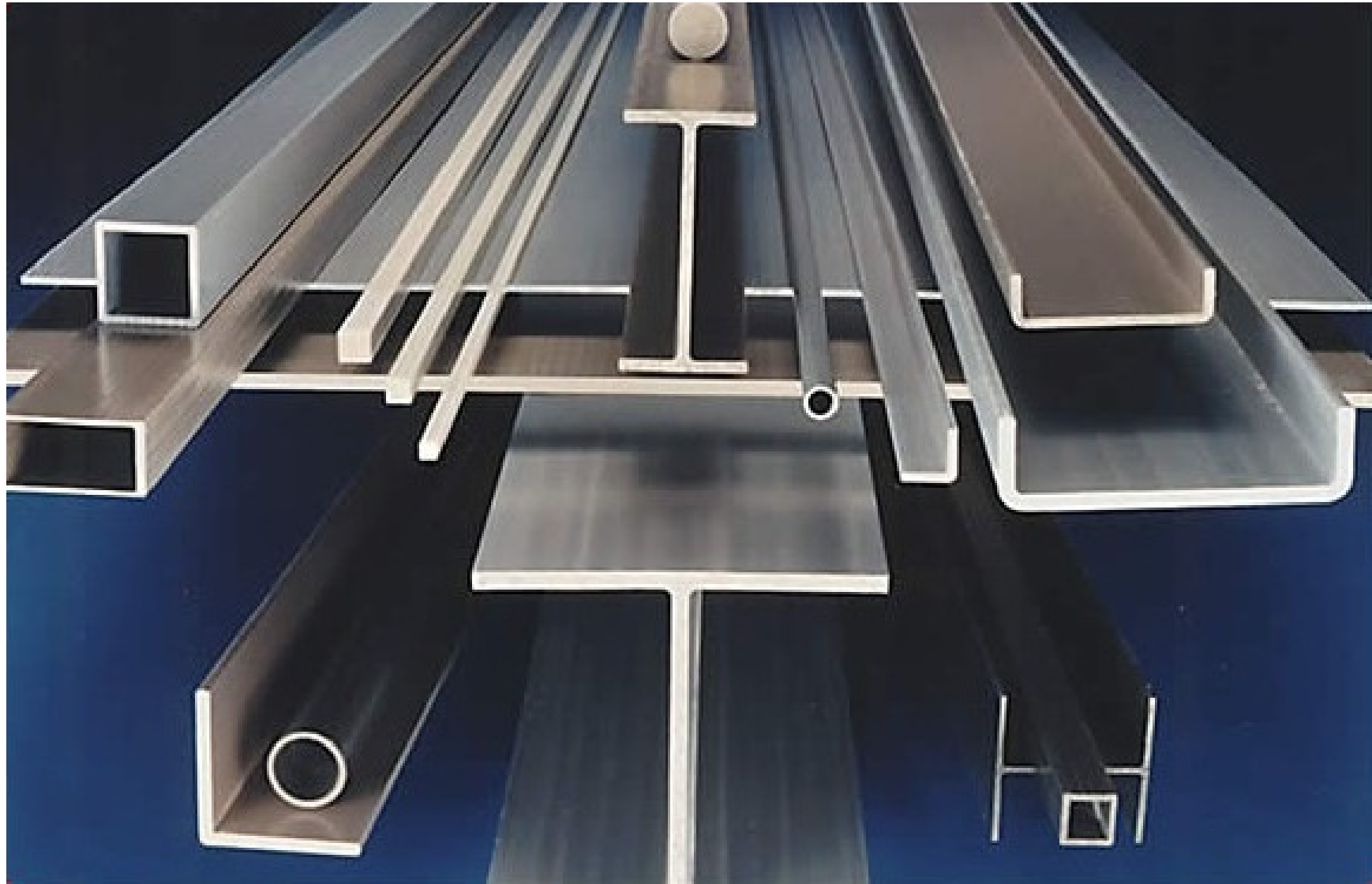
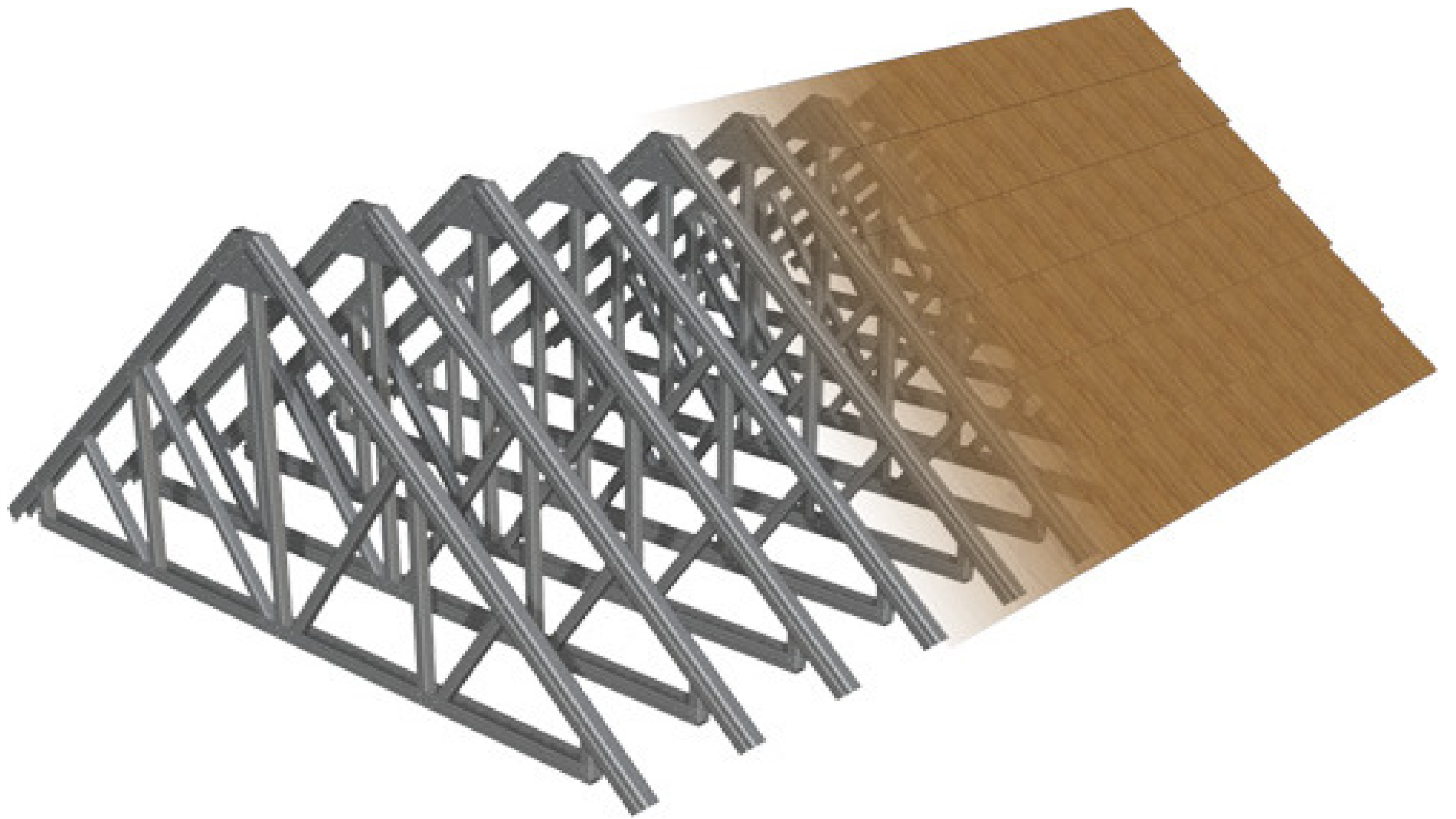
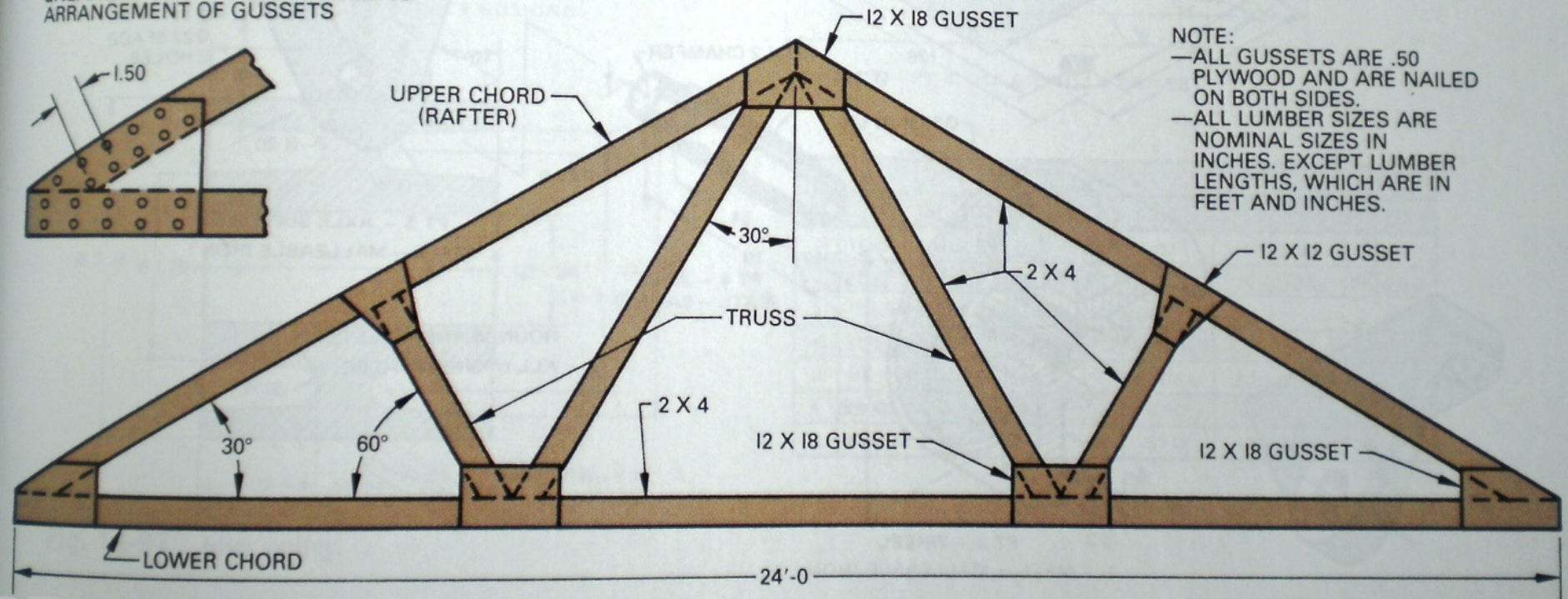
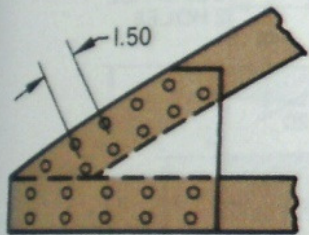


Structural Elements



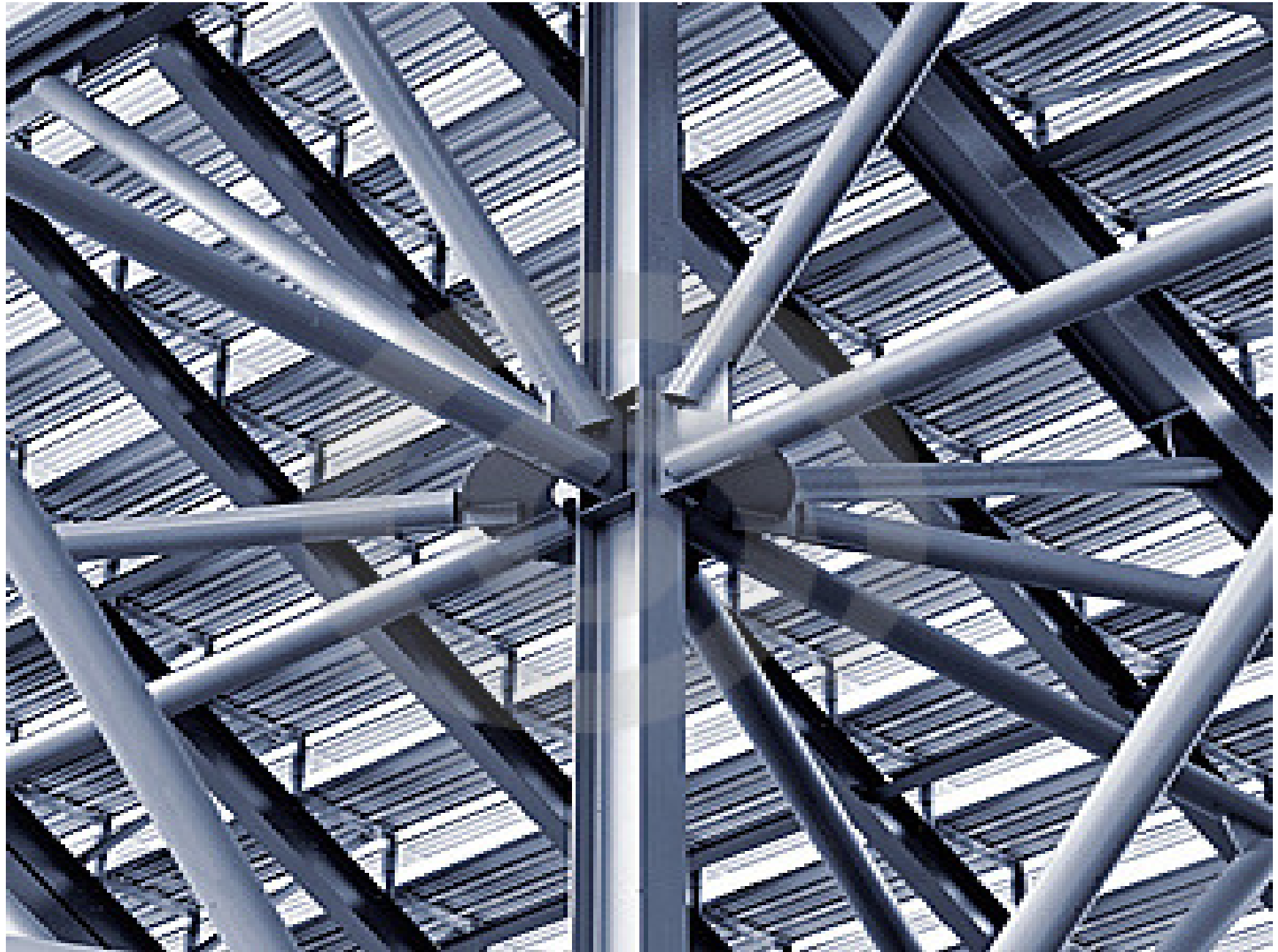


ENLARGED VIEW SHOWING NAILING ARRANGEMENT OF GUSSETS

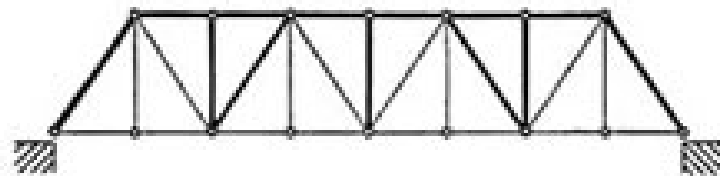


NOTE:
—ALL GUSSETS ARE .50 PLYWOOD AND ARE NAILED ON BOTH SIDES.
—ALL LUMBER SIZES ARE NOMINAL SIZES IN INCHES. EXCEPT LUMBER LENGTHS, WHICH ARE IN FEET AND INCHES.

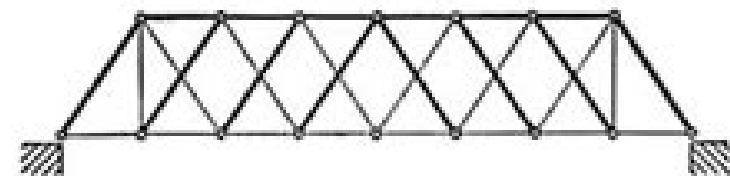
Roof truss.



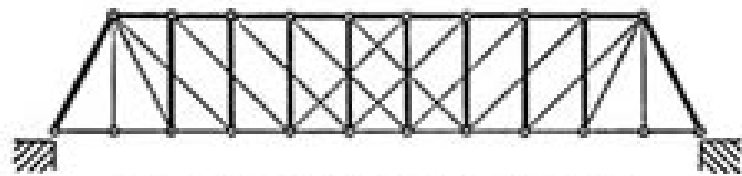




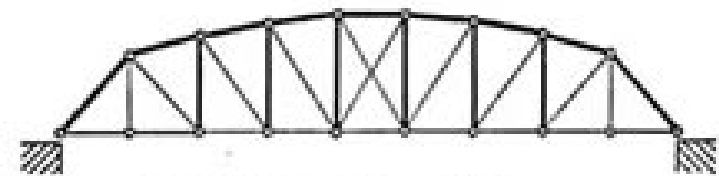
(c) THROUGH WARREN TRUSS



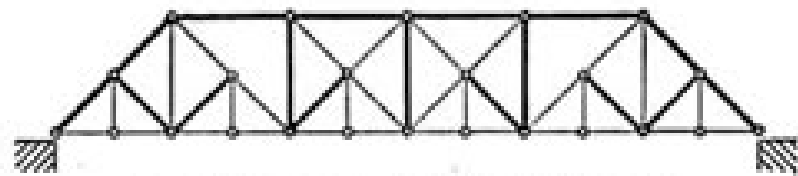
(d) QUADRANGULAR THROUGH WARREN TRUSS



(e) THROUGH WHIPPLE TRUSS



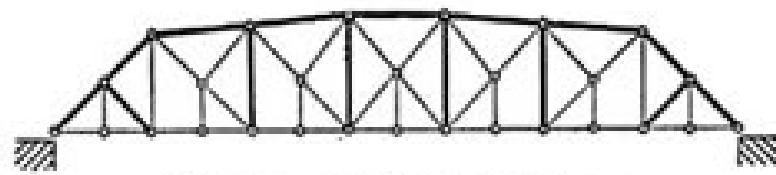
(f) CAMEL BACK TRUSS



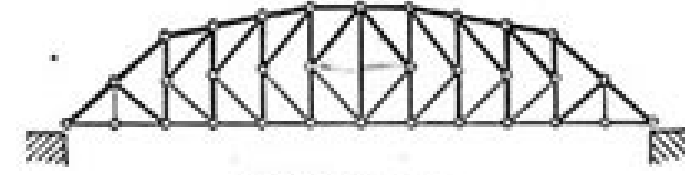
(g) THROUGH BALTIMORE TRUSS



(h) K-TRUSS

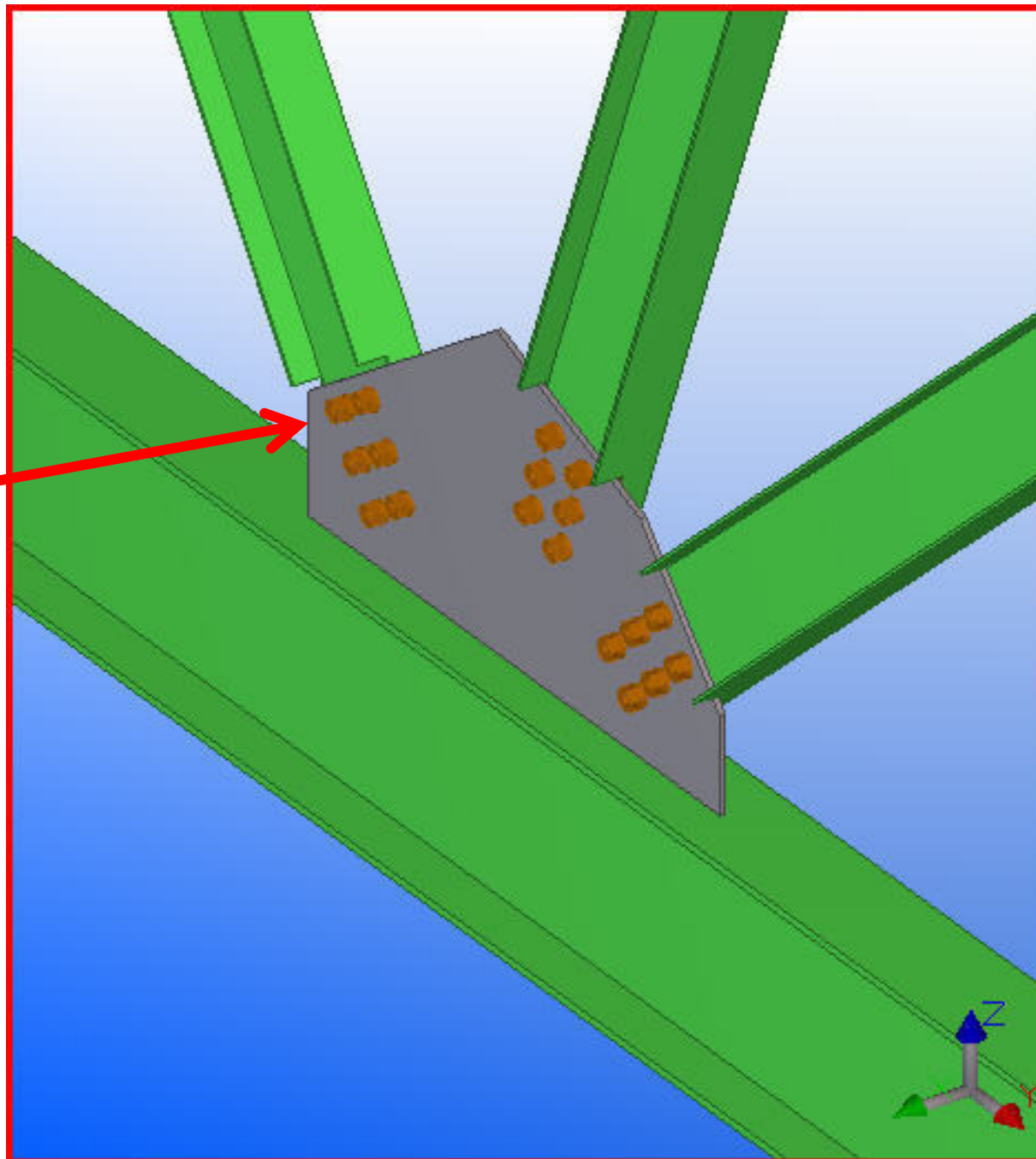


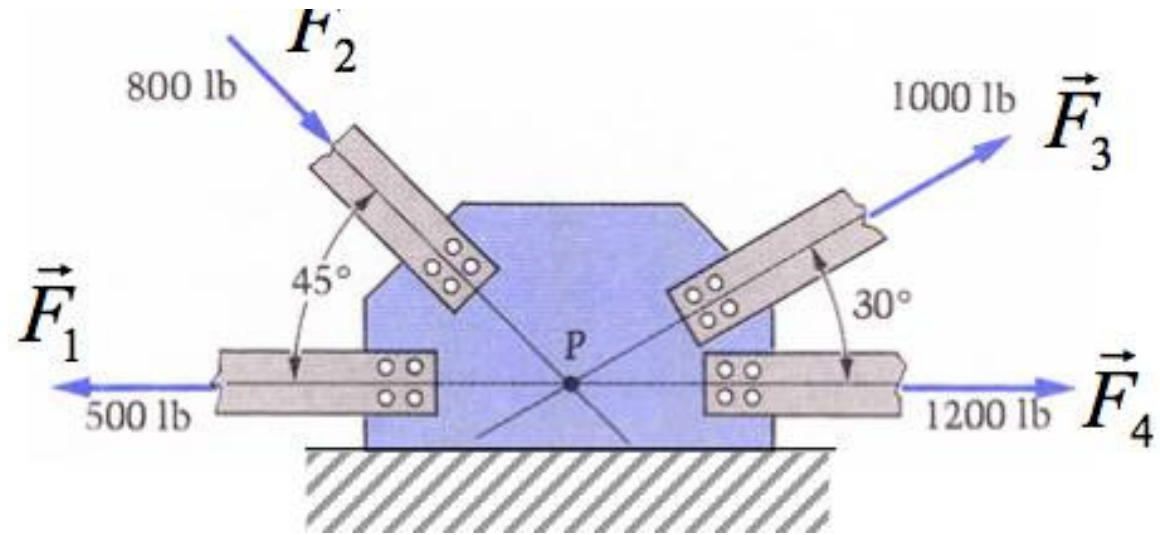
(i) THROUGH PETIT TRUSS

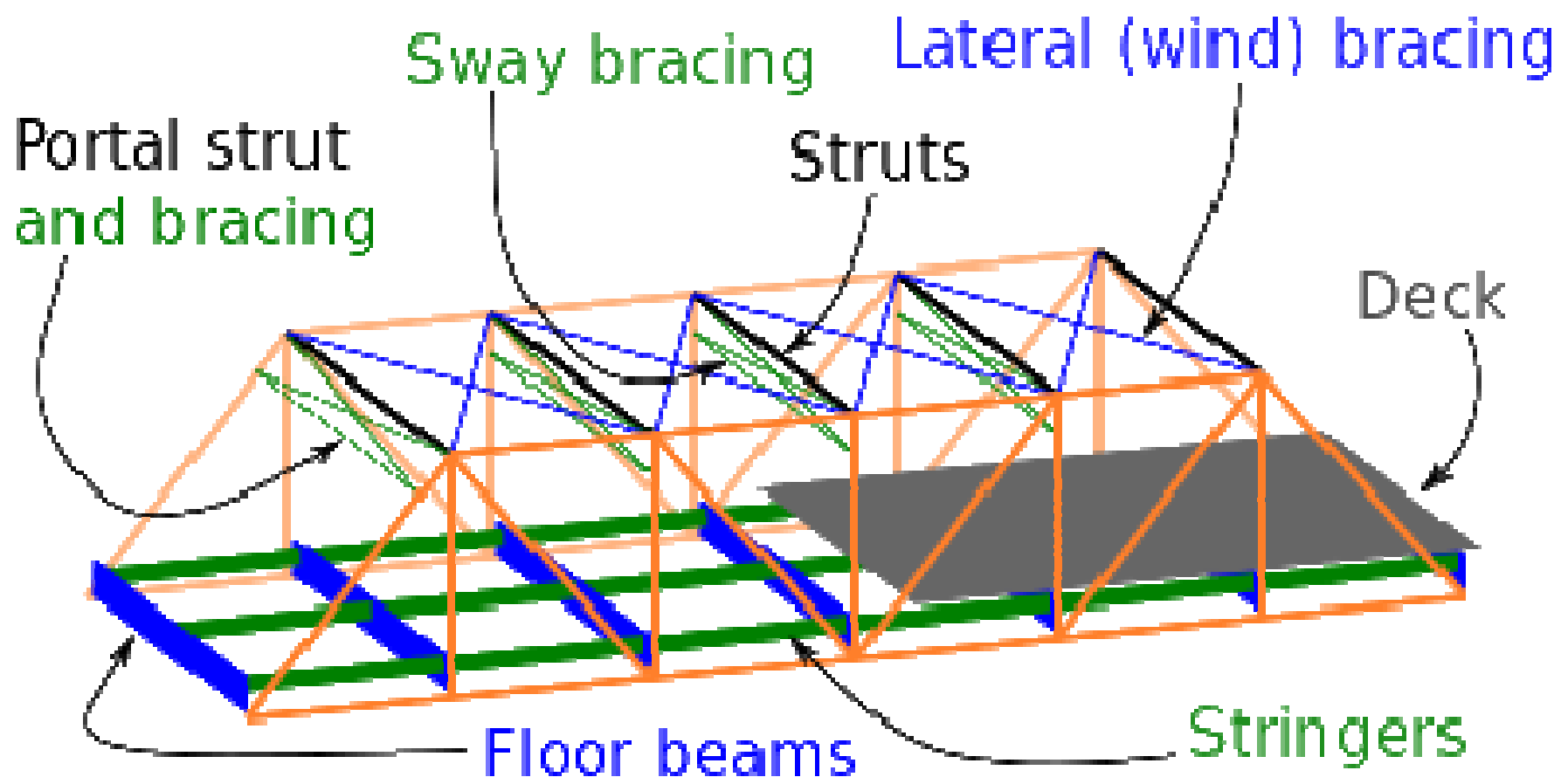


(j) K-TRUSS

GUSSET
PLATE























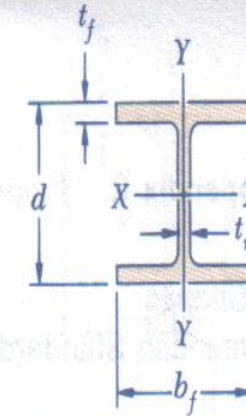




CUSTOM CLASSIC
TRUCKS



Properties of Rolled-Steel Shapes (SI Units)

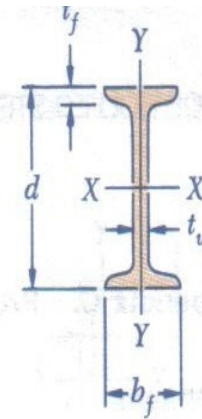


W Shapes (Wide-Flange Shapes)

Designation†	Area A , mm ²	Depth d , mm	Flange		Web Thick- ness t_w , mm	Axis X-X			Axis Y-Y		
			Width b_f , mm	Thick- ness t_f , mm		I_x 10 ⁶ mm ⁴	S_x 10 ³ mm ³	r_x mm	I_y 10 ⁶ mm ⁴	S_y 10 ³ mm ³	r_y mm
W310 × 143	18200	323	309	22.9	14.0	347	2150	138.2	112.4	728	78.5
107	13600	311	306	17.0	10.9	248	1595	134.9	81.2	531	77.2
74	9480	310	205	16.3	9.4	164.0	1058	131.6	23.4	228	49.8
60	7610	303	203	13.1	7.5	129.0	851	130.3	18.36	180.9	49.0
52	6650	317	167	13.2	7.6	118.6	748	133.4	10.20	122.2	39.1
44.5	5670	313	166	11.2	6.6	99.1	633	132.3	8.45	101.8	38.6
38.7	4940	310	165	9.7	5.8	84.9	548	131.3	7.20	87.3	38.4
32.7	4180	313	102	10.8	6.6	64.9	415	124.7	1.940	38.0	21.5
23.8	3040	305	101	6.7	5.6	42.9	281	118.6	1.174	23.2	19.63
W250 × 167	21200	289	265	31.8	19.2	298.0	2060	118.4	98.2	741	68.1
101	12000	264	257	19.6	11.9	164.0	1242	112.8	55.8	434	65.8

Properties of Rolled-Steel Shapes
(SI Units)

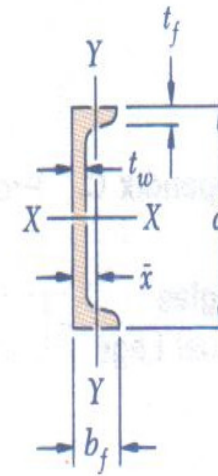
S Shapes
(American Standard Shapes)



Designation†	Area A , mm ²	Depth d , mm	Flange		Web Thick- ness t_w , mm	Axis X-X			Axis Y-Y		
			Width b_f , mm	Thick- ness t_f , mm		I_x 10 ⁶ mm ⁴	S_x 10 ³ mm ³	r_x mm	I_y 10 ⁶ mm ⁴	S_y 10 ³ mm ³	r_y mm
S610 × 149	18970	610	184	22.1	19.0	995	3260	229	19.90	216	32.3
134	17100	610	181	22.1	15.8	937	3070	234	18.69	207	33.0
118.9	15160	610	178	22.1	12.7	878	2880	241	17.61	197.9	34.0
S510 × 141	18000	508	183	23.3	20.3	670	2640	193.0	20.69	226.	33.8
127	16130	508	179	23.3	16.6	633	2490	197.9	19.23	215.	34.5
112	14260	508	162	20.1	16.3	533	2100	193.0	12.32	152.1	29.5
97.3	12390	508	159	20.1	12.7	491	1933	199.1	11.40	143.4	30.2
S460 × 104	13290	457	159	17.6	18.1	385	1685	170.4	10.03	126.2	27.4
81.4	10390	457	152	17.6	11.7	335	1466	179.6	8.66	113.9	29.0

Properties of Rolled-Steel Shapes
(SI Units)

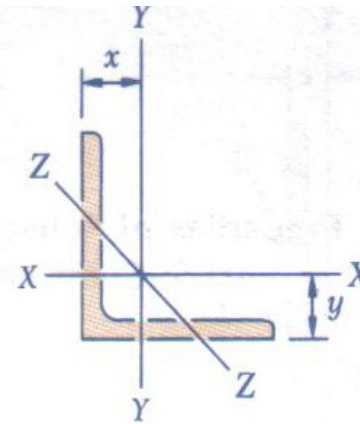
C Shapes
(American Standard Channels)



Designation†	Area A, mm^2	Depth d, mm	Flange		Web Thick- ness t_w, mm	Axis X-X			Axis Y-Y			
			Width b_f, mm	Thick- ness t_f, mm		I_x 10^6mm^4	S_x 10^3mm^3	r_x mm	I_y 10^6mm^4	S_y 10^3mm^3	r_y mm	\bar{x} mm
C380 × 74	9480	381	94	16.5	18.2	168.2	883	133.1	4.58	62.1	22.0	20.3
60	7610	381	89	16.5	13.2	145.3	763	138.2	3.84	55.5	22.5	19.76
50.4	6426	381	86	16.5	10.2	131.1	688	142.7	3.38	51.2	23.0	19.99
C310 × 45	5690	305	80	12.7	13.0	67.4	442	109.0	2.14	34.0	19.38	17.12
37	4742	305	77	12.7	9.8	59.9	393	112.5	1.861	31.1	19.81	17.12
30.8	3929	305	74	12.7	7.2	53.7	352	117.1	1.615	28.7	20.29	17.73

Properties of Rolled-Steel Shapes
(SI Units)

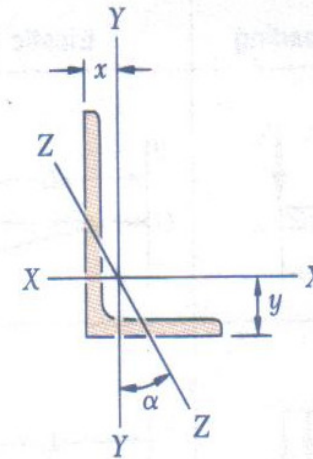
Angles
Equal Legs



Size and Thickness, mm	Mass per Meter, kg/m	Area, mm ²	Axis X-X and Axis Y-Y				Axis Z-Z
			<i>I</i> 10 ⁶ mm ⁴	<i>S</i> 10 ³ mm ³	<i>r</i> mm	<i>x</i> or <i>y</i> mm	<i>r</i> mm
L203 × 203 × 25.4	75.9	9680	37.0	259	61.8	60.2	39.6
19.0	57.9	7360	29.0	200	62.8	57.9	40.1
12.7	39.3	5000	20.2	137.0	63.6	55.6	40.4
L152 × 152 × 25.4	55.7	7100	14.78	140.4	45.6	47.2	29.7
19.0	42.7	5445	11.74	109.1	46.4	45.2	29.7
15.9	36.0	4590	10.07	92.8	46.8	43.9	30.0
12.7	29.2	3710	8.28	75.5	47.2	42.7	30.0
9.5	22.2	2800	6.41	57.8	47.8	41.7	30.2
L127 × 127 × 19.0	35.1	4480	6.53	74.2	38.2	38.6	24.8

Properties of Rolled-Steel Shapes (SI Units)

Angles
Unequal Legs



Size and Thickness, mm	Mass per Meter kg/m	Area mm ²	Axis X-X				Axis Y-Y				Axis Z-Z	
			I_x 10 ⁶ mm ⁴	S_x 10 ³ mm ³	r_x mm	y mm	I_y 10 ⁶ mm ⁴	S_y 10 ³ mm ³	r_y mm	x mm	r_z mm	$\tan \alpha$
L203 × 152 × 25.4	65.5	8390	33.6	247	63.3	67.3	16.15	146.2	43.9	41.9	32.5	0.543
19.0	50.1	6410	26.4	192	64.2	65.0	12.78	113.4	44.7	39.6	32.8	0.551
12.7	34.1	4350	18.44	131	65.1	62.7	9.03	78.5	45.6	37.3	33.0	0.558
L152 × 102 × 19.0	35.0	4480	10.20	102.4	47.7	52.8	3.61	48.7	28.4	27.4	21.8	0.428
12.7	24.0	3060	7.24	71.0	48.6	50.5	2.61	34.1	29.2	25.1	22.1	0.440
9.5	18.2	2330	5.62	54.4	49.1	49.3	2.04	26.2	29.6	23.9	22.3	0.446
L127 × 76 × 12.7	19.0	2420	3.93	47.7	40.3	44.5	1.074	18.85	21.1	19.05	16.46	0.357