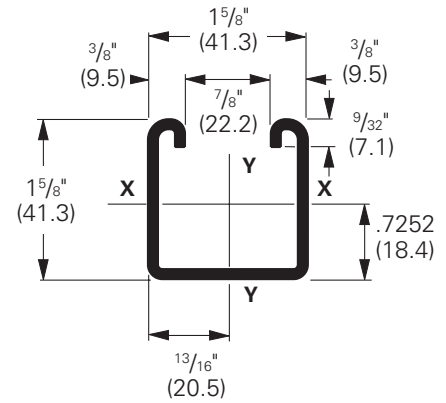
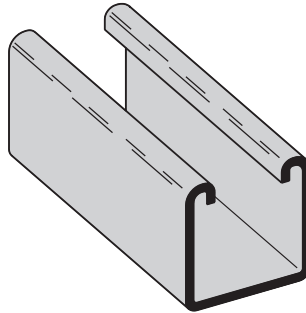


# B22 Channel

## B22

- Thickness: 12 Gauge (2.6 mm)
- Standard lengths: 10' (3.05 m) & 20' (6.09 m)
- Standard finishes: Plain, DURA GREEN™, Pre-Galvanized, Hot-Dipped Galvanized, Stainless Steel Type 304 or 316, Aluminum
- Weight: 1.90 Lbs./Ft. (2.83 kg/m)

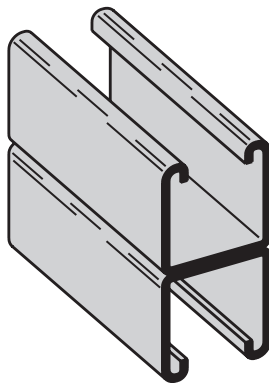


### Note:

Aluminum loading, for B22 & B22A, can be determined by multiplying load data times a factor of 0.38

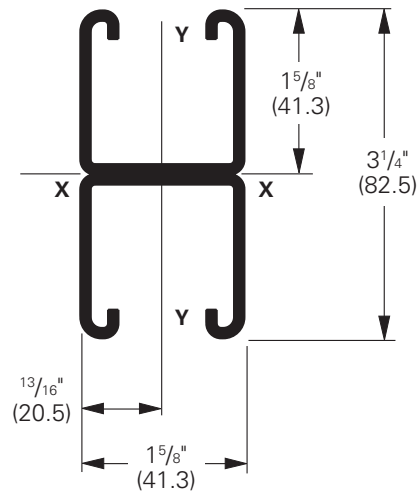
Section Properties			X - X Axis				Y - Y Axis				
Channel	Weight lbs./ft. kg/m	Areas of Section sq. in. cm <sup>2</sup>	Moment of Inertia (I) in. <sup>4</sup> cm <sup>4</sup>	Section Modulus (S) in. <sup>3</sup> cm <sup>3</sup>	Radius of Gyration (r) in. cm	Moment of Inertia (I) in. <sup>4</sup> cm <sup>4</sup>	Section Modulus (S) in. <sup>3</sup> cm <sup>3</sup>	Radius of Gyration (r) in. cm			
<b>B22</b>	1.910 (2.84)	.562 (3.62)	.1912 (7.96)	.2125 (3.48)	.583 (1.48)	.2399 (9.99)	.2953 (4.84)	.653 (1.66)			
<b>B22A</b>	3.820 (5.69)	1.124 (7.25)	.9732 (40.51)	.5989 (9.81)	.931 (2.36)	.4798 (19.97)	.5905 (9.68)	.653 (1.66)			
<b>B22X</b>	6.649 (9.89)	1.956 (12.62)	4.1484 (172.67)	1.7019 (27.89)	1.456 (3.70)	1.1023 (45.88)	1.2027 (19.71)	.751 (1.91)			

Calculations of section properties are based on metal thicknesses as determined by the AISI Cold-Formed Steel Design Manual.

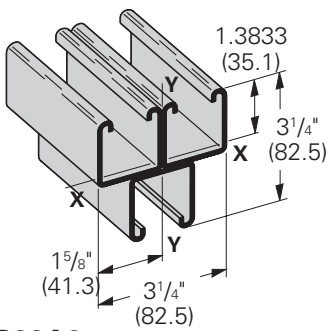


## B22A

Wt. 3.80 Lbs./Ft. (5.65 kg/m)

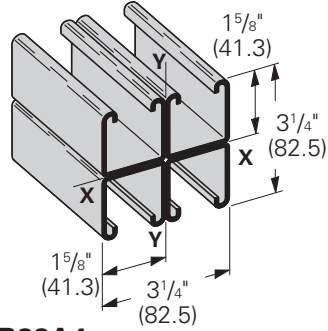


# B22 Combinations



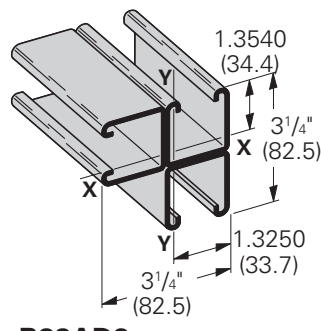
**B22A3**

Wt. 5.70 Lbs./Ft. (8.48 kg/m)



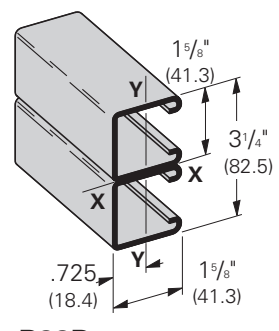
**B22A4**

Wt. 7.60 Lbs./Ft. (11.31 kg/m)



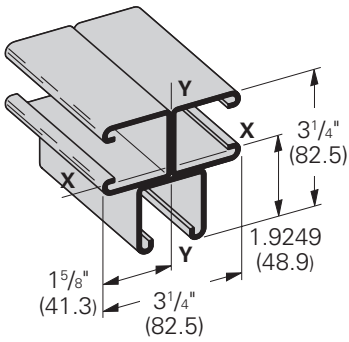
**B22AD3**

Wt. 5.70 Lbs./Ft. (8.48 kg/m)



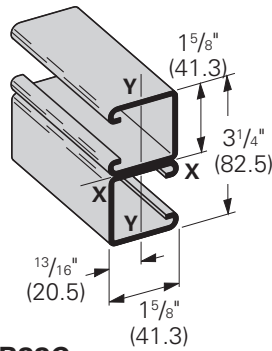
**B22B**

Wt. 3.80 Lbs./Ft. (5.65 kg/m)



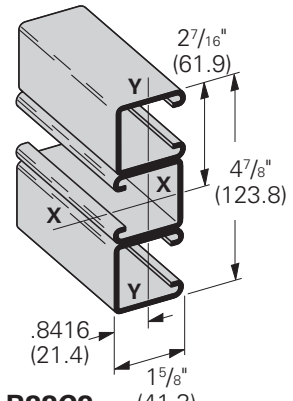
**B22B3**

Wt. 5.70 Lbs./Ft. (8.48 kg/m)



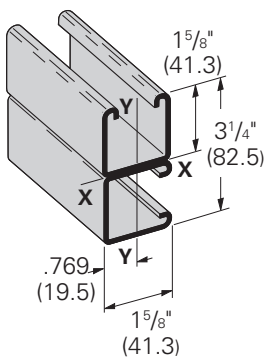
**B22C**

Wt. 3.80 Lbs./Ft. (5.65 kg/m)



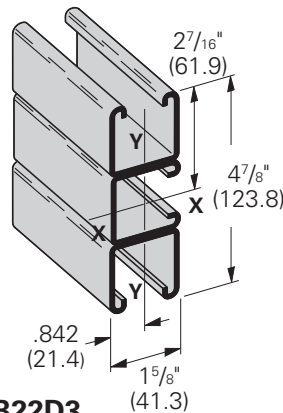
**B22C3**

Wt. 5.70 Lbs./Ft. (8.48 kg/m)



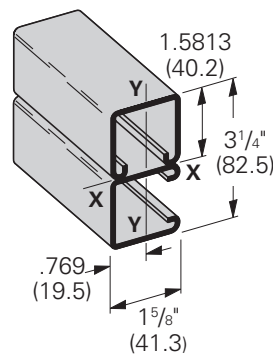
**B22D**

Wt. 3.80 Lbs./Ft. (5.65 kg/m)



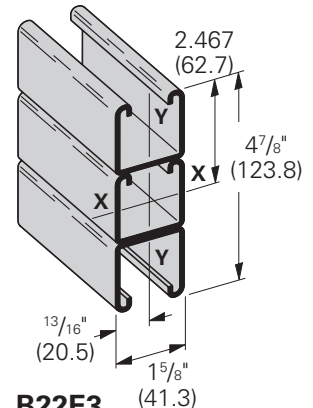
**B22D3**

Wt. 5.70 Lbs./Ft. (8.48 kg/m)



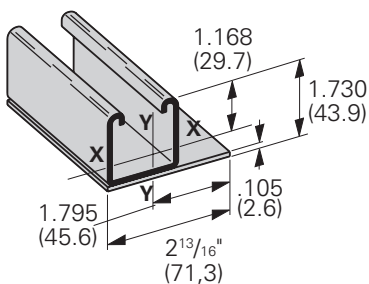
**B22E**

Wt. 3.80 Lbs./Ft. (5.65 kg/m)



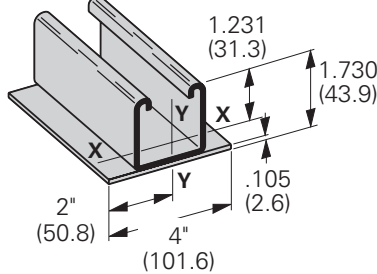
**B22E3**

Wt. 5.70 Lbs./Ft. (8.48 kg/m)



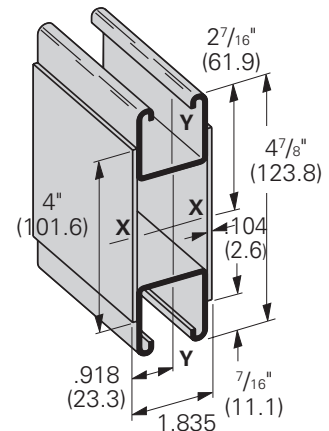
**B22LPL**

Wt. 2.90 Lbs./Ft. (4.31 kg/m)



**B22PL**

Wt. 3.35 Lbs./Ft. (4.98 kg/m)



**B22X**

Wt. 6.70 Lbs./Ft. (9.97 kg/m)

Reference page 48 for general fitting and standard finish specifications.

Channel & Combinations

# B22 Beam loading data

## Beam Loading

Beam Span In. mm	Channel Style	Uniform Load and Deflection				Uniform Load @ Deflection =			
		Lbs.	kN	In.	mm	1/240 Span Lbs.	kN	1/360 Span Lbs.	kN
12 (305)	<b>B22</b>	2610	(11.61)	.014	(.35)	2610	(11.61)	2610	(11.61)
	<b>B22A</b>	2610*	(11.61)	.002	(.05)	2610*	(11.61)	2610*	(11.61)
	<b>B22X</b>	5790*	(25.75)	.001	(.02)	5790*	(25.75)	5790*	(25.75)
18 (457)	<b>B22</b>	2269	(10.09)	.031	(.79)	2269	(10.09)	2269	(10.09)
	<b>B22A</b>	2610*	(11.61)	.007	(.18)	2610*	(11.61)	2610*	(11.61)
	<b>B22X</b>	5790*	(25.75)	.003	(.07)	5790*	(25.75)	5790*	(25.75)
24 (609)	<b>B22</b>	1702	(7.57)	.056	(1.42)	1702	(7.57)	1702	(7.57)
	<b>B22A</b>	2610*	(11.61)	.017	(.43)	2610*	(11.61)	2610*	(11.61)
	<b>B22X</b>	5790*	(25.75)	.008	(.20)	5790*	(25.75)	5790*	(25.75)
30 (762)	<b>B22</b>	1361	(6.05)	.087	(2.21)	1361	(6.05)	1294	(5.75)
	<b>B22A</b>	2610*	(11.61)	.033	(.84)	2610*	(11.61)	2610*	(11.61)
	<b>B22X</b>	5790*	(25.75)	.017	(.73)	5790*	(25.75)	5790*	(25.75)
36 (914)	<b>B22</b>	1135	(5.05)	.126	(3.20)	1135	(5.05)	899	(4.00)
	<b>B22A</b>	2610*	(11.61)	.057	(1.45)	2610*	(11.61)	2610*	(11.61)
	<b>B22X</b>	5790*	(25.75)	.029	(.73)	5790*	(25.75)	5790*	(25.75)
42 (1067)	<b>B22</b>	972	(4.32)	.172	(4.37)	972	(4.32)	660	(2.93)
	<b>B22A</b>	2610*	(11.61)	.091	(2.31)	2610*	(11.61)	2610*	(11.61)
	<b>B22X</b>	5790*	(25.75)	.046	(1.17)	5790*	(25.75)	5790*	(25.75)
48 (1219)	<b>B22</b>	851	(3.78)	.224	(5.69)	758	(3.37)	505	(2.24)
	<b>B22A</b>	2405	(10.70)	.125	(3.17)	2405	(10.70)	2405	(10.70)
	<b>B22X</b>	5790*	(25.75)	.068	(1.73)	5790*	(25.75)	5790*	(25.75)
54 (1371)	<b>B22</b>	756	(3.36)	.284	(7.21)	599	(2.66)	399	(1.77)
	<b>B22A</b>	2138	(9.51)	.158	(4.01)	2138	(9.51)	2024	(9.00)
	<b>B22X</b>	5790*	(25.75)	.097	(2.46)	5790*	(25.75)	5790*	(25.75)
60 (1524)	<b>B22</b>	681	(3.03)	.351	(8.91)	485	(2.16)	323	(1.44)
	<b>B22A</b>	1924	(8.56)	.195	(4.95)	1924	(8.56)	1640	(7.29)
	<b>B22X</b>	5645	(25.11)	.130	(3.30)	5645	(25.11)	5645	(25.11)
66 (1676)	<b>B22</b>	619	(2.75)	.424	(10.77)	401	(1.78)	267	(1.19)
	<b>B22A</b>	1749	(7.78)	.236	(5.99)	1749	(7.78)	1355	(6.03)
	<b>B22X</b>	5132	(22.83)	.158	(4.01)	5132	(22.83)	5132	(22.83)
72 (1829)	<b>B22</b>	567	(2.52)	.505	(12.83)	337	(1.50)	225	(1.00)
	<b>B22A</b>	1603	(7.13)	.281	(7.14)	1603	(7.13)	1139	(5.06)
	<b>B22X</b>	4704	(20.92)	.188	(4.77)	4704	(20.92)	4704	(20.92)
78 (1981)	<b>B22</b>	524	(2.33)	.593	(15.06)	287	(1.27)	191	(0.85)
	<b>B22A</b>	1480	(6.58)	.330	(8.38)	1455	(6.47)	970	(4.31)
	<b>B22X</b>	4342	(19.31)	.220	(5.59)	4342	(19.31)	4270	(18.99)
84 (2133)	<b>B22</b>	486	(2.16)	.687	(17.45)	248	(1.10)	165	(0.73)
	<b>B22A</b>	1374	(6.11)	.383	(9.73)	1255	(5.58)	837	(3.72)
	<b>B22X</b>	4032	(17.93)	.255	(6.48)	4032	(17.93)	3682	(16.38)
90 (2286)	<b>B22</b>	454	(2.02)	.789	(20.04)	216	(0.96)	144	(0.64)
	<b>B22A</b>	1283	(5.71)	.440	(11.17)	1093	(4.86)	729	(3.24)
	<b>B22X</b>	3763	(16.74)	.293	(7.44)	3763	(16.74)	3207	(14.26)
96 (2438)	<b>B22</b>	425	(1.89)	.898	(22.81)	190	(0.84)	126	(0.56)
	<b>B22A</b>	1202	(5.35)	.500	(12.70)	961	(4.27)	640	(2.85)
	<b>B22X</b>	3528	(15.69)	.334	(8.48)	3528	(15.69)	2819	(12.54)
102 (2591)	<b>B22</b>	400	(1.78)	1.013	(25.73)	168	(0.75)	112	(0.50)
	<b>B22A</b>	1132	(5.03)	.565	(14.35)	851	(3.78)	567	(2.52)
	<b>B22X</b>	3320	(14.77)	.377	(9.57)	3320	(14.77)	2497	(11.11)
108 (2743)	<b>B22</b>	378	(1.68)	1.136	(28.85)	150	(0.67)	100	(0.44)
	<b>B22A</b>	1069	(4.75)	.633	(16.08)	759	(3.37)	506	(2.25)
	<b>B22X</b>	3136	(13.95)	.422	(10.72)	3136	(13.95)	2227	(9.90)
114 (2895)	<b>B22</b>	358	(1.59)	1.266	(32.15)	134	(0.59)	90	(0.40)
	<b>B22A</b>	1013	(4.50)	.706	(17.93)	681	(3.03)	454	(2.02)
	<b>B22X</b>	2971	(13.21)	.471	(11.96)	2971	(13.21)	1999	(8.89)
120 (3048)	<b>B22</b>	340	(1.51)	1.403	(35.63)	121	(0.54)	81	(0.36)
	<b>B22A</b>	962	(4.28)	.782	(19.86)	615	(2.73)	410	(1.82)
	<b>B22X</b>	2822	(12.55)	.521	(13.23)	2706	(12.04)	1804	(8.02)

Based on simple beam condition using an allowable design stress of 25,000 psi (172 MPa) in accordance with MFMA, with adequate lateral bracing (see page 12 for further explanation). Actual yield point of cold rolled steel is 42,000 psi. To determine concentrated load capacity at mid span, multiply uniform load by 0.5 and corresponding deflection by 0.8. \*Failure determined by weld shear.

Reference page 48 for general fitting and standard finish specifications.

## Column Loading

Unbraced Height		Channel Style	Max. Column Loading K = .80				Max. Column Loading (Loaded @ C.G.)					
			Loaded @ C.G.		Loaded @ Slot Face		K = .65		K = 1.0		K = 1.2	
			Lbs.	kN	Lbs.	kN	Lbs.	kN	Lbs.	kN	Lbs.	kN
12	(305)	<b>B22</b>	10454	(46.50)	4276	(19.12)	10598	(47.14)	10222	(45.47)	9950	(44.26)
		<b>B22A</b>	21625	(96.19)	7002	(31.14)	21677	(96.42)	21539	(95.81)	21433	(95.34)
		<b>B22X</b>	46948	(208.83)	18975	(84.40)	47061	(209.34)	46761	(208.00)	46531	(206.98)
18	(457)	<b>B22</b>	9950	(44.26)	4153	(18.47)	10253	(45.62)	9481	(42.17)	8955	(39.83)
		<b>B22A</b>	21433	(95.34)	6959	(30.95)	21551	(95.86)	21239	(94.47)	21001	(93.42)
		<b>B22X</b>	46531	(206.98)	18859	(83.90)	46787	(208.12)	46110	(205.11)	45593	(202.81)
24	(609)	<b>B22</b>	9311	(41.42)	3993	(17.76)	9801	(43.60)	8582	(38.17)	7801	(34.70)
		<b>B22A</b>	21164	(94.14)	6898	(30.68)	21373	(95.07)	20819	(92.61)	20397	(90.73)
		<b>B22X</b>	45947	(204.38)	18693	(84.44)	46401	(206.40)	45198	(201.05)	44282	(196.97)
30	(762)	<b>B22</b>	8582	(38.17)	3802	(16.91)	9268	(41.22)	7601	(33.81)	6595	(29.33)
		<b>B22A</b>	20819	(92.61)	6821	(30.34)	21145	(94.06)	20279	(90.20)	19619	(87.27)
		<b>B22X</b>	45198	(201.05)	18485	(82.22)	45906	(204.20)	44026	(195.84)	42593	(189.46)
36	(914)	<b>B22</b>	7801	(34.70)	3589	(15.96)	8676	(38.59)	6595	(28.33)	5392	(23.98)
		<b>B22A</b>	20397	(90.73)	6728	(29.93)	20866	(92.81)	19619	(87.27)	18669	(83.04)
		<b>B22X</b>	44282	(196.97)	18233	(81.10)	45300	(201.50)	42593	(189.46)	40530	(180.28)
42	(1067)	<b>B22</b>	6998	(31.13)	3360	(14.94)	8048	(35.80)	5595	(24.89)	4444	(19.77)
		<b>B22A</b>	19898	(88.51)	6620	(29.45)	20537	(91.33)	18840	(83.80)	17546	(78.05)
		<b>B22X</b>	43198	(192.15)	17940	(79.80)	44586	(198.33)	40901	(181.94)	38092	(169.44)
48	(1219)	<b>B22</b>	6193	(27.55)	3118	(13.87)	7401	(32.92)	4718	(20.99)	3791	(16.86)
		<b>B22A</b>	19322	(85.95)	6496	(28.89)	20157	(89.66)	17940	(79.80)	16251	(72.29)
		<b>B22X</b>	41948	(186.59)	17604	(78.30)	43761	(194.57)	38948	(173.25)	35281	(156.94)
54	(1371)	<b>B22</b>	5392	(23.98)	2864	(12.74)	6746	(30.01)	4090	(18.19)	3310	(14.72)
		<b>B22A</b>	18669	(83.04)	6263	(27.86)	19276	(87.74)	16920	(75.26)	14782	(65.75)
		<b>B22X</b>	40530	(180.28)	16973	(75.50)	42825	(190.49)	36733	(163.39)	32092	(142.75)
60	(1524)	<b>B22</b>	4718	(20.99)	2631	(11.70)	6093	(27.10)	3616	(16.08)	2936	(13.06)
		<b>B22A</b>	17940	(79.80)	5340	(23.75)	19244	(85.60)	15781	(70.20)	13141	(58.45)
		<b>B22X</b>	38948	(173.25)	14471	(64.37)	41779	(185.84)	34260	(152.39)	28529	(126.90)
66	(1676)	<b>B22</b>	4202	(18.69)	2434	(10.83)	5441	(24.20)	3242	(14.42)	2634	(11.71)
		<b>B22A</b>	17134	(76.21)	4587	(20.40)	18712	(83.23)	14521	(64.59)	11328	(50.39)
		<b>B22X</b>	37198	(165.46)	12431	(55.29)	40624	(180.70)	31525	(140.23)	24593	(109.39)
72	(1829)	<b>B22</b>	3791	(16.86)	2264	(10.07)	4869	(21.66)	2936	(13.06)	2381	(10.59)
		<b>B22A</b>	16251	(72.29)	3968	(17.65)	18129	(80.64)	13141	(58.45)	9524	(42.36)
		<b>B22X</b>	35281	(156.94)	10753	(47.83)	39358	(175.07)	28529	(126.90)	20676	(91.97)
78	(1981)	<b>B22</b>	3456	(15.37)	2116	(9.41)	4412	(19.62)	2680	(11.92)	2166	(9.63)
		<b>B22A</b>	15291	(68.02)	3456	(15.37)	17496	(77.82)	11642	(51.78)	8115	(36.10)
		<b>B22X</b>	33197	(147.67)	9366	(41.66)	37984	(168.96)	25275	(112.43)	17617	(78.36)
84	(2133)	<b>B22</b>	3176	(14.13)	1984	(8.82)	4037	(17.96)	2461	(10.95)	1980	(8.81)
		<b>B22A</b>	14255	(63.41)	3028	(13.47)	16812	(74.78)	10076	(44.82)	6998	(31.13)
		<b>B22X</b>	30947	(137.66)	8206	(36.50)	36499	(162.35)	21875	(97.30)	15192	(67.58)
90	(2286)	<b>B22</b>	2936	(13.06)	1867	(8.30)	3724	(16.56)	2270	(10.10)	1816	(8.08)
		<b>B22A</b>	13141	(58.45)	2667	(11.86)	16077	(71.51)	8778	(39.04)	6096	(27.11)
		<b>B22X</b>	28529	(126.90)	7227	(32.15)	34903	(155.25)	19057	(84.77)	13234	(58.87)
96	(2438)	<b>B22</b>	2728	(16.58)	1761	(7.83)	3456	(15.37)	2101	(9.34)	1671	(7.43)
		<b>B22A</b>	11951	(53.16)	2359	(10.49)	15291	(68.02)	7715	(34.32)	5357	(23.83)
		<b>B22X</b>	25945	(115.41)	6393	(28.44)	33197	(147.67)	16749	(74.50)	11630	(51.73)
102	(2591)	<b>B22</b>	2545	(11.32)	1664	(7.40)	3225	(14.34)	1951	(8.68)	1542**	(6.34)
		<b>B22A</b>	10678	(47.50)	2093	(9.31)	14455	(64.30)	6834	(30.40)	4746	(21.11)
		<b>B22X</b>	23182	(103.12)	5672	(25.23)	31382	(139.59)	14836	(65.99)	10303	(45.83)
108	(2743)	<b>B22</b>	2381	(10.59)	1575	(7.00)	3022	(13.44)	1816	(8.08)	1426**	(68.60)
		<b>B22A</b>	9524	(42.36)	1867	(8.30)	13568	(60.35)	6096	(27.11)	4233	(18.83)
		<b>B22X</b>	20676	(91.97)	5059	(22.50)	29456	(131.03)	13234	(58.87)	9190	(40.88)
114	(2895)	<b>B22</b>	2234	(9.94)	1494	(6.64)	2842	(12.64)	1694	(7.53)	1322**	(5.88)
		<b>B22A</b>	8548	(38.02)	1675	(7.45)	12630	(56.18)	5471	(24.33)	3799**	(16.90)
		<b>B22X</b>	18558	(82.55)	4539	(20.19)	27420	(121.97)	11877	(52.83)	8247	(36.68)
120	(3048)	<b>B22</b>	2101	(9.34)	1418	(6.31)	2680	(11.92)	1583**	(7.04)	1228**	(5.46)
		<b>B22A</b>	7715	(34.32)	1512	(6.72)	11642	(51.78)	4937	(21.96)	3429**	(15.25)
		<b>B22X</b>	16749	(74.50)	4097	(18.22)	25275	(112.43)	10718	(47.67)	7444	(33.11)

\*\*Where the slenderness ratio  $\frac{KL}{r}$  exceeds 200, and K = end fixity factor, L = actual length and r = radius of gyration.