



FIRE-TROL
PREFABRICATED FIREPROOF COLUMNS

Specification Guide

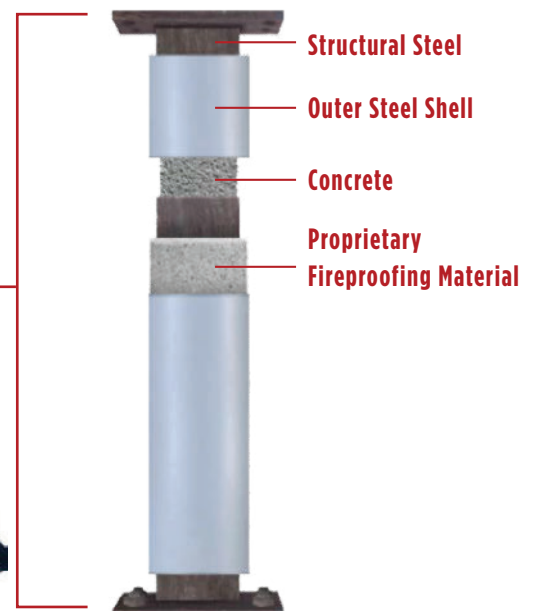
Aesthetically Pleasing Exposed Steel Columns with High Performance Fire Protection

Fire Trol provides structural and fireproofing elements with architectural impact while simultaneously saving owners money and cutting installation time.

- Factory applied fireproofing protected by a steel shell.
- Exacting quality control performed by our in-shop fabrication professionals.
- Decreased long-term maintenance costs and the added durability of exterior steel shells.
- Predictable scheduling as Fire Trol columns deliver to the job site completely fireproofed, ready for erection.
- No additional trades needed for on-site fire protection application.

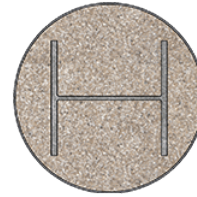
Building Columns with Multi Hour UL Fire Ratings

Fire Trol Fireproof Columns are rated and labeled by Underwriters Laboratories, Inc. for fire retardant classifications of 2, 3 and 4 hours. Columns are completely shop fabricated and shipped to the job site ready to erect. Fire Trol is the manufacturer that you can count on to provide high quality fire proof steel columns. We design, manufacture and deliver the columns that capture the vision of architects, deliver on cost and integrity for engineers, and support the structures that delight occupants.



Fire Trol columns are prefabricated exposed steel columns that provide an aesthetically pleasing design while meeting UL fire ratings as well as AISC certifications. Fire Trol columns come in round, square, and rectangular profiles (along with customized shapes and sizes), designed for exposed exterior and interior loadbearing columns. You can admire Fire Trol columns in hospitals, schools, dormitories, cafeterias, shopping centers, and countless other structures. The protective steel shells of our columns make them the premier choice for parking garages and high traffic entryways. FireTrol specializes in fireproofing steel building columns, structural steel WF, pipe, and HSS squares and rectangular shapes. We meet ASTM and AISC standards, and all steel and concrete meets or exceeds UL regulations.

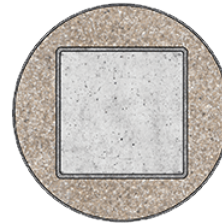
Fire Trol Fireproof Column Shapes



Round Type OH



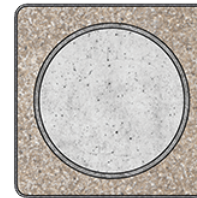
Round Type OO



Round Type OS



Square Type SH



Square Type SO



Square Type SS



Rectangular Type RH



Rectangular Type RR



Elimination Of Scheduling Conflicts

Our product arrives on site ready to erect.



UL® Certified Product

Each column is fabricated to conform to Underwriters' Laboratories, Inc. requirements, and is rated for the inspection manifest and fire-retardant classification of 2, 3 and 4 hours rating.



AISC Certified Fabricator

Have the confidence of working with an AISC-certified Structural fabricator.



Solutions





Round Type OH

	No.	Core Size	RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
			Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE OH	1	W4x13	Pipe8SCH20	57	Pipe8SCH20	57	Pipe9SCH40	74
	2	W5x16	Pipe9SCH40	76	Pipe10SCH30	85	Pipe10SCH30	85
	3	W5x19	Pipe9SCH40	79	Pipe10SCH30	87	Pipe11SCH40	105
	4	W6x8.5	Pipe9SCH40	70	Pipe10SCH30	78	Pipe10SCH30	78
	5	W6x9	Pipe9SCH40	70	Pipe10SCH30	79	Pipe10SCH30	79
	6	W6x12	Pipe9SCH40	73	Pipe10SCH30	81	Pipe11SCH40	99
	7	W6x16	Pipe10SCH30	85	Pipe10SCH30	85	Pipe11SCH40	102
	8	W6x15	Pipe10SCH30	84	Pipe11SCH40	102	Pipe12SCH40	118
	9	W6x20	Pipe11SCH40	106	Pipe11SCH40	106	Pipe12SCH40	122
	10	W6x25	Pipe11SCH40	110	Pipe11SCH40	110	Pipe12SCH40	126
	11	W8x10	Pipe11SCH40	97	Pipe11SCH40	97	Pipe12SCH40	113
	12	W8x13	Pipe11SCH40	100	Pipe11SCH40	100	Pipe12SCH40	116
	13	W8x15	Pipe11SCH40	102	Pipe12SCH40	118	Pipe14SCH10	114
	14	W8x18	Pipe12SCH40	120	Pipe12SCH40	120	Pipe14SCH10	117
	15	W8x21	Pipe12SCH40	123	Pipe12SCH40	123	Pipe14SCH10	120
	16	W8x24	Pipe12SCH40	125	Pipe14SCH10	122	Pipe14SCH10	122
	17	W8x28	Pipe12SCH40	129	Pipe14SCH10	126	Pipe14SCH10	126
	18	W8x31	Pipe14SCH10	128	Pipe14SCH10	128	Pipe16SCH1	154
	19	W8x35	Pipe14SCH10	132	Pipe14SCH10	132	Pipe16SCH1	158
	20	W8x40	Pipe14SCH10	136	Pipe14SCH10	136	Pipe16SCH1	162
	21	W8x48	Pipe14SCH10	143	Pipe16SCH1	169	Pipe16SCH1	169
	22	W8x58	Pipe16SCH1	178	Pipe16SCH1	178	Pipe16SCH1	178
	23	W8x67	Pipe16SCH1	186	Pipe16SCH1	186	Pipe16SCH1	186
	24	W10x12	Pipe14SCH10	112	Pipe14SCH10	112	Pipe16SCH1	138
	25	W10x15	Pipe14SCH10	114	Pipe14SCH10	114	Pipe16SCH1	140
	26	W10x17	Pipe14SCH10	116	Pipe14SCH10	116	Pipe16SCH1	142
	27	W10x19	Pipe14SCH10	118	Pipe14SCH10	118	Pipe16SCH1	144
	28	W10x16	Pipe14SCH10	115	Pipe14SCH10	115	Pipe16SCH1	141
	29	W10x22	Pipe14SCH10	120	Pipe16SCH1	146	Pipe16SCH1	146
	30	W10x26	Pipe14SCH10	124	Pipe16SCH1	150	Pipe16SCH1	150
	31	W10x30	Pipe14SCH10	127	Pipe16SCH1	153	Pipe16SCH1	153
	32	W10x33	Pipe16SCH1	156	Pipe16SCH1	156	Pipe18SCH10	185
	33	W10x39	Pipe16SCH1	161	Pipe16SGH1	161	Pipe18SCH10	190
	34	W10x45	Pipe16SCH1	166	Pipe16SCH1	166	Pipe18SCH10	195
	35	W10x49	Pipe18SCH10	199	Pipe18SCH10	199	Pipe18SCH10	199
	36	W10x54	Pipe18SCH10	203	Pipe18SCH10	203	Pipe18SCH10	203
	37	W10x60	Pipe18SCH10	208	Pipe18SCH10	208	Pipe18SCH10	208
	38	W10x68	Pipe18SCH10	215	Pipe18SCH10	215	Pipe20SCH10	247
	39	W10x77	Pipe18SCH10	223	Pipe18SCH10	223	Pipe20SCH10	255
	40	W10x88	Pipe18SCH10	233	Pipe18SCH10	233	Pipe20SCH10	264
	41	W10x100	Pipe18SCH10	243	Pipe18SCH10	243	Pipe20SCH10	275
	42	W10x112	Pipe18SCH10	253	Pipe18SCH10	253	Pipe20SCH10	285
	43	W12x14	Pipe16SCH1	139	Pipe16SCH1	139	Pipe18SCH10	168
	44	W12x16	Pipe16SCH1	141	Pipe16SCH1	141	Pipe18SCH10	170
	45	W12x19	Pipe16SCH1	144	Pipe16SCH1	144	Pipe18SCH10	173



Round Type OH

			RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
	No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE OH	46	W12x22	Pipe16SCH1	146	Pipe16SCH1	146	Pipe18SCH10	175
	47	W12x21	Pipe16SCH1	146	Pipe18SCH10	174	Pipe18SCH10	174
	48	W12x26	Pipe16SCH1	150	Pipe18SCH10	179	Pipe18SCH10	179
	49	W12x30	Pipe16SCH1	153	Pipe18SCH10	182	Pipe18SCH10	182
	50	W12x35	Pipe18SCH10	186	Pipe18SCH10	186	Pipe18SCH10	186
	51	W12x40	Pipe18SCH10	191	Pipe18SCH10	191	Pipe18SCH10	191
	52	W12x45	Pipe18SCH10	195	Pipe18SCH10	195	Pipe18SCH10	195
	53	W12x50	Pipe18SCH10	200	Pipe18SCH10	200	Pipe20SCH10	231
	54	W12x53	Pipe18SCH10	202	Pipe20SCH10	234	Pipe20SCH10	234
	55	W12x58	Pipe18SCH10	206	Pipe20SCH10	238	Pipe20SCH10	238
	56	W12x65	Pipe20SCH10	244	Pipe20SCH10	244	Pipe22SCH10	279
	57	W12x72	Pipe20SCH10	250	Pipe20SCH10	250	Pipe22SCH10	285
	58	W12x79	Pipe20SCH10	256	Pipe20SCH10	256	Pipe22SCH10	291
	59	W12x87	Pipe20SCH10	263	Pipe20SCH10	263	Pipe22SCH10	298
	60	W12x96	Pipe20SCH10	271	Pipe22SCH10	306	Pipe22SCH10	306
	61	W12x106	Pipe20SCH10	280	Pipe22SCH10	314	Pipe22SCH10	314
	62	W12x120	Pipe20SCH10	292	Pipe22SCH10	326	Pipe22SCH10	326
	63	W12x136	Pipe22SCH10	340	Pipe22SCH10	340	Pipe22SCH10	340
	64	W12x152	Pipe22SCH10	354	Pipe22SCH10	354	Pipe24SCH10	392
	65	W12x170	Pipe22SCH10	370	Pipe22SCH10	370	Pipe24SCH10	407
	66	W12x190	Pipe22SCH10	387	Pipe22SCH10	387	Pipe24SCH10	425
	67	W12x210	Pipe22SCH10	405	Pipe22SCH10	405	Pipe24SCH10	442
	68	W12x230	Pipe22SCH10	422	Pipe24SCH10	459	Pipe24SCH10	459
	69	W12x252	Pipe24SCH10	479	Pipe24SCH10	479	Pipe24SCH10	479
	70	W12x279	Pipe24SCH10	502	Pipe24SCH10	502	Inquire	
	71	W12x305	Pipe24SCH10	525	Pipe24SCH10	525	Inquire	
	72	W12x336	Pipe24SCH10	552	Pipe24SCH10	552	Inquire	
	73	W14x22	Pipe18SCH10	175	Pipe18SCH10	175	Pipe20SCH10	207
	74	W14x26	Pipe18SCH10	179	Pipe18SCH10	179	Pipe20SCH10	210
	75	W14x30	Pipe18SCH10	182	Pipe18SCH10	182	Pipe20SCH10	214
	76	W14x34	Pipe18SCH10	186	Pipe20SCH10	217	Pipe20SCH10	217
	77	W14x38	Pipe18SCH10	189	Pipe20SCH10	221	Pipe20SCH10	221
	78	W14x43	Pipe18SCH10	193	Pipe20SCH10	225	Pipe20SCH10	225
	79	W14x48	Pipe18SCH10	198	Pipe20SCH10	229	Pipe20SCH10	229
	80	W14x53	Pipe20SCH10	234	Inquire		Pipe20SCH10	234
	81	W14x61	Pipe20SCH10	241	Pipe20SCH10	241	Pipe22SCH10	275
	82	W14x68	Pipe20SCH10	247	Pipe20SCH10	247	Pipe22SCH10	281
	83	W14x74	Pipe20SCH10	252	Pipe20SCH10	252	Pipe22SCH10	286
	84	W14x82	Pipe20SCH10	259	Pipe22SCH10	293	Pipe22SCH10	293
	85	W14x90	Pipe24SCH10	338	Pipe24SCH10	338	Pipe24SCH10	338
	86	W14x99	Pipe24SCH10	345	Pipe24SCH10	345	Pipe24SCH10	345
	87	W14x109	Pipe24SCH10	354	Pipe24SCH10	354	Pipe24SCH10	354
	88	W14x120	Pipe24SCH10	364	Pipe24SCH10	364	Inquire	
	89	W14x132	Pipe24SCH10	374	Pipe24SCH10	374	Inquire	
	90	W14x145	Pipe24SCH10	385	Pipe24SCH10	385	Inquire	



Round Type OH

	No.	Core Size	RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR		
			Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	
TYPE OH	91	W14x159	Pipe24SCH10	398	Inquire		Inquire		
	92	W14x176	Pipe24SCH10	412	Inquire		Inquire		
	93	W14x193	Inquire		Inquire		Inquire		
	94	W14x211	Inquire		Inquire		Inquire		
	95	W14x233	Inquire		Inquire		Inquire		
	96	W14x257	Inquire		Inquire		Inquire		
	97	W14x283	Inquire		Inquire		Inquire		
	98	W14x311	Inquire		Inquire		Inquire		
	99	W14x342	Inquire		Inquire		Inquire		
	100	W14x370	Inquire		Inquire		Inquire		
	101	W14x398	Inquire		Inquire		Inquire		
	102	W14x426	Inquire		Inquire		Inquire		
	103	W14x455	Inquire		Inquire		Inquire		
	104	W14x500	Inquire		Inquire		Inquire		
	105	W14x550	Inquire		Inquire		Inquire		
	106	W14x605	Inquire		Inquire		Inquire		
	107	W14x665	Inquire		Inquire		Inquire		
	108	W14x730	Inquire		Inquire		Inquire		
	109	W16x26	Pipe20SCH10		210	Pipe20SCH10	210	Pipe22SCH10	245
	110	W16x31	Pipe20SCH10		215	Pipe20SCH10	215	Pipe22SCH10	249
	111	W16x36	Pipe20SCH10		219	Pipe20SCH10	219	Pipe22SCH10	253
	112	W16x40	Pipe20SCH10		222	Pipe20SCH10	222	Pipe22SCH10	257
	113	W16x45	Pipe20SCH10		227	Pipe22SCH10	261	Pipe22SCH10	261
	114	W16x50	Pipe20SCH10		231	Pipe22SCH10	265	Pipe22SCH10	265
	115	W16x57	Pipe20SCH10		237	Pipe22SCH10	272	Pipe22SCH10	272
	116	W16x67	Pipe22SCH10		280	Pipe22SCH10	280	Pipe24SCH10	318
	117	W16x77	Pipe22SCH10		289	Pipe22SCH10	289	Pipe24SCH10	326
	118	W16x89	Pipe22SCH10		299	Pipe24SCH10	337	Pipe24SCH10	337
	119	W16x100	Pipe22SCH10		309	Pipe24SCH10	346	Pipe24SCH10	346
	120	W18x35	Pipe22SCH10		252	Pipe22SCH10	252	Pipe24SCH10	290
	121	W18x40	Pipe22SCH10		257	Pipe22SCH10	257	Pipe24SCH10	294
	122	W18x46	Pipe22SCH10		262	Pipe22SCH10	262	Pipe24SCH10	299
	123	W18x41	Pipe22SCH10		258	Pipe22SCH10	258	Pipe24SCH10	295
	124	W18x45	Pipe22SCH10		261	Pipe22SCH10	261	Pipe24SCH10	298
	125	W18x50	Pipe22SCH10		265	Pipe22SCH10	265	Pipe24SCH10	303
126	W18x55	Pipe22SCH10		270	Pipe24SCH10	307	Pipe24SCH10	307	
127	W18x60	Pipe22SCH10		274	Pipe24SCH10	311	Pipe24SCH10	311	
128	W18x65	Pipe22SCH10		279	Pipe24SCH10	316	Pipe24SCH10	316	
129	W18x71	Pipe22SCH10		284	Pipe24SCH10	321	Pipe24SCH10	321	
130	W18x76	Pipe24SCH10		325	Pipe24SCH10	325	Inquire		
131	W18x86	Pipe24SCH10		334	Pipe24SCH10	334	Inquire		
132	W18x97	Pipe24SCH10		344	Inquire		Inquire		
133	W18x106	Pipe24SCH10		351	Inquire		Inquire		
134	W18x119	Inquire			Inquire		Inquire		
135	W18x130	Inquire			Inquire		Inquire		



Round Type OH

		RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
136	W18x143	Inquire		Inquire		Inquire	
137	W18x158	Inquire		Inquire		Inquire	
138	W18x175	Inquire		Inquire		Inquire	
139	W18x192	Inquire		Inquire		Inquire	
140	W18x211	Inquire		Inquire		Inquire	
141	W18x234	Inquire		Inquire		Inquire	
142	W18x258	Inquire		Inquire		Inquire	
143	W18x283	Inquire		Inquire		Inquire	
144	W18x311	Inquire		Inquire		Inquire	
145	W21x44	Pipe24SCH10	298	Inquire		Inquire	
146	W21x50	Pipe24SCH10	303	Inquire		Inquire	
147	W21x57	Inquire		Inquire		Inquire	
148	W21x48	Inquire		Inquire		Inquire	
149	W21x55	Inquire		Inquire		Inquire	
150	W21x62	Inquire		Inquire		Inquire	
151	W21x68	Inquire		Inquire		Inquire	
152	W21x73	Inquire		Inquire		Inquire	
153	W21x83	Inquire		Inquire		Inquire	
154	W21x68	Inquire		Inquire		Inquire	
155	W21x101	Inquire		Inquire		Inquire	
156	W21x111	Inquire		Inquire		Inquire	
157	W21x122	Inquire		Inquire		Inquire	
158	W21x132	Inquire		Inquire		Inquire	
159	W21x147	Inquire		Inquire		Inquire	
160	W21x166	Inquire		Inquire		Inquire	
161	W21x182	Inquire		Inquire		Inquire	
162	W21x201	Inquire		Inquire		Inquire	
163	W21x223	Inquire		Inquire		Inquire	
164	W21x248	Inquire		Inquire		Inquire	
165	W21x275	Inquire		Inquire		Inquire	
166	W24x55	Inquire		Inquire		Inquire	
167	W24x62	Inquire		Inquire		Inquire	
168	W24x56	Inquire		Inquire		Inquire	
169	W24x61	Inquire		Inquire		Inquire	
170	W24x68	Inquire		Inquire		Inquire	
171	W24x76	Inquire		Inquire		Inquire	
172	W24x84	Inquire		Inquire		Inquire	
173	W24x94	Inquire		Inquire		Inquire	
174	W24x103	Inquire		Inquire		Inquire	
175	W24x114	Inquire		Inquire		Inquire	
176	W24x128	Inquire		Inquire		Inquire	
177	W24x163	Inquire		Inquire		Inquire	
178	W24x198	Inquire		Inquire		Inquire	
179	W24x104	Inquire		Inquire		Inquire	
180	W24x117	Inquire		Inquire		Inquire	

TYPE OH



Round Type OH

		RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
181	W24x131	Inquire		Inquire		Inquire	
182	W24x146	Inquire		Inquire		Inquire	
183	W24x162	Inquire		Inquire		Inquire	
184	W24x176	Inquire		Inquire		Inquire	
185	W24x192	Inquire		Inquire		Inquire	
186	W24x207	Inquire		Inquire		Inquire	
187	W24x229	Inquire		Inquire		Inquire	
188	W24x250	Inquire		Inquire		Inquire	
189	W24x279	Inquire		Inquire		Inquire	
190	W24x306	Inquire		Inquire		Inquire	
191	W24x335	Inquire		Inquire		Inquire	
192	W24x370	Inquire		Inquire		Inquire	
193	W24x408	Inquire		Inquire		Inquire	
194	W24x450	Inquire		Inquire		Inquire	
195	W24x492	Inquire		Inquire		Inquire	
196	W27x84	Inquire		Inquire		Inquire	
197	W27x94	Inquire		Inquire		Inquire	
198	W27x102	Inquire		Inquire		Inquire	
199	W27x114	Inquire		Inquire		Inquire	
200	W27x129	Inquire		Inquire		Inquire	
201	W27x159	Inquire		Inquire		Inquire	
202	W27x182	Inquire		Inquire		Inquire	
203	W27x201	Inquire		Inquire		Inquire	
204	W27x221	Inquire		Inquire		Inquire	
205	W27x146	Inquire		Inquire		Inquire	
206	W27x161	Inquire		Inquire		Inquire	
207	W27x178	Inquire		Inquire		Inquire	
208	W27x194	Inquire		Inquire		Inquire	
209	W27x217	Inquire		Inquire		Inquire	
210	W27x235	Inquire		Inquire		Inquire	
211	W27x258	Inquire		Inquire		Inquire	
212	W27x281	Inquire		Inquire		Inquire	
213	W27x307	Inquire		Inquire		Inquire	
214	W27x336	Inquire		Inquire		Inquire	
215	W27x368	Inquire		Inquire		Inquire	
216	W27x407	Inquire		Inquire		Inquire	
217	W27x448	Inquire		Inquire		Inquire	
218	W27x494	Inquire		Inquire		Inquire	
219	W30x90	Inquire		Inquire		Inquire	
220	W30x99	Inquire		Inquire		Inquire	
221	W30x108	Inquire		Inquire		Inquire	
222	W30x116	Inquire		Inquire		Inquire	
223	W30x124	Inquire		Inquire		Inquire	
224	W30x132	Inquire		Inquire		Inquire	
225	W30x148	Inquire		Inquire		Inquire	

TYPE OH



Round Type OH

			RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
	No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE OH	226	W30x173	Inquire		Inquire		Inquire	
	227	W30x191	Inquire		Inquire		Inquire	
	228	W30x211	Inquire		Inquire		Inquire	
	229	W30x235	Inquire		Inquire		Inquire	
	230	W30x261	Inquire		Inquire		Inquire	
	231	W30x292	Inquire		Inquire		Inquire	
	232	W30x326	Inquire		Inquire		Inquire	
	233	W30x357	Inquire		Inquire		Inquire	
	234	W30x391	Inquire		Inquire		Inquire	
	235	W30x433	Inquire		Inquire		Inquire	
	236	W30x477	Inquire		Inquire		Inquire	
	237	W33x118	Inquire		Inquire		Inquire	
	238	W33x130	Inquire		Inquire		Inquire	
	239	W33x141	Inquire		Inquire		Inquire	
	240	W33x152	Inquire		Inquire		Inquire	
	241	W33x169	Inquire		Inquire		Inquire	
	242	W33x187	Inquire		Inquire		Inquire	
	243	W33x204	Inquire		Inquire		Inquire	
	244	W33x219	Inquire		Inquire		Inquire	
	245	W33x201	Inquire		Inquire		Inquire	
	246	W33x221	Inquire		Inquire		Inquire	
	247	W33x241	Inquire		Inquire		Inquire	
	248	W33x263	Inquire		Inquire		Inquire	
	249	W33x291	Inquire		Inquire		Inquire	
250	W33x318	Inquire		Inquire		Inquire		
251	W33x354	Inquire		Inquire		Inquire		
252	W33x387	Inquire		Inquire		Inquire		
253	W33x424	Inquire		Inquire		Inquire		
254	W33x468	Inquire		Inquire		Inquire		



Round Type OO

			RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
	No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE OO	1	Pipe0.5SCH5	Pipe3SCH40	12	Pipe4SCH40	17	Pipe5SCH40	24
	2	Pipe0.5SCH10	Pipe3SCH40	12	Pipe4SCH40	17	Pipe5SCH40	24
	3	Pipe0.5SCH40	Pipe3SCH40	12	Pipe4SCH40	17	Pipe5SCH40	25
	4	Pipe0.5SCH80	Pipe3SCH40	12	Pipe4SCH40	18	Pipe5SCH40	25
	5	Pipe0.5SCH160	Pipe3SCH40	12	Pipe4SCH40	18	Pipe5SCH40	25
	6	Pipe0.75SCH5	Pipe3SCH40	12	Pipe4.5SCH40	21	Pipe6SCH40	33
	7	Pipe0.75SCH10	Pipe3SCH40	12	Pipe4.5SCH40	21	Pipe6SCH40	33
	8	Pipe0.75SCH40	Pipe3SCH40	12	Pipe4.5SCH40	21	Pipe6SCH40	33



Round Type OO

	No.	Core Size	RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
			Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE OO	9	Pipe0.75SCH80	Pipe3SCH40	12	Pipe4.5SCH40	21	Pipe6SCH40	34
	10	Pipe0.75SCH160	Pipe3SCH40	13	Pipe4.5SCH40	22	Pipe6SCH40	34
	11	Pipe1SCH5	Pipe3.5SCH40	15	Pipe4.5SCH40	21	Pipe6SCH40	33
	12	Pipe1SCH10	Pipe3.5SCH40	15	Pipe4.5SCH40	22	Pipe6SCH40	34
	13	Pipe1SCH40	Pipe3.5SCH40	16	Pipe4.5SCH40	22	Pipe6SCH40	34
	14	Pipe1SCH80	Pipe3.5SCH40	16	Pipe4.5SCH40	22	Pipe6SCH40	34
	15	Pipe1SCH160	Pipe3.5SCH40	16	Pipe4.5SCH40	23	Pipe6SCH40	35
	16	Pipe1.25SCH5	Pipe4SCH40	19	Pipe5SCH40	26	Pipe6SCH40	34
	17	Pipe1.25SCH10	Pipe4SCH40	19	Pipe5SCH40	26	Pipe6SCH40	35
	18	Pipe1.25SCH40	Pipe4SCH40	19	Pipe5SCH40	27	Pipe6SCH40	35
	19	Pipe1.25SCH80	Pipe4SCH40	20	Pipe5SCH40	27	Pipe6SCH40	35
	20	Pipe1.25SCH160	Pipe4SCH40	20	Pipe5SCH40	28	Pipe6SCH40	36
	21	Pipe1.5SCH5	Pipe4SCH40	19	Pipe5SCH40	26	Pipe6SCH40	35
	22	Pipe1.5SCH10	Pipe4SCH40	20	Pipe5SCH40	27	Pipe6SCH40	35
	23	Pipe1.5SCH40	Pipe4SCH40	20	Pipe5SCH40	27	Pipe6SCH40	36
	24	Pipe1.5SCH80	Pipe4SCH40	21	Pipe5SCH40	28	Pipe6SCH40	36
	25	Pipe1.5SCH160	Pipe4SCH40	22	Pipe5SCH40	29	Pipe6SCH40	37
	26	Pipe2SCH5	Pipe4.5SCH40	23	Pipe6SCH40	36	Pipe7SCH40	45
	27	Pipe2SCH10	Pipe4.5SCH40	24	Pipe6SCH40	36	Pipe7SCH40	46
	28	Pipe2SCH40	Pipe4.5SCH40	25	Pipe6SCH40	37	Pipe7SCH40	46
	29	Pipe2SCH80	Pipe4.5SCH40	26	Pipe6SCH40	38	Pipe7SCH40	47
	30	Pipe2SCH160	Pipe4.5SCH40	28	Pipe6SCH40	40	Pipe7SCH40	49
	31	Pipe2.5SCH5	Pipe5SCH40	29	Pipe6SCH40	38	Pipe7SCH40	47
	32	Pipe2.5SCH10	Pipe5SCH40	30	Pipe6SCH40	38	Pipe7SCH40	47
	33	Pipe2.5SCH40	Pipe5SCH40	32	Pipe6SCH40	40	Pipe7SCH40	49
	34	Pipe2.5SCH80	Pipe5SCH40	33	Pipe6SCH40	41	Pipe7SCH40	50
	35	Pipe2.5SCH160	Pipe5SCH40	34	Pipe6SCH40	43	Pipe7SCH40	52
	36	Pipe3SCH5	Pipe6SCH40	40	Pipe7SCH40	49	Pipe8SCH20	54
	37	Pipe3SCH10	Pipe6SCH40	41	Pipe7SCH40	50	Pipe8SCH20	54
	38	Pipe3SCH40	Pipe6SCH40	43	Pipe7SCH40	52	Pipe8SCH20	57
	39	Pipe3SCH80	Pipe6SCH40	45	Pipe7SCH40	54	Pipe8SCH20	59
	40	Pipe3SCH160	Pipe6SCH40	48	Pipe7SCH40	57	Pipe8SCH20	61
	41	Pipe3.5SCH5	Pipe6SCH40	42	Pipe7SCH40	51	Pipe8SCH20	56
	42	Pipe3.5SCH10	Pipe6SCH40	43	Pipe7SCH40	52	Pipe8SCH20	57
	43	Pipe3.5SCH40	Pipe6SCH40	46	Pipe7SCH40	55	Pipe8SCH20	60
	44	Pipe3.5SCH80	Pipe6SCH40	48	Pipe7SCH40	57	Pipe8SCH20	62
	45	Pipe4SCH5	Pipe7SCH40	53	Pipe8SCH20	58	Pipe9SCH40	74
	46	Pipe4SCH10	Pipe7SCH40	54	Pipe8SCH20	59	Pipe9SCH40	76
	47	Pipe4SCH40	Pipe7SCH40	58	Pipe8SCH20	63	Pipe9SCH40	79
	48	Pipe4SCH80	Pipe7SCH40	61	Pipe8SCH20	66	Pipe9SCH40	82
	49	Pipe4SCH120	Pipe7SCH40	64	Pipe8SCH20	68	Pipe9SCH40	85
	50	Pipe4SCH160	Pipe7SCH40	66	Pipe8SCH20	71	Pipe9SCH40	87
	51	Pipe4.5SCH40	Pipe7SCH40	61	Pipe8SCH20	66	Pipe10SCH30	91
	52	Pipe4.5SCH80	Pipe7SCH40	65	Pipe8SCH20	70	Pipe10SCH30	94
	53	Pipe5SCH5	Pipe8SCH20	65	Pipe9SCH40	81	Pipe10SCH30	89



Round Type OO

	No.	Core Size	RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
			Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE OO	54	Pipe5SCH10	Pipe8SCH20	66	Pipe9SCH40	82	Pipe10SCH30	90
	55	Pipe5SCH40	Pipe8SCH20	70	Pipe9SCH40	87	Pipe10SCH30	95
	56	Pipe5SCH80	Pipe8SCH20	75	Pipe9SCH40	91	Pipe10SCH30	99
	57	Pipe5SCH120	Pipe8SCH20	79	Pipe9SCH40	95	Pipe10SCH30	104
	58	Pipe5SCH160	Pipe8SCH20	83	Pipe9SCH40	99	Pipe10SCH30	108
	59	Pipe6SCH5	Pipe9SCH40	88	Pipe10SCH30	96	Pipe11SCH40	114
	60	Pipe6SCH10	Pipe9SCH40	89	Pipe10SCH30	97	Pipe11SCH40	115
	61	Pipe6SCH40	Pipe9SCH40	96	Pipe10SCH30	104	Pipe11SCH40	122
	62	Pipe6SCH80	Pipe9SCH40	102	Pipe10SCH30	111	Pipe11SCH40	129
	63	Pipe6SCH120	Pipe9SCH40	108	Pipe10SCH30	116	Pipe11SCH40	134
	64	Pipe6SCH160	Pipe9SCH40	114	Pipe10SCH30	122	Pipe11SCH40	140
	65	Pipe7SCH40	Pipe10SCH30	114	Pipe11SCH40	132	Pipe12SCH40	148
	66	Pipe7SCH80	Pipe10SCH30	124	Pipe11SCH40	142	Pipe12SCH40	158
	67	Pipe8SCH5	Pipe11SCH40	130	Pipe12SCH40	146	Pipe14SCH10	143
	68	Pipe8SCH10	Pipe11SCH40	132	Pipe12SCH40	148	Pipe14SCH10	145
	69	Pipe8SCH20	Pipe11SCH40	138	Pipe12SCH40	155	Pipe14SCH10	151
	70	Pipe8SCH40	Pipe11SCH40	143	Pipe12SCH40	159	Pipe14SCH10	156
	71	Pipe8SCH60	Pipe11SCH40	148	Pipe12SCH40	164	Pipe14SCH10	161
	72	Pipe8SCH80	Pipe11SCH40	153	Pipe12SCH40	169	Pipe14SCH10	166
	73	Pipe9SCH40	Pipe12SCH40	171	Pipe14SCH10	168	Pipe16SCH1	194
	74	Pipe9SCH80	Pipe12SCH40	181	Pipe14SCH10	178	Pipe16SCH1	204
	75	Pipe10SCH5	Pipe14SCH10	165	Pipe16SCH1	191	Pipe16SCH1	191
	76	Pipe10SCH10	Pipe14SCH10	168	Pipe16SCH1	194	Pipe16SCH1	194
	77	Pipe10SCH30	Pipe14SCH10	179	Pipe16SCH1	205	Pipe16SCH1	205
	78	Pipe10SCH40	Pipe14SCH10	183	Pipe16SCH1	209	Pipe16SCH1	209
	79	Pipe10SCH80	Pipe14SCH10	193	Pipe16SCH1	219	Pipe16SCH1	219
	80	Pipe10SCH140	Pipe14SCH10	227	Pipe16SCH1	253	Pipe16SCH1	253
	81	Pipe10SCH160	Pipe14SCH10	235	Pipe16SCH1	261	Pipe16SCH1	261
	82	Pipe11SCH40	Pipe16SCH1	223	Pipe16SCH1	223	Pipe18SCH10	252
	83	Pipe11SCH80	Pipe16SCH1	233	Pipe16SCH1	233	Pipe18SCH10	262
	84	Pipe12SCH5	Pipe16SCH1	218	Pipe18SCH10	247	Pipe18SCH10	247
	85	Pipe12SCH40	Pipe16SCH1	241	Pipe18SCH10	270	Pipe18SCH10	270
	86	Pipe12SCH80	Pipe16SCH1	248	Pipe18SCH10	277	Pipe18SCH10	277
	87	Pipe12SCH160	Pipe16SCH1	314	Pipe18SCH10	342	Pipe18SCH10	342
	88	Pipe14SCH10	Pipe18SCH10	272	Pipe18SCH10	272	Pipe20SCH10	304
	89	Pipe14SCH20	Pipe18SCH10	278	Pipe18SCH10	278	Pipe20SCH10	310
	90	Pipe14SCH30	Pipe18SCH10	285	Pipe18SCH10	285	Pipe20SCH10	316
	91	Pipe14SCH40	Pipe18SCH10	291	Pipe18SCH10	291	Pipe20SCH10	322
	92	Pipe14SCH60	Pipe18SCH10	306	Pipe18SCH10	306	Pipe20SCH10	337
	93	Pipe14SCH80	Pipe18SCH10	320	Pipe18SCH10	320	Pipe20SCH10	352
	94	Pipe14SCH100	Pipe18SCH10	338	Pipe18SCH10	338	Pipe20SCH10	369
	95	Pipe14SCH120	Pipe18SCH10	352	Pipe18SCH10	352	Pipe20SCH10	383
	96	Pipe14SCH140	Pipe18SCH10	365	Pipe18SCH10	365	Pipe20SCH10	396
	97	Pipe14SCH160	Pipe18SCH10	378	Pipe18SCH10	378	Pipe20SCH10	410
	98	Pipe16SCH1	Pipe20SCH10	335	Pipe20SCH10	335	Pipe22SCH10	370



Round Type OO

		RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR		
No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	
TYPE OO	99	Pipe16SCH20	Pipe20SCH10	342	Pipe20SCH10	342	Pipe22SCH10	377
	100	Pipe16SCH30	Pipe20SCH10	350	Pipe20SCH10	350	Pipe22SCH10	384
	101	Pipe16SCH40	Pipe20SCH10	364	Pipe20SCH10	364	Pipe22SCH10	398
	102	Pipe16SCH60	Pipe20SCH10	381	Pipe20SCH10	381	Pipe22SCH10	415
	103	Pipe16SCH80	Pipe20SCH10	401	Pipe20SCH10	401	Pipe22SCH10	435
	104	Pipe16SCH100	Pipe20SCH10	421	Pipe20SCH10	421	Pipe22SCH10	455
	105	Pipe16SCH120	Pipe20SCH10	440	Pipe20SCH10	440	Pipe22SCH10	474
	106	Pipe16SCH140	Pipe20SCH10	461	Pipe20SCH10	461	Pipe22SCH10	496
	107	Pipe16SCH160	Pipe20SCH10	476	Pipe20SCH10	476	Pipe22SCH10	511
	108	Pipe18SCH10	Pipe22SCH10	405	Pipe22SCH10	405	Pipe24SCH10	442
	109	Pipe18SCH20	Pipe22SCH10	413	Pipe22SCH10	413	Pipe24SCH10	450
	110	Pipe18SCH30	Pipe22SCH10	429	Pipe22SCH10	429	Pipe24SCH10	466
	111	Pipe18SCH40	Pipe22SCH10	445	Pipe22SCH10	445	Pipe24SCH10	482
	112	Pipe18SCH60	Pipe22SCH10	468	Pipe22SCH10	468	Pipe24SCH10	505
	113	Pipe18SCH80	Pipe22SCH10	491	Pipe22SCH10	491	Pipe24SCH10	528
	114	Pipe18SCH100	Pipe22SCH10	516	Pipe22SCH10	516	Pipe24SCH10	554
	115	Pipe18SCH120	Pipe22SCH10	541	Pipe22SCH10	541	Pipe24SCH10	579
	116	Pipe18SCH140	Pipe22SCH10	562	Pipe22SCH10	562	Pipe24SCH10	600
	117	Pipe18SCH160	Pipe22SCH10	586	Pipe22SCH10	586	Pipe24SCH10	623
	118	Pipe20SCH10	Pipe24SCH10	481	Pipe24SCH10	481	Inquire	
	119	Pipe20SCH20	Pipe24SCH10	499	Pipe24SCH10	499	Inquire	
	120	Pipe20SCH30	Pipe24SCH10	517	Pipe24SCH10	517	Inquire	
	121	Pipe20SCH40	Pipe24SCH10	530	Pipe24SCH10	530	Inquire	
	122	Pipe20SCH60	Pipe24SCH10	560	Pipe24SCH10	560	Inquire	
	123	Pipe20SCH80	Pipe24SCH10	590	Pipe24SCH10	590	Inquire	
	124	Pipe20SCH100	Pipe24SCH10	622	Pipe24SCH10	622	Inquire	
	125	Pipe20SCH120	Pipe24SCH10	650	Pipe24SCH10	650	Inquire	
	126	Pipe20SCH140	Pipe24SCH10	681	Pipe24SCH10	681	Inquire	
	127	Pipe20SCH160	Pipe24SCH10	708	Pipe24SCH10	708	Inquire	
	128	Pipe22SCH10	Inquire		Inquire		Inquire	
	129	Pipe22SCH20	Inquire		Inquire		Inquire	
	130	Pipe22SCH30	Inquire		Inquire		Inquire	
	131	Pipe22SCH60	Inquire		Inquire		Inquire	
	132	Pipe22SCH80	Inquire		Inquire		Inquire	
	133	Pipe22SCH100	Inquire		Inquire		Inquire	
134	Pipe22SCH120	Inquire		Inquire		Inquire		
135	Pipe22SCH140	Inquire		Inquire		Inquire		
136	Pipe22SCH160	Inquire		Inquire		Inquire		
137	Pipe24SCH10	Inquire		Inquire		Inquire		
138	Pipe24SCH20	Inquire		Inquire		Inquire		
139	Pipe24SCH30	Inquire		Inquire		Inquire		
140	Pipe24SCH40	Inquire		Inquire		Inquire		
141	Pipe24SCH60	Inquire		Inquire		Inquire		
142	Pipe24SCH80	Inquire		Inquire		Inquire		
143	Pipe24SCH100	Inquire		Inquire		Inquire		



Round Type OO

			RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
	No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE OO	144	Pipe24SCH120	Inquire		Inquire		Inquire	
	145	Pipe24SCH140	Inquire		Inquire		Inquire	
	146	Pipe24SCH160	Inquire		Inquire		Inquire	



Round Type OS

			RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
	No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE OS	1	HSS3.5x3.5x0.083	Pipe7SCH40	51	Pipe8SCH20	56	Pipe10SCH30	81
	2	HSS3.5x3.5x0.125	Pipe7SCH40	52	Pipe8SCH20	57	Pipe10SCH30	82
	3	HSS3.5x3.5x0.188	Pipe7SCH40	54	Pipe8SCH20	59	Pipe10SCH30	83
	4	HSS3.5x3.5x0.25	Pipe7SCH40	55	Pipe8SCH20	60	Pipe10SCH30	85
	5	HSS3.5x3.5x0.313	Pipe7SCH40	57	Pipe8SCH20	62	Pipe10SCH30	86
	6	HSS3.5x3.5x0.375	Pipe7SCH40	59	Pipe8SCH20	64	Pipe10SCH30	89
	7	HSS4x4x0.125	Pipe8SCH20	60	Pipe9SCH40	76	Pipe10SCH30	85
	8	HSS4x4x0.188	Pipe8SCH20	62	Pipe9SCH40	78	Pipe10SCH30	87
	9	HSS4x4x0.25	Pipe8SCH20	64	Pipe9SCH40	80	Pipe10SCH30	88
	10	HSS4x4x0.313	Pipe8SCH20	65	Pipe9SCH40	82	Pipe10SCH30	90
	11	HSS4x4x0.375	Pipe8SCH20	67	Pipe9SCH40	83	Pipe10SCH30	92
	12	HSS4x4x0.5	Pipe8SCH20	70	Pipe9SCH40	86	Pipe10SCH30	94
	13	HSS4x4x0.625	Pipe8SCH20	72	Pipe9SCH40	88	Pipe10SCH30	97
	14	HSS4.5x4.5x0.188	Pipe9SCH40	82	Pipe10SCH30	90	Pipe11SCH40	108
	15	HSS4.5x4.5x0.25	Pipe9SCH40	84	Pipe10SCH30	92	Pipe11SCH40	110
	16	HSS4.5x4.5x0.313	Pipe9SCH40	86	Pipe10SCH30	94	Pipe11SCH40	112
	17	HSS4.5x4.5x0.375	Pipe9SCH40	88	Pipe10SCH30	96	Pipe11SCH40	114
	18	HSS4.5x4.5x0.5	Pipe9SCH40	93	Pipe10SCH30	101	Pipe11SCH40	119
	19	HSS5x5x0.188	Pipe10SCH30	94	Pipe10SCH30	94	Pipe12SCH40	128
	20	HSS5x5x0.25	Pipe10SCH30	96	Pipe10SCH30	96	Pipe12SCH40	130
	21	HSS5x5x0.313	Pipe10SCH30	98	Pipe10SCH30	98	Pipe12SCH40	132
	22	HSS5x5x0.375	Pipe10SCH30	101	Pipe10SCH30	101	Pipe12SCH40	134
	23	HSS5x5x0.5	Pipe10SCH30	104	Pipe10SCH30	104	Pipe12SCH40	138
	24	HSS5x5x0.625	Pipe10SCH30	108	Pipe10SCH30	108	Pipe12SCH40	142
	25	HSS5.5x5.5x0.188	Pipe10SCH30	98	Pipe11SCH40	115	Pipe12SCH40	132
	26	HSS5.5x5.5x0.25	Pipe10SCH30	100	Pipe11SCH40	118	Pipe12SCH40	134
	27	HSS5.5x5.5x0.313	Pipe10SCH30	103	Pipe11SCH40	121	Pipe12SCH40	137
	28	HSS5.5x5.5x0.375	Pipe10SCH30	105	Pipe11SCH40	123	Pipe12SCH40	139
	29	HSS5.5x5.5x0.5	Pipe10SCH30	110	Pipe11SCH40	128	Pipe12SCH40	144
	30	HSS6x6x0.188	Pipe11SCH40	120	Pipe12SCH40	136	Pipe14SCH10	133
	31	HSS6x6x0.25	Pipe11SCH40	123	Pipe12SCH40	139	Pipe14SCH10	136
	32	HSS6x6x0.313	Pipe11SCH40	126	Pipe12SCH40	142	Pipe14SCH10	139
	33	HSS6x6x0.375	Pipe11SCH40	128	Pipe12SCH40	145	Pipe14SCH10	141



Round Type OS

	No.	Core Size	RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
			Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE OS	34	HSS6x6x0.5	Pipe11SCH40	133	Pipe12SCH40	150	Pipe14SCH10	146
	35	HSS6x6x0.625	Pipe11SCH40	138	Pipe12SCH40	154	Pipe14SCH10	151
	36	HSS7x7x0.188	Pipe12SCH40	145	Pipe14SCH10	142	Pipe16SCH1	168
	37	HSS7x7x0.25	Pipe12SCH40	149	Pipe14SCH10	146	Pipe16SCH1	172
	38	HSS7x7x0.313	Pipe12SCH40	152	Pipe14SCH10	149	Pipe16SCH1	175
	39	HSS7x7x0.375	Pipe12SCH40	156	Pipe14SCH10	152	Pipe16SCH1	178
	40	HSS7x7x0.5	Pipe12SCH40	162	Pipe14SCH10	159	Pipe16SCH1	185
	41	HSS7x7x0.625	Pipe12SCH40	168	Pipe14SCH10	164	Pipe16SCH1	190
	42	HSS8x8x0.188	Pipe14SCH10	153	Pipe16SCH1	179	Pipe16SCH1	179
	43	HSS8x8x0.25	Pipe14SCH10	157	Pipe16SCH1	183	Pipe16SCH1	183
	44	HSS8x8x0.313	Pipe14SCH10	161	Pipe16SCH1	187	Pipe16SCH1	187
	45	HSS8x8x0.375	Pipe14SCH10	165	Pipe16SCH1	191	Pipe16SCH1	191
	46	HSS8x8x0.5	Pipe14SCH10	172	Pipe16SCH1	198	Pipe16SCH1	198
	47	HSS8x8x0.625	Pipe14SCH10	179	Pipe16SCH1	205	Pipe16SCH1	205
	48	HSS9x9x0.25	Pipe16SCH1	195	Pipe18SCH10	224	Pipe18SCH10	224
	49	HSS9x9x0.313	Pipe16SCH1	200	Pipe18SCH10	229	Pipe18SCH10	229
	50	HSS9x9x0.375	Pipe16SCH1	204	Pipe18SCH10	233	Pipe18SCH10	233
	51	HSS9x9x0.5	Pipe16SCH1	213	Pipe18SCH10	242	Pipe18SCH10	242
	52	HSS9x9x0.625	Pipe16SCH1	221	Pipe18SCH10	250	Pipe18SCH10	250
	53	HSS10x10x0.188	Pipe18SCH10	232	Pipe18SCH10	232	Pipe20SCH10	264
	54	HSS10x10x0.25	Pipe18SCH10	237	Pipe18SCH10	237	Pipe20SCH10	269
	55	HSS10x10x0.313	Pipe18SCH10	243	Pipe18SCH10	243	Pipe20SCH10	274
	56	HSS10x10x0.375	Pipe18SCH10	248	Pipe18SCH10	248	Pipe20SCH10	279
	57	HSS10x10x0.5	Pipe18SCH10	258	Pipe18SCH10	258	Pipe20SCH10	289
	58	HSS10x10x0.625	Pipe18SCH10	267	Pipe18SCH10	267	Pipe20SCH10	298
	59	HSS10x10x0.75	Pipe18SCH10	276	Pipe18SCH10	276	Pipe20SCH10	307
	60	HSS12x12x0.313	Pipe20SCH10	306	Pipe22SCH10	341	Pipe22SCH10	341
	61	HSS12x12x0.375	Pipe20SCH10	312	Pipe22SCH10	347	Pipe22SCH10	347
62	HSS12x12x0.5	Pipe20SCH10	325	Pipe22SCH10	359	Pipe22SCH10	359	
63	HSS12x12x0.625	Pipe20SCH10	336	Pipe22SCH10	371	Pipe22SCH10	371	
64	HSS12x12x0.75	Pipe20SCH10	347	Pipe22SCH10	382	Pipe22SCH10	382	
65	HSS14x14x0.313	Pipe24SCH10	414	Pipe24SCH10	414	Inquire		
66	HSS14x14x0.375	Pipe24SCH10	422	Pipe24SCH10	422	Inquire		
67	HSS14x14x0.5	Pipe24SCH10	436	Pipe24SCH10	436	Inquire		
68	HSS14x14x0.625	Pipe24SCH10	450	Pipe24SCH10	450	Inquire		
69	HSS14x14x0.75	Pipe24SCH10	464	Pipe24SCH10	464	Inquire		
70	HSS14x14x0.875	Pipe24SCH10	477	Pipe24SCH10	477	Inquire		
71	HSS16x16x0.313	Inquire		Inquire		Inquire		
72	HSS16x16x0.375	Inquire		Inquire		Inquire		
73	HSS16x16x0.5	Inquire		Inquire		Inquire		
74	HSS16x16x0.625	Inquire		Inquire		Inquire		
75	HSS16x16x0.75	Inquire		Inquire		Inquire		
76	HSS16x16x0.875	Inquire		Inquire		Inquire		
77	HSS18x18x0.375	Inquire		Inquire		Inquire		
78	HSS18x18x0.5	Inquire		Inquire		Inquire		



Round Type OS

		RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR		
	No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE OS	79	HSS18x18x0.625	Inquire		Inquire		Inquire	
	80	HSS18x18x0.75	Inquire		Inquire		Inquire	
	81	HSS18x18x0.875	Inquire		Inquire		Inquire	
	82	HSS20x20x0.375	Inquire		Inquire		Inquire	
	83	HSS20x20x0.5	Inquire		Inquire		Inquire	
	84	HSS20x20x0.625	Inquire		Inquire		Inquire	
	85	HSS20x20x0.75	Inquire		Inquire		Inquire	
	86	HSS20x20x0.875	Inquire		Inquire		Inquire	
	87	HSS22x22x0.75	Inquire		Inquire		Inquire	
88	HSS22x22x0.875	Inquire		Inquire		Inquire		



Square Type SH

		RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR		
	No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE SH	1	W4x13	HSS7x7x0.188	48	HSS7x7x0.188	48	HSS8x8x0.188	57
	2	W5x16	HSS7x7x0.188	51	HSS8x8x0.188	60	HSS9x9x0.25	76
	3	W5x19	HSS8x8x0.188	62	HSS8x8x0.188	62	HSS9x9x0.25	78
	4	W6x15	HSS8x8x0.188	59	HSS9x9x0.25	75	HSS10x10x0.188	80
	5	W6x20	HSS9x9x0.25	79	HSS9x9x0.25	79	HSS10x10x0.188	84
	6	W6x25	HSS9x9x0.25	84	HSS9x9x0.25	84	HSS10x10x0.188	88
	7	W8x24	HSS10x10x0.188	87	HSS12x10x0.313	114	12x12x0.188	98
	8	W8x28	HSS10x10x0.188	91	HSS12x10x0.313	117	12x12x0.188	102
	9	W8x31	HSS10x10x0.188	94	HSS12x12x0.313	134	HSS12x12x0.313	134
	10	W8x35	HSS10x10x0.188	97	HSS12x12x0.313	138	HSS12x12x0.313	138
	11	W8x58	HSS12x12x0.313	158	HSS12x12x0.313	158	HSS14x14x0.313	189
	12	W8x67	HSS12x12x0.313	166	HSS12x12x0.313	166	HSS14x14x0.313	196
	13	W10x60	HSS14x14x0.313	190	HSS14x14x0.313	190	HSS14x14x0.313	190
	14	W10x68	HSS14x14x0.313	197	HSS14x14x0.313	197	14x14x0.188	178
	15	W10x77	HSS14x14x0.313	205	HSS14x14x0.313	205	14x14x0.188	186
	16	W10x88	HSS14x14x0.313	215	HSS14x14x0.313	215	HSS16x16x0.313	249
	17	W10x100	HSS14x14x0.313	225	HSS14x14x0.313	225	HSS16x16x0.313	260
	18	W10x112	HSS14x14x0.313	236	HSS14x14x0.313	236	HSS16x16x0.313	270
	19	W12x72	HSS16x16x0.313	235	HSS16x16x0.313	235	HSS16x16x0.313	235
	20	W12x79	HSS16x16x0.313	241	HSS16x16x0.313	241	16x16x0.188	219
	21	W12x87	HSS16x16x0.313	248	HSS16x16x0.313	248	16x16x0.188	226
	22	W12x96	HSS16x16x0.313	256	HSS16x16x0.313	256	17x17x0.188	242
	23	W12x106	HSS16x16x0.313	265	HSS16x16x0.313	265	17x17x0.188	251
	24	W12x120	HSS16x16x0.313	277	HSS16x16x0.313	277	17x17x0.188	263
	25	W12x136	HSS16x16x0.313	291	16x16x0.188	260	17x17x0.188	277
	26	W12x152	HSS16x16x0.313	305	17x17x0.188	282	18x17x0.188	299
	27	W14x99	17x17x0.188	253	17x17x0.188	253	18x18x0.188	271



Square Type SH

			RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
	No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE SH	28	W14x109	17x17x0.188	262	17x17x0.188	262	18x18x0.188	280
	29	W14x120	17x17x0.188	272	17x18x0.188	280	18x19x0.188	299
	30	W14x132	17x17x0.188	282	18x18x0.188	300	19x19x0.188	319
	31	W14x176	18x18x0.188	338	19x19x0.188	348	20x20x0.25	381
	32	W14x193	18x18x0.188	353	19x19x0.188	362	20x20x0.25	396
	33	W14x211	18x18x0.188	369	19x19x0.188	388	20x20x0.25	422
	34	W14x233	18x18x0.188	388	19x19x0.188	407	20x20x0.25	441
	35	W14x311	19x19x0.188	475	20x20x0.25	498	21x21x0.25	519



Square Type SO

			RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
	No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE SO	1	Pipe0.5SCH5	HSS4x4x0.188	16	HSS5x5x0.188	22	HSS6x6x0.188	30
	2	Pipe0.5SCH10	HSS4x4x0.188	16	HSS5x5x0.188	22	HSS6x6x0.188	30
	3	Pipe0.5SCH40	HSS4x4x0.188	16	HSS5x5x0.188	23	HSS6x6x0.188	30
	4	Pipe0.5SCH80	HSS4x4x0.188	16	HSS5x5x0.188	23	HSS6x6x0.188	30
	5	Pipe0.5SCH160	HSS4x4x0.188	17	HSS5x5x0.188	23	HSS6x6x0.188	30
	6	Pipe0.75SCH5	T64x4x0.188	16	HSS5x5x0.188	23	HSS6x6x0.188	30
	7	Pipe0.75SCH10	HSS4x4x0.188	16	HSS5x5x0.188	23	HSS6x6x0.188	30
	8	Pipe0.75SCH40	HSS4x4x0.188	17	HSS5x5x0.188	23	HSS6x6x0.188	30
	9	Pipe0.75SCH80	HSS4x4x0.188	17	HSS5x5x0.188	23	HSS6x6x0.188	30
	10	Pipe0.75SCH160	HSS4x4x0.188	17	HSS5x5x0.188	23	HSS6x6x0.188	31
	11	Pipe1SCH5	HSS4x4x0.188	17	HSS5x5x0.188	23	HSS6x6x0.188	30
	12	Pipe1SCH10	HSS4x4x0.188	17	HSS5x5x0.188	23	HSS6x6x0.188	31
	13	Pipe1SCH40	HSS4x4x0.188	17	HSS5x5x0.188	24	HSS6x6x0.188	31
	14	Pipe1SCH80	HSS4x4x0.188	18	HSS5x5x0.188	24	HSS6x6x0.188	31
	15	Pipe1SCH160	HSS4x4x0.188	18	HSS5x5x0.188	24	HSS6x6x0.188	32
	16	Pipe1.25SCH5	HSS5x5x0.188	24	HSS6x6x0.188	31	HSS7x7x0.188	39
	17	Pipe1.25SCH10	HSS5x5x0.188	24	HSS6x6x0.188	31	HSS7x7x0.188	39
	18	Pipe1.25SCH40	HSS5x5x0.188	24	HSS6x6x0.188	32	HSS7x7x0.188	40
	19	Pipe1.25SCH80	HSS5x5x0.188	25	HSS6x6x0.188	32	HSS7x7x0.188	40
	20	Pipe1.25SCH160	HSS5x5x0.188	26	HSS6x6x0.188	33	HSS7x7x0.188	41
	21	Pipe1.5SCH5	HSS5x5x0.188	24	HSS6x6x0.188	31	HSS7x7x0.188	39
	22	Pipe1.5SCH10	HSS5x5x0.188	25	HSS6x6x0.188	32	HSS7x7x0.188	40
	23	Pipe1.5SCH40	HSS5x5x0.188	25	HSS6x6x0.188	32	HSS7x7x0.188	40
	24	Pipe1.5SCH80	HSS5x5x0.188	26	HSS6x6x0.188	33	HSS7x7x0.188	41
	25	Pipe1.5SCH160	HSS5x5x0.188	27	HSS6x6x0.188	34	HSS7x7x0.188	42
	26	Pipe2SCH5	HSS5x5x0.188	25	HSS6x6x0.188	33	HSS7x7x0.188	41
	27	Pipe2SCH10	HSS5x5x0.188	26	HSS6x6x0.188	33	HSS7x7x0.188	41
	28	Pipe2SCH40	HSS5x5x0.188	27	HSS6x6x0.188	34	HSS7x7x0.188	42
	29	Pipe2SCH80	HSS5x5x0.188	28	HSS6x6x0.188	35	HSS7x7x0.188	43



Square Type SO

	No.	Core Size	RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
			Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE SO	30	Pipe2SCH160	HSS5x5x0.188	29	HSS6x6x0.188	37	HSS7x7x0.188	45
	31	Pipe2.5SCH5	HSS6x6x0.188	34	HSS7x7x0.188	42	HSS8x8x0.188	51
	32	Pipe2.5SCH10	HSS6x6x0.188	35	HSS7x7x0.188	43	HSS8x8x0.188	52
	33	Pipe2.5SCH40	HSS6x6x0.188	37	HSS7x7x0.188	45	HSS8x8x0.188	54
	34	Pipe2.5SCH80	HSS6x6x0.188	38	HSS7x7x0.188	46	HSS8x8x0.188	55
	35	Pipe2.5SCH160	HSS6x6x0.188	40	HSS7x7x0.188	48	HSS8x8x0.188	57
	36	Pipe3SCH5	HSS6x6x0.188	37	HSS7x7x0.188	45	HSS8x8x0.188	54
	37	Pipe3SCH10	HSS6x8x0.188	37	HSS7x7x0.188	46	HSS8x8x0.188	55
	38	Pipe3SCH40	HSS6x6x0.188	40	HSS7x7x0.188	48	HSS8x8x0.188	57
	39	Pipe3SCH80	HSS6x6x0.188	42	HSS7x7x0.188	50	HSS8x8x0.188	59
	40	Pipe3SCH160	HSS6x6x0.188	44	HSS7x7x0.188	53	HSS8x8x0.188	62
	41	Pipe3.5SCH5	HSS7x7x0.188	47	HSS8x8x0.188	56	HSS9x9x0.25	72
	42	Pipe3.5SCH10	HSS7x7x0.188	48	HSS8x8x0.188	57	HSS9x9x0.25	73
	43	Pipe3.5SCH40	HSS7x7x0.188	51	HSS8x8x0.188	60	HSS9x9x0.25	76
	44	Pipe3.5SCH80	HSS7x7x0.188	53	HSS8x8x0.188	62	HSS9x9x0.25	78
	45	Pipe4SCH5	HSS7x7x0.188	49	HSS8x8x0.188	58	HSS9x9x0.25	74
	46	Pipe4SCH10	HSS7x7x0.188	50	HSS8x8x0.188	59	HSS9x9x0.25	75
	47	Pipe4SCH40	HSS7x7x0.188	54	HSS8x8x0.188	63	HSS9x9x0.25	79
	48	Pipe4SCH80	HSS7x7x0.188	57	HSS8x8x0.188	66	HSS9x9x0.25	82
	49	Pipe4SCH120	HSS7x7x0.188	59	HSS8x8x0.188	68	HSS9x9x0.25	84
	50	Pipe4SCH160	HSS7x7x0.188	62	HSS8x8x0.188	71	HSS9x9x0.25	87
	51	Pipe4.5SCH40	HSS8x8x0.188	66	HSS9x9x0.25	82	HSS10x10x0.188	87
	52	Pipe4.5SCH80	HSS8x8x0.188	70	HSS9x9x0.25	86	HSS10x10x0.188	90
	53	Pipe5SCH5	HSS8x8x0.188	65	9x9x0.188	74	HSS10x10x0.188	85
	54	Pipe5SCH10	HSS8x8x0.188	66	9x9x0.188	75	HSS10x10x0.188	86
	55	Pipe5SCH40	HSS8x8x0.188	70	9x9x0.188	80	HSS10x10x0.188	91
	56	Pipe5SCH80	HSS8x8x0.188	75	9x9x0.188	84	HSS10x10x0.188	95
	57	Pipe5SCH120	HSS8x8x0.188	79	9x9x0.188	89	HSS10x10x0.188	100
	58	Pipe5SCH160	HSS8x8x0.188	83	9x9x0.188	93	HSS10x10x0.188	104
	59	Pipe6SCH5	9x9x0.188	81	HSS10x10x0.188	92	HSS12x12x0.313	133
	60	Pipe6SCH10	9x9x0.188	82	HSS10x10x0.188	93	HSS12x12x0.313	134
	61	Pipe6SCH40	9x9x0.188	89	HSS10x10x0.188	100	HSS12x12x0.313	141
	62	Pipe6SCH80	9x9x0.188	96	HSS10x10x0.188	107	HSS12x12x0.313	147
	63	Pipe6SCH120	9x9x0.188	101	HSS10x10x0.188	112	HSS12x12x0.313	153
	64	Pipe6SCH160	9x9x0.188	107	HSS10x10x0.188	118	HSS12x12x0.313	159
	65	Pipe7SCH40	HSS10x10x0.188	110	HSS12x12x0.313	151	12x12x0.188	134
	66	Pipe7SCH80	HSS10x10x0.188	120	HSS12x12x0.313	161	12x12x0.188	144
	67	Pipe8SCH5	HSS12x12x0.313	149	12x12x0.188	132	HSS14x14x0.313	179
	68	Pipe8SCH10	HSS12x12x0.313	151	12x12x0.188	134	HSS14x14x0.313	182
	69	Pipe8SCH20	HSS12x12x0.313	157	12x12x0.188	141	HSS14x14x0.313	188
	70	Pipe8SCH40	HSS12x12x0.313	162	12x12x0.188	145	HSS14x14x0.313	192
	71	Pipe8SCH60	HSS12x12x0.313	166	12x12x0.188	150	HSS14x14x0.313	197
	72	Pipe8SCH80	HSS12x12x0.313	172	12x12x0.188	155	HSS14x14x0.313	203
	73	Pipe9SCH40	12x12x0.188	157	HSS14x14x0.313	205	14x14x0.188	185
74	Pipe9SCH80	12x12x0.188	167	HSS14x14x0.313	215	14x14x0.188	195	



Square Type SO

		RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
75	Pipe10SCH5	HSS14x14x0.313	202	HSS16x16x0.313	237	HSS16x16x0.313	237
76	Pipe10SCH10	HSS14x14x0.313	205	HSS16x16x0.313	239	HSS16x16x0.313	239
77	Pipe10SCH30	HSS14x14x0.313	215	HSS16x16x0.313	250	HSS16x16x0.313	250
78	Pipe10SCH40	HSS14x14x0.313	220	HSS16x16x0.313	254	HSS16x16x0.313	254
79	Pipe10SCH80	HSS14x14x0.313	230	HSS16x16x0.313	264	HSS16x16x0.313	264
80	Pipe10SCH140	HSS14x14x0.313	264	HSS16x16x0.313	298	HSS16x16x0.313	298
81	Pipe10SCH160	HSS14x14x0.313	272	HSS16x16x0.313	306	HSS16x16x0.313	306
82	Pipe11SCH40	HSS16x16x0.313	268	HSS16x16x0.313	268	17x17x0.188	263
83	Pipe11SCH80	HSS16x16x0.313	278	HSS16x16x0.313	278	17x17x0.188	273
84	Pipe12SCH5	HSS16x16x0.313	263	17x17x0.188	258	18x18x0.188	276
85	Pipe12SCH40	HSS16x16x0.313	286	17x17x0.188	281	18x18x0.188	299
86	Pipe12SCH80	HSS16x16x0.313	293	17x17x0.188	288	18x18x0.188	306
87	Pipe12SCH160	HSS16x16x0.313	359	17x17x0.188	354	18x18x0.188	372
88	Pipe14SCH10	17x17x0.188	283	18x18x0.188	301	19x19x0.188	320
89	Pipe14SCH20	17x17x0.188	290	18x18x0.188	308	19x19x0.188	327
90	Pipe14SCH30	17x17x0.188	296	18x18x0.188	314	19x19x0.188	333
91	Pipe14SCH40	17x17x0.188	302	18x18x0.188	320	19x19x0.188	339
92	Pipe14SCH60	17x17x0.188	317	18x18x0.188	335	19x19x0.188	354
93	Pipe14SCH80	17x17x0.188	332	18x18x0.188	350	19x19x0.188	369
94	Pipe14SCH100	17x17x0.188	349	18x18x0.188	367	19x19x0.188	386
95	Pipe14SCH120	17x17x0.188	363	18x18x0.188	381	19x19x0.188	400
96	Pipe14SCH140	17x17x0.188	376	18x18x0.188	394	19x19x0.188	413
97	Pipe14SCH601460	17x17x0.188	389	18x18x0.188	407	19x19x0.188	426
98	Pipe16SCH1	19x19x0.188	352	20x20x0.25	386	21x21x0.25	407
99	Pipe16SCH20	19x19x0.188	359	20x20x0.25	393	21x21x0.25	414
100	Pipe16SCH30	19x19x0.188	366	20x20x0.25	400	21x21x0.25	422
101	Pipe16SCH40	19x19x0.188	380	20x20x0.25	414	21x21x0.25	436
102	Pipe16SCH60	19x19x0.188	397	20x20x0.25	431	21x21x0.25	453
103	Pipe16SCH80	19x19x0.188	418	20x20x0.25	451	21x21x0.25	473
104	Pipe16SCH100	19x19x0.188	437	20x20x0.25	471	21x21x0.25	492
105	Pipe16SCH120	19x19x0.188	456	20x20x0.25	490	21x21x0.25	512
106	Pipe16SCH140	19x19x0.188	478	20x20x0.25	512	21x21x0.25	533
107	Pipe16SCH160	19x19x0.188	493	20x20x0.25	527	21x21x0.25	548
108	Pipe18SCH10	21x21x0.25	443	22x22x0.25	465	23x23x0.25	488
109	Pipe18SCH20	21x21x0.25	451	22x22x0.25	473	23x23x0.25	496
110	Pipe18SCH30	21x21x0.25	467	22x22x0.25	489	23x23x0.25	512
111	Pipe18SCH40	21x21x0.25	482	22x22x0.25	505	23x23x0.25	528
112	Pipe18SCH60	21x21x0.25	506	22x22x0.25	528	23x23x0.25	551
113	Pipe18SCH80	21x21x0.25	528	22x22x0.25	551	23x23x0.25	574
114	Pipe18SCH100	21x21x0.25	554	22x22x0.25	576	23x23x0.25	600
115	Pipe18SCH120	21x21x0.25	579	22x22x0.25	601	23x23x0.25	625
116	Pipe18SCH140	21x21x0.25	600	22x22x0.25	622	23x23x0.25	645
117	Pipe18SCH160	21x21x0.25	624	22x22x0.25	646	23x23x0.25	669
118	Pipe20SCH10	23x23x0.25	527	24x24x0.25	551	25x25x0.25	576
119	Pipe20SCH20	23x23x0.25	545	24x24x0.25	569	25x25x0.25	594

TYPE SO



Square Type SO

	No.	Core Size	RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
			Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE SO	120	Pipe20SCH30	23x23x0.25	563	24x24x0.25	587	25x25x0.25	612
	121	Pipe20SCH40	23x23x0.25	576	24x24x0.25	600	25x25x0.25	625
	122	Pipe20SCH60	23x23x0.25	606	24x24x0.25	630	25x25x0.25	655
	123	Pipe20SCH80	23x23x0.25	635	24x24x0.25	660	25x25x0.25	685
	124	Pipe20SCH100	23x23x0.25	668	24x24x0.25	692	25x25x0.25	717
	125	Pipe20SCH120	23x23x0.25	696	24x24x0.25	720	25x25x0.25	745
	126	Pipe20SCH140	23x23x0.25	727	24x24x0.25	751	25x25x0.25	776
	127	Pipe20SCH160	23x23x0.25	754	24x24x0.25	778	25x25x0.25	803
	128	Pipe22SCH10	25x25x0.25	619	26x26x0.25	645	27x27x0.25	672
	129	Pipe22SCH20	25x25x0.25	639	26x26x0.25	665	27x27x0.25	692
	130	Pipe22SCH30	25x25x0.25	658	26x26x0.25	684	27x27x0.25	711
	131	Pipe22SCH60	25x25x0.25	716	26x26x0.25	742	27x27x0.25	768
	132	Pipe22SCH80	25x25x0.25	753	26x26x0.25	779	27x27x0.25	806
	133	Pipe22SCH100	25x25x0.25	789	26x26x0.25	815	27x27x0.25	842
	134	Pipe22SCH120	25x25x0.25	824	26x26x0.25	850	27x27x0.25	877
	135	Pipe22SCH140	25x25x0.25	858	26x26x0.25	884	27x27x0.25	911
	136	Pipe22SCH160	25x25x0.25	892	26x26x0.25	918	27x27x0.25	944
	137	Pipe24SCH10	27x27x0.25	718	28x28x0.25	746	29x29x0.25	775
	138	Pipe24SCH20	27x27x0.25	740	28x28x0.25	768	29x29x0.25	796
	139	Pipe24SCH30	27x27x0.25	772	28x28x0.25	800	29x29x0.25	828
140	Pipe24SCH40	27x27x0.25	793	28x28x0.25	821	29x29x0.25	850	
141	Pipe24SCH60	27x27x0.25	840	28x28x0.25	867	29x29x0.25	896	
142	Pipe24SCH80	27x27x0.25	880	28x28x0.25	908	29x29x0.25	936	
143	Pipe24SCH100	27x27x0.25	929	28x28x0.25	957	29x29x0.25	985	
144	Pipe24SCH120	27x27x0.25	972	28x28x0.25	1000	29x29x0.25	1028	
145	Pipe24SCH140	27x27x0.25	1009	28x28x0.25	1037	29x29x0.25	1066	



Square Type SS

	No.	Core Size	RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
			Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE SS	1	HSS3.5x3.5x0.083	HSS6x6x0.188	39	HSS7x7x0.188	51	HSS8x8x0.188	61
	2	HSS3.5x3.5x0.125	HSS6x6x0.188	40	HSS7x7x0.188	52	HSS8x8x0.188	61
	3	HSS3.5x3.5x0.188	HSS6x6x0.188	42	HSS7x7x0.188	54	HSS8x8x0.188	60
	4	HSS3.5x3.5x0.25	HSS6x6x0.188	43	HSS7x7x0.188	55	HSS8x8x0.188	59
	5	HSS3.5x3.5x0.313	HSS6x6x0.188	45	HSS7x7x0.188	57	HSS8x8x0.188	59
	6	HSS3.5x3.5x0.375	HSS6x6x0.188	47	HSS7x7x0.188	59	HSS8x8x0.188	58
	7	HSS4x4x0.125	HSS7x7x0.188	51	HSS8x8x0.188	65	HSS9x9x0.25	83
	8	HSS4x4x0.188	HSS7x7x0.188	53	HSS8x8x0.188	67	HSS9x9x0.25	82
	9	HSS4x4x0.25	HSS7x7x0.188	55	HSS8x8x0.188	69	HSS9x9x0.25	81
	10	HSS4x4x0.313	HSS7x7x0.188	56	HSS8x8x0.188	71	HSS9x9x0.25	80
	11	HSS4x4x0.375	HSS7x7x0.188	58	HSS8x8x0.188	72	HSS9x9x0.25	79



Square Type SS

	No.	Core Size	RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
			Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE SS	12	HSS4x4x0.5	HSS7x7x0.188	61	HSS8x8x0.188	75	HSS9x9x0.25	77
	13	HSS4x4x0.625	HSS7x7x0.188	63	HSS8x8x0.188	77	HSS9x9x0.25	76
	14	HSS4.5x4.5x0.188	HSS7x7x0.188	56	HSS8x8x0.188	70	HSS9x9x0.25	88
	15	HSS4.5x4.5x0.25	HSS7x7x0.188	58	HSS8x8x0.188	72	HSS9x9x0.25	87
	16	HSS4.5x4.5x0.313	HSS7x7x0.188	60	HSS8x8x0.188	74	HSS9x9x0.25	86
	17	HSS4.5x4.5x0.375	HSS7x7x0.188	62	HSS8x8x0.188	76	HSS9x9x0.25	85
	18	HSS4.5x4.5x0.5	HSS7x7x0.188	68	HSS8x8x0.188	81	HSS9x9x0.25	83
	19	HSS5x5x0.188	HSS8x8x0.188	69	HSS9x9x0.25	91	HSS10x10x0.188	98
	20	HSS5x5x0.25	HSS8x8x0.188	71	HSS9x9x0.25	93	HSS10x10x0.188	97
	21	HSS5x5x0.313	HSS8x8x0.188	74	HSS9x9x0.25	95	HSS10x10x0.188	96
	22	HSS5x5x0.375	HSS8x8x0.188	76	HSS9x9x0.25	98	HSS10x10x0.188	94
	23	HSS5x5x0.5	HSS8x8x0.188	80	HSS9x9x0.25	102	HSS10x10x0.188	92
	24	HSS5x5x0.625	HSS8x8x0.188	83	HSS9x9x0.25	105	HSS10x10x0.188	90
	25	HSS5.5x5.5x0.188	HSS8x8x0.188	73	HSS9x9x0.25	94	HSS10x10x0.188	101
	26	HSS5.5x5.5x0.25	HSS8x8x0.188	76	HSS9x9x0.25	97	HSS10x10x0.188	100
	27	HSS5.5x5.5x0.313	HSS8x8x0.188	78	HSS9x9x0.25	99	HSS10x10x0.188	99
	28	HSS5.5x5.5x0.375	HSS8x8x0.188	81	HSS9x9x0.25	102	HSS10x10x0.188	97
	29	HSS5.5x5.5x0.5	HSS8x8x0.188	85	HSS9x9x0.25	106	HSS10x10x0.188	95
	30	HSS6x6x0.188	HSS9x9x0.25	93	HSS10x10x0.188	105	HSS12x12x0.313	150
	31	HSS6x6x0.25	HSS9x9x0.25	96	HSS10x10x0.188	108	HSS12x12x0.313	149
	32	HSS6x6x0.313	HSS9x9x0.25	99	HSS10x10x0.188	111	HSS12x12x0.313	147
	33	HSS6x6x0.375	HSS9x9x0.25	102	HSS10x10x0.188	114	HSS12x12x0.313	146
	34	HSS6x6x0.5	HSS9x9x0.25	107	HSS10x10x0.188	119	HSS12x12x0.313	143
	35	HSS6x6x0.625	HSS9x9x0.25	111	HSS10x10x0.188	123	HSS12x12x0.313	141
	36	HSS7x7x0.188	HSS10x10x0.188	107	HSS12x12x0.313	158	HSS12x12x0.313	158
	37	HSS7x7x0.25	HSS10x10x0.188	111	HSS12x12x0.313	162	HSS12x12x0.313	156
	38	HSS7x7x0.313	HSS10x10x0.188	114	HSS12x12x0.313	165	HSS12x12x0.313	155
	39	HSS7x7x0.375	HSS10x10x0.188	118	HSS12x12x0.313	168	HSS12x12x0.313	153
	40	HSS7x7x0.5	HSS10x10x0.188	124	HSS12x12x0.313	175	HSS12x12x0.313	150
	41	HSS7x7x0.625	HSS10x10x0.188	130	HSS12x12x0.313	180	HSS12x12x0.313	147
	42	HSS8x8x0.188	HSS12x12x0.313	159	HSS12x12x0.313	167	HSS14x14x0.313	204
	43	HSS8x8x0.25	HSS12x12x0.313	163	HSS12x12x0.313	171	HSS14x14x0.313	202
	44	HSS8x8x0.313	HSS12x12x0.313	167	HSS12x12x0.313	175	HSS14x14x0.313	200
	45	HSS8x8x0.375	HSS12x12x0.313	171	HSS12x12x0.313	179	HSS14x14x0.313	198
	46	HSS8x8x0.5	HSS12x12x0.313	178	HSS12x12x0.313	186	HSS14x14x0.313	194
	47	HSS8x8x0.625	HSS12x12x0.313	185	HSS12x12x0.313	193	HSS14x14x0.313	191
	48	HSS9x9x0.25	HSS12x12x0.313	175	HSS14x14x0.313	218	HSS14x14x0.313	218
	49	HSS9x9x0.313	HSS12x12x0.313	180	HSS14x14x0.313	223	HSS14x14x0.313	216
	50	HSS9x9x0.375	HSS12x12x0.313	184	HSS14x14x0.313	227	HSS14x14x0.313	214
	51	HSS9x9x0.5	HSS12x12x0.313	193	HSS14x14x0.313	236	HSS14x14x0.313	210
	52	HSS9x9x0.625	HSS12x12x0.313	201	HSS14x14x0.313	244	HSS14x14x0.313	206
	53	HSS10x10x0.188	HSS14x14x0.313	214	HSS14x14x0.313	224	HSS16x16x0.313	266
	54	HSS10x10x0.25	HSS14x14x0.313	220	HSS14x14x0.313	229	HSS16x16x0.313	263
	55	HSS10x10x0.313	HSS14x14x0.313	225	HSS14x14x0.313	235	HSS16x16x0.313	261
	56	HSS10x10x0.375	HSS14x14x0.313	230	HSS14x14x0.313	240	HSS16x16x0.313	258



Square Type SS

		RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR		
No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	
TYPE SS	57	HSS10x10x0.5	HSS14x14x0.313	240	HSS14x14x0.313	250	HSS16x16x0.313	254
	58	HSS10x10x0.625	HSS14x14x0.313	249	HSS14x14x0.313	259	HSS16x16x0.313	249
	59	HSS10x10x0.75	HSS14x14x0.313	258	HSS14x14x0.313	268	HSS16x16x0.313	309
	60	HSS12x12x0.313	HSS16x16x0.313	291	HSS16x16x0.313	303	HSS18x18x0.375	361
	61	HSS12x12x0.375	HSS16x16x0.313	298	HSS16x16x0.313	309	HSS18x18x0.375	358
	62	HSS12x12x0.5	HSS16x16x0.313	310	HSS16x16x0.313	321	HSS18x18x0.375	352
	63	HSS12x12x0.625	HSS16x16x0.313	321	HSS16x16x0.313	333	HSS18x18x0.375	346
	64	HSS12x12x0.75	HSS16x16x0.313	332	HSS16x16x0.313	344	HSS18x18x0.375	402
	65	HSS14x14x0.313	HSS18x18x0.375	378	HSS18x18x0.375	391	HSS20x20x0.375	443
	66	HSS14x14x0.375	HSS18x18x0.375	386	HSS18x18x0.375	398	HSS20x20x0.375	440
	67	HSS14x14x0.5	HSS18x18x0.375	400	HSS18x18x0.375	413	HSS20x20x0.375	433
	68	HSS14x14x0.625	HSS18x18x0.375	414	HSS18x18x0.375	427	HSS20x20x0.375	426
	69	HSS14x14x0.75	HSS18x18x0.375	428	HSS18x18x0.375	440	HSS20x20x0.375	493
	70	HSS14x14x0.875	HSS18x18x0.375	441	HSS18x18x0.375	453	HSS20x20x0.375	505
	71	HSS16x16x0.313	HSS20x20x0.375	463	HSS20x20x0.375	477	HSS22x22x0.75	619
	72	HSS16x16x0.375	HSS20x20x0.375	471	HSS20x20x0.375	486	HSS22x22x0.75	615
	73	HSS16x16x0.5	HSS20x20x0.375	488	HSS20x20x0.375	503	HSS22x22x0.75	607
	74	HSS16x16x0.625	HSS20x20x0.375	505	HSS20x20x0.375	519	HSS22x22x0.75	599
	75	HSS16x16x0.75	HSS20x20x0.375	520	HSS20x20x0.375	535	HSS22x22x0.75	676
	76	HSS16x16x0.875	HSS20x20x0.375	536	HSS20x20x0.375	550	HSS22x22x0.75	692
	77	HSS18x18x0.375	HSS22x22x0.75	654	22x22x0.25	552	23x23x0.25	580
	78	HSS18x18x0.5	HSS22x22x0.75	673	22x22x0.25	571	23x23x0.25	600
	79	HSS18x18x0.625	HSS22x22x0.75	692	22x22x0.25	590	23x23x0.25	618
	80	HSS18x18x0.75	HSS22x22x0.75	710	22x22x0.25	608	23x23x0.25	636
	81	HSS18x18x0.875	HSS22x22x0.75	728	22x22x0.25	625	23x23x0.25	654
	82	HSS20x20x0.375	23x23x0.25	609	24x24x0.25	653	25x25x0.25	684
	83	HSS20x20x0.5	23x23x0.25	631	24x24x0.25	674	25x25x0.25	705
	84	HSS20x20x0.625	23x23x0.25	652	24x24x0.25	695	25x25x0.25	726
	85	HSS20x20x0.75	23x23x0.25	673	24x24x0.25	716	25x25x0.25	747
	86	HSS20x20x0.875	23x23x0.25	693	24x24x0.25	736	25x25x0.25	767
	87	HSS22x22x0.75	25x25x0.25	786	26x26x0.25	832	27x27x0.25	866
	88	HSS22x22x0.875	25x25x0.25	808	26x26x0.25	855	27x27x0.25	888



Rectangular Type RH

		RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR		
No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	
TYPE RH	1	W6x8.5	HSS8x6x0.188	44	HSS9x7x0.25	58	HSS10x8x0.25	69
	2	W6x9	HSS8x6x0.188	44	HSS9x7x0.25	59	HSS10x8x0.25	69
	3	W6x12	HSS8x6x0.188	47	HSS9x7x0.25	61	HSS10x8x0.25	72
	4	W6x16	HSS9x7x0.25	65	HSS9x7x0.25	65	HSS10x8x0.25	75
	5	W8x10	HSS10x6x0.25	58	HSS12x8x0.313	87	HSS12x8x0.313	87



Rectangular Type RH

		RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
6	W8x13	HSS10x6x0.25	61	HSS12x8x0.313	90	HSS12x8x0.313	90
7	W8x15	10x6x0.188	57	HSS12x8x0.313	91	HSS12x8x0.313	91
8	W8x18	HSS12x8x0.313	94	HSS12x8x0.313	94	HSS12x10x0.313	108
9	W8x21	HSS12x8x0.313	97	HSS12x8x0.313	97	HSS12x10x0.313	111
10	W8x40	HSS12x10x0.313	128	HSS12x10x0.313	128	HSS12x12x0.313	142
11	W8x48	11x10x0.188	114	HSS12x12x0.313	149	12x12x0.188	132
12	W10x12	HSS12x6x0.25	68	HSS14x10x0.313	116	HSS14x10x0.313	116
13	W10x15	HSS12x6x0.25	71	HSS14x10x0.313	119	HSS14x10x0.313	119
14	W10x17	12x6x0.188	66	HSS14x10x0.313	120	HSS14x10x0.313	120
15	W10x19	13x6x0.188	72	HSS14x10x0.313	122	HSS14x10x0.313	122
16	W10x16	12x8x0.188	78	HSS14x10x0.313	119	HSS14x10x0.313	119
17	W10x22	HSS14x10x0.313	125	HSS14x10x0.313	125	HSS14x10x0.313	125
18	W10x26	HSS14x10x0.313	128	HSS14x10x0.313	128	HSS14x10x0.313	128
19	W10x30	HSS14x10x0.313	132	HSS14x10x0.313	132	14x10x0.188	115
20	W10x33	12x10x0.188	106	HSS14x14x0.313	167	HSS14x14x0.313	167
21	W10x39	12x10x0.188	112	HSS14x14x0.313	172	HSS14x14x0.313	172
22	W10x45	12x10x0.188	117	HSS14x14x0.313	177	HSS14x14x0.313	177
23	W10x49	12x10x0.188	133	HSS14x14x0.313	181	HSS14x14x0.313	181
24	W10x54	12x10x0.188	138	HSS14x14x0.313	185	HSS14x14x0.313	185
25	W12x14	14x6x0.188	71	HSS16x8x0.313	112	HSS16x8x0.313	112
26	W12x16	14x6x0.188	73	HSS16x8x0.313	114	HSS16x8x0.313	114
27	W12x19	HSS16x8x0.313	117	HSS16x8x0.313	117	HSS16x8x0.313	117
28	W12x22	HSS16x8x0.313	119	HSS16x8x0.313	119	HSS16x8x0.313	119
29	W12x21	14x9x0.188	100	HSS16x12x0.313	155	HSS16x12x0.313	155
30	W12x26	HSS16x12x0.313	159	HSS16x12x0.313	159	HSS16x12x0.313	159
31	W12x30	HSS16x12x0.313	162	HSS16x12x0.313	162	HSS16x12x0.313	162
32	W12x35	HSS16x12x0.313	167	HSS16x12x0.313	167	16x10x0.188	131
33	W12x40	14x10x0.188	124	HSS16x12x0.313	171	HSS16x12x0.313	171
34	W12x45	14x10x0.188	128	HSS16x12x0.313	175	HSS16x12x0.313	175
35	W12x50	HSS16x12x0.313	180	HSS16x12x0.313	180	HSS16x12x0.313	180
36	W12x53	14x12x0.188	150	HSS16x16x0.313	219	HSS16x16x0.313	219
37	W12x58	15x12x0.188	161	HSS16x16x0.313	223	HSS16x16x0.313	223
38	W12x170	16x15x0.188	290	17x15x0.188	298	18x16x0.188	315
39	W12x190	17x15x0.188	315	17x16x0.188	324	18x17x0.188	341
40	W12x210	17x15x0.188	332	18x16x0.188	350	19x17x0.188	368
41	W12x230	17x15x0.188	350	18x16x0.188	367	19x17x0.188	385
42	W12x252	18x15x0.188	377	18x16x0.188	386	19x17x0.188	404
43	W12x279	18x16x0.188	410	19x16x0.188	418	20x17x0.25	449
44	W12x305	19x16x0.188	441	19x16x0.188	441	20x17x0.25	472
45	W12x336	19x16x0.188	468	20x16x0.25	489	21x17x0.25	508
46	W14x22	HSS16x8x0.313	119	HSS20x8x0.375	150	HSS20x12x0.375	195
47	W14x26	16x7x0.188	98	HSS20x8x0.375	154	HSS20x12x0.375	199
48	W14x30	HSS16x12x0.313	162	HSS20x12x0.375	202	HSS20x12x0.375	202
49	W14x34	16x9x0.188	121	HSS20x12x0.375	206	HSS20x12x0.375	206
50	W14x38	16x9x0.188	125	HSS20x12x0.375	209	HSS20x12x0.375	209

TYPE RH



Rectangular Type RH

	No.	Core Size	RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
			Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE RH	51	W14x43	HSS16x12x0.313	174	16x11x0.188	146	HSS20x12x0.375	214
	52	W14x48	HSS16x12x0.313	178	HSS20x12x0.375	218	HSS20x12x0.375	218
	53	W14x53	16x10x0.188	146	HSS20x12x0.375	222	HSS20x12x0.375	222
	54	W14x61	16x12x0.188	170	17x13x0.188	185	18x14x0.188	201
	55	W14x68	16x12x0.188	176	17x13x0.188	191	18x14x0.188	207
	56	W14x74	17x12x0.188	188	17x13x0.188	196	18x14x0.188	213
	57	W14x82	17x13x0.188	203	17x13x0.188	203	18x14x0.188	220
	58	W14x90	16x17x0.188	237	17x17x0.188	246	18x18x0.188	264
	59	W14x145	17x18x0.188	302	18x18x0.188	311	19x19x0.188	330
	60	W14x159	17x18x0.188	314	18x18x0.188	324	19x19x0.188	343
	61	W14x257	19x18x0.188	418	19x19x0.188	428	20x20x0.25	462
	62	W14x283	19x18x0.188	441	20x19x0.25	474	21x20x0.25	495
	63	W14x342	20x19x0.25	525	20x19x0.25	525	22x20x0.25	557
	64	W14x370	20x19x0.25	550	21x19x0.25	560	22x20x0.25	581
	65	W14x398	21x19x0.25	584	21x20x0.25	595	22x21x0.25	617
	66	W14x426	21x19x0.25	608	22x20x0.25	630	23x21x0.25	652
	67	W14x455	22x19x0.25	644	22x20x0.25	655	23x21x0.25	678
	68	W14x500	22x20x0.25	694	23x20x0.25	705	24x21x0.25	728
	69	W14x550	23x20x0.25	748	23x20x0.25	748	24x21x0.25	771
	70	W14x605	23x20x0.25	796	24x20x0.25	807	25x21x0.25	830
	71	W14x665	24x20x0.25	859	25x21x0.25	882	26x22x0.25	906
	72	W14x730	25x20x0.25	926	25x21x0.25	939	26x22x0.25	963
	73	W16x26	HSS20x8x0.375	154	19x8x0.188	120	HSS20x12x0.375	199
	74	W16x31	HSS20x8x0.375	158	19x8x0.188	125	HSS20x12x0.375	203
	75	W16x36	HSS20x12x0.375	208	HSS20x12x0.375	208	HSS20x12x0.375	208
	76	W16x40	HSS20x12x0.375	211	HSS20x12x0.375	211	HSS20x12x0.375	211
	77	W16x45	HSS20x12x0.375	215	HSS20x12x0.375	215	HSS20x12x0.375	215
	78	W16x50	HSS20x12x0.375	220	HSS20x12x0.375	220	20x11x0.25	187
	79	W16x57	HSS20x12x0.375	226	HSS20x12x0.375	226	20x11x0.25	193
	80	W16x67	19x13x0.188	204	19x13x0.188	204	20x14x0.25	233
	81	W16x77	19x13x0.188	213	19x13x0.188	213	20x14x0.25	242
	82	W16x89	19x13x0.188	223	20x13x0.25	242	21x14x0.25	260
	83	W16x100	19x13x0.188	233	20x13x0.25	252	21x14x0.25	270
	84	W18x35	20x8x0.25	142	21x9x0.25	158	22x10x0.25	175
	85	W18x40	20x8x0.25	147	21x9x0.25	163	22x10x0.25	180
	86	W18x46	20x8x0.25	152	21x9x0.25	168	22x10x0.25	185
	87	W18x41	HSS20x12x0.375	212	21x10x0.25	175	22x11x0.25	192
	88	W18x45	20x10x0.25	172	21x10x0.25	178	22x11x0.25	196
	89	W18x50	20x10x0.25	177	21x10x0.25	182	22x11x0.25	200
	90	W18x55	20x10x0.25	181	21x11x0.25	198	22x12x0.25	216
	91	W18x60	21x10x0.25	191	21x11x0.25	202	22x12x0.25	220
	92	W18x65	21x10x0.25	196	21x11x0.25	207	22x12x0.25	224
	93	W18x71	21x10x0.25	201	21x11x0.25	212	22x12x0.25	230
	94	W18x76	21x14x0.25	249	21x14x0.25	249	22x15x0.25	268
	95	W18x86	21x14x0.25	258	21x14x0.25	258	22x15x0.25	277



Rectangular Type RH

		RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
96	W18x97	21x14x0.25	267	22x14x0.25	275	23x15x0.25	295
97	W18x106	21x14x0.25	275	22x14x0.25	283	23x15x0.25	303
98	W18x119	21x14x0.25	286	22x14x0.25	294	23x15x0.25	314
99	W18x130	22x14x0.25	304	22x14x0.25	304	23x15x0.25	323
100	W18x143	22x14x0.25	315	22x14x0.25	315	23x15x0.25	335
101	W18x158	22x14x0.25	328	23x14x0.25	336	24x15x0.25	356
102	W18x175	23x14x0.25	351	23x14x0.25	351	24x15x0.25	371
103	W18x192	23x14x0.25	366	23x14x0.25	366	24x15x0.25	386
104	W18x211	23x14x0.25	382	24x15x0.25	402	25x16x0.25	423
105	W18x234	24x14x0.25	410	24x15x0.25	422	25x16x0.25	443
106	W18x258	24x14x0.25	431	24x15x0.25	443	25x16x0.25	464
107	W18x283	24x14x0.25	453	25x15x0.25	473	26x16x0.25	495
108	W18x311	25x15x0.25	498	25x15x0.25	498	26x16x0.25	519
109	W21x44	23x9x0.25	177	24x9x0.25	183	25x10x0.25	201
110	W21x50	23x9x0.25	183	24x10x0.25	200	25x11x0.25	219
111	W21x57	24x9x0.25	194	24x10x0.25	207	25x11x0.25	225
112	W21x48	23x11x0.25	205	24x11x0.25	211	25x12x0.25	230
113	W21x55	23x11x0.25	211	24x11x0.25	217	25x12x0.25	236
114	W21x62	23x11x0.25	217	24x11x0.25	223	25x12x0.25	242
115	W21x68	24x11x0.25	228	24x11x0.25	228	25x12x0.25	248
116	W21x73	24x11x0.25	233	24x11x0.25	233	25x12x0.25	252
117	W21x83	24x11x0.25	242	24x11x0.25	242	25x12x0.25	261
118	W21x93	24x11x0.25	250	25x11x0.25	257	26x12x0.25	276
119	W21x101	24x15x0.25	306	24x15x0.25	306	25x16x0.25	327
120	W21x111	24x15x0.25	315	25x15x0.25	323	26x16x0.25	345
121	W21x122	24x15x0.25	325	25x15x0.25	333	26x16x0.25	354
122	W21x132	24x15x0.25	333	25x15x0.25	342	26x16x0.25	363
123	W21x147	25x15x0.25	355	25x16x0.25	267	26x17x0.25	389
124	W21x166	25x15x0.25	371	25x15x0.25	371	26x16x0.25	393
125	W21x182	25x15x0.25	385	26x15x0.25	393	27x16x0.25	415
126	W21x201	26x15x0.25	410	26x16x0.25	423	27x17x0.25	446
127	W21x223	26x15x0.25	429	26x16x0.25	442	27x17x0.25	465
128	W21x248	26x15x0.25	451	27x16x0.25	473	28x17x0.25	496
129	W21x275	27x15x0.25	483	27x16x0.25	496	28x17x0.25	519
130	W24x55	26x10x0.25	217	27x10x0.25	223	28x11x0.25	243
131	W24x62	26x10x0.25	223	27x10x0.25	229	28x11x0.25	249
132	W24x56	26x11x0.25	231	26x12x0.25	244	27x13x0.25	265
133	W24x61	26x11x0.25	235	27x12x0.25	255	28x13x0.25	276
134	W24x68	26x11x0.25	241	27x12x0.25	261	28x13x0.25	282
135	W24x76	26x11x0.25	248	27x12x0.25	268	28x13x0.25	289
136	W24x84	27x12x0.25	275	27x12x0.25	275	28x13x0.25	296
137	W24x94	27x12x0.25	284	27x12x0.25	284	28x13x0.25	305
138	W24x103	27x11x0.25	278	28x12x0.25	299	29x13x0.25	320
139	W24x114	27x12x0.25	301	28x12x0.25	308	29x13x0.25	330
140	W24x128	27x12x0.25	314	28x12x0.25	321	29x13x0.25	342

TYPE RH



Rectangular Type RH

	No.	Core Size	RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
			Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE RH	141	W24x163	28x12x0.25	351	29x12x0.25	358	30x13x0.25	380
	142	W24x198	29x12x0.25	388	29x12x0.25	388	30x13x0.25	410
	143	W24x104	27x15x0.25	334	27x16x0.25	347	28x17x0.25	370
	144	W24x117	27x15x0.25	345	27x16x0.25	359	28x17x0.25	382
	145	W24x131	27x15x0.25	357	27x16x0.25	371	28x17x0.25	394
	146	W24x146	27x15x0.25	370	28x16x0.25	393	29x17x0.25	416
	147	W24x162	27x15x0.25	384	28x16x0.25	407	29x17x0.25	430
	148	W24x176	28x15x0.25	405	28x16x0.25	419	29x17x0.25	442
	149	W24x192	28x15x0.25	419	28x16x0.25	433	29x17x0.25	456
	150	W24x207	28x16x0.25	446	29x16x0.25	455	30x17x0.25	478
	151	W24x229	29x16x0.25	293	29x16x0.25	293	30x17x0.25	317
	152	W24x250	29x16x0.25	492	29x16x0.25	492	30x17x0.25	516
	153	W24x279	29x16x0.25	517	30x16x0.25	526	31x17x0.25	550
	154	W24x306	30x16x0.25	549	30x16x0.25	549	31x17x0.25	574
	155	W24x335	30x16x0.25	575	31x17x0.25	599	32x18x0.25	624
	156	W24x370	30x16x0.25	605	31x17x0.25	629	32x18x0.25	654
	157	W24x408	31x16x0.25	647	32x17x0.25	672	33x18x0.25	697
	158	W24x450	32x16x0.25	692	32x17x0.25	708	33x18x0.25	734
	159	W24x492	32x17x0.25	745	33x17x0.25	754	34x18x0.25	780
	160	W27x84	29x12x0.25	289	30x13x0.25	311	31x14x0.25	334
	161	W27x94	29x12x0.25	298	30x13x0.25	320	31x14x0.25	343
	162	W27x102	30x13x0.25	327	30x13x0.25	327	31x14x0.25	350
	163	W27x114	30x13x0.25	337	30x13x0.25	337	31x14x0.25	360
	164	W27x129	30x13x0.25	350	31x13x0.25	358	32x14x0.25	381
	165	W27x159	31x13x0.25	384	31x13x0.25	384	32x14x0.25	407
	166	W27x182	31x13x0.25	404	31x13x0.25	404	32x14x0.25	427
	167	W27x201	31x13x0.25	420	32x13x0.25	428	33x14x0.25	451
	168	W27x221	32x13x0.25	445	32x13x0.25	445	33x14x0.25	469
	169	W27x146	30x16x0.25	410	30x17x0.25	425	31x18x0.25	450
	170	W27x161	30x13x0.25	378	31x13x0.25	385	32x14x0.25	409
	171	W27x178	30x17x0.25	453	31x17x0.25	462	32x18x0.25	487
	172	W27x194	31x17x0.25	476	31x17x0.25	476	32x18x0.25	501
	173	W27x217	31x17x0.25	496	31x17x0.25	496	32x18x0.25	521
	174	W27x235	31x17x0.25	512	32x17x0.25	521	33x18x0.25	546
	175	W27x258	31x17x0.25	532	32x17x0.25	541	33x18x0.25	566
176	W27x281	32x17x0.25	561	32x17x0.25	561	33x18x0.25	586	
177	W27x307	32x17x0.25	584	33x17x0.25	593	34x18x0.25	619	
178	W27x336	32x17x0.25	609	33x18x0.25	634	34x19x0.25	661	
179	W27x368	33x17x0.25	646	33x18x0.25	662	34x19x0.25	689	
180	W27x407	33x17x0.25	680	34x18x0.25	706	35x19x0.25	733	
181	W27x448	34x17x0.25	725	34x18x0.25	742	35x19x0.25	768	
182	W27x494	34x18x0.25	782	35x18x0.25	791	36x19x0.25	818	
183	W30x90	32x13x0.25	331	33x13x0.25	338	34x14x0.25	362	
184	W30x99	32x13x0.25	339	33x13x0.25	346	34x14x0.25	370	
185	W30x108	32x13x0.25	347	33x13x0.25	354	34x14x0.25	378	



Rectangular Type RH

		RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR		
TYPE RH	No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
	186	W30x116	33x13x0.25	361	33x13x0.25	361	34x14x0.25	385
	187	W30x124	33x13x0.25	368	33x14x0.25	384	34x15x0.25	409
	188	W30x132	33x13x0.25	375	33x14x0.25	391	34x15x0.25	416
	189	W30x148	33x13x0.25	389	34x13x0.25	396	35x14x0.25	421
	190	W30x173	33x17x0.25	476	33x18x0.25	492	34x19x0.25	519
	191	W30x191	33x18x0.25	508	34x18x0.25	518	35x19x0.25	545
	192	W30x211	33x18x0.25	526	34x18x0.25	535	35x19x0.25	562
	193	W30x235	34x18x0.25	556	34x18x0.25	556	35x19x0.25	583
	194	W30x261	34x18x0.25	579	35x18x0.25	588	36x19x0.25	616
	195	W30x292	35x18x0.25	615	35x18x0.25	615	36x19x0.25	643
	196	W30x326	35x18x0.25	645	35x18x0.25	645	36x19x0.25	672
	197	W30x357	35x18x0.25	672	36x18x0.25	681	37x19x0.25	709
	198	W30x391	36x18x0.25	711	36x19x0.25	729	37x20x0.25	757
	199	W30x433	36x18x0.25	748	37x19x0.25	775	38x20x0.25	804
	200	W30x477	37x18x0.25	796	37x19x0.25	814	38x20x0.25	842
	201	W33x118	35x14x0.25	395	36x14x0.25	402	37x15x0.25	428
	202	W33x130	36x14x0.25	413	36x15x0.25	431	37x16x0.25	457
	203	W33x141	36x14x0.25	422	36x15x0.25	440	37x16x0.25	467
	204	W33x152	36x14x0.25	432	36x15x0.25	450	37x16x0.25	476
205	W33x169	36x14x0.25	447	37x14x0.25	455	38x15x0.25	481	
206	W33x187	37x14x0.25	470	37x15x0.25	489	38x16x0.25	515	
207	W33x204	37x14x0.25	485	37x15x0.25	503	38x16x0.25	530	
208	W33x219	37x14x0.25	498	38x15x0.25	525	39x16x0.25	552	
209	W33x201	36x18x0.25	546	37x19x0.25	573	38x20x0.25	602	
210	W33x221	36x18x0.25	563	37x19x0.25	591	38x20x0.25	620	
211	W33x241	37x18x0.25	590	37x19x0.25	608	38x20x0.25	637	
212	W33x263	37x18x0.25	609	38x19x0.25	637	39x20x0.25	667	
213	W33x291	37x18x0.25	634	38x19x0.25	662	39x20x0.25	691	
214	W33x318	38x18x0.25	667	38x19x0.25	685	39x20x0.25	714	
215	W33x354	38x19x0.25	717	39x19x0.25	727	40x20x0.25	756	
216	W33x387	38x19x0.25	745	39x19x0.25	755	40x20x0.25	785	
217	W33x424	39x19x0.25	788	39x19x0.25	788	40x20x0.25	817	
218	W33x468	39x19x0.25	826	40x19x0.25	836	41x20x0.25	866	



Rectangular Type RR

		RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR		
TYPE RR	No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
	1	W6x8.5	HSS8x6x0.188	44	HSS9x7x0.25	58	HSS10x8x0.25	69
	2	W6x9	HSS8x6x0.188	44	HSS9x7x0.25	59	HSS10x8x0.25	69
	3	W6x12	HSS8x6x0.188	47	HSS9x7x0.25	61	HSS10x8x0.25	72
	4	W6x16	HSS9x7x0.25	65	HSS9x7x0.25	65	HSS10x8x0.25	75
	5	W8x10	HSS10x6x0.25	58	HSS12x8x0.313	87	HSS12x8x0.313	87



Rectangular Type RR

	No.	Core Size	RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
			Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE RR	1	HSS5x3x0.125	HSS8x6x0.188	50	HSS9x7x0.25	64	HSS10x8x0.25	75
	2	HSS5x3x0.188	HSS8x6x0.188	52	HSS9x7x0.25	63	HSS10x8x0.25	74
	3	HSS5x3x0.25	HSS8x6x0.188	54	HSS9x7x0.25	62	HSS10x8x0.25	73
	4	HSS5x3x0.313	HSS8x6x0.188	55	HSS9x7x0.25	61	HSS10x8x0.25	72
	5	HSS5x3x0.375	HSS8x6x0.188	57	HSS9x7x0.25	60	HSS10x8x0.25	71
	6	HSS5x3x0.5	HSS8x6x0.188	60	HSS9x7x0.25	59	HSS10x8x0.25	69
	7	HSS5x3x0.625	HSS8x6x0.188	62	HSS9x7x0.25	57	HSS10x8x0.25	68
	8	HSS5x4x0.188	HSS8x8x0.188	65	HSS9x9x0.25	81	HSS10x10x0.188	86
	9	HSS5x4x0.25	HSS8x8x0.188	67	HSS9x9x0.25	80	HSS10x10x0.188	85
	10	HSS5x4x0.313	HSS8x8x0.188	69	HSS9x9x0.25	79	HSS10x10x0.188	84
	11	HSS5x4x0.375	HSS8x8x0.188	71	HSS9x9x0.25	78	HSS10x10x0.188	83
	12	HSS5x4x0.5	HSS8x8x0.188	77	HSS9x9x0.25	76	HSS10x10x0.188	81
	13	HSS6x2x0.125	HSS9x5x0.25	51	HSS10x6x0.25	61	HSS12x8x0.313	90
	14	HSS6x2x0.188	HSS9x5x0.25	53	HSS10x6x0.25	60	HSS12x8x0.313	89
	15	HSS6x2x0.25	HSS9x5x0.25	55	HSS10x6x0.25	59	HSS12x8x0.313	88
	16	HSS6x2x0.313	HSS9x5x0.25	57	HSS10x6x0.25	58	HSS12x8x0.313	87
	17	HSS6x2x0.375	HSS9x5x0.25	58	HSS10x6x0.25	57	HSS12x8x0.313	86
	18	HSS6x2x0.5	HSS9x5x0.25	61	HSS10x6x0.25	56	HSS12x8x0.313	84
	19	HSS6x2x0.625	HSS9x5x0.25	63	HSS10x6x0.25	54	HSS12x8x0.313	83
	20	HSS6x3x0.188	HSS9x7x0.25	69	HSS10x8x0.25	79	HSS12x8x0.313	96
	21	HSS6x3x0.25	HSS9x7x0.25	71	HSS10x8x0.25	78	HSS12x8x0.313	95
	22	HSS6x3x0.313	HSS9x7x0.25	73	HSS10x8x0.25	77	HSS12x8x0.313	94
	23	HSS6x3x0.375	HSS9x7x0.25	75	HSS10x8x0.25	76	HSS12x8x0.313	93
	24	HSS6x3x0.5	HSS9x7x0.25	80	HSS10x8x0.25	74	HSS12x8x0.313	91
	25	HSS6x4x0.188	HSS9x7x0.25	73	HSS10x8x0.25	84	HSS12x10x0.313	115
	26	HSS6x4x0.25	HSS9x7x0.25	76	HSS10x8x0.25	83	HSS12x10x0.313	114
	27	HSS6x4x0.313	HSS9x7x0.25	78	HSS10x8x0.25	81	HSS12x10x0.313	113
	28	HSS6x4x0.375	HSS9x7x0.25	80	HSS10x8x0.25	80	HSS12x10x0.313	112
	29	HSS6x4x0.5	HSS9x7x0.25	84	HSS10x8x0.25	78	HSS12x10x0.313	109
	30	HSS6x5x0.188	HSS9x9x0.25	89	HSS10x10x0.188	93	HSS12x10x0.313	120
	31	HSS6x5x0.25	HSS9x9x0.25	91	HSS10x10x0.188	92	HSS12x10x0.313	118
	32	HSS6x5x0.313	HSS9x9x0.25	94	HSS10x10x0.188	91	HSS12x10x0.313	117
	33	HSS6x5x0.375	HSS9x9x0.25	96	HSS10x10x0.188	89	HSS12x10x0.313	116
	34	HSS6x5x0.5	HSS9x9x0.25	101	HSS10x10x0.188	87	HSS12x10x0.313	113
	35	HSS7x3x0.188	HSS10x6x0.25	70	HSS12x8x0.313	99	HSS12x8x0.313	99
	36	HSS7x3x0.25	HSS10x6x0.25	72	HSS12x8x0.313	98	HSS12x8x0.313	98
	37	HSS7x3x0.313	HSS10x6x0.25	75	HSS12x8x0.313	96	HSS12x8x0.313	96
	38	HSS7x3x0.375	HSS10x6x0.25	77	HSS12x8x0.313	95	HSS12x8x0.313	95
	39	HSS7x3x0.5	HSS10x6x0.25	81	HSS12x8x0.313	93	HSS12x8x0.313	93
	40	HSS7x4x0.188	HSS10x8x0.25	87	HSS12x8x0.313	104	HSS12x10x0.313	118
	41	HSS7x4x0.25	HSS10x8x0.25	90	HSS12x8x0.313	103	HSS12x10x0.313	117
	42	HSS7x4x0.313	HSS10x8x0.25	92	HSS12x8x0.313	101	HSS12x10x0.313	116
	43	HSS7x4x0.375	HSS10x8x0.25	95	HSS12x8x0.313	100	HSS12x10x0.313	115
	44	HSS7x4x0.5	HSS10x8x0.25	99	HSS12x8x0.313	98	HSS12x10x0.313	112
	45	HSS7x5x0.188	HSS10x8x0.25	92	HSS12x10x0.313	123	HSS12x10x0.313	123



Rectangular Type RR

		RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
46	HSS7x5x0.25	HSS10x8x0.25	95	HSS12x10x0.313	122	HSS12x10x0.313	122
47	HSS7x5x0.313	HSS10x8x0.25	98	HSS12x10x0.313	121	HSS12x10x0.313	121
48	HSS7x5x0.375	HSS10x8x0.25	101	HSS12x10x0.313	119	HSS12x10x0.313	119
49	HSS7x5x0.5	HSS10x8x0.25	106	HSS12x10x0.313	116	HSS12x10x0.313	116
50	HSS7x5x0.625	HSS10x8x0.25	110	HSS12x10x0.313	114	HSS12x10x0.313	114
51	HSS8x2x0.188	HSS12x6x0.25	75	HSS12x6x0.25	75	HSS14x10x0.313	123
52	HSS8x2x0.25	HSS12x6x0.25	78	HSS12x6x0.25	74	HSS14x10x0.313	122
53	HSS8x2x0.313	HSS12x6x0.25	80	HSS12x6x0.25	73	HSS14x10x0.313	121
54	HSS8x3x0.188	HSS12x6x0.25	81	HSS12x8x0.313	101	HSS14x10x0.313	129
55	HSS8x3x0.25	HSS12x6x0.25	84	HSS12x8x0.313	100	HSS14x10x0.313	127
56	HSS8x3x0.313	HSS12x6x0.25	86	HSS12x8x0.313	99	HSS14x10x0.313	126
57	HSS8x3x0.375	HSS12x6x0.25	89	HSS12x8x0.313	98	HSS14x10x0.313	125
58	HSS8x4x0.188	HSS12x8x0.313	107	HSS12x8x0.313	107	HSS14x10x0.313	134
59	HSS8x4x0.25	HSS12x8x0.313	110	HSS12x8x0.313	106	HSS14x10x0.313	133
60	HSS8x4x0.313	HSS12x8x0.313	113	HSS12x8x0.313	104	HSS14x10x0.313	131
61	HSS8x4x0.375	HSS12x8x0.313	116	HSS12x8x0.313	103	HSS14x10x0.313	130
62	HSS8x4x0.5	HSS12x8x0.313	121	HSS12x8x0.313	100	HSS14x10x0.313	127
63	HSS8x4x0.625	HSS12x8x0.313	125	HSS12x8x0.313	98	HSS14x10x0.313	125
64	HSS8x5x0.188	HSS12x8x0.313	113	HSS12x10x0.313	127	HSS14x10x0.313	140
65	HSS8x5x0.25	HSS12x8x0.313	116	HSS12x10x0.313	126	HSS14x10x0.313	138
66	HSS8x5x0.313	HSS12x8x0.313	119	HSS12x10x0.313	124	HSS14x10x0.313	137
67	HSS8x5x0.375	HSS12x8x0.313	122	HSS12x10x0.313	123	HSS14x10x0.313	135
68	HSS8x6x0.188	HSS12x10x0.313	133	HSS12x10x0.313	133	HSS14x14x0.313	178
69	HSS8x6x0.25	HSS12x10x0.313	136	HSS12x10x0.313	131	HSS14x14x0.313	177
70	HSS8x6x0.313	HSS12x10x0.313	140	HSS12x10x0.313	129	HSS14x14x0.313	175
71	HSS8x6x0.375	HSS12x10x0.313	143	HSS12x10x0.313	128	HSS14x14x0.313	173
72	HSS8x6x0.5	HSS12x10x0.313	150	HSS12x10x0.313	125	HSS14x14x0.313	170
73	HSS8x6x0.625	HSS12x10x0.313	155	HSS12x10x0.313	122	HSS14x14x0.313	167
74	HSS9x5x0.25	HSS12x8x0.313	120	HSS14x10x0.313	147	HSS14x10x0.313	147
75	HSS9x5x0.313	HSS12x8x0.313	124	HSS14x10x0.313	146	HSS14x10x0.313	146
76	HSS9x5x0.375	HSS12x8x0.313	127	HSS14x10x0.313	144	HSS14x10x0.313	144
77	HSS9x5x0.5	HSS12x8x0.313	133	HSS14x10x0.313	141	HSS14x10x0.313	141
78	HSS9x5x0.625	HSS12x10x0.313	139	HSS14x10x0.313	138	HSS14x10x0.313	138
79	HSS9x7x0.25	HSS12x10x0.313	148	HSS14x14x0.313	193	HSS14x14x0.313	193
80	HSS9x7x0.313	HSS12x10x0.313	152	HSS14x14x0.313	191	HSS14x14x0.313	191
81	HSS9x7x0.375	HSS12x10x0.313	156	HSS14x14x0.313	189	HSS14x14x0.313	189
82	HSS9x7x0.5	HSS12x10x0.313	163	HSS14x14x0.313	185	HSS14x14x0.313	185
83	HSS9x7x0.625	HSS12x10x0.313	170	HSS14x14x0.313	182	HSS14x14x0.313	182
84	HSS10x2x0.188	HSS14x6x0.313	95	HSS14x6x0.313	95	HSS16x8x0.313	122
85	HSS10x2x0.25	HSS14x6x0.313	98	HSS14x6x0.313	93	HSS16x8x0.313	120
86	HSS10x2x0.313	HSS14x6x0.313	101	HSS14x6x0.313	92	HSS16x8x0.313	119
87	HSS10x3x0.188	HSS14x6x0.313	101	HSS14x10x0.313	134	HSS16x8x0.313	129
88	HSS10x3x0.25	HSS14x6x0.313	105	HSS14x10x0.313	132	HSS16x8x0.313	127
89	HSS10x3x0.313	HSS14x6x0.313	108	HSS14x10x0.313	131	HSS16x8x0.313	125
90	HSS10x4x0.188	HSS14x10x0.313	141	HSS14x10x0.313	141	HSS16x12x0.313	172

TYPE RR



Rectangular Type RR

	No.	Core Size	RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
			Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
TYPE RR	91	HSS10x4x0.25	HSS14x10x0.313	144	HSS14x10x0.313	139	HSS16x12x0.313	170
	92	HSS10x4x0.313	HSS14x10x0.313	148	HSS14x10x0.313	137	HSS16x12x0.313	168
	93	HSS10x4x0.375	HSS14x10x0.313	151	HSS14x10x0.313	136	HSS16x12x0.313	167
	94	HSS10x4x0.5	HSS14x10x0.313	158	HSS14x10x0.313	133	HSS16x12x0.313	163
	95	HSS10x4x0.625	HSS14x10x0.313	163	HSS14x10x0.313	130	HSS16x12x0.313	160
	96	HSS10x5x0.25	HSS14x10x0.313	152	HSS14x10x0.313	152	HSS16x12x0.313	182
	97	HSS10x5x0.313	HSS14x10x0.313	155	HSS14x10x0.313	150	HSS16x12x0.313	181
	98	HSS10x5x0.375	HSS14x10x0.313	159	HSS14x10x0.313	148	HSS16x12x0.313	179
	99	HSS10x6x0.25	HSS14x10x0.313	159	HSS14x10x0.313	159	HSS16x12x0.313	189
	100	HSS10x6x0.313	HSS14x10x0.313	163	HSS14x10x0.313	157	HSS16x12x0.313	188
	101	HSS10x6x0.375	HSS14x10x0.313	167	HSS14x10x0.313	155	HSS16x12x0.313	186
	102	HSS10x6x0.5	HSS14x10x0.313	174	HSS14x10x0.313	151	HSS16x12x0.313	182
	103	HSS10x6x0.625	HSS14x10x0.313	181	HSS14x10x0.313	147	HSS16x12x0.313	178
	104	HSS10x8x0.25	HSS14x14x0.313	205	HSS14x14x0.313	205	HSS16x16x0.313	304
	105	HSS10x8x0.313	HSS14x14x0.313	210	HSS14x14x0.313	203	HSS16x16x0.313	302
	106	HSS10x8x0.375	HSS14x14x0.313	215	HSS14x14x0.313	201	HSS16x16x0.313	300
	107	HSS10x8x0.5	HSS14x14x0.313	223	HSS14x14x0.313	197	HSS16x16x0.313	296
	108	HSS10x8x0.625	HSS14x14x0.313	231	HSS14x14x0.313	193	HSS16x16x0.313	292
	109	HSS12x2x0.188	HSS16x8x0.313	126	HSS16x8x0.313	126	HSS20x8x0.375	182
	110	HSS12x2x0.25	HSS16x8x0.313	130	HSS16x8x0.313	124	HSS20x8x0.375	180
	111	HSS12x2x0.313	HSS16x8x0.313	133	HSS16x8x0.313	123	HSS20x8x0.375	179
	112	HSS12x2x0.375	HSS16x8x0.313	136	HSS16x8x0.313	121	HSS20x8x0.375	177
	113	HSS12x3x0.188	HSS16x8x0.313	134	HSS16x8x0.313	134	HSS20x8x0.375	190
	114	HSS12x3x0.25	HSS16x8x0.313	138	HSS16x8x0.313	132	HSS20x8x0.375	188
	115	HSS12x3x0.313	HSS16x8x0.313	142	HSS16x8x0.313	130	HSS20x8x0.375	187
	116	HSS12x4x0.25	HSS16x8x0.313	146	HSS16x8x0.313	146	HSS20x12x0.375	254
	117	HSS12x4x0.313	HSS16x8x0.313	150	HSS16x8x0.313	144	HSS20x12x0.375	252
	118	HSS12x4x0.375	HSS16x8x0.313	154	HSS16x8x0.313	142	HSS20x12x0.375	250
	119	HSS12x4x0.5	HSS16x8x0.313	162	HSS16x8x0.313	139	HSS20x12x0.375	247
	120	HSS12x4x0.625	HSS16x8x0.313	168	HSS16x8x0.313	135	HSS20x12x0.375	243
	121	HSS12x6x0.25	HSS16x12x0.313	199	HSS16x12x0.313	199	HSS20x12x0.375	271
	122	HSS12x6x0.313	HSS16x12x0.313	204	HSS16x12x0.313	197	HSS20x12x0.375	269
	123	HSS12x6x0.375	HSS16x12x0.313	208	HSS16x12x0.313	195	HSS20x12x0.375	266
	124	HSS12x6x0.5	HSS16x12x0.313	217	HSS16x12x0.313	190	HSS20x12x0.375	262
	125	HSS12x6x0.625	HSS16x12x0.313	225	HSS16x12x0.313	186	HSS20x12x0.375	258
126	HSS12x8x0.313	HSS16x12x0.313	221	HSS16x12x0.313	221	17x13x0.188	216	
127	HSS12x8x0.375	HSS16x12x0.313	226	HSS16x12x0.313	218	17x13x0.188	214	
128	HSS12x8x0.5	HSS16x12x0.313	236	HSS16x12x0.313	214	17x13x0.188	209	
129	HSS12x8x0.625	HSS16x12x0.313	245	HSS16x12x0.313	209	17x13x0.188	205	
130	HSS12x10x0.313	HSS16x16x0.313	339	HSS16x16x0.313	339	17x15x0.188	251	
131	HSS12x10x0.375	HSS16x16x0.313	344	HSS16x16x0.313	336	17x15x0.188	248	
132	HSS12x10x0.5	HSS16x16x0.313	355	HSS16x16x0.313	331	17x15x0.188	243	
133	HSS14x4x0.313	HSS20x8x0.375	214	HSS20x8x0.375	214	HSS20x12x0.375	266	
134	HSS14x4x0.375	HSS20x8x0.375	219	HSS20x8x0.375	212	HSS20x12x0.375	264	
135	HSS14x4x0.5	HSS20x8x0.375	227	HSS20x8x0.375	208	HSS20x12x0.375	260	



Rectangular Type RR

		RATING - 2 HOUR		RATING - 3 HOUR		RATING - 4 HOUR	
No.	Core Size	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)	Minimum Shell Size	Weight per foot (lbs./ft.)
136	HSS14x4x0.625	HSS20x8x0.375	235	HSS20x8x0.375	204	HSS20x12x0.375	255
137	HSS14x6x0.313	HSS20x12x0.375	285	HSS20x12x0.375	285	HSS20x12x0.375	285
138	HSS14x6x0.375	HSS20x12x0.375	291	HSS20x12x0.375	283	HSS20x12x0.375	283
139	HSS14x6x0.5	HSS20x12x0.375	300	HSS20x12x0.375	278	HSS20x12x0.375	278
140	HSS14x6x0.625	HSS20x12x0.375	310	HSS20x12x0.375	274	HSS20x12x0.375	274
141	HSS14x10x0.313	17x13x0.188	248	18x14x0.188	264	19x15x0.188	282
142	HSS14x10x0.375	17x13x0.188	255	18x14x0.188	262	19x15x0.188	279
143	HSS14x10x0.5	17x13x0.188	267	18x14x0.188	256	19x15x0.188	273
144	HSS14x10x0.625	17x13x0.188	278	18x14x0.188	250	19x15x0.188	267
145	HSS16x4x0.313	HSS20x8x0.375	222	HSS20x8x0.375	222	HSS24x12x0.5	223
146	HSS16x4x0.375	HSS20x8x0.375	227	HSS20x8x0.375	219	HSS24x12x0.5	221
147	HSS16x4x0.5	HSS20x8x0.375	237	HSS20x8x0.375	215	HSS24x12x0.5	216
148	HSS16x4x0.625	HSS20x8x0.375	246	HSS20x8x0.375	210	HSS24x12x0.5	211
149	HSS16x8x0.313	HSS20x12x0.375	317	HSS20x12x0.375	317	21x13x0.25	281
150	HSS16x8x0.375	HSS20x12x0.375	324	HSS20x12x0.375	314	21x13x0.25	278
151	HSS16x8x0.5	HSS20x12x0.375	336	HSS20x12x0.375	309	21x13x0.25	272
152	HSS16x8x0.625	HSS20x12x0.375	347	HSS20x12x0.375	303	21x13x0.25	267
153	HSS16x12x0.313	19x15x0.188	318	20x16x0.25	349	21x17x0.25	368
154	HSS16x12x0.375	19x15x0.188	326	20x16x0.25	345	21x17x0.25	365
155	HSS16x12x0.5	19x15x0.188	340	20x16x0.25	339	21x17x0.25	358
156	HSS16x12x0.625	19x15x0.188	354	20x16x0.25	332	21x17x0.25	352
157	HSS18x6x0.313	HSS24x12x0.5	255	HSS24x12x0.5	255	HSS24x12x0.5	255
158	HSS18x6x0.375	HSS24x12x0.5	261	HSS24x12x0.5	252	HSS24x12x0.5	252
159	HSS18x6x0.5	HSS24x12x0.5	273	HSS24x12x0.5	246	HSS24x12x0.5	246
160	HSS18x6x0.625	HSS24x12x0.5	285	HSS24x12x0.5	241	HSS24x12x0.5	241
161	HSS20x4x0.375	HSS24x12x0.5	245	HSS24x12x0.5	245	25x9x0.25	237
162	HSS20x4x0.5	HSS24x12x0.5	257	HSS24x12x0.5	239	25x9x0.25	232
163	HSS20x4x0.625	HSS24x12x0.5	268	HSS24x12x0.5	233	25x9x0.25	226
164	HSS20x8x0.375	HSS24x12x0.5	299	HSS24x12x0.5	299	25x13x0.25	343
165	HSS20x8x0.5	HSS24x12x0.5	314	HSS24x12x0.5	292	25x13x0.25	336
166	HSS20x8x0.625	HSS24x12x0.5	328	HSS24x12x0.5	285	25x13x0.25	329
167	HSS20x12x0.375	23x15x0.25	406	24x16x0.25	427	25x17x0.25	448
168	HSS20x12x0.5	23x15x0.25	423	24x16x0.25	419	25x17x0.25	440
169	HSS20x12x0.625	23x15x0.25	439	24x16x0.25	411	25x17x0.25	432
170	HSS16x12x0.75	19x15x0.188	368	20x16x0.25	398	21x17x0.25	418
171	HSS20x12x0.75	23x15x0.25	455	24x16x0.25	476	25x17x0.25	497
172	HSS24x12x0.5	27x15x0.25	494	28x16x0.25	516	29x17x0.25	539
173	HSS24x12x0.625	27x15x0.25	512	28x16x0.25	535	29x17x0.25	558
174	HSS24x12x0.75	27x15x0.25	530	28x16x0.25	553	29x17x0.25	576


TYPE RR



FIRE-TROL

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