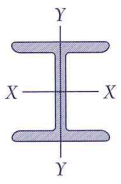
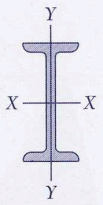
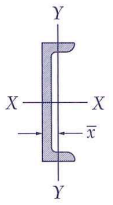
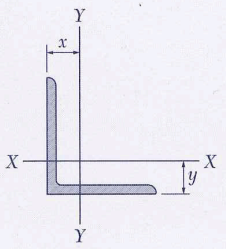
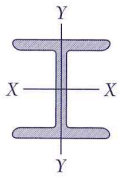
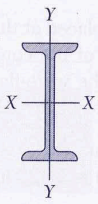
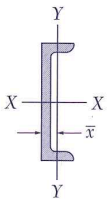
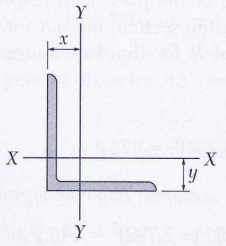
Fig. 9.13A Properties of Rolled-Steel Shapes (U.S. Customary Units).*

	Designation	Area in²	Depth in.	Width in.	Axis X-X			Axis Y-Y		
					$\bar{I}_x$, in⁴	$\bar{k}_x$, in.	$\bar{y}$, in.	$\bar{I}_y$, in⁴	$\bar{k}_y$, in.	$\bar{x}$, in.
W Shapes (Wide-Flange Shapes) 	W18 × 76†	22.3	18.21	11.035	1330	7.73		152	2.61	
	W16 × 57	16.8	16.43	7.120	758	6.72		43.1	1.60	
	W14 × 38	11.2	14.10	6.770	385	5.88		26.7	1.55	
	W8 × 31	9.13	8.00	7.995	110	3.47		37.1	2.02	
S Shapes (American Standard Shapes) 	S18 × 55.7†	16.1	18.00	6.001	804	7.07		20.8	1.14	
	S12 × 31.8	9.35	12.00	5.000	218	4.83		9.36	1.00	
	S10 × 25.4	7.46	10.00	4.661	124	4.07		6.79	0.954	
	S6 × 12.5	3.67	6.00	3.332	22.1	2.45		1.82	0.705	
C Shapes (American Standard Channels) 	C12 × 20.7†	6.09	12.00	2.942	129	4.61		3.88	0.799	0.698
	C10 × 15.3	4.49	10.00	2.600	67.4	3.87		2.28	0.713	0.634
	C8 × 11.5	3.38	8.00	2.260	32.6	3.11		1.32	0.625	0.571
	C6 × 8.2	2.40	6.00	1.920	13.1	2.34		0.692	0.537	0.512
Angles 	L6 × 6 × 1‡	11.00			35.5	1.80	1.86	35.5	1.80	1.86
	L4 × 4 × $\frac{1}{2}$	3.75			5.56	1.22	1.18	5.56	1.22	1.18
	L3 × 3 × $\frac{1}{4}$	1.44			1.24	0.930	0.842	1.24	0.930	0.842
	L6 × 4 × $\frac{1}{2}$	4.75			17.4	1.91	1.99	6.27	1.15	0.987
	L5 × 3 × $\frac{1}{2}$	3.75			9.45	1.59	1.75	2.58	0.829	0.750
	L3 × 2 × $\frac{1}{4}$	1.19			1.09	0.957	0.993	0.392	0.574	0.493

*Courtesy of the American Institute of Steel Construction, Chicago, Illinois.
†Nominal depth in inches and weight in pounds per foot.
‡Depth, width, and thickness in inches.

Fig. 9.13B Properties of Rolled-Steel Shapes (SI Units).

		Designation	Area mm^2	Depth mm	Width mm	Axis X-X $\bar{I}_x$ $10^6\ mm^4$	Axis X-X $\bar{k}_x$ mm	Axis X-X $\bar{y}$ mm	Axis Y-Y $\bar{I}_y$ $10^6\ mm^4$	Axis Y-Y $\bar{k}_y$ mm	Axis Y-Y $\bar{x}$ mm
W Shapes (Wide-Flange Shapes)		W460 × 113†	14400	463	280	554	196.3		63.3	66.3	
		W410 × 85	10800	417	181	316	170.7		17.94	40.6	
		W360 × 57	7230	358	172	160.2	149.4		11.11	39.4	
		W200 × 46.1	5890	203	203	45.8	88.1		15.44	51.3	
S Shapes (American Standard Shapes)		S460 × 81.4†	10390	457	152	335	179.6		8.66	29.0	
		W310 × 47.3	6032	305	127	90.7	122.7		3.90	25.4	
		S250 × 37.8	4806	254	118	51.6	103.4		2.83	24.2	
		S150 × 18.6	2362	152	84	9.2	62.2		0.758	17.91	
C Shapes (American Standard Channels)		C310 × 30.8†	3929	305	74	53.7	117.1		1.615	20.29	17.73
		C250 × 22.8	2897	254	65	28.1	98.3		0.949	18.11	16.10
		C200 × 17.1	2181	203	57	13.57	79.0		0.549	15.88	14.50
		C150 × 12.2	1548	152	48	5.45	59.4		0.288	13.64	13.00
Angles		L152 × 152 × 25.4‡	7100			14.78	45.6	47.2	14.78	45.6	47.2
		L102 × 102 × 12.7	2420			2.31	30.9	30.0	2.31	30.9	30.0
		L76 × 76 × 6.4	929			0.516	23.6	21.4	0.516	23.6	21.4
		L152 × 102 × 12.7	3060			7.24	48.6	50.5	2.61	29.2	25.1
		L127 × 76 × 12.7	2420			3.93	40.3	44.5	1.074	21.1	19.05
		L76 × 51 × 6.4	768			0.454	24.3	25.2	0.163	14.58	12.52

†Nominal depth in millimeters and mass in kilograms per meter.
‡Depth, width, and thickness in millimeters.