <sub>w</sub>		Width b <sub>f</sub>		Thickness t <sub>f</sub>		k <sub>1</sub>	T	Workable Gage
				in.	in.	in.	in.	in.	in.	in.	in.	
W 27 x 84	24.8	26.7	26¾	0.460	7/16	10.0	10	0.640	5/8	11/16	23¾	5½
x 94	27.7	26.9	26⅞	0.490	½	10.0	10	0.745	¾	1¼	↓	↓
x 102	30.0	27.1	27⅞	0.515	½	10.0	10	0.830	13/16	1¼	↓	↓
x 114	33.5	27.3	27¼	0.570	9/16	10.1	10½	0.930	15/16	1½	↓	↓
x 129	37.8	27.6	27⅝	0.610	5/8	10.0	10	1.10	1½	1½	↓	↓
W 27 x 146	43.1	27.4	27⅝	0.605	5/8	14.0	14	0.975	1	1½	23¾	5½
x 161	47.6	27.6	27⅝	0.660	1¼	14.0	14	1.08	1¼	1¾	↓	↓
x 178	52.5	27.8	27¼	0.725	¾	14.1	14½	1.19	1¾	1¾	↓	↓
x 194	57.2	28.1	28⅞	0.750	¾	14.0	14	1.34	15/16	1¾	↓	↓
x 217	64.0	28.4	28⅞	0.830	13/16	14.1	14½	1.50	1½	1¼	↓	↓
x 235	69.4	28.7	28⅝	0.910	15/16	14.2	14¼	1.61	15/8	15/16	↓	↓
x 258	76.0	29.0	29	0.980	1½	14.3	14¼	1.77	1¾	15/16	↓	↓
x 281	82.9	29.3	29¼	1.060	1¼	14.4	14¾	1.93	115/16	1¾	↓	↓
x 307	90.4	29.6	29⅝	1.160	13/16	14.4	14½	2.09	2¼	17/16	↓	↓
x 336	98.9	30.0	30	1.260	1¼	14.6	14½	2.28	2¼	17/16	↓	↓
x 368	108.0	30.4	30⅝	1.380	1¾	14.7	14¾	2.48	2½	1½	↓	↓
x 539	159	32.5	32½	1.970	2	15.3	15¼	3.54	39/16	113/16	↓	↓
W 30 x 90	26.4	29.5	29½	0.470	½	10.4	10¾	0.610	5/8	11/16	26½	5½
x 99	29.1	29.7	29⅝	0.520	½	10.5	10½	0.670	1¼	11/16	↓	↓
x 108	31.7	29.8	29⅞	0.545	9/16	10.5	10½	0.760	¾	1½	↓	↓
x 116	34.2	30.0	30	0.565	9/16	10.5	10½	0.850	7/8	1½	↓	↓
x 124	36.5	30.2	30⅞	0.585	9/16	10.5	10½	0.930	15/16	1½	↓	↓
x 132	38.9	30.3	30¼	0.615	5/8	10.5	10½	1.00	1	1½	↓	↓
x 148	43.5	30.7	30⅝	0.650	5/8	10.5	10½	1.18	13/16	1½	↓	↓
W 30 x 173	51.0	30.4	30½	0.655	5/8	15.0	15	1.07	1¼	1½	26½	5½
x 191	56.3	30.7	30⅝	0.710	1¼	15.0	15	1.19	1¾	1¾	↓	↓
x 211	62.2	30.9	31	0.775	¾	15.1	15½	1.32	15/16	1¾	↓	↓
x 235	69.2	31.3	31¼	0.830	13/16	15.1	15	1.50	1½	1¼	↓	↓
x 261	76.9	31.6	31⅝	0.930	15/16	15.2	15½	1.65	15/8	15/16	↓	↓
x 292	85.9	32.0	32	1.02	1	15.3	15¼	1.85	17/8	15/16	↓	↓
x 326	95.8	32.4	32⅝	1.14	1½	15.4	15¾	2.05	2¼	1¾	↓	↓
x 357	105.0	32.8	32¾	1.24	1¼	15.5	15½	2.24	2¼	17/16	↓	↓
x 391	115.0	33.2	32¼	1.36	1¾	15.6	15¾	2.44	27/16	1½	↓	↓



# W Shapes

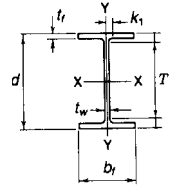
## Dimensions

Shapes	Area A	Depth d		Web		Flange				Distance			
				Thickness t <sub>w</sub>		Width b <sub>f</sub>		Thickness t <sub>f</sub>		k <sub>1</sub>	T	Workable Gage	
				in.		in.		in.		in.	in.	in.	
W 33 x 118 x 130 x 141 x 152 x 169	34.7	32.9	32 <sup>7</sup> / <sub>8</sub>	0.550	9 <sup>1</sup> / <sub>16</sub>	11.5	11 <sup>1</sup> / <sub>2</sub>	0.740	3 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>8</sub>	29 <sup>5</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	
	38.3	33.1	33 <sup>1</sup> / <sub>8</sub>	0.580	9 <sup>1</sup> / <sub>16</sub>	11.5	11 <sup>1</sup> / <sub>2</sub>	0.855	7 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub>	↓	↓	
	41.6	33.3	33 <sup>3</sup> / <sub>8</sub>	0.605	5 <sup>5</sup> / <sub>8</sub>	11.5	11 <sup>1</sup> / <sub>2</sub>	0.960	1 <sup>15</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>	↓	↓	
	44.8	33.5	33 <sup>1</sup> / <sub>2</sub>	0.635	5 <sup>5</sup> / <sub>8</sub>	11.6	11 <sup>5</sup> / <sub>8</sub>	1.06	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>	↓	↓	
	49.5	33.8	33 <sup>3</sup> / <sub>8</sub>	0.670	1 <sup>1</sup> / <sub>16</sub>	11.5	11 <sup>1</sup> / <sub>2</sub>	1.22	1 <sup>1</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>16</sub>	↓	↓	
W 33 x 201 x 221 x 241 x 263 x 291 x 318 x 354 x 387	59.2	33.7	33 <sup>5</sup> / <sub>8</sub>	0.715	1 <sup>1</sup> / <sub>16</sub>	15.7	15 <sup>3</sup> / <sub>4</sub>	1.15	1 <sup>1</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>16</sub>	29 <sup>5</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	
	65.2	33.9	33 <sup>7</sup> / <sub>8</sub>	0.775	3 <sup>3</sup> / <sub>4</sub>	15.8	15 <sup>3</sup> / <sub>4</sub>	1.28	1 <sup>1</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>16</sub>	↓	↓	
	71.0	34.2	34 <sup>1</sup> / <sub>8</sub>	0.830	1 <sup>3</sup> / <sub>16</sub>	15.9	15 <sup>7</sup> / <sub>8</sub>	1.40	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	↓	↓	
	77.5	34.5	34 <sup>1</sup> / <sub>2</sub>	0.870	7 <sup>7</sup> / <sub>8</sub>	15.8	15 <sup>3</sup> / <sub>4</sub>	1.57	1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub>	↓	↓	
	85.7	34.8	34 <sup>7</sup> / <sub>8</sub>	0.960	1 <sup>9</sup> / <sub>16</sub>	15.9	15 <sup>7</sup> / <sub>8</sub>	1.73	1 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>16</sub>	↓	↓	
	93.6	35.2	35 <sup>1</sup> / <sub>8</sub>	1.04	1 <sup>1</sup> / <sub>16</sub>	16.0	16	1.89	1 <sup>7</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>16</sub>	↓	↓	
	104.0	35.6	35 <sup>1</sup> / <sub>2</sub>	1.16	1 <sup>3</sup> / <sub>16</sub>	16.1	16 <sup>1</sup> / <sub>8</sub>	2.09	2 <sup>1</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>8</sub>	↓	↓	
	114.0	36.0	36	1.26	1 <sup>1</sup> / <sub>4</sub>	16.2	16 <sup>1</sup> / <sub>4</sub>	2.28	2 <sup>1</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>16</sub>	↓	↓	
	W 36 x 135 x 150 x 160 x 170 x 182 x 194 x 210 x 232 x 256	39.7	35.6	35 <sup>1</sup> / <sub>2</sub>	0.600	5 <sup>5</sup> / <sub>8</sub>	12.0	12	0.790	1 <sup>3</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>	32 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>
44.2		35.9	35 <sup>5</sup> / <sub>8</sub>	0.625	5 <sup>5</sup> / <sub>8</sub>	12.0	12	0.940	1 <sup>5</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>	↓	↓	
47.0		36.0	36	0.650	5 <sup>5</sup> / <sub>8</sub>	12.0	12	1.02	1	1 <sup>1</sup> / <sub>8</sub>	↓	↓	
50.1		36.2	36 <sup>1</sup> / <sub>8</sub>	0.680	1 <sup>1</sup> / <sub>16</sub>	12.0	12	1.10	1 <sup>1</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>16</sub>	↓	↓	
53.6		36.3	36 <sup>3</sup> / <sub>8</sub>	0.725	3 <sup>3</sup> / <sub>4</sub>	12.1	12 <sup>1</sup> / <sub>8</sub>	1.18	1 <sup>3</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>16</sub>	↓	↓	
57.0		36.5	36 <sup>1</sup> / <sub>2</sub>	0.765	3 <sup>3</sup> / <sub>4</sub>	12.1	12 <sup>1</sup> / <sub>8</sub>	1.26	1 <sup>1</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>16</sub>	↓	↓	
61.8		36.7	36 <sup>3</sup> / <sub>4</sub>	0.830	1 <sup>3</sup> / <sub>16</sub>	12.2	12 <sup>1</sup> / <sub>8</sub>	1.36	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	↓	↓	
68.1		37.1	37 <sup>1</sup> / <sub>8</sub>	0.870	7 <sup>7</sup> / <sub>8</sub>	12.1	12 <sup>1</sup> / <sub>8</sub>	1.57	1 <sup>9</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub>	↓	↓	
75.4		37.4	37 <sup>3</sup> / <sub>8</sub>	0.960	1 <sup>5</sup> / <sub>16</sub>	12.2	12 <sup>1</sup> / <sub>4</sub>	1.73	1 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>16</sub>	↓	↓	
W 36 x 231 x 247 x 262 x 282 x 302 x 330 x 361 x 395 x 441 x 487 x 529 x 652 x 800		68.1	36.5	36 <sup>1</sup> / <sub>2</sub>	0.760	3 <sup>3</sup> / <sub>4</sub>	16.5	16 <sup>1</sup> / <sub>2</sub>	1.26	1 <sup>1</sup> / <sub>4</sub>	1 <sup>9</sup> / <sub>16</sub>	31 <sup>3</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>2</sub>
		72.5	36.7	36 <sup>5</sup> / <sub>8</sub>	0.800	1 <sup>3</sup> / <sub>16</sub>	16.5	16 <sup>1</sup> / <sub>2</sub>	1.35	1 <sup>3</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	↓	↓
	77.0	36.9	36 <sup>7</sup> / <sub>8</sub>	0.840	1 <sup>3</sup> / <sub>16</sub>	16.6	16 <sup>1</sup> / <sub>2</sub>	1.44	1 <sup>7</sup> / <sub>16</sub>	1 <sup>5</sup> / <sub>8</sub>	↓	↓	
	82.9	37.1	37 <sup>1</sup> / <sub>8</sub>	0.885	7 <sup>7</sup> / <sub>8</sub>	16.6	16 <sup>5</sup> / <sub>8</sub>	1.57	1 <sup>9</sup> / <sub>16</sub>	1 <sup>5</sup> / <sub>8</sub>	↓	↓	
	88.8	37.3	37 <sup>3</sup> / <sub>8</sub>	0.945	1 <sup>5</sup> / <sub>16</sub>	16.7	16 <sup>5</sup> / <sub>8</sub>	1.68	1 <sup>11</sup> / <sub>16</sub>	1 <sup>11</sup> / <sub>16</sub>	↓	↓	
	97.0	37.7	37 <sup>5</sup> / <sub>8</sub>	1.02	1	16.6	16 <sup>5</sup> / <sub>8</sub>	1.85	1 <sup>7</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	↓	↓	
	106.0	38.0	38	1.12	1 <sup>1</sup> / <sub>8</sub>	16.7	16 <sup>3</sup> / <sub>4</sub>	2.01	2	1 <sup>3</sup> / <sub>4</sub>	↓	↓	
	116.0	38.4	38 <sup>3</sup> / <sub>8</sub>	1.22	1 <sup>1</sup> / <sub>4</sub>	16.8	16 <sup>7</sup> / <sub>8</sub>	2.20	2 <sup>3</sup> / <sub>16</sub>	1 <sup>13</sup> / <sub>16</sub>	↓	↓	
	130.0	38.9	38 <sup>7</sup> / <sub>8</sub>	1.36	1 <sup>3</sup> / <sub>8</sub>	17.0	17	2.44	2 <sup>7</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>8</sub>	↓	↓	
	143.0	39.3	39 <sup>1</sup> / <sub>8</sub>	1.50	1 <sup>1</sup> / <sub>2</sub>	17.1	17 <sup>1</sup> / <sub>8</sub>	2.68	2 <sup>11</sup> / <sub>16</sub>	1 <sup>15</sup> / <sub>16</sub>	↓	↓	
	156.0	39.8	39 <sup>3</sup> / <sub>4</sub>	1.61	1 <sup>5</sup> / <sub>8</sub>	17.2	17 <sup>1</sup> / <sub>4</sub>	2.91	2 <sup>15</sup> / <sub>16</sub>	2	↓	↓	
	192.0	41.1	41	1.97	2	17.6	17 <sup>5</sup> / <sub>8</sub>	3.54	3 <sup>3</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>16</sub>	↓	↓	
	236.0	42.6	42 <sup>1</sup> / <sub>2</sub>	2.38	2 <sup>3</sup> / <sub>8</sub>	18.0	18	4.29	4 <sup>5</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>	↓	↓	

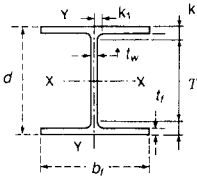


# W Shapes

## Dimensions



Shapes	Area A	Depth $d$		Web		Flange				Distance				
				Thickness $t_w$		Width $b_f$		Thickness $t_f$		$k_1$	$T$	Work-able Gage		
				in.	in.	in.	in.	in.	in.	in.	in.			
W 40 x 149	43.8	38.2	38¼	0.630	5/8	11.8	11¾	0.830	13/16	1½	34	7½		
x 167	49.2	38.6	385/8	0.650	5/8	11.8	11¾	1.03	1	19/16	↓	↓		
x 183	53.3	39.0	39	0.650	5/8	11.8	11¾	1.20	13/16	19/16				
x 211	62.0	39.4	393/8	0.750	3/4	11.8	11¾	1.42	17/16	19/16				
x 235	69.0	39.7	39¾	0.830	13/16	11.9	117/8	1.58	19/16	15/8				
x 264	77.6	40.0	40	0.960	15/16	11.9	117/8	1.73	1¾	111/16				
x 278	82.0	40.2	401/8	1.03	1	12.0	12	1.81	113/16	1¾				
x 294	86.3	40.4	403/8	1.06	11/16	12.0	12	1.93	115/16	1¾				
x 327	96.0	40.8	40¾	1.18	13/16	12.1	121/8	2.13	21/8	113/16				
x 331	97.5	40.8	40¾	1.22	1¼	12.2	121/8	2.13	21/8	113/16				
x 392	115.0	41.6	415/8	1.42	17/16	12.4	123/8	2.52	2½	115/16				
W 40 x 199	58.5	38.7	385/8	0.650	5/8	15.8	15¾	1.07	11/16	19/16			34	7½
x 215	63.4	39.0	39	0.650	5/8	15.8	15¾	1.22	1¼	19/16			↓	↓
x 249	73.3	39.4	393/8	0.750	3/4	15.8	15¾	1.42	17/16	19/16				
x 277	81.4	39.7	39¾	0.830	13/16	15.8	157/8	1.58	19/16	15/8				
x 297	87.4	39.8	397/8	0.930	15/16	15.8	157/8	1.65	15/8	111/16				
x 324	95.3	40.2	401/8	1.00	1	15.9	157/8	1.81	113/16	111/16				
x 362	107.0	40.6	40½	1.12	11/8	16.0	16	2.01	2	1¾				
x 372	109.0	40.6	405/8	1.16	13/16	16.1	161/8	2.05	21/16	113/16				
x 397	117.0	41.0	41	1.22	1¼	16.1	161/8	2.20	23/16	113/16				
x 431	127.0	41.3	41¼	1.34	15/16	16.2	16¼	2.36	23/8	17/8				
x 503	148.0	42.1	42	1.54	19/16	16.4	163/8	2.76	2¾	2				
x 593	174.0	43.0	43	1.79	113/16	16.7	16¾	3.23	3¼	21/8				
W 44 x 230	67.7	42.9	427/8	0.710	11/16	15.8	15¾	1.22	1¼	13/16	38¾	5½		
x 262	76.9	43.3	43¼	0.785	13/16	15.8	1¾	1.42	17/16	13/16	↓	↓		
x 290	85.4	43.6	433/8	0.865	7/8	15.8	157/8	1.58	19/16	1¼				
x 335	98.5	44.0	44	1.03	1	15.9	16	1.77	1¾	15/16				

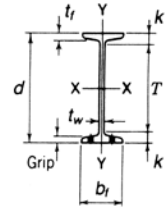


# HP Shapes

## Dimensions

Designation	Area A	Depth d		Web			Flange				Distance		
				Thickness tw		tw 2	Width bf		Thickness tf		T	k	k1
				in.			in.	in.	in.	in.			
HP 8 x 36	10.6	8.02	8	0.805	7/16	1/4	8.155	8 1/8	0.445	7/16	6 1/8	1 5/16	5/8
HP 10 x 42	12.4	9.70	9 3/4	0.415	7/16	1/4	10.075	10 1/8	0.420	7/16	7 5/8	1 1/16	3/4
x 57	16.8	9.99	10	0.565	9/16	5/16	10.225	10 1/4	0.565	9/16	7 5/8	1 3/16	13/16
HP 12 x 53	15.5	11.78	11 3/4	0.435	7/16	1/4	12.045	12	0.435	7/16	9 1/2	1 1/8	7/8
x 63	18.4	11.94	12	0.515	1/2	1/4	12.125	12 1/8	0.515	1/2	9 1/2	1 1/4	7/8
x 74	21.8	12.13	12 1/8	0.605	5/8	5/16	12.215	12 1/4	0.610	5/8	9 1/2	1 5/16	15/16
x 84	24.6	12.28	12 1/4	0.685	1 1/16	3/8	12.295	12 1/4	0.685	1 1/16	9 1/2	1 3/8	1
HP 14 x 73	21.4	13.61	13 3/8	0.505	1/2	1/4	14.585	14 5/8	0.505	1/2	11 1/4	1 3/16	7/8
x 89	26.1	13.83	13 3/8	0.615	5/8	5/16	14.695	14 3/4	0.615	5/8	11 1/4	1 5/16	15/16
x 102	30.0	14.01	14	0.705	1 1/16	3/8	14.785	14 3/4	0.705	1 1/16	11 1/4	1 3/8	1
x 117	34.4	14.21	14 1/4	0.805	1 3/16	7/16	14.885	14 7/8	0.805	1 3/16	11 1/4	1 1/2	1 1/16

## S Shapes Dimensions



Shapes	Area A	Depth d	Web			Flange			Distance		Grip	Max. Fige. Fastener		
			Thickness $t_w$	$\frac{t_w}{2}$	Width $b_f$	Thickness $t_f$	T	k						
	in. <sup>2</sup>	in.	in.	in.	in.	in.	in.	in.	in.	in.				
S 3 x 5.7 x 7.5	1.67	3.00	3	0.170	$\frac{3}{16}$	$\frac{1}{8}$	2.330	$2\frac{3}{8}$	0.260	$\frac{1}{4}$	$1\frac{5}{8}$	$1\frac{1}{16}$	$\frac{1}{4}$	—
	2.21	3.00	3	0.349	$\frac{3}{8}$	$\frac{3}{16}$	2.509	$2\frac{1}{2}$	0.260	$\frac{1}{4}$	$1\frac{5}{8}$	$1\frac{1}{16}$	$\frac{1}{4}$	—
S 4 x 7.7 x 9.5	2.26	4.00	4	0.193	$\frac{3}{16}$	$\frac{1}{8}$	2.663	$2\frac{5}{8}$	0.293	$\frac{5}{16}$	$2\frac{1}{2}$	$\frac{3}{4}$	$\frac{5}{16}$	—
	2.79	4.00	4	0.326	$\frac{3}{16}$	$\frac{3}{16}$	2.796	$2\frac{3}{4}$	0.293	$\frac{5}{16}$	$2\frac{1}{2}$	$\frac{3}{4}$	$\frac{5}{16}$	—
S 5 x 10 x 14.75	2.94	5.00	5	0.214	$\frac{3}{16}$	$\frac{1}{8}$	3.004	3	0.326	$\frac{5}{16}$	$3\frac{3}{8}$	$1\frac{3}{16}$	$\frac{5}{16}$	—
	4.34	5.00	5	0.494	$\frac{1}{2}$	$\frac{1}{4}$	3.284	$3\frac{1}{4}$	0.326	$\frac{5}{16}$	$3\frac{3}{8}$	$1\frac{3}{16}$	$\frac{5}{16}$	—
S 6 x 12.5 x 17.25	3.67	6.00	6	0.232	$\frac{1}{4}$	$\frac{1}{8}$	3.332	$3\frac{3}{8}$	0.359	$\frac{3}{8}$	$4\frac{1}{4}$	$\frac{7}{8}$	$\frac{3}{8}$	—
	5.07	6.00	6	0.465	$\frac{7}{16}$	$\frac{1}{4}$	3.565	$3\frac{5}{8}$	0.359	$\frac{3}{8}$	$4\frac{1}{4}$	$\frac{7}{8}$	$\frac{3}{8}$	$\frac{5}{8}$
S 7 x 17.25 x 20	5.07	6.00	6	0.465	$\frac{7}{16}$	$\frac{1}{4}$	3.565	$3\frac{5}{8}$	0.359	$\frac{3}{8}$	$4\frac{1}{4}$	$\frac{7}{8}$	$\frac{3}{8}$	$\frac{5}{8}$
	5.88	7.00	7	0.450	$\frac{7}{16}$	$\frac{1}{4}$	3.860	$3\frac{7}{8}$	0.392	$\frac{3}{8}$	$5\frac{1}{8}$	$1\frac{9}{16}$	$\frac{3}{8}$	$\frac{5}{8}$
S 8 x 18.4 x 23	5.41	8.00	8	0.271	$\frac{1}{4}$	$\frac{1}{8}$	4.001	4	0.426	$\frac{7}{16}$	6	1	$\frac{7}{16}$	$\frac{3}{4}$
	6.77	8.00	8	0.441	$\frac{7}{16}$	$\frac{1}{4}$	4.171	$4\frac{1}{8}$	0.426	$\frac{7}{16}$	6	1	$\frac{7}{16}$	$\frac{3}{4}$
S 10 x 25.4 x 35	7.46	10.00	10	0.311	$\frac{5}{16}$	$\frac{3}{16}$	4.661	$4\frac{5}{8}$	0.491	$\frac{1}{2}$	$7\frac{3}{4}$	$1\frac{1}{8}$	$\frac{1}{2}$	$\frac{3}{4}$
	10.3	10.00	10	0.594	$\frac{5}{8}$	$\frac{5}{16}$	4.944	5	0.491	$\frac{1}{2}$	$7\frac{3}{4}$	$1\frac{1}{8}$	$\frac{1}{2}$	$\frac{3}{4}$
S 12 x 31.8 x 35	9.35	12.00	12	0.350	$\frac{3}{8}$	$\frac{3}{16}$	5.000	5	0.544	$\frac{9}{16}$	$9\frac{5}{8}$	$1\frac{3}{16}$	$\frac{1}{2}$	$\frac{3}{4}$
	10.3	12.00	12	0.428	$\frac{7}{16}$	$\frac{1}{4}$	5.078	$5\frac{1}{8}$	0.544	$\frac{9}{16}$	$9\frac{5}{8}$	$1\frac{3}{16}$	$\frac{1}{2}$	$\frac{3}{4}$
S 12 x 40.8 x 50	12.0	12.00	12	0.462	$\frac{7}{16}$	$\frac{1}{4}$	5.252	$5\frac{1}{4}$	0.659	$\frac{11}{16}$	$9\frac{1}{8}$	$1\frac{7}{16}$	$\frac{5}{8}$	$\frac{3}{4}$
	14.7	12.00	12	0.687	$1\frac{1}{16}$	$\frac{3}{8}$	5.477	$5\frac{1}{2}$	0.659	$\frac{11}{16}$	$9\frac{1}{8}$	$1\frac{7}{16}$	$1\frac{1}{16}$	$\frac{3}{4}$
S 15 x 42.9 x 50	12.6	15.00	15	0.411	$\frac{7}{16}$	$\frac{1}{4}$	5.501	$5\frac{1}{2}$	0.622	$\frac{5}{8}$	$12\frac{1}{4}$	$1\frac{3}{8}$	$\frac{9}{16}$	$\frac{3}{4}$
	14.7	15.00	15	0.550	$\frac{9}{16}$	$\frac{5}{16}$	5.640	$5\frac{5}{8}$	0.622	$\frac{5}{8}$	$12\frac{1}{4}$	$1\frac{3}{8}$	$\frac{9}{16}$	$\frac{3}{4}$
S 18 x 54.7 x 70	16.1	18.00	18	0.461	$\frac{7}{16}$	$\frac{1}{4}$	6.001	6	0.691	$\frac{11}{16}$	15	$1\frac{1}{2}$	$\frac{11}{16}$	$\frac{7}{8}$
	20.6	18.00	18	0.711	$1\frac{1}{16}$	$\frac{3}{8}$	6.251	$6\frac{1}{4}$	0.691	$\frac{11}{16}$	15	$1\frac{1}{2}$	$1\frac{1}{16}$	$\frac{7}{8}$
S 20 x 66 x 75	19.4	20.00	20	0.505	$\frac{1}{2}$	$\frac{1}{4}$	6.255	$6\frac{1}{4}$	0.795	$\frac{13}{16}$	$16\frac{3}{4}$	$1\frac{5}{8}$	$\frac{13}{16}$	$\frac{7}{8}$
	22.0	20.00	20	0.635	$\frac{5}{8}$	$\frac{5}{16}$	6.385	$6\frac{3}{8}$	0.795	$\frac{13}{16}$	$16\frac{3}{4}$	$1\frac{5}{8}$	$\frac{13}{16}$	$\frac{7}{8}$
S 20 x 86 x 96	25.3	20.30	$20\frac{1}{4}$	0.660	$\frac{11}{16}$	$\frac{3}{8}$	7.060	7	0.920	$\frac{15}{16}$	$16\frac{3}{4}$	$1\frac{3}{4}$	$\frac{15}{16}$	1
	28.2	20.30	$20\frac{1}{4}$	0.800	$\frac{13}{16}$	$\frac{7}{16}$	7.200	$7\frac{1}{4}$	0.920	$\frac{15}{16}$	$16\frac{3}{4}$	$1\frac{3}{4}$	$\frac{15}{16}$	1
S 24 x 80 x 90 x 100	23.5	24.00	24	0.500	$\frac{1}{2}$	$\frac{1}{4}$	7.000	7	0.870	$\frac{7}{8}$	$20\frac{1}{2}$	$1\frac{3}{4}$	$\frac{7}{8}$	1
	26.5	24.00	24	0.625	$\frac{5}{8}$	$\frac{5}{16}$	7.125	$7\frac{1}{8}$	0.870	$\frac{7}{8}$	$20\frac{1}{2}$	$1\frac{3}{4}$	$\frac{7}{8}$	1
	29.3	24.00	24	0.745	$\frac{3}{4}$	$\frac{3}{8}$	7.245	$7\frac{1}{4}$	0.870	$\frac{7}{8}$	$20\frac{1}{2}$	$1\frac{3}{4}$	$\frac{7}{8}$	1
S 24 x 106 x 121	31.2	24.50	$24\frac{1}{2}$	0.620	$\frac{5}{8}$	$\frac{5}{16}$	7.870	$7\frac{7}{8}$	1.090	$\frac{11}{16}$	$20\frac{1}{2}$	2	$1\frac{1}{8}$	1
	35.6	24.50	$24\frac{1}{2}$	0.800	$\frac{13}{16}$	$\frac{7}{16}$	8.050	8	1.090	$\frac{11}{16}$	$20\frac{1}{2}$	2	$1\frac{1}{8}$	1