

**COMPLETE CIRCLES**  
**18" x 6" x 3" or 18" x 9" x 3" WEDGE BRICK**  
**18-INCH LINING**

INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE				TOTAL
	No. 3 WEDGE 18x6x (3-2)	No. 2 WEDGE 18x6x (3-2 1/2)	No. 1 WEDGE No. 1-X WEDGE 18x6x (3-2 1/2)	STRAIGHTS 18x6x3	
6'-0"	113	.....	.....	.....	113
6'-6"	107	.....	.....	.....	120
7'-0"	101	.....	.....	.....	126
7'-6"	94	.....	.....	.....	132
8'-0"	88	.....	.....	.....	138
8'-6"	82	.....	.....	.....	145
9'-0"	76	.....	.....	.....	151
9'-6"	69	.....	.....	.....	157
10'-0"	63	.....	.....	.....	164
10'-6"	57	.....	.....	.....	170
11'-0"	50	.....	.....	.....	176
11'-6"	44	.....	.....	.....	182
12'-0"	38	.....	.....	.....	189
12'-6"	32	.....	.....	.....	195
13'-0"	25	.....	.....	.....	201
13'-6"	19	.....	.....	.....	207
14'-0"	13	.....	.....	.....	214
14'-6"	6	.....	.....	.....	220
15'-0"	.....	.....	.....	.....	226
15'-6"	.....	.....	.....	.....	233
16'-0"	.....	.....	.....	.....	239
16'-6"	.....	.....	.....	.....	245
17'-0"	.....	.....	.....	.....	251
17'-6"	.....	.....	.....	.....	258
18'-0"	.....	.....	.....	.....	264
18'-6"	.....	.....	.....	.....	270
19'-0"	.....	.....	.....	.....	276
19'-6"	.....	.....	.....	.....	283
20'-0"	.....	.....	.....	.....	289
20'-6"	.....	.....	.....	.....	295
21'-0"	.....	.....	.....	.....	302
21'-6"	.....	.....	.....	.....	308
22'-0"	.....	.....	.....	.....	314
22'-6"	.....	.....	.....	.....	320
23'-0"	.....	.....	.....	.....	327
23'-6"	.....	.....	.....	.....	333
24'-0"	.....	.....	.....	.....	339
24'-6"	.....	.....	.....	.....	346
25'-0"	.....	.....	.....	.....	352
25'-6"	.....	.....	.....	.....	358
26'-0"	.....	.....	.....	.....	364
26'-6"	.....	.....	.....	.....	371
27'-0"	.....	.....	.....	.....	377
27'-6"	.....	.....	.....	.....	383
28'-0"	.....	.....	.....	.....	390
28'-6"	.....	.....	.....	.....	396
29'-0"	.....	.....	.....	.....	402
29'-6"	.....	.....	.....	.....	408
30'-0"	.....	.....	.....	.....	415
30'-6"	.....	.....	.....	.....	421
31'-0"	.....	.....	.....	.....	427

**COMPLETE CIRCLES**  
**15" x 6" x 3" or 15" x 9" x 3" WEDGE BRICK**  
**15-INCH LINING**

INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE				TOTAL
	No. 3 WEDGE 15x6x (3-2)	No. 2 WEDGE 15x6x (3-2 1/2)	No. 1 WEDGE No. 1-X WEDGE 15x6x (3-2 1/2)	STRAIGHTS 15x6x3	
30'-0"	.....	.....	63	.....	408
30'-6"	.....	.....	76	.....	415
31'-0"	.....	.....	88	.....	421
31'-6"	.....	.....	100	.....	427
32'-0"	.....	.....	113	.....	434
32'-6"	.....	.....	126	.....	440
33'-0"	.....	.....	138	.....	446
33'-6"	.....	.....	150	.....	452
34'-0"	.....	.....	164	.....	459
34'-6"	.....	.....	176	.....	465
35'-0"	.....	.....	188	.....	471
35'-6"	.....	.....	201	.....	478
36'-0"	.....	.....	214	.....	484
36'-6"	.....	.....	226	.....	490
37'-0"	.....	.....	238	.....	496
37'-6"	.....	.....	252	.....	503
38'-0"	.....	.....	264	.....	509
38'-6"	.....	.....	276	.....	515
39'-0"	.....	.....	289	.....	521
39'-6"	.....	.....	302	.....	528
40'-0"	.....	.....	314	.....	534
40'-6"	.....	.....	326	.....	540
41'-0"	.....	.....	339	.....	547
41'-6"	.....	.....	352	.....	553
42'-0"	.....	.....	364	.....	559
42'-6"	.....	.....	377	.....	565
43'-0"	.....	.....	390	.....	572
43'-6"	.....	.....	402	.....	578
44'-0"	.....	.....	414	.....	584
44'-6"	.....	.....	427	.....	591
45'-0"	.....	.....	440	.....	597
45'-6"	.....	.....	452	.....	603
46'-0"	.....	.....	465	.....	609
46'-6"	.....	.....	478	.....	616
47'-0"	.....	.....	490	.....	622
47'-6"	.....	.....	502	.....	628
48'-0"	.....	.....	515	.....	635
48'-6"	.....	.....	528	.....	641
49'-0"	.....	.....	540	.....	647
49'-6"	.....	.....	553	.....	653
50'-0"	.....	.....	566	.....	660
51'-0"	.....	.....	590	.....	672
52'-0"	.....	.....	616	.....	685
53'-0"	.....	.....	641	.....	697
54'-0"	.....	.....	666	.....	710
55'-0"	.....	.....	691	.....	722
56'-0"	.....	.....	716	.....	735
57'-0"	.....	.....	742	.....	748
58'-0"	.....	.....	754	.....	760
59'-0"	.....	.....	754	.....	773
60'-0"	.....	.....	754	.....	785

Continued Next Page

**COMPLETE CIRCLES**  
**18"x6"x3" or 18"x9"x3" WEDGE BRICK**

**18-INCH LINING**

**BLAST FURNACE BOTTOM BLOCKS**  
**18"x9"x4 1/2"**

INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE					TOTAL
	No. 3 WEDGE 18x6x (3-2)	No. 2 WEDGE 18x6x (3-2 1/2)	No. 1 WEDGE 18x6x (3-2 1/2)	No. 1-X WEDGE 18x6x (3-2 1/2)	STRAIGHTS 18x6x3	
31'-0"	19	415	434			434
32'-0"	13	427	440			440
33'-0"	6	440	446			446
34'-0"		452	459			459
35'-0"		446	465			465
36'-0"		440	471			471
37'-0"		433	478			478
38'-0"		427	484			484
39'-0"		421	490			490
40'-0"		415	496			496
41'-0"		408	503			503
42'-0"		402	509			509
43'-0"		396	515			515
44'-0"		390	522			522
45'-0"		384	528			528
46'-0"		377	534			534
47'-0"		371	540			540
48'-0"		364	547			547
49'-0"		358	553			553
50'-0"		352	559			559
51'-0"		345	565			565
52'-0"		339	572			572
53'-0"		333	578			578
54'-0"		327	584			584
55'-0"		321	591			591
56'-0"		314	603			603
57'-0"		301	616			616
58'-0"		289	628			628
59'-0"		276	641			641
60'-0"		264	653			653
61'-0"		251	666			666
62'-0"		239	679			679
63'-0"		226	691			691
64'-0"		213	704			704
65'-0"		201	716			716
66'-0"		188	729			729
67'-0"		176	741			741
68'-0"		163	754			754
69'-0"		151	767			767
70'-0"		138	779			779
71'-0"		126	792			792
72'-0"		113	804			804
73'-0"		100	817			817
74'-0"		88	829			829
75'-0"		75	842			842
76'-0"		63	855			855
77'-0"		51	867			867
78'-0"		38	880			880
79'-0"		25	892			892
80'-0"		12	905			905
81'-0"			917	12		917

Number per course; Blocks laid on end		No. of Blocks		Diameter of Hearth		No. of Blocks	
Diameter of Hearth	No. of Blocks	Diameter of Hearth	No. of Blocks	Diameter of Hearth	No. of Blocks	Diameter of Hearth	No. of Blocks
10'-0"	303	24'-0"	1665				
10'-6"	333	24'-6"	1734				
11'-0"	364	25'-0"	1804				
11'-6"	397	25'-6"	1876				
12'-0"	431	26'-0"	1949				
12'-6"	466	26'-6"	2023				
13'-0"	503	27'-0"	2099				
13'-6"	541	27'-6"	2176				
14'-0"	581	28'-0"	2255				
14'-6"	621	28'-6"	2335				
15'-0"	664	29'-0"	2417				
15'-6"	708	29'-6"	2500				
16'-0"	753	30'-0"	2584				
16'-6"	799	30'-6"	2669				
17'-0"	847	31'-0"	2756				
17'-6"	897	31'-6"	2845				
18'-0"	947	32'-0"	2935				
18'-6"	999	32'-6"	3026				
19'-0"	1053	33'-0"	3119				
19'-6"	1108	33'-6"	3213				
20'-0"	1164	34'-0"	3308				
20'-6"	1222	34'-6"	3405				
21'-0"	1281	35'-0"	3503				
21'-6"	1342	35'-6"	3603				
22'-0"	1403	36'-0"	3704				
22'-6"	1467	36'-6"	3806				
23'-0"	1531	37'-0"	3909				
23'-6"	1598	37'-6"	4013				

**SPRUNG ARCHES**  
 1 1/2" rise per foot of span  
 4 1/2-INCH ARCH THICKNESS  
 Central Angle=56°

9" x 4 1/2" x 2 1/2" or 13 1/2" x 4 1/2" x 2 1/2"  
 Standard 9-inch Featheredge to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				TOTAL
			No. 3 ARCH 9x4 1/2" x (2 1/2-1)	No. 2 ARCH 9x4 1/2" x (2 1/2-1 1/4)	No. 1 ARCH 9x4 1/2" x (2 1/2-2 1/8)	STRAIGHT 9x4 1/2" x 2 1/2	
0'-6"	3/4"	6 3/4"	1	4	4	5	
0'-7"	7/8"	7 1/16"	1	4	4	5	
0'-8"	1"	8 1/2"	1	4	4	5	
0'-9"	1 1/8"	9 9/16"	1	4	4	6	
0'-10"	1 1/4"	10 5/8"	1	4	4	6	
0'-11"	1 1/2"	11 1/4"	1	4	4	7	
1'-0"	1 3/4"	12 1/8"	1	4	4	7	
1'-1"	1 7/8"	13 1/16"	1	4	4	8	
1'-2"	2"	14 1/4"	1	4	4	8	
1'-3"	2 1/8"	15 1/8"	1	4	4	9	
1'-4"	2 1/4"	16 1/4"	1	4	4	9	
1'-5"	2 3/8"	17 1/2"	1	4	4	10	
1'-6"	2 1/2"	18 3/4"	1	4	4	10	
1'-7"	2 5/8"	20 1/8"	1	4	4	11	
1'-8"	2 3/4"	21 3/4"	1	4	4	11	
1'-9"	2 7/8"	23 1/4"	1	4	4	12	
1'-10"	3"	25 1/8"	1	4	4	12	
1'-11"	3 1/8"	27 1/4"	1	4	4	13	
2'-0"	3 1/4"	29 3/8"	1	4	4	13	
2'-1"	3 3/8"	31 1/4"	1	4	4	14	
2'-2"	3 1/2"	33 1/8"	1	4	4	14	
2'-3"	3 5/8"	35 3/4"	1	4	4	15	
2'-4"	3 3/4"	38 1/4"	1	4	4	15	
2'-5"	3 7/8"	40 3/4"	1	4	4	16	
2'-6"	4"	43 1/4"	1	4	4	16	
2'-7"	4 1/8"	45 3/4"	1	4	4	17	
2'-8"	4 1/4"	48 1/4"	1	4	4	17	
2'-9"	4 3/8"	50 3/4"	1	4	4	18	
2'-10"	4 1/2"	53 1/4"	1	4	4	18	
2'-11"	4 5/8"	56 1/4"	1	4	4	19	
3'-0"	4 3/4"	59 3/4"	1	4	4	19	
3'-1"	4 7/8"	63 1/4"	1	4	4	20	
3'-2"	5"	66 3/4"	1	4	4	21	
3'-3"	5 1/8"	70 1/4"	1	4	4	21	
3'-4"	5 1/4"	74 1/4"	1	4	4	22	
3'-5"	5 3/8"	78 1/4"	1	4	4	22	
3'-6"	5 1/2"	82 1/4"	1	4	4	23	
3'-7"	5 5/8"	86 1/4"	1	4	4	23	
3'-8"	5 3/4"	90 1/4"	1	4	4	24	
3'-9"	5 7/8"	94 1/4"	1	4	4	24	
4'-0"	6"	98 1/4"	1	4	4	25	
4'-1"	6 1/8"	102 1/4"	1	4	4	25	
4'-2"	6 1/4"	106 1/4"	1	4	4	26	
4'-3"	6 3/8"	110 1/4"	1	4	4	26	
4'-4"	6 1/2"	114 1/4"	1	4	4	27	
4'-5"	6 5/8"	118 1/4"	1	4	4	27	
4'-6"	6 3/4"	122 1/4"	1	4	4	28	
4'-7"	6 7/8"	126 1/4"	1	4	4	28	
4'-8"	7"	130 1/4"	1	4	4	29	
4'-9"	7 1/8"	134 1/4"	1	4	4	29	
4'-10"	7 1/4"	138 1/4"	1	4	4	30	
4'-11"	7 3/8"	142 1/4"	1	4	4	30	
5'-0"	7 1/2"	146 1/4"	1	4	4	31	
5'-1"	7 5/8"	150 1/4"	1	4	4	31	
5'-2"	7 3/4"	154 1/4"	1	4	4	32	
5'-3"	7 7/8"	158 1/4"	1	4	4	32	
5'-4"	8"	162 1/4"	1	4	4	33	
5'-5"	8 1/8"	166 1/4"	1	4	4	33	
5'-6"	8 1/4"	170 1/4"	1	4	4	34	
5'-7"	8 3/8"	174 1/4"	1	4	4	34	
5'-8"	8 1/2"	178 1/4"	1	4	4	35	
5'-9"	8 5/8"	182 1/4"	1	4	4	35	
6'-0"	9"	186 1/4"	1	4	4	36	
6'-1"	9 1/8"	190 1/4"	1	4	4	36	
6'-2"	9 1/4"	194 1/4"	1	4	4	37	
6'-3"	9 3/8"	198 1/4"	1	4	4	37	
6'-4"	9 1/2"	202 1/4"	1	4	4	38	
6'-5"	9 5/8"	206 1/4"	1	4	4	38	
6'-6"	9 3/4"	210 1/4"	1	4	4	39	
6'-7"	9 7/8"	214 1/4"	1	4	4	39	
6'-8"	10"	218 1/4"	1	4	4	40	
6'-9"	10 1/8"	222 1/4"	1	4	4	40	
6'-10"	10 1/4"	226 1/4"	1	4	4	41	
6'-11"	10 3/8"	230 1/4"	1	4	4	41	
7'-0"	10 1/2"	234 1/4"	1	4	4	42	
7'-1"	10 5/8"	238 1/4"	1	4	4	42	
7'-2"	10 3/4"	242 1/4"	1	4	4	43	
7'-3"	10 7/8"	246 1/4"	1	4	4	43	
7'-4"	11"	250 1/4"	1	4	4	44	
7'-5"	11 1/8"	254 1/4"	1	4	4	44	
7'-6"	11 1/4"	258 1/4"	1	4	4	45	
7'-7"	11 3/8"	262 1/4"	1	4	4	45	
7'-8"	11 1/2"	266 1/4"	1	4	4	46	
7'-9"	11 5/8"	270 1/4"	1	4	4	46	
7'-10"	11 3/4"	274 1/4"	1	4	4	47	
7'-11"	11 7/8"	278 1/4"	1	4	4	47	
8'-0"	12"	282 1/4"	1	4	4	48	
8'-1"	12 1/8"	286 1/4"	1	4	4	48	
8'-2"	12 1/4"	290 1/4"	1	4	4	49	
8'-3"	12 3/8"	294 1/4"	1	4	4	49	
8'-4"	12 1/2"	298 1/4"	1	4	4	50	
8'-5"	12 5/8"	302 1/4"	1	4	4	50	
8'-6"	12 3/4"	306 1/4"	1	4	4	51	
8'-7"	12 7/8"	310 1/4"	1	4	4	51	
8'-8"	13"	314 1/4"	1	4	4	52	
8'-9"	13 1/8"	318 1/4"	1	4	4	52	
8'-10"	13 1/4"	322 1/4"	1	4	4	53	
8'-11"	13 3/8"	326 1/4"	1	4	4	53	
9'-0"	13 1/2"	330 1/4"	1	4	4	54	
9'-1"	13 5/8"	334 1/4"	1	4	4	54	
9'-2"	13 3/4"	338 1/4"	1	4	4	55	
9'-3"	13 7/8"	342 1/4"	1	4	4	55	
9'-4"	14"	346 1/4"	1	4	4	56	
9'-5"	14 1/8"	350 1/4"	1	4	4	56	
9'-6"	14 1/4"	354 1/4"	1	4	4	57	
9'-7"	14 3/8"	358 1/4"	1	4	4	57	
9'-8"	14 1/2"	362 1/4"	1	4	4	58	
9'-9"	14 5/8"	366 1/4"	1	4	4	58	
9'-10"	14 3/4"	370 1/4"	1	4	4	59	
9'-11"	14 7/8"	374 1/4"	1	4	4	59	
10'-0"	15"	378 1/4"	1	4	4	60	
10'-1"	15 1/8"	382 1/4"	1	4	4	60	
10'-2"	15 1/4"	386 1/4"	1	4	4	61	
10'-3"	15 3/8"	390 1/4"	1	4	4	61	
10'-4"	15 1/2"	394 1/4"	1	4	4	62	
10'-5"	15 5/8"	398 1/4"	1	4	4	62	
10'-6"	15 3/4"	402 1/4"	1	4	4	63	
10'-7"	15 7/8"	406 1/4"	1	4	4	63	
10'-8"	16"	410 1/4"	1	4	4	64	
10'-9"	16 1/8"	414 1/4"	1	4	4	64	
10'-10"	16 1/4"	418 1/4"	1	4	4	65	
10'-11"	16 3/8"	422 1/4"	1	4	4	65	
11'-0"	16 1/2"	426 1/4"	1	4	4	66	
11'-1"	16 5/8"	430 1/4"	1	4	4	66	
11'-2"	16 3/4"	434 1/4"	1	4	4	67	
11'-3"	16 7/8"	438 1/4"	1	4	4	67	
11'-4"	17"	442 1/4"	1	4	4	68	
11'-5"	17 1/8"	446 1/4"	1	4	4	68	
11'-6"	17 1/4"	450 1/4"	1	4	4	69	
11'-7"	17 3/8"	454 1/4"	1	4	4	69	
11'-8"	17 1/2"	458 1/4"	1	4	4	70	
11'-9"	17 5/8"	462 1/4"	1	4	4	70	
11'-10"	17 3/4"	466 1/4"	1	4	4	71	
11'-11"	17 7/8"	470 1/4"	1	4	4	71	
12'-0"	18"	474 1/4"	1	4	4	72	
12'-1"	18 1/8"	478 1/4"	1	4	4	72	
12'-2"	18 1/4"	482 1/4"	1	4	4	73	
12'-3"	18 3/8"	486 1/4"	1	4	4	73	
12'-4"	18 1/2"	490 1/4"	1	4	4	74	
12'-5"	18 5/8"	494 1/4"	1	4	4	74	
12'-6"	18 3/4"	498 1/4"	1	4	4	75	
12'-7"	18 7/8"	502 1/4"	1	4	4	75	
12'-8"	19"	506 1/4"	1	4	4	76	
12'-9"	19 1/8"	510 1/4"	1	4	4	76	
12'-10"	19 1/4"	514 1/4"	1	4	4	77	
12'-11"	19 3/8"	518 1/4"	1	4	4	77	
13'-0"	19 1/2"	522 1/4"	1	4	4	78	
13'-1"	19 5/8"	526 1/4"	1	4	4	78	
13'-2"	19 3/4"	530 1/4"	1	4	4	79	
13'-3"	19 7/8"	534 1/4"	1	4	4	79	
13'-4"	20"	538 1/4"	1	4	4	80	
13'-5"	20 1/8"	542 1/4"	1	4	4	80	
13'-6"	20 1/4"	546 1/4"	1	4	4	81	
13'-7"	20 3/8"	550 1/4"	1	4	4	81	
13'-8"	20 1/2"	554 1/4"	1	4	4	82	
13'-9"	20 5/8"	558 1/4"	1	4	4	82	
13'-10"	20 3/4"	562 1/4"	1	4	4	83	
13'-11"	20 7/8"	566 1/4"	1	4	4	83	
14'-0"	21"	570 1/4"	1	4	4	84	
14'-1"	21 1/8"	574 1/4"	1	4	4	84	
14'-2"	21 1/4"	578 1/4"	1	4	4	85	
14'-3"	21 3/8"	582 1/4"	1	4	4	85	
14'-4"	21 1/2"	586 1/4"	1	4	4	86	
14'-5"	21 5/8"	590 1/4"	1	4	4	86	
14'-6"	21 3/4"	594 1/4"	1	4	4	87	
14'-7"	21 7/8"	598 1/4"	1	4	4	87	
14'-8"	22"	602 1/4"	1	4	4	88	
14'-9"	22 1/8"	606 1/4"	1	4	4	88	
14'-10"	22 1/4"	610 1/4"	1	4	4	89	
14'-11"	22 3/8"	614 1/4"	1	4	4	89	
15'-0"	22 1/2"	618 1/4"	1	4	4	90	
15'-1"	22 5/8"	622 1/4"	1	4	4	90	
15'-2"	22 3/4"	626 1/4"	1	4	4	91	
15'-3"	22 7/8"	630 1/4"	1	4	4	91	
15'-4"	23"	634 1/4"	1	4	4	92	
15'-5"	23 1/8"	638 1/4"	1	4	4	92	
15'-6"	23 1/4"	642 1/4"	1	4	4	93	
15'-7"	23 3/8"	646 1/4"	1	4	4	93	
15'-8"	23 1/2"	650 1/4"	1	4	4	94	
15'-9"	23 5/8"	654 1/4"	1	4	4	94	
15'-10"	23 3/4"	658 1/4"	1	4	4	95	
15'-11"	23 7/8"	662 1/4"	1	4	4	95	
16'-0"	24"	666 1/4"	1	4	4	96	
16'-1"	24 1/8"	670 1/4"	1	4	4	96	
16'-2"	24 1/4"	674 1/4"	1	4	4	97	
16'-3"	24 3/8"	678 1/4"	1	4	4	97	
16'-4"	24 1/2"	682 1/4"	1	4	4	98	
16'-5"	24 5/8"	686 1/4"	1	4	4	98	
16'-6"	24 3/4"	690 1/4"	1	4	4	99	
16'-7"	24 7/8"	694 1/4"	1	4	4	99	
16'-8"	25"	698 1/4"	1	4	4	100	
16'-9"	25 1/8"	702 1/4"	1	4	4	100	
16'-10"	25 1/4"	706 1/4"	1	4	4	101	
16'-11"	25 3/8"	710 1/4"	1	4	4	101	
17'-0"	25 1/2"	714 1/4"	1	4	4	102	
17'-1"	25 5/8"	718 1/4"	1	4	4	102	
17'-2"	25 3/4"	722 1/4"	1	4	4	103	
17'-3"	25 7/8"	726 1/4"	1</				

**SPRUNG ARCHES**  
 1.608" rise per foot of span  
 9" x 4 1/2" x 2 1/2" or 13 1/2" x 4 1/2" x 2 1/2"  
 Radius=Span: Central Angle=60°  
 Brand 4160-A to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				TOTAL
			No. 3 ARCH 9x4 1/2" x (2 1/2"-1)	No. 2 ARCH 9x4 1/2" x (2 1/2"-1 1/4")	No. 1 ARCH 9x4 1/2" x (2 1/2"-2 1/8")	STRAIGHT 9x4 1/2" x 2 1/2"	
0'-6"	1 13/16"	6"	2	3	.....	5	
0'-7"	1 15/16"	7"	1	3	.....	5	
0'-8"	1 1/4"	8"	1	5	.....	6	
0'-9"	1 1/8"	9"	1	5	.....	6	
0'-10"	1 1/32"	10"	.....	6	.....	7	
0'-11"	1 11/32"	11"	.....	6	.....	7	
1'-0"	1 9/32"	1'-0"	.....	6	.....	7	
1'-1"	1 3/4"	1'-1"	.....	6	.....	8	
1'-2"	1 7/8"	1'-2"	.....	6	.....	8	
1'-3"	2"	1'-3"	.....	5	.....	9	
1'-4"	2 1/32"	1'-4"	.....	5	.....	9	
1'-5"	2 1/8"	1'-5"	.....	4	.....	9	
1'-6"	2 1/4"	1'-6"	.....	4	.....	10	
1'-7"	2 1/2"	1'-7"	.....	3	.....	10	
1'-8"	2 1/16"	1'-8"	.....	3	.....	11	
1'-9"	2 3/16"	1'-9"	.....	2	.....	11	
1'-10"	2 1/8"	1'-10"	.....	2	.....	12	
1'-11"	2 1/4"	1'-11"	.....	1	.....	12	
2'-0"	3 1/32"	2'-0"	.....	1	.....	12	
2'-1"	3 1/8"	2'-1"	.....	1	.....	13	
2'-2"	3 1/4"	2'-2"	.....	.....	.....	13	
2'-3"	3 5/8"	2'-3"	.....	.....	.....	14	
2'-4"	3 1/2"	2'-4"	.....	.....	.....	14	
2'-5"	3 7/8"	2'-5"	.....	.....	.....	15	
2'-6"	4 1/16"	2'-6"	.....	.....	.....	15	
2'-7"	4 1/8"	2'-7"	.....	.....	.....	16	
2'-8"	4 1/4"	2'-8"	.....	.....	.....	16	
2'-9"	4 3/8"	2'-9"	.....	.....	.....	17	
2'-10"	4 1/2"	2'-10"	.....	.....	.....	17	
2'-11"	4 5/8"	2'-11"	.....	.....	.....	18	
3'-0"	5 1/32"	3'-0"	.....	.....	.....	18	
3'-1"	5 1/8"	3'-1"	.....	.....	.....	19	
3'-2"	5 1/4"	3'-2"	.....	.....	.....	19	
3'-3"	5 3/8"	3'-3"	.....	.....	.....	20	
3'-4"	5 1/2"	3'-4"	.....	.....	.....	20	
3'-5"	5 5/8"	3'-5"	.....	.....	.....	21	
3'-6"	5 3/4"	3'-6"	.....	.....	.....	21	
3'-7"	5 7/8"	3'-7"	.....	.....	.....	22	
3'-8"	6 1/32"	3'-8"	.....	.....	.....	22	
3'-9"	6 1/8"	3'-9"	.....	.....	.....	23	
3'-10"	6 3/8"	3'-10"	.....	.....	.....	23	
3'-11"	6 1/4"	3'-11"	.....	.....	.....	24	
4'-0"	6 3/16"	4'-0"	.....	.....	.....	24	
4'-1"	6 1/2"	4'-1"	.....	.....	.....	25	
4'-2"	6 5/8"	4'-2"	.....	.....	.....	25	
4'-3"	6 1/2"	4'-3"	.....	.....	.....	26	
4'-4"	6 3/4"	4'-4"	.....	.....	.....	26	
4'-5"	6 7/8"	4'-5"	.....	.....	.....	27	
4'-6"	7 1/16"	4'-6"	.....	.....	.....	27	
4'-7"	7 1/8"	4'-7"	.....	.....	.....	28	
4'-8"	7 1/4"	4'-8"	.....	.....	.....	28	
4'-9"	7 3/8"	4'-9"	.....	.....	.....	29	
4'-10"	7 1/2"	4'-10"	.....	.....	.....	29	
4'-11"	7 5/8"	4'-11"	.....	.....	.....	30	
5'-0"	8 1/32"	5'-0"	.....	.....	.....	30	
5'-1"	8 1/8"	5'-1"	.....	.....	.....	31	
5'-2"	8 1/4"	5'-2"	.....	.....	.....	31	
5'-3"	8 3/8"	5'-3"	.....	.....	.....	32	
5'-4"	8 1/2"	5'-4"	.....	.....	.....	32	
5'-5"	8 5/8"	5'-5"	.....	.....	.....	33	
5'-6"	8 3/4"	5'-6"	.....	.....	.....	33	
5'-7"	8 7/8"	5'-7"	.....	.....	.....	34	
5'-8"	9 1/16"	5'-8"	.....	.....	.....	34	
5'-9"	9 1/8"	5'-9"	.....	.....	.....	35	
5'-10"	9 1/4"	5'-10"	.....	.....	.....	35	
5'-11"	9 3/8"	5'-11"	.....	.....	.....	36	
6'-0"	9 1/2"	6'-0"	.....	.....	.....	36	
6'-1"	9 5/8"	6'-1"	.....	.....	.....	37	
6'-2"	9 3/4"	6'-2"	.....	.....	.....	37	
6'-3"	9 7/8"	6'-3"	.....	.....	.....	38	
6'-4"	10 1/16"	6'-4"	.....	.....	.....	38	
6'-5"	10 1/8"	6'-5"	.....	.....	.....	39	
6'-6"	10 1/4"	6'-6"	.....	.....	.....	39	

**SPRUNG ARCHES**  
 1.608" rise per foot of span  
 9" x 4 1/2" x 3" or 13 1/2" x 4 1/2" x 3"  
 Radius=Span: Central Angle=60°  
 Brand 4160-A to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				TOTAL
			No. 3 ARCH 9x4 1/2" x (3-2)	No. 2 ARCH 9x4 1/2" x (3-2 1/2)	No. 1 ARCH 9x4 1/2" x (3-2 3/4)	STRAIGHT 9x4 1/2" x 3	
1'-0"	1 9/32"	1'-0"	4	2	.....	6	
1'-1"	1 3/4"	1'-1"	3	3	.....	6	
1'-2"	1 7/8"	1'-2"	3	4	.....	7	
1'-3"	2"	1'-3"	3	4	.....	7	
1'-4"	2 1/32"	1'-4"	3	5	.....	7	
1'-5"	2 1/8"	1'-5"	2	6	.....	8	
1'-6"	2 1/4"	1'-6"	2	6	.....	8	
1'-7"	2 1/2"	1'-7"	2	7	.....	9	
1'-8"	2 1/16"	1'-8"	1	8	.....	9	
1'-9"	2 3/16"	1'-9"	1	8	.....	9	
1'-10"	2 1/8"	1'-10"	.....	9	.....	10	
1'-11"	2 3/32"	1'-11"	.....	9	.....	10	
2'-0"	3 1/32"	2'-0"	.....	9	.....	11	
2'-1"	3 1/8"	2'-1"	.....	9	.....	11	
2'-2"	3 1/4"	2'-2"	.....	8	.....	11	
2'-3"	3 5/8"	2'-3"	.....	8	.....	11	
2'-4"	3 1/2"	2'-4"	.....	8	.....	12	
2'-5"	3 7/8"	2'-5"	.....	7	.....	12	
2'-6"	4 1/16"	2'-6"	.....	7	.....	12	
2'-7"	4 1/8"	2'-7"	.....	7	.....	13	
2'-8"	4 1/4"	2'-8"	.....	6	.....	13	
2'-9"	4 3/8"	2'-9"	.....	6	.....	13	
2'-10"	4 1/2"	2'-10"	.....	6	.....	14	
2'-11"	4 5/8"	2'-11"	.....	5	.....	14	
3'-0"	4 9/16"	3'-0"	.....	5	.....	14	
3'-1"	4 3/4"	3'-1"	.....	5	.....	15	
3'-2"	4 3/2"	3'-2"	.....	4	.....	15	
3'-3"	4 7/8"	3'-3"	.....	4	.....	16	
3'-4"	5 1/32"	3'-4"	.....	4	.....	16	
3'-5"	5 1/8"	3'-5"	.....	3	.....	16	
3'-6"	5 1/4"	3'-6"	.....	3	.....	17	
3'-7"	5 3/8"	3'-7"	.....	3	.....	17	
3'-8"	5 1/2"	3'-8"	.....	2	.....	17	
3'-9"	5 5/8"	3'-9"	.....	2	.....	18	
3'-10"	5 3/4"	3'-10"	.....	2	.....	18	
3'-11"	5 7/8"	3'-11"	.....	1	.....	18	
4'-0"	6 1/16"	4'-0"	.....	1	.....	19	
4'-1"	6 1/8"	4'-1"	.....	.....	.....	19	
4'-2"	6 1/4"	4'-2"	.....	.....	.....	19	
4'-3"	6 3/8"	4'-3"	.....	.....	.....	20	
4'-4"	6 1/2"	4'-4"	.....	.....	.....	20	
4'-5"	6 5/8"	4'-5"	.....	.....	.....	21	
4'-6"	6 3/4"	4'-6"	.....	.....	.....	21	
4'-7"	6 7/8"	4'-7"	.....	.....	.....	22	
4'-8"	7 1/16"	4'-8"	.....	.....	.....	22	
4'-9"	7 1/8"	4'-9"	.....	.....	.....	23	
4'-10"	7 1/4"	4'-10"	.....	.....	.....	23	
4'-11"	7 3/8"	4'-11"	.....	.....	.....	24	
5'-0"	8 1/32"	5'-0"	.....	.....	.....	24	
5'-1"	8 1/8"	5'-1"	.....	.....	.....	25	
5'-2"	8 1/4"	5'-2"	.....	.....	.....	25	
5'-3"	8 3/8"	5'-3"	.....	.....	.....	26	
5'-4"	8 1/2"	5'-4"	.....	.....	.....	26	
5'-5"	8 5/8"	5'-5"	.....	.....	.....	27	
5'-6"	8 3/4"	5'-6"	.....	.....	.....	27	
5'-7"	8 7/8"	5'-7"	.....	.....	.....	28	
5'-8"	9 1/16"	5'-8"	.....	.....	.....	28	
5'-9"	9 1/8"	5'-9"	.....	.....	.....	29	
5'-10"	9 1/4"	5'-10"	.....	.....	.....	29	
5'-11"	9 3/8"	5'-11"	.....	.....	.....	30	
6'-0"	9 1/2"	6'-0"	.....	.....	.....	30	
6'-1"	9 5/8"	6'-1"	.....	.....	.....	31	
6'-2"	9 3/4"	6'-2"	.....	.....	.....	31	
6'-3"	9 7/8"	6'-3"	.....	.....	.....	32	
6'-4"	10 1/16"	6'-4"	.....	.....	.....	32	
6'-5"	10 1/8"	6'-5"	.....	.....	.....	33	
6'-6"	10 1/4"	6'-6"	.....	.....	.....	33	

**SPRUNG ARCHES**  
2" rise per foot of span  
4 1/2-INCH ARCH THICKNESS  
Central Angle = 74°

9" x 4 1/2" x 2 1/2" or 13 1/2" x 4 1/2" x 2 1/2"  
Brand 4160-C to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				STRAIGHT 9x4 1/2 x 2 1/2	TOTAL
			No. 3 ARCH 9x4 1/2 x (2 1/2-1)	No. 2 ARCH 9x4 1/2 x (2 1/2-1 1/4)	No. 1 ARCH 9x4 1/2 x (2 1/2-2 1/8)	No. 4 ARCH 9x4 1/2 x (2 1/2-2 1/8)		
0'-6"	1"	5"	3	2	...	...	5	
0'-7"	1 1/32"	5 1/32"	3	3	...	...	6	
0'-8"	1 1/16"	5 1/16"	2	4	...	...	6	
0'-9"	1 1/8"	5 1/8"	2	5	...	...	7	
0'-10"	1 1/4"	5 1/4"	1	6	...	...	7	
0'-11"	1 1/2"	5 1/2"	1	6	...	...	8	
1'-0"	2"	10"	...	8	1	...	8	
1'-1"	2 1/32"	10 1/32"	...	7	2	...	9	
1'-2"	2 1/16"	10 1/16"	...	7	2	...	9	
1'-3"	2 1/8"	10 1/8"	...	7	3	...	10	
1'-4"	2 1/4"	10 1/4"	...	6	4	...	10	
1'-5"	2 1/2"	10 1/2"	...	5	5	...	10	
1'-6"	3"	10 3/4"	...	5	6	...	11	
1'-7"	3 1/32"	10 3/32"	...	5	6	...	11	
1'-8"	3 1/16"	10 1/16"	...	5	6	...	12	
1'-9"	3 1/8"	10 1/8"	...	4	8	...	12	
1'-10"	3 1/4"	10 1/4"	...	4	8	...	13	
1'-11"	3 1/2"	10 1/2"	...	4	9	...	13	
2'-0"	4"	1'-8"	3	3	10	...	13	
2'-1"	4 1/32"	1'-8 1/32"	2	2	11	...	14	
2'-2"	4 1/16"	1'-8 1/16"	2	2	12	...	14	
2'-3"	4 1/8"	1'-8 1/8"	1	1	14	...	15	
2'-4"	4 1/4"	1'-8 1/4"	1	1	15	...	15	
2'-5"	4 1/2"	1'-8 1/2"	1	1	16	...	16	
2'-6"	5"	1'-8 3/4"	1	1	16	...	17	
2'-7"	5 1/32"	1'-8 7/32"	...	...	...	...	18	
2'-8"	5 1/16"	1'-8 7/16"	...	...	...	...	19	
2'-9"	5 1/8"	1'-8 3/8"	...	...	...	...	20	
2'-10"	5 1/4"	1'-8 1/2"	...	...	...	...	21	
2'-11"	5 1/2"	1'-8 5/8"	...	...	...	...	22	
3'-0"	6"	1'-8 3/4"	...	...	...	...	23	
3'-1"	6 1/32"	1'-8 7/32"	...	...	...	...	24	
3'-2"	6 1/16"	1'-8 7/16"	...	...	...	...	25	
3'-3"	6 1/8"	1'-8 3/8"	...	...	...	...	26	
3'-4"	6 1/4"	1'-8 1/2"	...	...	...	...	27	
3'-5"	6 1/2"	1'-8 5/8"	...	...	...	...	28	
3'-6"	7"	1'-8 3/4"	...	...	...	...	29	
3'-7"	7 1/32"	1'-8 7/32"	...	...	...	...	30	
3'-8"	7 1/16"	1'-8 7/16"	...	...	...	...	31	
3'-9"	7 1/8"	1'-8 3/8"	...	...	...	...	32	
3'-10"	7 1/4"	1'-8 1/2"	...	...	...	...	33	
3'-11"	7 1/2"	1'-8 5/8"	...	...	...	...	34	
4'-0"	8"	1'-8 3/4"	...	...	...	...	35	
4'-1"	8 1/32"	1'-8 7/32"	...	...	...	...	36	
4'-2"	8 1/16"	1'-8 7/16"	...	...	...	...	37	
4'-3"	8 1/8"	1'-8 3/8"	...	...	...	...	38	
4'-4"	8 1/4"	1'-8 1/2"	...	...	...	...	39	
4'-5"	8 1/2"	1'-8 5/8"	...	...	...	...	40	
4'-6"	9"	1'-8 3/4"	...	...	...	...	41	
4'-7"	9 1/32"	1'-8 7/32"	...	...	...	...	42	
4'-8"	9 1/16"	1'-8 7/16"	...	...	...	...	43	
4'-9"	9 1/8"	1'-8 3/8"	...	...	...	...	44	
4'-10"	9 1/4"	1'-8 1/2"	...	...	...	...	45	
4'-11"	9 1/2"	1'-8 5/8"	...	...	...	...	46	
5'-0"	10"	1'-8 3/4"	...	...	...	...	47	
5'-1"	10 1/32"	1'-8 7/32"	...	...	...	...	48	
5'-2"	10 1/16"	1'-8 7/16"	...	...	...	...	49	
5'-3"	10 1/8"	1'-8 3/8"	...	...	...	...	50	
5'-4"	10 1/4"	1'-8 1/2"	...	...	...	...	51	
5'-5"	10 1/2"	1'-8 5/8"	...	...	...	...	52	
6'-0"	11"	1'-8 3/4"	...	...	...	...	53	
6'-1"	11 1/32"	1'-8 7/32"	...	...	...	...	54	
6'-2"	11 1/16"	1'-8 7/16"	...	...	...	...	55	
6'-3"	11 1/8"	1'-8 3/8"	...	...	...	...	56	
6'-4"	11 1/4"	1'-8 1/2"	...	...	...	...	57	
6'-5"	11 1/2"	1'-8 5/8"	...	...	...	...	58	
6'-6"	12"	1'-8 3/4"	...	...	...	...	59	
6'-7"	12 1/32"	1'-8 7/32"	...	...	...	...	60	
6'-8"	12 1/16"	1'-8 7/16"	...	...	...	...	61	
6'-9"	12 1/8"	1'-8 3/8"	...	...	...	...	62	
6'-10"	12 1/4"	1'-8 1/2"	...	...	...	...	63	
6'-11"	12 1/2"	1'-8 5/8"	...	...	...	...	64	
7'-0"	13"	1'-8 3/4"	...	...	...	...	65	
7'-1"	13 1/32"	1'-8 7/32"	...	...	...	...	66	
7'-2"	13 1/16"	1'-8 7/16"	...	...	...	...	67	
7'-3"	13 1/8"	1'-8 3/8"	...	...	...	...	68	
7'-4"	13 1/4"	1'-8 1/2"	...	...	...	...	69	
7'-5"	13 1/2"	1'-8 5/8"	...	...	...	...	70	
7'-6"	14"	1'-8 3/4"	...	...	...	...	71	
7'-7"	14 1/32"	1'-8 7/32"	...	...	...	...	72	
7'-8"	14 1/16"	1'-8 7/16"	...	...	...	...	73	
7'-9"	14 1/8"	1'-8 3/8"	...	...	...	...	74	
7'-10"	14 1/4"	1'-8 1/2"	...	...	...	...	75	
7'-11"	14 1/2"	1'-8 5/8"	...	...	...	...	76	
8'-0"	15"	1'-8 3/4"	...	...	...	...	77	
8'-1"	15 1/32"	1'-8 7/32"	...	...	...	...	78	
8'-2"	15 1/16"	1'-8 7/16"	...	...	...	...	79	
8'-3"	15 1/8"	1'-8 3/8"	...	...	...	...	80	
8'-4"	15 1/4"	1'-8 1/2"	...	...	...	...	81	
8'-5"	15 1/2"	1'-8 5/8"	...	...	...	...	82	
8'-6"	16"	1'-8 3/4"	...	...	...	...	83	
8'-7"	16 1/32"	1'-8 7/32"	...	...	...	...	84	
8'-8"	16 1/16"	1'-8 7/16"	...	...	...	...	85	
8'-9"	16 1/8"	1'-8 3/8"	...	...	...	...	86	
8'-10"	16 1/4"	1'-8 1/2"	...	...	...	...	87	
8'-11"	16 1/2"	1'-8 5/8"	...	...	...	...	88	
9'-0"	17"	1'-8 3/4"	...	...	...	...	89	
9'-1"	17 1/32"	1'-8 7/32"	...	...	...	...	90	
9'-2"	17 1/16"	1'-8 7/16"	...	...	...	...	91	
9'-3"	17 1/8"	1'-8 3/8"	...	...	...	...	92	
9'-4"	17 1/4"	1'-8 1/2"	...	...	...	...	93	
9'-5"	17 1/2"	1'-8 5/8"	...	...	...	...	94	
9'-6"	18"	1'-8 3/4"	...	...	...	...	95	
9'-7"	18 1/32"	1'-8 7/32"	...	...	...	...	96	
9'-8"	18 1/16"	1'-8 7/16"	...	...	...	...	97	
9'-9"	18 1/8"	1'-8 3/8"	...	...	...	...	98	
9'-10"	18 1/4"	1'-8 1/2"	...	...	...	...	99	
9'-11"	18 1/2"	1'-8 5/8"	...	...	...	...	100	

See Page 106 For Skews

**SPRUNG ARCHES**  
2" rise per foot of span  
4 1/2-INCH ARCH THICKNESS  
Central Angle = 74°

9" x 4 1/2" x 3" or 13 1/2" x 4 1/2" x 3"  
Brand 4160-C to be used for Skews

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				STRAIGHT 9x4 1/2 x 3	TOTAL
			No. 3 ARCH 9x4 1/2 x (3-2)	No. 2 ARCH 9x4 1/2 x (3-2 1/2)	No. 1 ARCH 9x4 1/2 x (3-2 1/2)	No. 4 ARCH 9x4 1/2 x (3-2 1/2)		
1'-0"	2"	10"	6	1	...	...	7	
1'-1"	2 1/32"	10 1/32"	5	2	...	...	7	
1'-2"	2 1/16"	10 1/16"	5	3	...	...	8	
1'-3"	2 1/8"	10 1/8"	5	4	...	...	8	
1'-4"	2 1/4"	10 1/4"	4	4	...	...	8	
1'-5"	2 1/2"	10 1/2"	4	5	...	...	9	
1'-6"	3"	10 3/4"	3	6	...	...	9	
1'-7"	3 1/32"	10 3/32"	3	6	...	...	9	
1'-8"	3 1/16"	10 1/16"	2	8	...	...	10	
1'-9"	3 1/8"	10 1/8"	2	8	...	...	10	
1'-10"	3 1/4"	10 1/4"	2	8	...	...	11	
1'-11"	3 1/2"	10 1/2"	2	9	...	...	11	
2'-0"	4"	1'-8"	1	10	...	...	11	
2'-1"	4 1/32"	1'-8 1/32"	1	10	...	...	12	
2'-2"	4 1/16"	1'-8 1/16"	1	11	...	...	12	
2'-3"	4 1/8"	1'-8 1/8"	...	...	...	...	12	
2'-4"	4 1/4"	1'-8 1/4"	...	...	...	...	13	
2'-5"	4 1/2"	1'-8 1/2"	...	...	...	...	13	
2'-6"	5"	1'-8 3/4"	...	...	...	...	13	
2'-7"	5 1/32"	1'-8 7/32"	...	...	...	...	14	
2'-8"	5 1/16"	1'-8 7/16"	...	...	...	...	14	
2'-9"	5 1/8"	1'-8 3/8"	...	...	...	...	14	
2'-10"	5 1/4"	1'-8 1/2"	...	...	...	...	15	
2'-11"	5 1/2"	1'-8 5/8"	...	...	...	...	15	
3'-0"	6"	1'-8 3/4"	...	...	...	...	15	
3'-1"	6 1/32"	1'-8 7/32"	...	...	...	...	16	
3'-2"	6 1/16"	1'-8 7/16"	...	...	...	...	16	
3'-3"	6 1/8"	1'-8 3/8"	...	...	...	...	17	
3'-4"	6 1/4"	1'-8 1/2"	...	...	...	...	17	
3'-5"	6 1/2"	1'-8 5/8"	...	...	...	...	18	
3'-6"	7"	1'-8 3/4"	...	...	...	...	18	
3'-7"	7 1/32"	1'-8 7/32"	...	...	...	...	19	
3'-8"	7 1/16"	1'-8 7/16"	...	...	...	...	19	
3'-9"	7 1/8"	1'-8 3/8"	...	...	...	...	20	
3'-10"	7 1/4"	1'-8 1/2"	...	...	...	...	20	
3'-11"	7 1/2"	1'-8 5/8"	...	...	...	...	21	
4'-0"	8"	1'-8 3/4"	...	...	...	...	21	
4'-1"	8 1/32"	1'-8 7/32"	...	...	...	...	22	
4'-2"	8 1/16"	1'-8 7/16"	...	...	...	...	22	
4'-3"	8 1/8"	1'-8 3/8"	...	...	...	...	23	
4'-4"	8 1/4"	1'-8 1/2"	...	...	...	...	23	
4'-5"	8 1/2"	1'-8 5/8"	...	...	...	...	24	
4'-6"	9"	1'-8 3/4"	...	...	...	...	24	
4'-7"	9 1/32"	1'-8 7/32"	...	...	...	...	25	
4'-8"	9 1/16"	1'-8 7/16"	...	...	...	...	25	
4'-9"	9 1/8"	1'-8 3/8"	...	...	...	...	26	
4'-10"	9 1/4"	1'-8 1/2"	...	...	...	...	26	
4'-11"	9 1/2"	1'-8 5/8"	...	...	...	...	27	
5'-0"	10"	1'-8 3/4"	...	...	...	...	27	
5'-1"	10 1/32"	1'-8 7/32"	...	...	...	...	28	
5'-2"	10 1/16"	1'-8 7/16"	...	...	...	...	28	
5'-3"	10 1/8"	1'-8 3/8"	...	...	...	...	29	
5'-4"	10 1/4"	1'-8 1/2"	...	...	...	...	29	
5'-5"	10 1/2"	1'-8 5/8"	...	...	...	...	30	
6'-0"	11"	1'-8 3/4"	...	...	...	...	30	
6'-1"	11 1/32"	1'-8 7/32"	...	...	...	...	31	
6'-2"	11 1/16"	1'-8 7/16"	...	...	...	...	31	
6'-3"	11 1/8"	1'-8 3/8"	...	...	...	...	32	
6'-4"	11 1/4"	1'-8 1/2"	...	...	...	...	33	
6'-5"	11 1/2"	1'-8 5/8"	...	...	...	...	34	
6'-6"	12"	1'-8 3/4"	...	...	...	...	34	
6'-7"	12 1/32"	1'-8 7/32"	...	...	...	...	35	
6'-8"	12 1/16"	1'-8 7/16"	...	...	...	...	35	
6'-9"	12 1/8"	1'-8 3/8"	...	...	...	...	36	
6'-10"	12 1/4"	1'-8 1/2"	...	...	...	...	37	
6'-11"	12 1/2"	1'-8 5/8"	...	...	...	...	38	
7'-0"	13"	1'-8 3/4"	...	...	...	...	38	
7'-1"	13 1/32"	1'-8 7/32"	...	...	...	...	39	
7'-2"	13 1/16"	1'-8 7/16"	...	...	...	...	39	
7'-3"	13 1/8"	1'-8 3/8"	...	...	...	...	40	
7'-4"	13 1/4"	1'-8 1/2"	...	...	...	...	40	
7'-5"	13 1/2"	1'-8 5/8"	...	...	...	...	41	
7'-6"	14"	1'-8 3/4"	...	...	...	...	41	
7'-7"	14 1/32"	1'-8 7/32"	...	...	...	...	42	

**SPRUNG ARCHES**  
2.302" rise per foot of span

**4 1/2-INCH ARCH THICKNESS**  
Central Angle=84°

**SPRUNG ARCHES**  
2.302" rise per foot of span

**4 1/2-INCH ARCH THICKNESS**  
Central Angle=84°

9"x4 1/2"x2 1/2" or 13 1/2"x4 1/2"x2 1/2"  
Standard sideskews to be used for Skew

9"x4 1/2"x3" or 13 1/2"x4 1/2"x3"  
Standard sideskews to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			STRAIGHT 9x4 1/2 x 2 1/2	TOTAL
			No. 3 ARCH 9x4 1/2 x (2 1/2-1)	No. 2 ARCH 9x4 1/2 x (2 1/2-1 1/4)	No. 1 ARCH 9x4 1/2 x (2 1/2-2 1/8)		
0'-6"	1 5/32"	4 1/2"	4	2			6
0'-7"	1 11/32"	5 7/32"	3	3			6
0'-8"	1 17/32"	5 13/32"	3	4			7
0'-9"	1 23/32"	6 23/32"	2	5			7
0'-10"	1 29/32"	7 13/32"	2	6			8
0'-11"	2 1/8"	8 7/32"	2	7			9
1'-0"	2 5/16"	9 31/32"	1	8			9
1'-1"	2 11/16"	10 5/32"	1	9			10
1'-2"	2 17/16"	11 13/32"		10			10
1'-3"	2 23/16"	12 23/32"		11			11
1'-4"	2 29/16"	13 13/32"		12			12
1'-5"	2 35/16"	14 23/32"		13			13
1'-6"	2 41/16"	15 13/32"		14			14
1'-7"	2 47/16"	16 23/32"		15			15
1'-8"	2 53/16"	17 13/32"		16			16
1'-9"	2 59/16"	18 23/32"		17			17
1'-10"	3 5/16"	19 13/32"		18			18
1'-11"	3 11/16"	20 23/32"		19			19
2'-0"	4 19/32"	21 13/32"		20			20
2'-1"	4 25/32"	22 23/32"		21			21
2'-2"	4 31/32"	23 13/32"		22			22
2'-3"	4 37/32"	24 23/32"		23			23
2'-4"	4 43/32"	25 13/32"		24			24
2'-5"	4 49/32"	26 23/32"		25			25
2'-6"	4 55/32"	27 13/32"		26			26
2'-7"	5 1/16"	28 23/32"		27			27
2'-8"	5 7/16"	29 13/32"		28			28
2'-9"	5 13/16"	30 23/32"		29			29
2'-10"	5 19/16"	31 13/32"		30			30
2'-11"	5 25/16"	32 23/32"		31			31
3'-0"	6 3/16"	33 13/32"		32			32
3'-1"	6 9/16"	34 23/32"		33			33
3'-2"	6 15/16"	35 13/32"		34			34
3'-3"	6 21/16"	36 23/32"		35			35
3'-4"	6 27/16"	37 13/32"		36			36
3'-5"	6 33/16"	38 23/32"		37			37
3'-6"	6 39/16"	39 13/32"		38			38
3'-7"	6 45/16"	40 23/32"		39			39
3'-8"	6 51/16"	41 13/32"		40			40
3'-9"	6 57/16"	42 23/32"		41			41
3'-10"	7 3/16"	43 13/32"		42			42
3'-11"	7 9/16"	44 23/32"		43			43
4'-0"	7 15/16"	45 13/32"		44			44
4'-1"	7 21/16"	46 23/32"		45			45
4'-2"	7 27/16"	47 13/32"		46			46
4'-3"	7 33/16"	48 23/32"		47			47
4'-4"	7 39/16"	49 13/32"		48			48
4'-5"	7 45/16"	50 23/32"		49			49
4'-6"	7 51/16"	51 13/32"		50			50
4'-7"	7 57/16"	52 23/32"		51			51
4'-8"	8 3/16"	53 13/32"		52			52
4'-9"	8 9/16"	54 23/32"		53			53
4'-10"	8 15/16"	55 13/32"		54			54
4'-11"	8 21/16"	56 23/32"		55			55
5'-0"	8 27/16"	57 13/32"		56			56
5'-1"	8 33/16"	58 23/32"		57			57
5'-2"	8 39/16"	59 13/32"		58			58
5'-3"	8 45/16"	60 23/32"		59			59
5'-4"	8 51/16"	61 13/32"		60			60
5'-5"	8 57/16"	62 23/32"		61			61
5'-6"	9 3/16"	63 13/32"		62			62
5'-7"	9 9/16"	64 23/32"		63			63
5'-8"	9 15/16"	65 13/32"		64			64
5'-9"	9 21/16"	66 23/32"		65			65
5'-10"	9 27/16"	67 13/32"		66			66
5'-11"	9 33/16"	68 23/32"		67			67
6'-0"	9 39/16"	69 13/32"		68			68
6'-1"	9 45/16"	70 23/32"		69			69
6'-2"	9 51/16"	71 13/32"		70			70
6'-3"	9 57/16"	72 23/32"		71			71
6'-4"	10 3/16"	73 13/32"		72			72
6'-5"	10 9/16"	74 23/32"		73			73
6'-6"	10 15/16"	75 13/32"		74			74
6'-7"	10 21/16"	76 23/32"		75			75
6'-8"	10 27/16"	77 13/32"		76			76
6'-9"	10 33/16"	78 23/32"		77			77
6'-10"	10 39/16"	79 13/32"		78			78
6'-11"	10 45/16"	80 23/32"		79			79
7'-0"	10 51/16"	81 13/32"		80			80
7'-1"	10 57/16"	82 23/32"		81			81
7'-2"	11 3/16"	83 13/32"		82			82
7'-3"	11 9/16"	84 23/32"		83			83
7'-4"	11 15/16"	85 13/32"		84			84
7'-5"	11 21/16"	86 23/32"		85			85
7'-6"	11 27/16"	87 13/32"		86			86
7'-7"	11 33/16"	88 23/32"		87			87
7'-8"	11 39/16"	89 13/32"		88			88
7'-9"	11 45/16"	90 23/32"		89			89
7'-10"	11 51/16"	91 13/32"		90			90
7'-11"	11 57/16"	92 23/32"		91			91
8'-0"	12 3/16"	93 13/32"		92			92
8'-1"	12 9/16"	94 23/32"		93			93
8'-2"	12 15/16"	95 13/32"		94			94
8'-3"	12 21/16"	96 23/32"		95			95
8'-4"	12 27/16"	97 13/32"		96			96
8'-5"	12 33/16"	98 23/32"		97			97
8'-6"	12 39/16"	99 13/32"		98			98
8'-7"	12 45/16"	100 23/32"		99			99
8'-8"	12 51/16"	101 13/32"		100			100
8'-9"	12 57/16"	102 23/32"		101			101
8'-10"	13 3/16"	103 13/32"		102			102
8'-11"	13 9/16"	104 23/32"		103			103
9'-0"	13 15/16"	105 13/32"		104			104
9'-1"	13 21/16"	106 23/32"		105			105
9'-2"	13 27/16"	107 13/32"		106			106
9'-3"	13 33/16"	108 23/32"		107			107
9'-4"	13 39/16"	109 13/32"		108			108
9'-5"	13 45/16"	110 23/32"		109			109
9'-6"	13 51/16"	111 13/32"		110			110
9'-7"	13 57/16"	112 23/32"		111			111
9'-8"	14 3/16"	113 13/32"		112			112
9'-9"	14 9/16"	114 23/32"		113			113
9'-10"	14 15/16"	115 13/32"		114			114
9'-11"	14 21/16"	116 23/32"		115			115
10'-0"	14 27/16"	117 13/32"		116			116
10'-1"	14 33/16"	118 23/32"		117			117
10'-2"	14 39/16"	119 13/32"		118			118
10'-3"	14 45/16"	120 23/32"		119			119
10'-4"	14 51/16"	121 13/32"		120			120
10'-5"	14 57/16"	122 23/32"		121			121
10'-6"	15 3/16"	123 13/32"		122			122
10'-7"	15 9/16"	124 23/32"		123			123
10'-8"	15 15/16"	125 13/32"		124			124
10'-9"	15 21/16"	126 23/32"		125			125
10'-10"	15 27/16"	127 13/32"		126			126
10'-11"	15 33/16"	128 23/32"		127			127
11'-0"	15 39/16"	129 13/32"		128			128
11'-1"	15 45/16"	130 23/32"		129			129
11'-2"	15 51/16"	131 13/32"		130			130
11'-3"	15 57/16"	132 23/32"		131			131
11'-4"	16 3/16"	133 13/32"		132			132
11'-5"	16 9/16"	134 23/32"		133			133
11'-6"	16 15/16"	135 13/32"		134			134
11'-7"	16 21/16"	136 23/32"		135			135
11'-8"	16 27/16"	137 13/32"		136			136
11'-9"	16 33/16"	138 23/32"		137			137
11'-10"	16 39/16"	139 13/32"		138			138
11'-11"	16 45/16"	140 23/32"		139			139
12'-0"	16 51/16"	141 13/32"		140			140
12'-1"	16 57/16"	142 23/32"		141			141
12'-2"	17 3/16"	143 13/32"		142			142
12'-3"	17 9/16"	144 23/32"		143			143
12'-4"	17 15/16"	145 13/32"		144			144
12'-5"	17 21/16"	146 23/32"		145			145
12'-6"	17 27/16"	147 13/32"		146			146
12'-7"	17 33/16"	148 23/32"		147			147
12'-8"	17 39/16"	149 13/32"		148			148
12'-9"	17 45/16"	150 23/32"		149			149
12'-10"	17 51/16"	151 13/32"		150			150
12'-11"	17 57/16"	152 23/32"		151			151
13'-0"	18 3/16"	153 13/32"		152			152
13'-1"	18 9/16"	154 23/32"		153			153
13'-2"	18 15/16"	155 13/32"		154			154
13'-3"	18 21/16"	156 23/32"		155			155
13'-4"	18 27/16"	157 13/32"		156			156
13'-5"	18 33/16"	158 23/32"		157			157
13'-6"	18 39/16"	159 13/32"		158			158
13'-7"	18 45/16"	160 23/32"		159			159
13'-8"	18 51/16"	161 13/32"		160			160
13'-9"	18 57/16"	162 23/32"		161			161
13'-10"	19 3/16"	163 13/32"		162			162
13'-11"	19 9/16"	164 23/32"		163			163
14'-0"	19 15/16"	165 13/32"		164			164
14'-1"	19 21/16"	166 23/32"		165			165
14'-2"	19 27/16"	167 13/32"		166			166
14'-3"	19 33/16"	168 23/32"		167			167
14'-4"	19 39/16"	169 13/32"		168			168
14'-5"	19 45/16"	170 23/32"		169			169
14'-6"	19 51/16"	171 13/32"		170			170
14'-7"	19 57/16"	172 23/32"		171			171
14'-8"	20 3/16"	173 13/32"		172			172
14'-9"	20 9/16"	174 23/32"		173			173
14'-10"	20 15/16"	175 13/32"		174			174
14'-11"	20 21/16"	176 23/32"		175			175
15'-0"	20 27/16"	177 13/32"		176			176
15'-1"	20 33/16"	178 23/32"		177			177
15'-2"	20 39/16"	179 13/32"		178			178
15'-3"	20 45/16"	180 2					

**SPRUNG ARCHES**  
**1 1/2" rise per foot of span**  
 9"x6"x3", 12"x6"x3" or 13 1/2"x6"x3"  
 Brand 4160-E to be used for Skews

**SPRUNG ARCHES**  
**1.608" rise per foot of span**  
 9"x6"x3", 12"x6"x3" or 13 1/2"x6"x3"  
 3 inch 60° sideskews to be used for Skews

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				STRAIGHT 9x6x3	TOTAL
			No. 3 ARCH 9x6x (3-2)	No. 2 ARCH 9x6x (3-2 1/2)	No. 1 ARCH 9x6x (3-2 3/4)			
1'-0"	1 1/2"	1'-0 3/4"	6	1			7	
1'-2"	1 3/4"	1'-2 3/8"	5	2			7	
1'-4"	2"	1'-4 1/2"	4	4			8	
1'-6"	2 1/4"	1'-6 3/4"	4	5			9	
1'-8"	2 1/2"	1'-8 1/2"	3	6			9	
1'-10"	2 3/4"	1'-10 3/4"	2	8			10	
2'-0"	3"	2'-0 1/2"	2	9			11	
2'-2"	3 1/4"	2'-2 3/8"	1	10			11	
2'-4"	3 1/2"	2'-4 1/2"		11			12	
2'-6"	3 3/4"	2'-6 3/4"		11	2		13	
2'-8"	4"	2'-8 1/2"		10	3		13	
2'-10"	4 1/4"	2'-10 3/4"		10	4		14	
3'-0"	4 1/2"	3'-0 1/4"		9	6		15	
3'-2"	4 3/4"	3'-2 3/8"		9	7		16	
3'-4"	5"	3'-4 1/2"		8	8		16	
3'-6"	5 1/4"	3'-6 3/4"		7	10		17	
3'-8"	5 1/2"	3'-8 1/2"		7	11		18	
3'-10"	5 3/4"	3'-10 3/4"		6	13		18	
4'-0"	6"	4'-0 1/2"		5	14		19	
4'-2"	6 1/4"	4'-2 3/8"		5	15		20	
4'-4"	6 1/2"	4'-4 1/2"		4	16		20	
4'-6"	6 3/4"	4'-6 3/4"		3	18		21	
4'-8"	7"	4'-8 1/2"		2	20		22	
4'-10"	7 1/4"	4'-10 3/4"		1	21		22	
5'-0"	7 1/2"	5'-0 1/4"		1	22		23	
5'-2"	8"	5'-2 1/2"			24		24	
5'-4"	8 1/4"	5'-4 3/4"			24	1	25	
5'-6"	8 1/2"	5'-6 1/2"			24	1	25	
5'-8"	8 3/4"	5'-8 3/4"			24	2	26	
5'-10"	9"	5'-10 1/2"			24	3	27	
6'-0"	9 1/4"	6'-0 1/4"			24	3	27	
6'-2"	9 1/2"	6'-2 1/8"			24	4	28	
6'-4"	9 3/4"	6'-4 1/2"			24	5	29	
6'-6"	9 1/2"	6'-6 3/4"			24	5	29	
6'-8"	10"	6'-8 1/2"			24	6	30	
6'-10"	10 1/4"	6'-10 3/4"			24	7	31	
7'-0"	10 1/2"	7'-0 1/4"			24	8	32	
7'-2"	10 3/4"	7'-2 3/8"			24	8	32	
7'-4"	11"	7'-4 1/2"			24	9	33	
7'-6"	11 1/4"	7'-6 3/4"			24	10	34	
7'-8"	11 1/2"	7'-8 1/2"			24	10	34	
7'-10"	11 3/4"	7'-10 3/4"			24	11	35	
8'-0"	12"	8'-0 1/2"			24	12	36	

See Page 106 For Skews

**SPRUNG ARCHES**  
**1.608" rise per foot of span**  
 9"x6"x3", 12"x6"x3" or 13 1/2"x6"x3"  
 3 inch 60° sideskews to be used for Skews

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				STRAIGHT 9x6x3	TOTAL
			No. 3 ARCH 9x6x (3-2)	No. 2 ARCH 9x6x (3-2 1/2)	No. 1 ARCH 9x6x (3-2 3/4)			
1'-0"	1 1/2"	1'-0 3/4"	7				7	
1'-2"	1 3/4"	1'-2 3/8"	6	1			7	
1'-4"	2"	1'-4 1/2"	5	3			8	
1'-6"	2 1/4"	1'-6 3/4"	4	5			9	
1'-8"	2 1/2"	1'-8 1/2"	3	6			9	
1'-10"	2 3/4"	1'-10 3/4"	3	7			10	
2'-0"	3"	2'-0 1/2"	2	9			11	
2'-2"	3 1/4"	2'-2 3/8"	2	10			12	
2'-4"	3 1/2"	2'-4 1/2"	1	11			12	
2'-6"	3 3/4"	2'-6 3/4"		13			13	
2'-8"	4"	2'-8 1/2"		12	2		14	
2'-10"	4 1/4"	2'-10 3/4"		11	3		14	
3'-0"	4 1/2"	3'-0 1/4"		11	4		15	
3'-2"	4 3/4"	3'-2 3/8"		10	6		16	
3'-4"	5"	3'-4 1/2"		9	7		16	
3'-6"	5 1/4"	3'-6 3/4"		8	9		17	
3'-8"	5 1/2"	3'-8 1/2"		8	10		18	
3'-10"	5 3/4"	3'-10 3/4"		7	11		18	
4'-0"	6"	4'-0 1/2"		6	13		19	
4'-2"	6 1/4"	4'-2 3/8"		5	14		20	
4'-4"	6 1/2"	4'-4 1/2"		5	16		21	
4'-6"	6 3/4"	4'-6 3/4"		4	17		21	
4'-8"	7"	4'-8 1/2"		4	18		22	
4'-10"	7 1/4"	4'-10 3/4"		3	20		23	
5'-0"	7 1/2"	5'-0 1/4"		2	21		23	
5'-2"	8"	5'-2 1/2"		2	22		24	
5'-4"	8 1/4"	5'-4 3/4"		1	24		25	
5'-6"	8 1/2"	5'-6 1/2"			24		25	
5'-8"	8 3/4"	5'-8 3/4"			24	1	26	
5'-10"	9"	5'-10 1/2"			24	2	27	
6'-0"	9 1/4"	6'-0 1/4"			24	3	28	
6'-2"	9 1/2"	6'-2 1/8"			24	3	28	
6'-4"	9 3/4"	6'-4 1/2"			24	4	29	
6'-6"	9 1/2"	6'-6 3/4"			24	4	29	
6'-8"	10"	6'-8 1/2"			24	5	30	
6'-10"	10 1/4"	6'-10 3/4"			24	5	30	
7'-0"	10 1/2"	7'-0 1/4"			24	6	31	
7'-2"	10 3/4"	7'-2 3/8"			24	6	31	
7'-4"	11"	7'-4 1/2"			24	7	32	
7'-6"	11 1/4"	7'-6 3/4"			24	7	32	
7'-8"	11 1/2"	7'-8 1/2"			24	8	33	
7'-10"	11 3/4"	7'-10 3/4"			24	8	33	
8'-0"	12"	8'-0 1/2"			24	9	34	
					24	10	34	
					24	10	35	
					24	10	35	
					24	11	35	
					24	11	36	

See Page 106 For Skews

**SPRUNG ARCHES**  
2" rise per foot of span  
9"x6"x3", 12"x6"x3" or 13 1/2"x6"x3"  
Brand 4160-F to be used for Skew

**SPRUNG ARCHES**  
2.302" rise per foot of span  
9"x6"x3", 12"x6"x3" or 13 1/2"x6"x3"  
3 inch 48° sideskews to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				STRAIGHT 9x6x3	TOTAL
			No. 3 ARCH 9x6x (3-2)	No. 2 ARCH 9x6x (3-2 1/2)	No. 1 ARCH 9x6x (3-2 1/4)			
1'-4"	2 1/2"	1'-1 1/2"	8	1			9	
1'-6"	3"	1'-3"	6	3			9	
1'-8"	3 1/2"	1'-4 1/2"	6	4			10	
1'-10"	3 3/4"	1'-6 1/2"	5	6			11	
2'-0"	4"	1'-8"	4	7			11	
2'-2"	4 1/4"	1'-9 1/2"	4	8			12	
2'-4"	4 1/2"	1'-11 1/2"	3	10			13	
2'-6"	5"	2'-1"	2	12			14	
2'-8"	5 1/4"	2'-2 1/2"	1	13			14	
2'-10"	5 1/2"	2'-4 1/2"	1	14			15	
3'-0"	6"	2'-6"		16			16	
3'-2"	6 1/4"	2'-7 1/2"		15	1		16	
3'-4"	6 1/2"	2'-9 1/2"		14	3		17	
3'-6"	7"	2'-11"		13	5		18	
3'-8"	7 1/4"	3'-0 1/2"		13	6		19	
3'-10"	7 1/2"	3'-2 1/2"		12	7		19	
4'-0"	8"	3'-4"		11	9		20	
4'-2"	8 1/4"	3'-5 1/2"		11	10		21	
4'-4"	8 1/2"	3'-7 1/2"		10	11		21	
4'-6"	9"	3'-9"		9	13		22	
4'-8"	9 1/4"	3'-10 1/2"		8	15		23	
4'-10"	9 1/2"	4'-0 1/2"		8	16		24	
5'-0"	10"	4'-2"		7	17		24	
5'-2"	10 1/4"	4'-3 1/2"		6	19		25	
5'-4"	10 1/2"	4'-5 1/2"		6	20		26	
5'-6"	11"	4'-7"		5	21		26	
5'-8"	11 1/4"	4'-8 1/2"		4	23		27	
5'-10"	11 1/2"	4'-10 1/2"		3	25		28	
6'-0"	12"	5'-0"		3	26		29	
6'-2"	12 1/4"	5'-1 1/2"		2	27		29	
6'-4"	12 1/2"	5'-3 1/2"		1	29		30	
6'-6"	13"	5'-5"		1	30		31	
6'-8"	13 1/4"	5'-6 1/2"			31		32	
7'-0"	14"	5'-8"			31		33	
7'-2"	14 1/4"	5'-9 1/2"			31		34	
7'-4"	14 1/2"	5'-11 1/2"			31		35	
7'-6"	15"	6'-0"			31		35	
7'-8"	15 1/4"	6'-1 1/2"			31		36	
7'-10"	15 1/2"	6'-3 1/2"			31		37	
8'-0"	16"	6'-5"			31		37	

See Page 106 For Skews

See Page 106 For Skews



**SPRUNG ARCHES**  
1 1/2" rise per foot of span

**9-INCH ARCH THICKNESS**  
Central Angle=56°

**9-INCH ARCH THICKNESS**  
Central Angle=56°

9" x 4 1/2" x 2 1/2", 9" x 6 3/4" x 2 1/2" or 9" x 9" x 2 1/2"  
Standard 9 inch Featheredge to be used for Skew

9" x 4 1/2" x 2 1/2", 9" x 6 3/4" x 2 1/2" or 9" x 9" x 2 1/2"  
Standard 9 inch Featheredge to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				TOTAL
			No. 2 WEDGE 9x4 1/2 x (2 1/2-1 1/2)	No. 1 WEDGE 9x4 1/2 x (2 1/2-1 1/2)	No. I-X WEDGE 9x4 1/2 x (2 1/2-2 1/4)	STRAIGHTS 9x4 1/2 x 2 1/2	
1'-6"	2 1/4"	1'-7 1/8"	5	6			11
1'-7"	2 3/8"	1'-8 1/16"	5	7			12
1'-8"	2 1/2"	1'-9 1/4"	4	8			12
1'-9"	2 3/8"	1'-10 1/8"	3	10			13
1'-10"	2 3/4"	1'-11 3/8"	2	11			13
1'-11"	2 7/8"	2'-0 7/16"	2	12			14
2'-0"	3"	2'-1 1/2"	1	13			14
2'-1"	3 1/8"	2'-2 1/16"		14			14
2'-2"	3 1/4"	2'-3 3/8"		14	1		15
2'-3"	3 3/8"	2'-4 1/16"		14	1		15
2'-4"	3 1/2"	2'-5 1/4"		14	2		16
2'-5"	3 5/8"	2'-6 3/16"		13	3		16
2'-6"	3 3/4"	2'-7 7/8"		13	3		17
2'-7"	3 7/8"	2'-8 5/16"		12	4		17
2'-8"	4"	2'-10"		12	5		17
2'-9"	4 1/8"	2'-11 1/16"		12	6		18
2'-10"	4 1/4"	3'-0 1/2"		12	6		18
2'-11"	4 3/8"	3'-1 1/16"		12	7		19
3'-0"	4 1/2"	3'-2 1/4"		11	8		19
3'-1"	4 5/8"	3'-3 5/16"		11	8		19
3'-2"	4 3/4"	3'-4 3/8"		11	9		20
3'-3"	4 7/8"	3'-5 1/16"		10	10		20
3'-4"	5"	3'-6 1/2"		10	11		21
3'-5"	5 1/8"	3'-7 1/16"		10	11		21
3'-6"	5 1/4"	3'-8 3/8"		10	11		21
3'-7"	5 3/8"	3'-9 1/16"		10	12		22
3'-8"	5 1/2"	3'-10 3/4"		9	13		22
3'-9"	5 5/8"	3'-11 5/16"		9	14		23
3'-10"	5 3/4"	4'-0 7/8"		9	14		23
3'-11"	5 7/8"	4'-1 15/16"		9	15		24
4'-0"	6"	4'-3"		8	16		24
4'-1"	6 1/8"	4'-4 1/16"		8	16		24
4'-2"	6 1/4"	4'-5 3/8"		8	17		25
4'-3"	6 3/8"	4'-6 1/16"		7	18		25
4'-4"	6 1/2"	4'-7 1/4"		7	19		26
4'-5"	6 5/8"	4'-8 1/16"		7	19		26
4'-6"	6 3/4"	4'-9 3/8"		6	20		26
4'-7"	6 7/8"	4'-10 1/16"		6	21		27
4'-8"	7"	4'-11 1/2"		6	21		27
4'-9"	7 1/8"	5'-0 1/16"		6	22		28
4'-10"	7 1/4"	5'-1 5/8"		5	23		28
4'-11"	7 3/8"	5'-2 1/16"		5	23		28
5'-0"	7 1/2"	5'-3 3/4"		5	24		29
5'-1"	7 5/8"	5'-4 13/16"		4	25		29
5'-2"	7 3/4"	5'-5 5/8"		4	26		30

**SPRUNG ARCHES**  
1 1/2" rise per foot of span

**9-INCH ARCH THICKNESS**  
Central Angle=56°

**9-INCH ARCH THICKNESS**  
Central Angle=56°

9" x 4 1/2" x 2 1/2", 9" x 6 3/4" x 2 1/2" or 9" x 9" x 2 1/2"  
Standard 9 inch Featheredge to be used for Skew

9" x 4 1/2" x 2 1/2", 9" x 6 3/4" x 2 1/2" or 9" x 9" x 2 1/2"  
Standard 9 inch Featheredge to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				TOTAL
			No. 2 WEDGE 9x4 1/2 x (2 1/2-1 1/2)	No. 1 WEDGE 9x4 1/2 x (2 1/2-1 1/2)	No. I-X WEDGE 9x4 1/2 x (2 1/2-2 1/4)	STRAIGHTS 9x4 1/2 x 2 1/2	
5'-3"	7 1/8"	5'-6 15/16"					30
5'-4"	8"	5'-8"					31
5'-5"	8 1/8"	5'-9 1/16"					31
5'-6"	8 1/4"	5'-10 1/8"					31
5'-7"	8 3/8"	5'-11 3/8"					32
5'-8"	8 1/2"	6'-0 1/4"					32
5'-9"	8 5/8"	6'-1 5/8"					33
5'-10"	8 3/4"	6'-2 3/4"					33
5'-11"	8 7/8"	6'-3 7/8"					33
6'-0"	9"	6'-4 1/2"					34
6'-1"	9 1/8"	6'-5 9/16"					34
6'-2"	9 1/4"	6'-6 3/4"					34
6'-3"	9 3/8"	6'-7 15/16"					35
6'-4"	9 1/2"	6'-8 3/4"					36
6'-5"	9 5/8"	6'-9 13/16"					36
6'-6"	9 3/4"	6'-10 3/4"					36
6'-7"	10 1/8"	7'-2 1/16"					38
7'-0"	10 1/2"	7'-5 1/4"					39
7'-3"	10 7/8"	7'-8 7/16"					40
7'-6"	11 1/4"	7'-11 5/8"					41
7'-9"	11 3/8"	8'-2 3/16"					43
8'-0"	11 1/2"	8'-6"					44
8'-3"	11 5/8"	8'-9 1/16"					45
8'-6"	12"	8'-12 1/2"					46
8'-9"	12 1/8"	9'-3 1/16"					48
9'-0"	12 1/4"	9'-6 3/4"					49
9'-3"	12 3/8"	9'-9 15/16"					50
9'-6"	12 1/2"	10'-1 1/8"					51
9'-9"	12 5/8"	10'-4 1/16"					53
10'-0"	13"	10'-7 1/2"					54
10'-3"	13 1/8"	10'-10 1/16"					55
10'-6"	13 1/4"	11'-1 1/8"					56
10'-9"	13 3/8"	11'-4 1/16"					58
11'-0"	13 1/2"	11'-7 1/4"					59
11'-3"	13 5/8"	11'-10 1/16"					60
11'-6"	14"	12'-2 1/8"					61
11'-9"	14 1/8"	12'-5 1/16"					63
12'-0"	14 1/4"	12'-8 3/8"					64
12'-3"	14 3/8"	13'-1 1/16"					65
12'-6"	14 1/2"	13'-4 1/8"					66
12'-9"	14 5/8"	13'-7 1/16"					68
13'-0"	15"	13'-10 3/4"					69
13'-3"	15 1/8"	14'-1 1/16"					70
13'-6"	15 1/4"	14'-4 1/8"					71
13'-9"	15 3/8"	14'-7 1/16"					73
14'-0"	15 1/2"	14'-11 1/2"					74

**SPRUNG ARCHES**  
 1 1/2" rise per foot of span  
 9-INCH ARCH THICKNESS  
 Central Angle=56°

Standard 9 inch Featheredge to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				STRAIGHTS 9x4 1/2 x3	TOTAL
			No. 3 WEDGE 9x4 1/2 x (3-2)	No. 2 WEDGE 9x4 1/2 x (3-2 1/2)	No. 1 WEDGE 9x4 1/2 x (3-2 3/4)	No. 1 WEDGE 9x4 1/2 x (3-2 3/4)		
1'-6"	2 1/2"	1'-7 1/8"	9	1			10	
1'-7"	2 3/8"	1'-8 1/16"	8	2			10	
1'-8"	2 1/2"	1'-9 1/4"	8	2			10	
1'-9"	2 5/8"	1'-10 1/8"	8	3			11	
1'-10"	2 3/4"	1'-11 1/8"	7	4			11	
1'-11"	2 7/8"	2'-0"	7	5			12	
2'-0"	3"	2'-1 1/2"	6	6			12	
2'-1"	3 1/8"	2'-2 1/16"	6	6			12	
2'-2"	3 1/4"	2'-3 3/8"	6	7			13	
2'-3"	3 3/8"	2'-4 1/16"	5	8			13	
2'-4"	3 1/2"	2'-5 1/8"	5	8			13	
2'-5"	3 5/8"	2'-6 3/16"	5	9			14	
2'-6"	3 3/4"	2'-7 7/8"	4	10			14	
2'-7"	3 7/8"	2'-8 15/16"	4	10			14	
2'-8"	4"	2'-10"	4	11			15	
2'-9"	4 1/8"	2'-11 1/16"	4	11			15	
2'-10"	4 1/4"	3'-0 1/2"	3	12			15	
2'-11"	4 3/8"	3'-1 1/16"	3	12			15	
3'-0"	4 1/2"	3'-2 1/4"	2	14			16	
3'-1"	4 5/8"	3'-3 5/16"	2	14			16	
3'-2"	4 3/4"	3'-4 3/8"	2	15			17	
3'-3"	4 7/8"	3'-5 7/16"	1	16			17	
3'-4"	5"	3'-6 1/2"	1	16			17	
3'-5"	5 1/8"	3'-7 9/16"	1	17			18	
3'-6"	5 1/4"	3'-8 5/8"		18			18	
3'-7"	5 3/8"	3'-9 1/16"		18			18	
3'-8"	5 1/2"	3'-10 3/8"		17	2		19	
3'-9"	5 5/8"	3'-11 13/16"		17	2		19	
3'-10"	5 3/4"	4'-0 1/8"		16	3		19	
3'-11"	5 7/8"	4'-1 15/16"		16	4		20	
4'-0"	6"	4'-3"		16	4		20	
4'-1"	6 1/8"	4'-4 1/16"		15	5		20	
4'-2"	6 1/4"	4'-5 1/8"		15	6		21	
4'-3"	6 3/8"	4'-6 1/16"		15	6		21	
4'-4"	6 1/2"	4'-7 1/4"		14	7		21	
4'-5"	6 5/8"	4'-8 1/8"		14	8		22	
4'-6"	6 3/4"	4'-9 1/16"		14	8		22	
4'-7"	6 7/8"	4'-10 3/8"		13	9		22	
4'-8"	7"	4'-11 1/2"		13	10		23	
4'-9"	7 1/8"	5'-0 1/16"		13	10		23	
4'-10"	7 1/4"	5'-1 1/8"		12	11		23	
4'-11"	7 3/8"	5'-2 1/16"		12	12		24	
5'-0"	7 1/2"	5'-3 3/4"		12	12		24	
5'-1"	7 5/8"	5'-4 7/16"		11	13		24	
5'-2"	7 3/4"	5'-5 5/8"		11	14		25	

**SPRUNG ARCHES**  
 1 1/2" rise per foot of span  
 9-INCH ARCH THICKNESS  
 Central Angle=56°

Standard 9 inch Featheredge to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				STRAIGHTS 9x4 1/2 x3	TOTAL
			No. 3 WEDGE 9x4 1/2 x (3-2)	No. 2 WEDGE 9x4 1/2 x (3-2 1/2)	No. 1 WEDGE 9x4 1/2 x (3-2 3/4)	No. 1 WEDGE 9x4 1/2 x (3-2 3/4)		
5'-3"	7 1/8"	5'-6 15/16"					25	
5'-4"	8"	5'-8"					25	
5'-5"	8 1/8"	5'-9 1/16"					26	
5'-6"	8 3/8"	5'-10 3/8"					26	
5'-7"	8 5/8"	5'-11 1/2"					27	
5'-8"	8 3/4"	6'-0 1/4"					27	
5'-9"	8 7/8"	6'-1 1/2"					27	
5'-10"	8 5/4"	6'-2 3/8"					28	
5'-11"	8 3/2"	6'-3 1/2"					28	
6'-0"	9"	6'-4 1/2"					28	
6'-1"	9 1/8"	6'-5 5/16"					29	
6'-2"	9 1/4"	6'-6 3/4"					29	
6'-3"	9 3/8"	6'-7 1/2"					29	
6'-4"	9 1/2"	6'-8 1/4"					30	
6'-5"	9 3/4"	6'-9 3/8"					30	
6'-6"	9 5/8"	6'-10 5/8"					30	
6'-7"	9 3/2"	6'-11 13/16"					31	
6'-8"	10"	7'-0"					31	
6'-9"	10 1/8"	7'-1 1/8"					31	
6'-10"	10 1/4"	7'-2 1/4"					32	
6'-11"	10 3/8"	7'-3 1/2"					32	
7'-0"	10 1/2"	7'-4 1/2"					32	
7'-1"	10 3/4"	7'-5 3/4"					33	
7'-2"	10 5/8"	7'-6 5/8"					33	
7'-3"	10 3/2"	7'-7 3/4"					33	
7'-4"	11"	7'-8 1/2"					33	
7'-5"	11 1/8"	7'-9 1/2"					34	
7'-6"	11 1/4"	7'-10 1/4"					34	
7'-7"	11 1/2"	7'-11 1/2"					34	
7'-8"	11 3/8"	8'-0 1/16"					35	
7'-9"	11 1/2"	8'-1 1/4"					35	
7'-10"	11 3/4"	8'-2 3/8"					35	
7'-11"	11 5/8"	8'-3 1/2"					36	
8'-0"	12"	8'-4 1/2"					36	
8'-1"	12 1/8"	8'-5 5/8"					36	
8'-2"	12 1/4"	8'-6 3/4"					37	
8'-3"	12 3/8"	8'-7 5/8"					37	
8'-4"	12 1/2"	8'-8 3/4"					39	
8'-5"	12 3/4"	8'-9 5/8"					39	
8'-6"	13"	8'-10 3/4"					41	
8'-7"	13 1/8"	8'-11 1/2"					41	
8'-8"	13 1/4"	9'-0"					43	
8'-9"	13 3/8"	9'-1 1/8"					43	
8'-10"	13 1/2"	9'-2 1/4"					45	
8'-11"	13 3/4"	9'-3 1/2"					45	
9'-0"	14"	9'-4 1/2"					47	
9'-1"	14 1/8"	9'-5 3/4"					47	
9'-2"	14 1/4"	9'-6 5/8"					49	
9'-3"	14 3/8"	9'-7 3/4"					49	
9'-4"	14 1/2"	9'-8 1/2"					51	
9'-5"	14 3/4"	9'-9 1/2"					51	
9'-6"	15"	9'-10 3/4"					53	
9'-7"	15 1/8"	9'-11 1/2"					53	
9'-8"	15 1/4"	10'-0"					55	
9'-9"	15 3/8"	10'-1 1/8"					55	
9'-10"	15 1/2"	10'-2 1/4"					57	
9'-11"	15 3/4"	10'-3 1/2"					57	
10'-0"	16"	10'-4 1/2"					60	
10'-1"	16 1/8"	10'-5 3/4"					60	
10'-2"	16 1/4"	10'-6 5/8"					62	

**SPRUNG ARCHES**  
**1.608" rise per foot of span**  
**9" x 4 1/2" x 2 1/2", 9" x 6 3/4" x 2 1/2" or 9" x 9" x 2 1/2"**  
**Central Angle=60°**  
**Brand 4160-B to be used for Skew**

**SPRUNG ARCHES**  
**1.608" rise per foot of span**  
**9" x 4 1/2" x 2 1/2", 9" x 6 3/4" x 2 1/2" or 9" x 9" x 2 1/2"**  
**Central Angle=60°**  
**Brand 4160-B to be used for Skew**

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			STRAIGHTS 9x4 1/2 x 2 1/2	TOTAL
			No. 2 WEDGE 9x4 1/2 x (2 1/2-1 1/2)	No. 1 WEDGE No. 9x4 1/2 x (2 1/2-1 1/2)	No. 1-X WEDGE 9x4 1/2 x (2 1/2-2 1/4)		
5'-4"	8 1/16"	5'-4"		5		26	31
5'-5"	8 3/32"	5'-5"		4		27	31
5'-6"	8 7/32"	5'-6"		4		28	32
5'-7"	8 1/4"	5'-7"		4		28	32
5'-8"	9 1/8"	5'-8"		4		29	33
5'-9"	9 1/4"	5'-9"		3		30	33
5'-10"	9 3/8"	5'-10"		3		30	33
5'-11"	9 1/2"	5'-11"		3		31	34
6'-0"	9 5/16"	6'-0"		3		31	34
6'-1"	9 5/32"	6'-1"		3		32	35
6'-2"	9 9/32"	6'-2"		2		33	35
6'-3"	10 1/16"	6'-3"		2		34	36
6'-4"	10 1/8"	6'-4"		2		34	36
6'-5"	10 1/4"	6'-5"		1		35	36
6'-6"	10 3/8"	6'-6"		1		36	37
6'-7"	10 3/16"	6'-7"		1		36	37
6'-8"	10 7/16"	6'-8"		1		37	38
6'-9"	10 7/8"	6'-9"		1		37	38
7'-0"	11 1/4"	7'-0"				38	39
7'-3"	11 1/2"	7'-3"				38	41
7'-6"	11 5/8"	7'-6"				38	42
7'-9"	11 3/4"	7'-9"				38	43
8'-0"	11 7/8"	8'-0"				38	44
8'-3"	12 1/8"	8'-3"				38	46
8'-6"	12 1/4"	8'-6"				38	47
8'-9"	12 3/8"	8'-9"				38	48
9'-0"	12 3/4"	9'-0"				38	49
9'-3"	12 7/8"	9'-3"				38	51
9'-6"	13 1/8"	9'-6"				38	52
9'-9"	13 1/4"	9'-9"				38	53
10'-0"	13 3/8"	10'-0"				38	54
10'-3"	13 3/4"	10'-3"				38	56
10'-6"	13 7/8"	10'-6"				38	57
10'-9"	14 1/8"	10'-9"				38	58
11'-0"	14 1/4"	11'-0"				38	59
11'-3"	14 3/8"	11'-3"				38	61
11'-6"	14 3/4"	11'-6"				38	62
11'-9"	14 7/8"	11'-9"				38	63
12'-0"	15 1/8"	12'-0"				38	64
12'-3"	15 1/4"	12'-3"				38	66
12'-6"	15 3/8"	12'-6"				38	67
12'-9"	15 3/4"	12'-9"				38	68
13'-0"	15 7/8"	13'-0"				38	69
13'-3"	16 1/8"	13'-3"				38	71
13'-6"	16 1/4"	13'-6"				38	72
13'-9"	16 3/8"	13'-9"				38	73
14'-0"	16 3/4"	14'-0"				38	74

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			STRAIGHTS 9x4 1/2 x 2 1/2	TOTAL
			No. 2 WEDGE 9x4 1/2 x (2 1/2-1 1/2)	No. 1 WEDGE No. 9x4 1/2 x (2 1/2-1 1/2)	No. 1-X WEDGE 9x4 1/2 x (2 1/2-2 1/4)		
1'-6"	2 13/32"	1'-6"	7	5			12
1'-7"	2 1/2"	1'-7"	6	6			12
1'-8"	2 1/16"	1'-8"	5	8			13
1'-9"	2 3/16"	1'-9"	4	9			13
1'-10"	2 1/8"	1'-10"	3	10			13
1'-11"	2 3/32"	1'-11"	3	11			14
2'-0"	3 7/32"	2'-0"	2	12			14
2'-1"	3 1/16"	2'-1"	2	13			15
2'-2"	3 5/32"	2'-2"	1	14			15
2'-3"	3 9/32"	2'-3"		15			15
2'-4"	3 1/4"	2'-4"		15	1		16
2'-5"	3 7/8"	2'-5"		15	1		16
2'-6"	4 1/32"	2'-6"		15	2		17
2'-7"	4 5/32"	2'-7"		14	3		17
2'-8"	4 9/32"	2'-8"		14	4		18
2'-9"	4 13/32"	2'-9"		14	4		18
2'-10"	4 7/16"	2'-10"		13	5		18
2'-11"	4 11/16"	2'-11"		13	6		19
3'-0"	4 19/16"	3'-0"		13	6		19
3'-1"	4 3/8"	3'-1"		13	7		20
3'-2"	4 7/8"	3'-2"		12	8		20
3'-3"	5 1/32"	3'-3"		12	8		20
3'-4"	5 1/16"	3'-4"		11	9		21
3'-5"	5 1/8"	3'-5"		11	10		21
3'-6"	5 3/16"	3'-6"		11	11		22
3'-7"	5 7/16"	3'-7"		11	11		22
3'-8"	5 1/4"	3'-8"		11	12		23
3'-9"	5 9/32"	3'-9"		10	13		23
3'-10"	5 13/32"	3'-10"		10	13		23
3'-11"	5 7/8"	3'-11"		10	14		24
4'-0"	6 1/16"	4'-0"		9	15		24
4'-1"	6 1/8"	4'-1"		9	16		25
4'-2"	6 3/16"	4'-2"		9	17		25
4'-3"	6 7/32"	4'-3"		8	18		26
4'-4"	6 1/4"	4'-4"		8	18		26
4'-5"	6 5/8"	4'-5"		8	19		27
4'-6"	7 1/16"	4'-6"		7	20		27
4'-7"	7 3/8"	4'-7"		7	21		28
4'-8"	7 7/8"	4'-8"		7	21		28
4'-9"	7 15/16"	4'-9"		6	22		28
4'-10"	8 1/32"	4'-10"		6	23		29
4'-11"	8 1/16"	4'-11"		6	23		29
5'-0"	8 3/2"	5'-0"		6	23		29
5'-1"	8 7/16"	5'-1"		6	24		30
5'-2"	8 11/16"	5'-2"		5	25		30
5'-3"	8 15/16"	5'-3"		5	26		31

**SPRUNG ARCHES**  
**1.608" rise per foot of span**  
**9" x 4 1/2" x 3", 9" x 6 3/4" x 3" or 9" x 9" x 3"**  
**Brand 4160-B to be used for Skew**

**SPRUNG ARCHES**  
**1.608" rise per foot of span**  
**9" x 4 1/2" x 3", 9" x 6 3/4" x 3" or 9" x 9" x 3"**  
**Brand 4160-B to be used for Skew**

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			STRAIGHTS 9x4 1/2 x 3	TOTAL
			No. 3 WEDGE 9x4 1/2 x (3-2)	No. 2 WEDGE 9x4 1/2 x (3-2 1/2)	No. 1 WEDGE 9x4 1/2 x (3-2 3/4)		
5'-5"	8 3/32"	5'-5"	12	14	14	26	
5'-6"	8 7/32"	5'-6"	12	15	15	27	
5'-7"	8 1/32"	5'-7"	11	16	16	27	
5'-8"	9 1/8"	5'-8"	11	16	16	27	
5'-9"	9 1/4"	5'-9"	11	17	17	28	
5'-10"	9 3/8"	5'-10"	10	18	18	28	
5'-11"	9 1/2"	5'-11"	10	18	18	28	
6'-0"	9 5/32"	6'-0"	10	19	19	29	
6'-1"	9 9/32"	6'-1"	9	20	20	29	
6'-2"	9 13/32"	6'-2"	9	20	20	29	
6'-3"	10 1/16"	6'-3"	9	21	21	30	
6'-4"	10 1/8"	6'-4"	8	22	22	30	
6'-5"	10 1/4"	6'-5"	8	22	22	30	
6'-6"	10 3/8"	6'-6"	8	23	23	31	
6'-7"	10 7/8"	6'-7"	7	24	24	31	
6'-8"	10 11/32"	6'-8"	7	24	24	31	
6'-9"	10 1/2"	6'-9"	7	25	25	32	
6'-10"	11"	6'-10"	6	26	26	32	
6'-11"	11 1/8"	6'-11"	6	26	26	32	
7'-0"	11 1/4"	7'-0"	6	27	27	33	
7'-1"	11 3/8"	7'-1"	5	28	28	33	
7'-2"	11 7/8"	7'-2"	5	29	29	34	
7'-3"	11 11/32"	7'-3"	4	30	30	34	
7'-4"	11 1/2"	7'-4"	4	30	30	34	
7'-5"	11 5/8"	7'-5"	4	31	31	35	
7'-6"	11 9/16"	7'-6"	3	32	32	35	
7'-7"	11 13/16"	7'-7"	3	32	32	35	
7'-8"	12"	7'-8"	3	33	33	36	
7'-9"	12 1/32"	7'-9"	2	34	34	36	
7'-10"	12 1/16"	7'-10"	2	34	34	36	
7'-11"	12 1/8"	7'-11"	2	35	35	37	
8'-0"	12 1/2"	8'-0"	1	36	36	37	
8'-1"	12 3/4"	8'-1"	1	36	36	37	
8'-2"	13"	8'-2"	1	37	37	38	
8'-3"	13 1/8"	8'-3"	1	37	37	38	
8'-4"	13 1/4"	8'-4"	1	38	38	39	
8'-5"	13 3/8"	8'-5"	1	38	38	39	
8'-6"	13 1/2"	8'-6"	1	38	38	39	
8'-7"	13 5/8"	8'-7"	1	39	39	40	
8'-8"	14"	8'-8"	1	39	39	40	
8'-9"	14 1/32"	8'-9"	1	40	40	41	
8'-10"	14 1/16"	8'-10"	1	40	40	41	
8'-11"	14 1/8"	8'-11"	1	41	41	42	
9'-0"	14 1/2"	9'-0"	1	41	41	42	
9'-1"	14 3/4"	9'-1"	1	42	42	43	
9'-2"	15"	9'-2"	1	42	42	43	
9'-3"	15 1/8"	9'-3"	1	43	43	44	
9'-4"	15 1/4"	9'-4"	1	43	43	44	
9'-5"	15 3/8"	9'-5"	1	44	44	45	
9'-6"	15 1/2"	9'-6"	1	44	44	45	
9'-7"	15 5/8"	9'-7"	1	45	45	46	
9'-8"	16"	9'-8"	1	45	45	46	
9'-9"	16 1/32"	9'-9"	1	46	46	47	
9'-10"	16 1/16"	9'-10"	1	46	46	47	
9'-11"	16 1/8"	9'-11"	1	47	47	48	
10'-0"	16 1/2"	10'-0"	1	47	47	48	
10'-1"	16 3/4"	10'-1"	1	48	48	49	
10'-2"	17"	10'-2"	1	48	48	49	
10'-3"	17 1/8"	10'-3"	1	49	49	50	
10'-4"	17 1/4"	10'-4"	1	49	49	50	
10'-5"	17 3/8"	10'-5"	1	50	50	51	
10'-6"	17 1/2"	10'-6"	1	50	50	51	
10'-7"	17 5/8"	10'-7"	1	51	51	52	
10'-8"	18"	10'-8"	1	51	51	52	
10'-9"	18 1/32"	10'-9"	1	52	52	53	
10'-10"	18 1/16"	10'-10"	1	52	52	53	
10'-11"	18 1/8"	10'-11"	1	53	53	54	
11'-0"	18 1/2"	11'-0"	1	53	53	54	
11'-1"	18 3/4"	11'-1"	1	54	54	55	
11'-2"	19"	11'-2"	1	54	54	55	
11'-3"	19 1/8"	11'-3"	1	55	55	56	
11'-4"	19 1/4"	11'-4"	1	55	55	56	
11'-5"	19 3/8"	11'-5"	1	56	56	57	
11'-6"	19 1/2"	11'-6"	1	56	56	57	
11'-7"	19 5/8"	11'-7"	1	57	57	58	
11'-8"	20"	11'-8"	1	57	57	58	
11'-9"	20 1/32"	11'-9"	1	58	58	59	
11'-10"	20 1/16"	11'-10"	1	58	58	59	
11'-11"	20 1/8"	11'-11"	1	59	59	60	
12'-0"	20 1/2"	12'-0"	1	59	59	60	
12'-1"	20 3/4"	12'-1"	1	60	60	61	
12'-2"	21"	12'-2"	1	60	60	61	
12'-3"	21 1/8"	12'-3"	1	61	61	62	
12'-4"	21 1/4"	12'-4"	1	61	61	62	
12'-5"	21 3/8"	12'-5"	1	62	62	63	
12'-6"	21 1/2"	12'-6"	1	62	62	63	
12'-7"	21 5/8"	12'-7"	1	63	63	64	
12'-8"	22"	12'-8"	1	63	63	64	
12'-9"	22 1/32"	12'-9"	1	64	64	65	
12'-10"	22 1/16"	12'-10"	1	64	64	65	
12'-11"	22 1/8"	12'-11"	1	65	65	66	
13'-0"	22 1/2"	13'-0"	1	65	65	66	
13'-1"	22 3/4"	13'-1"	1	66	66	67	
13'-2"	23"	13'-2"	1	66	66	67	
13'-3"	23 1/8"	13'-3"	1	67	67	68	
13'-4"	23 1/4"	13'-4"	1	67	67	68	
13'-5"	23 3/8"	13'-5"	1	68	68	69	
13'-6"	23 1/2"	13'-6"	1	68	68	69	
13'-7"	23 5/8"	13'-7"	1	69	69	70	
13'-8"	24"	13'-8"	1	69	69	70	
13'-9"	24 1/32"	13'-9"	1	70	70	71	
13'-10"	24 1/16"	13'-10"	1	70	70	71	
13'-11"	24 1/8"	13'-11"	1	71	71	72	
14'-0"	24 1/2"	14'-0"	1	71	71	72	

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			STRAIGHTS 9x4 1/2 x 3	TOTAL
			No. 3 WEDGE 9x4 1/2 x (3-2)	No. 2 WEDGE 9x4 1/2 x (3-2 1/2)	No. 1 WEDGE 9x4 1/2 x (3-2 3/4)		
1'-6"	2 1/32"	1'-6"	10	1	1	10	
1'-7"	2 1/16"	1'-7"	9	2	2	10	
1'-8"	2 1/8"	1'-8"	9	2	2	11	
1'-9"	2 1/4"	1'-9"	8	3	3	11	
1'-10"	2 3/8"	1'-10"	8	3	3	11	
1'-11"	2 1/2"	1'-11"	8	4	4	12	
2'-0"	3 1/32"	2'-0"	8	4	4	12	
2'-1"	3 1/16"	2'-1"	7	5	5	13	
2'-2"	3 1/8"	2'-2"	7	6	6	13	
2'-3"	3 1/4"	2'-3"	7	6	6	13	
2'-4"	3 3/8"	2'-4"	6	7	7	14	
2'-5"	3 1/2"	2'-5"	6	8	8	14	
2'-6"	3 5/32"	2'-6"	5	9	9	14	
2'-7"	3 1/4"	2'-7"	5	10	10	15	
2'-8"	3 3/8"	2'-8"	4	11	11	15	
2'-9"	3 1/2"	2'-9"	4	11	11	15	
2'-10"	3 5/8"	2'-10"	4	12	12	16	
2'-11"	3 3/4"	2'-11"	3	13	13	16	
3'-0"	4 1/16"	3'-0"	3	13	13	16	
3'-1"	4 1/8"	3'-1"	3	14	14	17	
3'-2"	4 1/4"	3'-2"	2	15	15	17	
3'-3"	4 1/2"	3'-3"	2	15	15	17	
3'-4"	4 3/8"	3'-4"	2	16	16	18	
3'-5"	4 1/4"	3'-5"	2	16	16	18	
3'-6"	4 1/2"	3'-6"	1	17	17	18	
3'-7"	4 3/4"	3'-7"	1	18	18	19	
3'-8"	4 5/8"	3'-8"	1	18	18	19	
3'-9"	4 1/2"	3'-9"	1	19	19	20	
3'-10"	4 3/2"	3'-10"	1	19	19	20	
3'-11"	4 5/4"	3'-11"	1	20	20	20	
4'-0"	5 1/16"	4'-0"	1	20	20	20	
4'-1"	5 1/8"	4'-1"	1	21	21	21	
4'-2"	5 1/4"	4'-2"	1	21	21	21	
4'-3"	5 1/2"	4'-3"	1	22	22	22	
4'-4"	5 3/8"	4'-4"	1	22	22	22	
4'-5"	5 1/4"	4'-5"	1	23	23	23	
4'-6"	5 1/2"	4'-6"	1	23	23	23	
4'-7"	5 3/4"	4'-7"	1	24	24	24	
4'-8"	5 5/8"	4'-8"	1	24	24	24	
4'-9"	5 1/2"	4'-9"	1	25	25	25	
4'-10"	5 3/2"	4'-10"	1	25	25	25	
4'-11"	5 5/4"	4'-11"	1	26	26	26	
5'-0"	6 1/16"	5'-0"	1	26	26	26	
5'-1"	6 1/8"	5'-1"	1	27	27	27	
5'-2"	6 1/4"	5'-2"	1	27	27	27	
5'-3"	6 3/8"	5'-3"	1	28	28	28	
5'-4"	6 1/2"	5'-4"	1	28	28	28	

**SPRUNG ARCHES**  
2" rise per foot of span  
9" x 4 1/2" x 2 1/2", 9" x 6 3/4" x 2 1/2" or 9" x 9" x 2 1/2"  
Central Angle = 74°  
Brand 4160-D to be used for Skew

**SPRUNG ARCHES**  
2" rise per foot of span  
9" x 4 1/2" x 2 1/2", 9" x 6 3/4" x 2 1/2" or 9" x 9" x 2 1/2"  
Central Angle = 74°  
Brand 4160-D to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			STRAIGHTS 9x4 1/2 x 2 1/2	TOTAL
			No. 2 WEDGE 9x4 1/2 x (2 1/2 - 1 1/2)	No. 1 WEDGE No. 9x4 1/2 x (2 1/2 - 1 1/2)	1-X WEDGE 9x4 1/2 x (2 1/2 - 2 1/4)		
1'-6"	3"	1'-3"	11	2	1	13	35
1'-7"	3 1/2"	1'-4 1/2"	10	3	1	14	35
1'-8"	3 1/2"	1'-4 1/2"	9	5	1	14	36
1'-9"	3 1/2"	1'-5 1/2"	8	7	1	14	36
1'-10"	3 1/2"	1'-6 1/2"	7	7	1	15	37
1'-11"	3 1/2"	1'-7 1/2"	6	8	1	16	38
2'-0"	4"	1'-8"	6	10	1	17	38
2'-1"	4 1/2"	1'-8 1/2"	5	11	1	17	39
2'-2"	4 1/2"	1'-9 1/2"	4	13	1	17	40
2'-3"	4 1/2"	1'-10 1/2"	3	14	1	18	41
2'-4"	4 1/2"	1'-11 1/2"	2	15	1	18	41
2'-5"	4 1/2"	2'-0"	2	16	1	19	42
2'-6"	5"	2'-1"	1	17	1	19	43
2'-7"	5 1/2"	2'-1 1/2"	1	18	1	20	43
2'-8"	5 1/2"	2'-2 1/2"	1	18	1	20	44
2'-9"	5 1/2"	2'-3 1/2"	1	18	1	20	44
2'-10"	5 1/2"	2'-4 1/2"	1	18	1	20	45
2'-11"	5 1/2"	2'-5 1/2"	1	17	1	20	46
3'-0"	6"	2'-6"	1	17	1	21	47
3'-1"	6 1/2"	2'-6 1/2"	1	17	1	21	47
3'-2"	6 1/2"	2'-7 1/2"	1	17	1	22	48
3'-3"	6 1/2"	2'-8 1/2"	1	16	1	22	48
3'-4"	6 1/2"	2'-9 1/2"	1	16	1	23	49
3'-5"	6 1/2"	2'-10 1/2"	1	16	1	23	49
3'-6"	7"	2'-11"	1	15	1	24	50
3'-7"	7 1/2"	2'-11 1/2"	1	15	1	24	51
3'-8"	7 1/2"	3'-0"	1	15	1	25	52
3'-9"	7 1/2"	3'-1 1/2"	1	14	1	25	53
3'-10"	7 1/2"	3'-2 1/2"	1	14	1	26	54
3'-11"	8"	3'-3 1/2"	1	14	1	26	55
4'-0"	8 1/2"	3'-4 1/2"	1	14	1	27	56
4'-1"	8 1/2"	3'-5 1/2"	1	13	1	27	57
4'-2"	8 1/2"	3'-6 1/2"	1	13	1	28	58
4'-3"	8 1/2"	3'-7 1/2"	1	13	1	28	59
4'-4"	8 1/2"	3'-8 1/2"	1	13	1	29	60
4'-5"	9"	3'-9"	1	12	1	29	61
4'-6"	9 1/2"	3'-9 1/2"	1	12	1	30	62
4'-7"	9 1/2"	3'-10 1/2"	1	11	1	30	63
4'-8"	9 1/2"	3'-11 1/2"	1	11	1	31	64
4'-9"	10"	4'-0"	1	11	1	31	65
4'-10"	10 1/2"	4'-1 1/2"	1	10	1	32	66
4'-11"	10 1/2"	4'-2 1/2"	1	10	1	32	67
5'-0"	10 1/2"	4'-3 1/2"	1	9	1	33	68
5'-1"	10 1/2"	4'-4 1/2"	1	9	1	33	69
5'-2"	10 1/2"	4'-5 1/2"	1	9	1	34	70
5'-3"	10 1/2"	4'-6 1/2"	1	9	1	34	71
5'-4"	10 1/2"	4'-7 1/2"	1	8	1	34	72
5'-5"	11"	4'-8"	1	8	1	34	73
5'-6"	11 1/2"	4'-8 1/2"	1	8	1	34	74
5'-7"	11 1/2"	4'-9 1/2"	1	8	1	34	75
5'-8"	11 1/2"	4'-10 1/2"	1	8	1	34	76

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			STRAIGHTS 9x4 1/2 x 2 1/2	TOTAL
			No. 2 WEDGE 9x4 1/2 x (2 1/2 - 1 1/2)	No. 1 WEDGE No. 9x4 1/2 x (2 1/2 - 1 1/2)	1-X WEDGE 9x4 1/2 x (2 1/2 - 2 1/4)		
1'-6"	3"	1'-3"	11	2	1	13	13
1'-7"	3 1/2"	1'-4 1/2"	10	3	1	14	14
1'-8"	3 1/2"	1'-4 1/2"	9	5	1	14	14
1'-9"	3 1/2"	1'-5 1/2"	8	7	1	14	14
1'-10"	3 1/2"	1'-6 1/2"	7	7	1	15	15
1'-11"	3 1/2"	1'-7 1/2"	6	8	1	16	16
2'-0"	4"	1'-8"	6	10	1	17	17
2'-1"	4 1/2"	1'-8 1/2"	5	11	1	17	17
2'-2"	4 1/2"	1'-9 1/2"	4	13	1	17	17
2'-3"	4 1/2"	1'-10 1/2"	3	14	1	18	18
2'-4"	4 1/2"	1'-11 1/2"	2	15	1	18	18
2'-5"	4 1/2"	2'-0"	2	16	1	19	19
2'-6"	5"	2'-1"	1	17	1	19	19
2'-7"	5 1/2"	2'-1 1/2"	1	18	1	20	20
2'-8"	5 1/2"	2'-2 1/2"	1	18	1	20	20
2'-9"	5 1/2"	2'-3 1/2"	1	18	1	20	20
2'-10"	5 1/2"	2'-4 1/2"	1	18	1	20	20
2'-11"	5 1/2"	2'-5 1/2"	1	17	1	20	20
3'-0"	6"	2'-6"	1	17	1	21	21
3'-1"	6 1/2"	2'-6 1/2"	1	17	1	21	21
3'-2"	6 1/2"	2'-7 1/2"	1	17	1	22	22
3'-3"	6 1/2"	2'-8 1/2"	1	16	1	22	22
3'-4"	6 1/2"	2'-9 1/2"	1	16	1	23	23
3'-5"	6 1/2"	2'-10 1/2"	1	16	1	23	23
3'-6"	7"	2'-11"	1	15	1	24	24
3'-7"	7 1/2"	2'-11 1/2"	1	15	1	24	24
3'-8"	7 1/2"	3'-0"	1	15	1	25	25
3'-9"	7 1/2"	3'-1 1/2"	1	14	1	25	25
3'-10"	7 1/2"	3'-2 1/2"	1	14	1	26	26
3'-11"	8"	3'-3 1/2"	1	14	1	26	26
4'-0"	8 1/2"	3'-4 1/2"	1	14	1	27	27
4'-1"	8 1/2"	3'-5 1/2"	1	13	1	27	27
4'-2"	8 1/2"	3'-6 1/2"	1	13	1	28	28
4'-3"	8 1/2"	3'-7 1/2"	1	13	1	28	28
4'-4"	8 1/2"	3'-8 1/2"	1	13	1	29	29
4'-5"	9"	3'-9"	1	12	1	29	29
4'-6"	9 1/2"	3'-9 1/2"	1	12	1	30	30
4'-7"	9 1/2"	3'-10 1/2"	1	11	1	30	30
4'-8"	9 1/2"	3'-11 1/2"	1	11	1	31	31
4'-9"	10"	4'-0"	1	11	1	31	31
4'-10"	10 1/2"	4'-1 1/2"	1	10	1	32	32
4'-11"	10 1/2"	4'-2 1/2"	1	10	1	32	32
5'-0"	10 1/2"	4'-3 1/2"	1	9	1	33	33
5'-1"	10 1/2"	4'-4 1/2"	1	9	1	33	33
5'-2"	10 1/2"	4'-5 1/2"	1	9	1	34	34
5'-3"	10 1/2"	4'-6 1/2"	1	9	1	34	34
5'-4"	10 1/2"	4'-7 1/2"	1	8	1	34	34
5'-5"	11"	4'-8"	1	8	1	34	34
5'-6"	11 1/2"	4'-8 1/2"	1	8	1	34	34
5'-7"	11 1/2"	4'-9 1/2"	1	8	1	34	34
5'-8"	11 1/2"	4'-10 1/2"	1	8	1	34	34

**SPRUNG ARCHES**  
2" rise per foot of span  
9" x 4 1/2" x 3", 9" x 6 3/4" x 3" or 9" x 9" x 3"  
Brand 4160-D to be used for Skew

**SPRUNG ARCHES**  
2" rise per foot of span  
9" x 4 1/2" x 3", 9" x 6 3/4" x 3" or 9" x 9" x 3"  
Brand 4160-D to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			STRAIGHTS 9/4 1/2 x 3	TOTAL
			No. 3 WEDGE 9/4 1/2 x (3-2)	No. 2 WEDGE 9/4 1/2 x (3-2 1/2)	No. 1 WEDGE 9/4 1/2 x (3-2 3/4)		
1'-10"	3 1/2"	1'-6 1/2"	12				12
1'-11"	3 7/8"	1'-7 5/8"	11				12
2'-0"	4"	1'-8"		1			13
2'-1"	4 1/2"	1'-8 1/2"		2			13
2'-2"	4 1/2"	1'-9 1/4"		3			14
2'-3"	4 1/2"	1'-10 1/2"		4			14
2'-4"	4 1/2"	1'-11 1/2"		5			15
2'-5"	4 7/8"	2'-0 5/8"		6			15
2'-6"	5"	2'-1 1/2"		7			16
2'-7"	5 1/4"	2'-2 1/4"		8			16
2'-8"	5 1/2"	2'-3 1/2"		9			17
2'-9"	5 1/2"	2'-4 1/4"		10			17
2'-10"	5 3/4"	2'-5 1/2"		10			17
2'-11"	5 3/4"	2'-6"		11			18
3'-0"	6"	2'-6 3/4"		12			18
3'-1"	6 1/4"	2'-7 1/4"		13			19
3'-2"	6 1/2"	2'-8 1/2"		14			19
3'-3"	6 3/4"	2'-9 1/4"		15			20
3'-4"	6 3/4"	2'-10 1/2"		16			20
3'-5"	7"	2'-11 1/2"		17			21
3'-6"	7 1/4"	3'-0 1/4"		18			21
3'-7"	7 1/2"	3'-1 1/2"		19			22
3'-8"	7 1/2"	3'-2 1/4"		20			22
3'-9"	7 3/4"	3'-3 1/4"		21			23
3'-10"	7 3/4"	3'-4 1/2"		22			23
3'-11"	8"	3'-5 1/2"		23			24
4'-0"	8 1/4"	3'-6 1/4"		24			24
4'-1"	8 1/2"	3'-7 1/4"		25			25
4'-2"	8 1/2"	3'-8 1/2"		26			25
4'-3"	8 3/4"	3'-9 1/2"		27			26
4'-4"	8 3/4"	3'-10 1/2"		28			26
4'-5"	9"	3'-11 1/2"		29			27
4'-6"	9 1/4"	4'-0 1/4"		30			27
4'-7"	9 1/2"	4'-1 1/2"		31			28
4'-8"	9 1/2"	4'-2 1/4"		32			28
4'-9"	9 3/4"	4'-3 1/4"		33			29
4'-10"	9 3/4"	4'-4 1/2"		34			29
4'-11"	10"	4'-5 1/2"		35			30
5'-0"	10 1/4"	4'-6 1/4"		36			31
5'-1"	10 1/2"	4'-7 1/4"		37			31
5'-2"	10 1/2"	4'-8 1/2"		38			32
5'-3"	10 3/4"	4'-9 1/2"		39			33
5'-4"	10 3/4"	4'-10 1/2"		40			33
5'-5"	11"	4'-11 1/2"		41			34
5'-6"	11 1/4"	5'-0 1/4"		42			35
5'-7"	11 1/2"	5'-1 1/2"		43			35

Page 186 See Page 106 For Skews Continued Next Page

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			STRAIGHTS 9/4 1/2 x 3	TOTAL
			No. 3 WEDGE 9/4 1/2 x (3-2)	No. 2 WEDGE 9/4 1/2 x (3-2 1/2)	No. 1 WEDGE 9/4 1/2 x (3-2 3/4)		
5'-8"	11 1/2"	4'-8 1/2"			10		28
5'-9"	11 1/2"	4'-9 1/4"			11		29
5'-10"	11 3/4"	4'-10 1/4"			12		29
5'-11"	11 3/4"	4'-11 1/4"			13		30
6'-0"	12"	5'-0"			14		30
6'-1"	12 1/4"	5'-0 1/4"			15		31
6'-2"	12 1/2"	5'-0 1/2"			16		31
6'-3"	12 1/2"	5'-1 1/4"			17		32
6'-4"	12 3/4"	5'-1 1/2"			18		32
6'-5"	13"	5'-2"			19		33
6'-6"	13 1/4"	5'-2 1/4"			20		33
6'-7"	13 1/2"	5'-2 1/2"			21		34
6'-8"	13 1/2"	5'-3 1/4"			22		34
6'-9"	13 3/4"	5'-3 1/2"			23		35
6'-10"	14"	5'-4"			24		35
6'-11"	14 1/4"	5'-4 1/4"			25		36
7'-0"	14 1/2"	5'-5 1/4"			26		36
7'-1"	14 1/2"	5'-5 1/2"			27		37
7'-2"	14 3/4"	5'-6 1/4"			28		37
7'-3"	15"	5'-6 1/2"			29		38
7'-4"	15 1/4"	5'-7 1/4"			30		38
7'-5"	15 1/2"	5'-7 1/2"			31		39
7'-6"	15 3/4"	5'-8 1/4"			32		39
7'-7"	16"	5'-8 1/2"			33		40
7'-8"	16 1/4"	5'-9 1/4"			34		41
7'-9"	16 1/2"	5'-9 1/2"			35		41
7'-10"	16 3/4"	5'-10 1/4"			36		42
7'-11"	17"	5'-10 1/2"			37		42
8'-0"	17 1/4"	5'-11 1/4"			38		43
8'-1"	17 1/2"	5'-11 1/2"			39		43
8'-2"	17 3/4"	5'-12 1/4"			40		44
8'-3"	18"	5'-12 1/2"			41		44
8'-4"	18 1/4"	6'-0 1/4"			42		45
8'-5"	18 1/2"	6'-0 1/2"			43		45
8'-6"	18 3/4"	6'-1 1/4"			44		46
8'-7"	19"	6'-1 1/2"			45		46
8'-8"	19 1/4"	6'-2 1/4"			46		47
8'-9"	19 1/2"	6'-2 1/2"			47		47
8'-10"	19 3/4"	6'-3 1/4"			48		49
8'-11"	20"	6'-3 1/2"			49		49
9'-0"	20 1/4"	6'-4 1/4"			50		51
9'-1"	20 1/2"	6'-4 1/2"			51		51
9'-2"	20 3/4"	6'-5 1/4"			52		52
9'-3"	21"	6'-5 1/2"			53		53
9'-4"	21 1/4"	6'-6 1/4"			54		54
9'-5"	21 1/2"	6'-6 1/2"			55		55
9'-6"	21 3/4"	6'-7 1/4"			56		56
9'-7"	22"	6'-7 1/2"			57		58
9'-8"	22 1/4"	6'-8 1/4"			58		58
9'-9"	22 1/2"	6'-8 1/2"			59		59
9'-10"	22 3/4"	6'-9 1/4"			60		60
9'-11"	23"	6'-9 1/2"			61		62
10'-0"	23 1/4"	6'-10 1/4"			62		62
10'-1"	23 1/2"	6'-10 1/2"			63		63
10'-2"	23 3/4"	6'-11 1/4"			64		64
10'-3"	24"	6'-11 1/2"			65		64
10'-4"	24 1/4"	6'-12 1/4"			66		65
10'-5"	24 1/2"	6'-12 1/2"			67		65
10'-6"	24 3/4"	6'-13 1/4"			68		66
10'-7"	25"	6'-13 1/2"			69		66
10'-8"	25 1/4"	6'-14 1/4"			70		67
10'-9"	25 1/2"	6'-14 1/2"			71		67
10'-10"	25 3/4"	6'-15 1/4"			72		68
10'-11"	26"	6'-15 1/2"			73		68
11'-0"	26 1/4"	6'-16 1/4"			74		69
11'-1"	26 1/2"	6'-16 1/2"			75		69
11'-2"	26 3/4"	6'-17 1/4"			76		70
11'-3"	27"	6'-17 1/2"			77		70
11'-4"	27 1/4"	6'-18 1/4"			78		71
11'-5"	27 1/2"	6'-18 1/2"			79		71
11'-6"	27 3/4"	6'-19 1/4"			80		72
11'-7"	28"	6'-19 1/2"			81		72
11'-8"	28 1/4"	6'-20 1/4"			82		73
11'-9"	28 1/2"	6'-20 1/2"			83		73
11'-10"	28 3/4"	6'-21 1/4"			84		74
11'-11"	29"	6'-21 1/2"			85		74
12'-0"	29 1/4"	6'-22 1/4"			86		75
12'-1"	29 1/2"	6'-22 1/2"			87		75
12'-2"	29 3/4"	6'-23 1/4"			88		76
12'-3"	30"	6'-23 1/2"			89		76
12'-4"	30 1/4"	6'-24 1/4"			90		77
12'-5"	30 1/2"	6'-24 1/2"			91		77
12'-6"	30 3/4"	6'-25 1/4"			92		78
12'-7"	31"	6'-25 1/2"			93		78
12'-8"	31 1/4"	6'-26 1/4"			94		79
12'-9"	31 1/2"	6'-26 1/2"			95		79
12'-10"	31 3/4"	6'-27 1/4"			96		80
12'-11"	32"	6'-27 1/2"			97		80
13'-0"	32 1/4"	6'-28 1/4"			98		81
13'-1"	32 1/2"	6'-28 1/2"			99		81
13'-2"	32 3/4"	6'-29 1/4"			100		82
13'-3"	33"	6'-29 1/2"			101		82
13'-4"	33 1/4"	6'-30 1/4"			102		83
13'-5"	33 1/2"	6'-30 1/2"			103		83
13'-6"	33 3/4"	6'-31 1/4"			104		84
13'-7"	34"	6'-31 1/2"			105		84
13'-8"	34 1/4"	6'-32 1/4"			106		85
13'-9"	34 1/2"	6'-32 1/2"			107		85
13'-10"	34 3/4"	6'-33 1/4"			108		86
13'-11"	35"	6'-33 1/2"			109		86
14'-0"	35 1/4"	6'-34 1/4"			110		87
14'-1"	35 1/2"	6'-34 1/2"			111		87
14'-2"	35 3/4"	6'-35 1/4"			112		88
14'-3"	36"	6'-35 1/2"			113		88
14'-4"	36 1/4"	6'-36 1/4"			114		89
14'-5"	36 1/2"	6'-36 1/2"			115		89
14'-6"	36 3/4"	6'-37 1/4"			116		90
14'-7"	37"	6'-37 1/2"			117		90
14'-8"	37 1/4"	6'-38 1/4"			118		91
14'-9"	37 1/2"	6'-38 1/2"			119		91
14'-10"	37 3/4"	6'-39 1/4"			120		92
14'-11"	38"	6'-39 1/2"			121		92
15'-0"	38 1/4"	6'-40 1/4"			122		93
15'-1"	38 1/2"	6'-40 1/2"			123		93
15'-2"	38 3/4"	6'-41 1/4"			124		94
15'-3"	39"	6'-41 1/2"			125		94
15'-4"	39 1/4"	6'-42 1/4"			126		95
15'-5"	39 1/2"	6'-42 1/2"			127		95
15'-6"	39 3/4"	6'-43 1/4"			128		96
15'-7"	40"	6'-43 1/2"			129		96
15'-8"	40 1/4"	6'-44 1/4"			130		97
15'-9"	40 1/2"	6'-44 1/2"			131		97
15'-10"	40 3/4"	6'-45 1/4"			132		98
15'-11"	41"	6'-45 1/2"			133		98
16'-0"	41 1/4"	6'-46 1/4"			134		99
16'-1"	41 1/2"	6'-46 1/2"			135		99
16'-2"	41 3/4"	6'-47 1/4"			136		100
16'-3"	42"	6'-47 1/2"			137		100
16'-4"	42 1/4"	6'-48 1/4"			138		101
16'-5"	42 1/2"	6'-48 1/2"			139		101
16'-6"	42 3/4"	6'-49 1/4"			140		102
16'-7"	43"	6'-49 1/2"			141		102
16'-8"	43 1/4"	6'-50 1/4"			142		103
16'-9"	43 1/2"	6'-50 1/2"			143		103
16'-10"	43 3/4"	6'-51 1/4"			144		104
16'-11"	44"	6'-51 1/2"			145		104
17'-0"	44 1/4"	6'-52 1/4"			146		105
17'-1"	44 1/2"	6'-52 1/2"			147		105
17'-2"	44 3/4"	6'-53 1/4"			148		106
17'-3"	45"	6'-53 1/2"			149		106
17'-4"	45 1/4"	6'-54 1/4"			150		107

**SPRUNG ARCHES**  
 2.302" rise per foot of span  
 9" x 4 1/2" x 2 1/2", 9" x 6 3/4" x 2 1/2" or 9" x 9" x 2 1/2"  
 Central Angle=84°  
 Standard sideskews to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				TOTAL
			No. 2 WEDGE 9x4 1/2" X (2 1/2"-1 1/2")	No. 1 WEDGE 9x4 1/2" X (2 1/2"-2 1/4")	1-X WEDGE 9x4 1/2" X (2 1/2"-2 1/4")	STRAIGHTS 9x4 1/2" x 2 1/2"	
1'-6"	3 5/32"	1'-1 1/8"	14	1	1	14	
1'-7"	3 7/32"	1'-2 1/16"	13	2	1	14	
1'-8"	3 9/32"	1'-3 1/16"	12	4	2	15	
1'-9"	4 1/32"	1'-4 1/16"	11	5	4	15	
1'-10"	4 3/32"	1'-5 1/16"	10	6	6	16	
1'-11"	4 5/32"	1'-6 1/16"	9	7	9	16	
2'-0"	4 7/32"	1'-7 1/16"	8	8	12	17	
2'-1"	4 9/32"	1'-8 1/16"	7	9	15	17	
2'-2"	5 1/32"	1'-9 1/16"	6	10	18	18	
2'-3"	5 3/32"	1'-10 1/16"	5	13	21	18	
2'-4"	5 5/32"	1'-11 1/16"	4	14	24	19	
2'-5"	5 7/32"	1'-12 1/16"	3	15	27	19	
2'-6"	5 9/32"	1'-13 1/16"	2	17	30	20	
2'-7"	6 1/32"	1'-14 1/16"	2	18	33	20	
2'-8"	6 3/32"	1'-15 1/16"	1	19	36	21	
2'-9"	6 5/32"	1'-16 1/16"	1	20	39	21	
2'-10"	6 7/32"	1'-17 1/16"	1	21	42	22	
2'-11"	6 9/32"	1'-18 1/16"	1	22	45	22	
3'-0"	7 1/32"	2'-0 1/8"	1	23	48	23	
3'-1"	7 3/32"	2'-1 1/8"	1	24	51	23	
3'-2"	7 5/32"	2'-2 1/8"	1	25	54	24	
3'-3"	7 7/32"	2'-3 1/8"	1	26	57	24	
3'-4"	7 9/32"	2'-4 1/8"	1	27	60	24	
3'-5"	8 1/32"	2'-5 1/8"	1	28	63	25	
3'-6"	8 3/32"	2'-6 1/8"	1	29	66	25	
3'-7"	8 5/32"	2'-7 1/8"	1	30	69	25	
3'-8"	8 7/32"	2'-8 1/8"	1	31	72	26	
3'-9"	8 9/32"	2'-9 1/8"	1	32	75	26	
3'-10"	9 1/32"	2'-10 1/8"	1	33	78	27	
3'-11"	9 3/32"	2'-11 1/8"	1	34	81	27	
4'-0"	9 5/32"	2'-12 1/8"	1	35	84	28	
4'-1"	9 7/32"	2'-13 1/8"	1	36	87	28	
4'-2"	9 9/32"	2'-14 1/8"	1	37	90	28	
4'-3"	9 11/32"	2'-15 1/8"	1	38	93	29	
4'-4"	10 1/32"	2'-16 1/8"	1	39	96	29	
4'-5"	10 3/32"	2'-17 1/8"	1	40	99	30	
4'-6"	10 5/32"	2'-18 1/8"	1	41	102	30	
4'-7"	10 7/32"	2'-19 1/8"	1	42	105	31	
4'-8"	10 9/32"	2'-20 1/8"	1	43	108	31	
4'-9"	11 1/32"	2'-21 1/8"	1	44	111	31	
4'-10"	11 3/32"	2'-22 1/8"	1	45	114	31	
4'-11"	11 5/32"	2'-23 1/8"	1	46	117	31	
5'-0"	11 7/32"	2'-24 1/8"	1	47	120	32	
5'-1"	11 9/32"	2'-25 1/8"	1	48	123	32	
5'-2"	11 11/32"	2'-26 1/8"	1	49	126	32	
5'-3"	12 1/32"	2'-27 1/8"	1	50	129	33	
5'-4"	12 3/32"	2'-28 1/8"	1	51	132	33	

**SPRUNG ARCHES**  
 2.302" rise per foot of span  
 9" x 4 1/2" x 2 1/2", 9" x 6 3/4" x 2 1/2" or 9" x 9" x 2 1/2"  
 Central Angle=84°  
 Standard sideskews to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				TOTAL
			No. 2 WEDGE 9x4 1/2" X (2 1/2"-1 1/2")	No. 1 WEDGE 9x4 1/2" X (2 1/2"-2 1/4")	1-X WEDGE 9x4 1/2" X (2 1/2"-2 1/4")	STRAIGHTS 9x4 1/2" x 2 1/2"	
5'-4"	1'-0 9/32"	3'-1 17/32"	13	21	21	34	
5'-5"	1'-0 11/32"	3'-0 19/32"	13	21	21	34	
5'-6"	1'-0 13/32"	3'-0 21/32"	13	22	22	35	
5'-7"	1'-0 15/32"	3'-0 23/32"	12	23	23	35	
5'-8"	1'-0 17/32"	3'-0 25/32"	12	24	24	36	
5'-9"	1'-0 19/32"	3'-0 27/32"	11	25	25	36	
5'-10"	1'-0 21/32"	3'-0 29/32"	11	26	26	37	
5'-11"	1'-0 23/32"	3'-0 31/32"	11	27	27	38	
6'-0"	1'-0 25/32"	3'-0 33/32"	10	28	28	38	
6'-1"	1'-0 27/32"	3'-0 35/32"	10	29	29	39	
6'-2"	1'-0 29/32"	3'-0 37/32"	9	30	30	39	
6'-3"	1'-0 31/32"	3'-0 39/32"	9	31	31	40	
6'-4"	1'-0 33/32"	3'-0 41/32"	9	32	32	41	
6'-5"	1'-0 35/32"	3'-0 43/32"	8	33	33	41	
6'-6"	1'-0 37/32"	3'-0 45/32"	8	34	34	42	
6'-7"	1'-0 39/32"	3'-0 47/32"	7	35	35	42	
6'-8"	1'-0 41/32"	3'-0 49/32"	7	36	36	43	
6'-9"	1'-0 43/32"	3'-0 51/32"	7	37	37	44	
6'-10"	1'-0 45/32"	3'-0 53/32"	6	38	38	44	
6'-11"	1'-0 47/32"	3'-0 55/32"	6	39	39	45	
7'-0"	1'-0 49/32"	3'-0 57/32"	5	40	40	45	
7'-1"	1'-0 51/32"	3'-0 59/32"	5	41	41	46	
7'-2"	1'-0 53/32"	3'-0 61/32"	5	42	42	46	
7'-3"	1'-0 55/32"	3'-0 63/32"	4	43	43	47	
7'-4"	1'-0 57/32"	3'-0 65/32"	4	44	44	48	
7'-5"	1'-0 59/32"	3'-0 67/32"	4	45	45	49	
7'-6"	1'-0 61/32"	3'-0 69/32"	4	46	46	50	
7'-7"	1'-0 63/32"	3'-0 71/32"	4	47	47	51	
7'-8"	1'-0 65/32"	3'-0 73/32"	4	48	48	52	
7'-9"	1'-0 67/32"	3'-0 75/32"	4	49	49	53	
7'-10"	1'-0 69/32"	3'-0 77/32"	4	50	50	54	
7'-11"	1'-0 71/32"	3'-0 79/32"	4	51	51	55	
8'-0"	1'-0 73/32"	3'-0 81/32"	4	52	52	56	
8'-1"	1'-0 75/32"	3'-0 83/32"	4	53	53	57	
8'-2"	1'-0 77/32"	3'-0 85/32"	4	54	54	58	
8'-3"	1'-0 79/32"	3'-0 87/32"	4	55	55	59	
8'-4"	1'-0 81/32"	3'-0 89/32"	4	56	56	60	
8'-5"	1'-0 83/32"	3'-0 91/32"	4	57	57	61	
8'-6"	1'-0 85/32"	3'-0 93/32"	4	58	58	62	
8'-7"	1'-0 87/32"	3'-0 95/32"	4	59	59	63	
8'-8"	1'-0 89/32"	3'-0 97/32"	4	60	60	64	
8'-9"	1'-0 91/32"	3'-0 99/32"	4	61	61	65	
8'-10"	1'-0 93/32"	3'-0 101/32"	4	62	62	66	
8'-11"	1'-0 95/32"	3'-0 103/32"	4	63	63	67	
9'-0"	1'-0 97/32"	3'-0 105/32"	4	64	64	68	
9'-1"	1'-0 99/32"	3'-0 107/32"	4	65	65	69	
9'-2"	1'-0 101/32"	3'-0 109/32"	4	66	66	70	
9'-3"	1'-0 103/32"	3'-0 111/32"	4	67	67	71	
9'-4"	1'-0 105/32"	3'-0 113/32"	4	68	68	72	
9'-5"	1'-0 107/32"	3'-0 115/32"	4	69	69	73	
9'-6"	1'-0 109/32"	3'-0 117/32"	4	70	70	74	
9'-7"	1'-0 111/32"	3'-0 119/32"	4	71	71	75	
9'-8"	1'-0 113/32"	3'-0 121/32"	4	72	72	76	
9'-9"	1'-0 115/32"	3'-0 123/32"	4	73	73	77	
9'-10"	1'-0 117/32"	3'-0 125/32"	4	74	74	78	
9'-11"	1'-0 119/32"	3'-0 127/32"	4	75	75	79	

**SPRUNG ARCHES**  
**2.302" rise per foot of span**  
**9" x 4 1/2" x 3", 9" x 6 3/4" x 3" or 9" x 9" x 3"**  
 Central Angle=84°  
 Standard sideskews to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				STRAIGHTS 9x4 1/2 x 3	TOTAL
			No. 3 WEDGE 9x4 1/2 x (3-2)	No. 2 WEDGE 9x4 1/2 x (3-2 1/4)	No. 1 WEDGE 9x4 1/2 x (3-2 1/4)			
2'-0"	4 3/32"	1'-5 1/16"	14				14	
2'-1"	4 3/32"	1'-6 1/16"	13				14	
2'-2"	5"	1'-7 1/16"	13	1			15	
2'-3"	5 3/8"	1'-8 1/16"	12	3			15	
2'-4"	5 3/8"	1'-9 1/16"	12	3			15	
2'-5"	5 7/16"	1'-10 1/16"	11	4			16	
2'-6"	5 7/16"	1'-11 1/16"	11	5			16	
2'-7"	5 11/16"	1'-12 1/16"	10	6			17	
2'-8"	6 1/8"	1'-13 1/16"	10	7			17	
2'-9"	6 1/8"	1'-14 1/16"	10	7			18	
2'-10"	6 1/2"	1'-15 1/16"	10	8			18	
2'-11"	6 3/32"	1'-16 1/16"	10	8			19	
3'-0"	6 5/32"	1'-17 1/16"	9	9			19	
3'-1"	7/32"	1'-18 1/16"	9	9			20	
3'-2"	7 1/32"	1'-19 1/16"	8	11			20	
3'-3"	7 1/2"	1'-20 1/16"	8	12			20	
3'-4"	7 1/2"	1'-21 1/16"	7	13			20	
3'-5"	8 1/8"	1'-22 1/16"	7	13			21	
3'-6"	8 1/8"	1'-23 1/16"	6	14			21	
3'-7"	8 1/4"	1'-24 1/16"	6	15			22	
3'-8"	8 1/4"	1'-25 1/16"	6	15			22	
3'-9"	8 5/8"	1'-26 1/16"	6	16			22	
3'-10"	8 5/8"	1'-27 1/16"	5	17			22	
3'-11"	9 1/32"	1'-28 1/16"	5	17			23	
4'-0"	9 1/32"	1'-29 1/16"	4	18			23	
4'-1"	9 1/32"	1'-30 1/16"	4	19			23	
4'-2"	9 1/2"	1'-31 1/16"	4	19			23	
4'-3"	9 1/2"	1'-32 1/16"	3	20			24	
4'-4"	9 1/2"	1'-33 1/16"	3	21			24	
4'-5"	10 1/32"	1'-34 1/16"	3	21			24	
4'-6"	10 1/32"	1'-35 1/16"	2	22			25	
4'-7"	10 1/32"	1'-36 1/16"	2	23			25	
4'-8"	10 1/2"	1'-37 1/16"	2	23			26	
4'-9"	10 1/2"	1'-38 1/16"	2	24			26	
4'-10"	11 1/8"	1'-39 1/16"	2	25			26	
4'-11"	11 1/8"	1'-40 1/16"	1	26			27	
5'-0"	11 1/2"	1'-41 1/16"		27			27	
5'-1"	11 1/2"	1'-42 1/16"		26	1		27	
5'-2"	11 1/2"	1'-43 1/16"		26	2		28	
5'-3"	1'-0 3/32"	1'-44 1/16"		26	1		28	
5'-4"	1'-0 3/32"	1'-45 1/16"		25	3		28	
5'-5"	1'-0 3/32"	1'-46 1/16"		25	3		29	
5'-6"	1'-0 3/32"	1'-47 1/16"		25	4		29	
5'-7"	1'-0 3/32"	1'-48 1/16"		24	5		29	
5'-8"	1'-1 1/16"	1'-49 1/16"		24	6		30	

**SPRUNG ARCHES**  
**2.302" rise per foot of span**  
**9" x 4 1/2" x 3", 9" x 6 3/4" x 3" or 9" x 9" x 3"**  
 Central Angle=84°  
 Standard sideskews to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE				STRAIGHTS 9x4 1/2 x 3	TOTAL
			No. 3 WEDGE 9x4 1/2 x (3-2)	No. 2 WEDGE 9x4 1/2 x (3-2 1/4)	No. 1 WEDGE 9x4 1/2 x (3-2 1/4)			
5'-9"	1'-1 1/4"	4'-39 1/16"			7		30	
5'-10"	1'-1 1/4"	4'-45 1/16"			7		30	
5'-11"	1'-1 1/8"	4'-51 1/16"			8		31	
6'-0"	1'-2"	4'-57 1/16"			9		31	
6'-1"	1'-2 1/16"	4'-63 1/16"			9		31	
6'-2"	1'-2 1/16"	4'-69 1/16"			10		32	
6'-3"	1'-2 3/8"	4'-75 1/16"			11		32	
6'-4"	1'-2 3/8"	4'-81 1/16"			11		32	
6'-5"	1'-2 3/4"	4'-87 1/16"			11		33	
6'-6"	1'-2 3/4"	4'-93 1/16"			13		33	
6'-7"	1'-3 1/32"	4'-99 1/16"			13		34	
6'-8"	1'-3 1/32"	4'-105 1/16"			20		34	
6'-9"	1'-3 1/32"	4'-111 1/32"			19		34	
6'-10"	1'-3 1/32"	4'-117 1/32"			19		35	
6'-11"	1'-3 1/2"	4'-123 1/32"			18		35	
7'-0"	1'-4 1/8"	4'-129 1/32"			18		36	
7'-1"	1'-4 1/8"	4'-135 1/32"			18		36	
7'-2"	1'-4 1/4"	4'-141 1/32"			17		36	
7'-3"	1'-4 1/4"	4'-147 1/32"			17		37	
7'-4"	1'-4 1/2"	4'-153 1/32"			16		37	
7'-5"	1'-4 1/2"	4'-159 1/32"			16		38	
7'-6"	1'-4 3/4"	4'-165 1/32"			15		38	
7'-7"	1'-4 3/4"	4'-171 1/32"			15		38	
7'-8"	1'-5 1/16"	4'-177 1/32"			15		39	
7'-9"	1'-5 1/16"	4'-183 1/32"			14		39	
7'-10"	1'-5 1/16"	4'-189 1/32"			14		39	
7'-11"	1'-5 1/8"	4'-195 1/32"			14		40	
8'-0"	1'-6 1/32"	4'-201 1/32"			14		40	
8'-1"	1'-6 1/32"	4'-207 1/32"			12		41	
8'-2"	1'-6 1/8"	4'-213 1/32"			11		42	
8'-3"	1'-6 1/8"	4'-219 1/32"			10		43	
8'-4"	1'-6 3/8"	4'-225 1/32"			9		44	
8'-5"	1'-6 3/8"	4'-231 1/32"			8		45	
8'-6"	1'-6 7/16"	4'-237 1/32"			7		46	
8'-7"	1'-6 7/16"	4'-243 1/32"			6		47	
8'-8"	1'-6 3/4"	4'-249 1/32"			5		49	
8'-9"	1'-6 3/4"	4'-255 1/32"			4		50	
8'-10"	1'-6 7/8"	4'-261 1/32"			3		51	
8'-11"	1'-6 7/8"	4'-267 1/32"			2		52	
9'-0"	1'-7 1/16"	4'-273 1/32"			2		53	
9'-1"	1'-7 1/16"	4'-279 1/32"			2		55	
9'-2"	1'-7 1/8"	4'-285 1/32"			2		57	
9'-3"	1'-7 1/8"	4'-291 1/32"			4		59	
9'-4"	1'-7 3/8"	4'-297 1/32"			6		62	
9'-5"	1'-7 3/8"	4'-303 1/32"			9		64	
9'-6"	1'-7 7/16"	4'-309 1/32"			11		64	
9'-7"	1'-7 7/16"	4'-315 1/32"			13		66	



**SPRUNG ARCHES**  
**1.608" rise per foot of span**  
**12"x4 1/2"x3", 12"x6"x3" or 12"x9"x3"**  
 Brand 3878-B to be used for Skew

**SPRUNG ARCHES**  
**1.608" rise per foot of span**  
**12"x4 1/2"x3", 12"x6"x3" or 12"x9"x3"**  
 Brand 3878-B to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			TOTAL
			No. 2 WEDGE 12x6x (3-2 1/2")	No. 1 WEDGE 12x6x (3-2 1/2")	STRAIGHTS 12x6x3	
6'-0"	9 3/32"	6'-0"	21	9	...	30
6'-3"	10 1/16"	6'-3"	20	11	...	31
6'-6"	10 7/16"	6'-6"	19	13	...	32
6'-9"	10 7/32"	6'-9"	18	15	...	33
7'-0"	11 1/4"	7'-0"	17	17	...	34
7'-3"	11 3/32"	7'-3"	16	19	...	35
7'-6"	11 1/16"	7'-6"	15	21	...	36
7'-9"	11 1/32"	7'-9"	14	23	...	37
8'-0"	11 1/8"	8'-0"	13	25	...	38
8'-3"	11 1/4"	8'-3"	12	27	...	39
8'-6"	11 3/32"	8'-6"	11	29	...	40
8'-9"	11 1/16"	8'-9"	10	31	...	41
9'-0"	11 1/32"	9'-0"	8	34	...	42
9'-3"	11 1/8"	9'-3"	7	36	...	43
9'-6"	11 3/32"	9'-6"	6	38	...	44
9'-9"	11 1/16"	9'-9"	5	40	...	45
10'-0"	11 1/32"	10'-0"	4	42	...	46
10'-3"	11 1/8"	10'-3"	3	44	...	47
10'-6"	11 3/32"	10'-6"	2	46	...	48
10'-9"	11 1/16"	10'-9"	1	49	...	50
11'-0"	11 1/32"	11'-0"	...	51	...	51
11'-3"	11 1/8"	11'-3"	...	50	...	52
11'-6"	11 3/32"	11'-6"	...	48	...	53
11'-9"	11 1/16"	11'-9"	...	47	...	54
12'-0"	11 1/32"	12'-0"	...	46	...	55
12'-3"	11 1/8"	12'-3"	...	45	...	56
12'-6"	11 3/32"	12'-6"	...	44	...	57
12'-9"	11 1/16"	12'-9"	...	43	...	58
13'-0"	11 1/32"	13'-0"	...	42	...	59
13'-3"	11 1/8"	13'-3"	...	41	...	60
13'-6"	11 3/32"	13'-6"	...	40	...	61
13'-9"	11 1/16"	13'-9"	...	39	...	62
14'-0"	11 1/32"	14'-0"	...	38	...	63
14'-3"	11 1/8"	14'-3"	...	37	...	64
14'-6"	11 3/32"	14'-6"	...	36	...	65
14'-9"	11 1/16"	14'-9"	...	35	...	66
15'-0"	11 1/32"	15'-0"	...	34	...	67
15'-3"	11 1/8"	15'-3"	...	32	...	68
15'-6"	11 3/32"	15'-6"	...	31	...	69
15'-9"	11 1/16"	15'-9"	...	30	...	70
16'-0"	11 1/32"	16'-0"	...	29	...	71
16'-3"	11 1/8"	16'-3"	...	28	...	72
16'-6"	11 3/32"	16'-6"	...	27	...	73
16'-9"	11 1/16"	16'-9"	...	26	...	74
17'-0"	11 1/32"	17'-0"	...	25	...	76
17'-3"	11 1/8"	17'-3"	...	24	...	77
17'-6"	11 3/32"	17'-6"	...	23	...	78
17'-9"	11 1/16"	17'-9"	...	22	...	79

Continued Next Page

**SPRUNG ARCHES**  
**1.608" rise per foot of span**  
**13 1/2" x 4 1/2" x 3", 13 1/2" x 6" x 3" or 13 1/2" x 9" x 3"**  
 Central Angle = 60°  
 Brand 3878-C to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			STRAIGHTS 13 1/2" x 6" x 3"	TOTAL
			No. 2 WEDGE 13 1/2" x 6" x 3" (3-2 1/2")	No. 1 WEDGE 13 1/2" x 6" x 3" (3-2 1/2")	No. 1 X WEDGE 13 1/2" x 6" x 3" (3-2 1/2")		
18'-0"	2'-4 1/2"	18'-0"		33	47		80
18'-3"	2'-5 1/4"	18'-3"		32	49		81
18'-6"	2'-5 3/4"	18'-6"		31	51		82
18'-9"	2'-6"	18'-9"		30	54		84
19'-0"	2'-6 1/8"	19'-0"		29	56		85
19'-3"	2'-6 1/4"	19'-3"		28	58		86
19'-6"	2'-6 1/2"	19'-6"		27	60		87
19'-9"	2'-6 3/4"	19'-9"		26	62		88
20'-0"	2'-6 3/4"	20'-0"		25	64		89
20'-3"	2'-6 7/8"	20'-3"		24	66		90
20'-6"	2'-7"	20'-6"		23	68		91
20'-9"	2'-7 1/4"	20'-9"		22	70		92
21'-0"	2'-7 1/2"	21'-0"		21	72		93
21'-3"	2'-7 3/4"	21'-3"		19	75		94
21'-6"	2'-7 7/8"	21'-6"		18	77		95
21'-9"	2'-8"	21'-9"		17	79		96
22'-0"	2'-8 1/4"	22'-0"		16	81		97
22'-3"	2'-8 1/2"	22'-3"		15	83		98
22'-6"	2'-8 3/4"	22'-6"		14	85		99
22'-9"	2'-8 7/8"	22'-9"		13	87		100
23'-0"	2'-9"	23'-0"		12	89		101
23'-3"	2'-9 1/4"	23'-3"		11	91		102
23'-6"	2'-9 1/2"	23'-6"		10	93		103
23'-9"	2'-9 3/4"	23'-9"		9	95		104
24'-0"	2'-9 3/4"	24'-0"		8	97		105
24'-3"	2'-9 7/8"	24'-3"		7	99		106
24'-6"	2'-10"	24'-6"		6	101		107
24'-9"	2'-10 1/4"	24'-9"		5	104		109
25'-0"	2'-10 1/2"	25'-0"		4	106		110
25'-3"	2'-10 3/4"	25'-3"		3	108		111
25'-6"	2'-10 3/4"	25'-6"		2	110		112
25'-9"	2'-10 7/8"	25'-9"		1	112		113
26'-0"	2'-10 7/8"	26'-0"			113		114
26'-3"	2'-10 7/8"	26'-3"			113	1	115
26'-6"	2'-10 7/8"	26'-6"			113	2	116
26'-9"	2'-10 7/8"	26'-9"			113	3	117
27'-0"	2'-10 7/8"	27'-0"			113	4	118
27'-3"	2'-10 7/8"	27'-3"			113	5	119
27'-6"	2'-10 7/8"	27'-6"			113	6	120
27'-9"	2'-10 7/8"	27'-9"			113	7	121
28'-0"	2'-10 7/8"	28'-0"			113	8	122
28'-3"	2'-10 7/8"	28'-3"			113	9	123
28'-6"	2'-10 7/8"	28'-6"			113	10	124
28'-9"	2'-10 7/8"	28'-9"			113	11	125
29'-0"	2'-10 7/8"	29'-0"			113	12	126
29'-3"	2'-10 7/8"	29'-3"			113	13	127
29'-6"	2'-10 7/8"	29'-6"			113	14	128
29'-9"	2'-10 7/8"	29'-9"			113	15	129
30'-0"	2'-10 7/8"	30'-0"			113	16	130

**SPRUNG ARCHES**  
**1.608" rise per foot of span**  
**13 1/2" x 4 1/2" x 3", 13 1/2" x 6" x 3" or 13 1/2" x 9" x 3"**  
 Central Angle = 60°  
 Brand 3878-C to be used for Skew

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			STRAIGHTS 13 1/2" x 6" x 3"	TOTAL
			No. 2 WEDGE 13 1/2" x 6" x 3" (3-2 1/2")	No. 1 WEDGE 13 1/2" x 6" x 3" (3-2 1/2")	No. 1 X WEDGE 13 1/2" x 6" x 3" (3-2 1/2")		
6'-0"	9 1/2"	6'-0"	27	3			30
6'-3"	10 1/16"	6'-3"	26	5			31
6'-6"	10 1/8"	6'-6"	25	7			32
6'-9"	10 1/4"	6'-9"	24	9			33
7'-0"	11 1/8"	7'-0"	22	12			34
7'-3"	11 1/4"	7'-3"	21	14			35
7'-6"	11 1/2"	7'-6"	20	16			36
7'-9"	11 3/8"	7'-9"	18	18			38
8'-0"	11 3/4"	8'-0"	19	20			39
8'-3"	11 7/8"	8'-3"	17	22			40
8'-6"	12 1/8"	8'-6"	17	24			41
8'-9"	12 1/4"	8'-9"	16	26			42
9'-0"	12 1/2"	9'-0"	14	29			43
9'-3"	12 3/4"	9'-3"	13	31			44
9'-6"	12 7/8"	9'-6"	12	33			45
9'-9"	13 1/8"	9'-9"	11	35			46
10'-0"	13 1/4"	10'-0"	10	37			47
10'-3"	13 1/2"	10'-3"	9	39			48
10'-6"	13 3/4"	10'-6"	8	41			49
10'-9"	13 7/8"	10'-9"	7	43			50
11'-0"	14 1/8"	11'-0"	6	45			51
11'-3"	14 1/4"	11'-3"	5	47			52
11'-6"	14 1/2"	11'-6"	4	49			53
11'-9"	14 3/4"	11'-9"	3	51			54
12'-0"	14 7/8"	12'-0"	2	53			55
12'-3"	15 1/8"	12'-3"	1	55			56
12'-6"	15 1/4"	12'-6"		57			57
12'-9"	15 1/2"	12'-9"		56			58
13'-0"	15 3/4"	13'-0"		55	1		59
13'-3"	15 7/8"	13'-3"		53	3		60
13'-6"	16 1/8"	13'-6"		52	5		62
13'-9"	16 1/4"	13'-9"		51	7		63
14'-0"	16 1/2"	14'-0"		50	10		64
14'-3"	16 3/4"	14'-3"		49	12		65
14'-6"	16 7/8"	14'-6"		48	14		66
14'-9"	17 1/8"	14'-9"		47	16		67
15'-0"	17 1/4"	15'-0"		46	18		68
15'-3"	17 1/2"	15'-3"		45	20		69
15'-6"	17 3/4"	15'-6"		44	22		70
15'-9"	17 7/8"	15'-9"		43	24		71
16'-0"	18 1/8"	16'-0"		41	26		72
16'-3"	18 1/4"	16'-3"		40	28		73
16'-6"	18 1/2"	16'-6"		39	31		74
16'-9"	18 3/4"	16'-9"		38	33		75
17'-0"	18 7/8"	17'-0"		37	35		76
17'-3"	19 1/8"	17'-3"		36	37		77
17'-6"	19 1/4"	17'-6"		35	39		78
17'-9"	19 1/2"	17'-9"		34	41		79

SPRUNG ARCHES  
1.608" rise per foot of span  
15'x6"x3" or 15'x9"x3"

15-INCH ARCH THICKNESS  
Central Angle=60°

SPRUNG ARCHES  
1.608" rise per foot of span  
15'x6"x3" or 15'x9"x3"

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			TOTAL
			No. 2 WEDGE 15x6x3 (3-2 1/2)	No. 1 WEDGE 15x6x3 (3-2 1/2)	STRAIGHTS 15x6x3	
6'-3"	10 1/16"	6'-3"	32	2	...	32
6'-6"	10 7/16"	6'-6"	31	4	...	33
6'-9"	10 7/32"	6'-9"	30	4	...	34
7'-0"	11 1/4"	7'-0"	28	7	...	35
7'-3"	11 21/32"	7'-3"	27	9	...	36
7'-6"	11 1/2"	7'-6"	26	11	...	37
7'-9"	11 5/16"	7'-9"	25	13	...	38
8'-0"	11 1/8"	8'-0"	24	15	...	39
8'-3"	11 1/4"	8'-3"	23	17	...	40
8'-6"	11 3/8"	8'-6"	22	19	...	41
8'-9"	11 1/2"	8'-9"	21	21	...	42
9'-0"	11 5/16"	9'-0"	20	23	...	43
9'-3"	11 3/8"	9'-3"	19	25	...	44
9'-6"	11 1/2"	9'-6"	18	27	...	45
9'-9"	11 5/16"	9'-9"	17	29	...	46
10'-0"	11 1/4"	10'-0"	16	31	...	47
10'-3"	11 3/8"	10'-3"	15	34	...	49
10'-6"	11 1/2"	10'-6"	14	36	...	50
10'-9"	11 5/16"	10'-9"	13	38	...	51
11'-0"	11 3/8"	11'-0"	12	40	...	52
11'-3"	11 1/2"	11'-3"	11	42	...	53
11'-6"	11 5/16"	11'-6"	10	44	...	54
11'-9"	11 3/8"	11'-9"	9	46	...	55
12'-0"	11 1/4"	12'-0"	8	48	...	56
12'-3"	11 3/8"	12'-3"	7	50	...	57
12'-6"	11 1/2"	12'-6"	5	53	...	58
12'-9"	11 5/16"	12'-9"	4	55	...	59
13'-0"	11 3/8"	13'-0"	3	57	...	60
13'-3"	11 1/2"	13'-3"	2	59	...	61
13'-6"	11 5/16"	13'-6"	1	61	...	62
13'-9"	11 3/8"	13'-9"	...	63	...	63
14'-0"	11 1/4"	14'-0"	...	62	...	64
14'-3"	11 3/8"	14'-3"	2	61	...	65
14'-6"	11 1/2"	14'-6"	6	60	...	66
14'-9"	11 5/16"	14'-9"	8	59	...	67
15'-0"	11 3/8"	15'-0"	10	58	...	68
15'-3"	11 1/2"	15'-3"	12	57	...	69
15'-6"	11 5/16"	15'-6"	13	56	...	70
15'-9"	11 3/8"	15'-9"	17	55	...	72
16'-0"	11 1/4"	16'-0"	19	54	...	73
16'-3"	11 3/8"	16'-3"	21	53	...	74
16'-6"	11 1/2"	16'-6"	23	52	...	75
16'-9"	11 5/16"	16'-9"	25	51	...	76
17'-0"	11 3/8"	17'-0"	28	49	...	77
17'-3"	11 1/2"	17'-3"	30	48	...	78
17'-6"	11 5/16"	17'-6"	32	47	...	79
17'-9"	11 3/8"	17'-9"	34	46	...	80
18'-0"	11 1/4"	18'-0"	45	45	...	81

Continued Next Page

SPRUNG ARCHES  
1.608" rise per foot of span  
15'x6"x3" or 15'x9"x3"

15-INCH ARCH THICKNESS  
Central Angle=60°

SPRUNG ARCHES  
1.608" rise per foot of span  
15'x6"x3" or 15'x9"x3"

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			TOTAL
			No. 2 WEDGE 15x6x3 (3-2 1/2)	No. 1 WEDGE 15x6x3 (3-2 1/2)	STRAIGHTS 15x6x3	
18'-3"	2'-5 1/32"	18'-3"	...	44	...	82
18'-6"	2'-5 1/4"	18'-6"	...	43	...	83
18'-9"	2'-6 5/32"	18'-9"	...	42	...	84
19'-0"	2'-6 1/16"	19'-0"	...	41	...	85
19'-3"	2'-6 1/8"	19'-3"	...	40	...	86
19'-6"	2'-7 1/32"	19'-6"	...	39	...	87
19'-9"	2'-7 1/4"	19'-9"	...	38	...	88
20'-0"	2'-8 5/32"	20'-0"	...	37	...	89
20'-3"	2'-8 1/16"	20'-3"	...	36	...	90
20'-6"	2'-8 3/32"	20'-6"	...	35	...	91
20'-9"	2'-9 1/8"	20'-9"	...	34	...	92
21'-0"	2'-9 3/4"	21'-0"	...	33	...	94
21'-3"	2'-10 1/32"	21'-3"	...	32	...	95
21'-6"	2'-10 1/16"	21'-6"	...	31	...	96
21'-9"	2'-10 3/32"	21'-9"	...	30	...	97
22'-0"	2'-11 1/4"	22'-0"	...	29	...	98
22'-3"	2'-11 1/8"	22'-3"	...	28	...	99
22'-6"	2'-11 3/16"	22'-6"	...	26	...	100
22'-9"	2'-11 5/16"	22'-9"	...	25	...	101
23'-0"	2'-11 3/8"	23'-0"	...	24	...	102
23'-3"	2'-11 1/2"	23'-3"	...	23	...	103
23'-6"	2'-11 5/8"	23'-6"	...	22	...	104
23'-9"	2'-11 3/4"	23'-9"	...	21	...	105
24'-0"	2'-11 7/8"	24'-0"	...	20	...	106
24'-3"	2'-12 1/32"	24'-3"	...	19	...	107
24'-6"	2'-12 1/16"	24'-6"	...	18	...	108
24'-9"	2'-12 3/32"	24'-9"	...	17	...	109
25'-0"	2'-12 1/8"	25'-0"	...	16	...	110
25'-3"	2'-12 3/8"	25'-3"	...	15	...	111
25'-6"	2'-12 5/8"	25'-6"	...	14	...	112
25'-9"	2'-12 3/4"	25'-9"	...	13	...	113
26'-0"	2'-12 7/8"	26'-0"	...	12	...	114
26'-3"	2'-13 1/32"	26'-3"	...	10	...	115
26'-6"	2'-13 1/16"	26'-6"	...	9	...	116
26'-9"	2'-13 3/32"	26'-9"	...	9	...	118
27'-0"	2'-13 1/8"	27'-0"	...	8	...	119
27'-3"	2'-13 3/8"	27'-3"	...	7	...	120
27'-6"	2'-13 5/8"	27'-6"	...	6	...	121
27'-9"	2'-13 3/4"	27'-9"	...	4	...	122
28'-0"	2'-13 7/8"	28'-0"	...	3	...	123
28'-3"	2'-14 1/32"	28'-3"	...	2	...	124
28'-6"	2'-14 1/16"	28'-6"	...	1	...	125
28'-9"	2'-14 3/32"	28'-9"	...	...	...	126
29'-0"	2'-14 1/8"	29'-0"	...	...	1	127
29'-3"	2'-14 3/8"	29'-3"	...	...	2	128
29'-6"	2'-14 5/8"	29'-6"	...	...	3	129
29'-9"	2'-14 3/4"	29'-9"	...	...	4	130
30'-0"	2'-14 7/8"	30'-0"	...	...	5	131

**SPRUNG ARCHES**  
1.608" rise per foot of span

**SPRUNG ARCHES**  
1.608" rise per foot of span

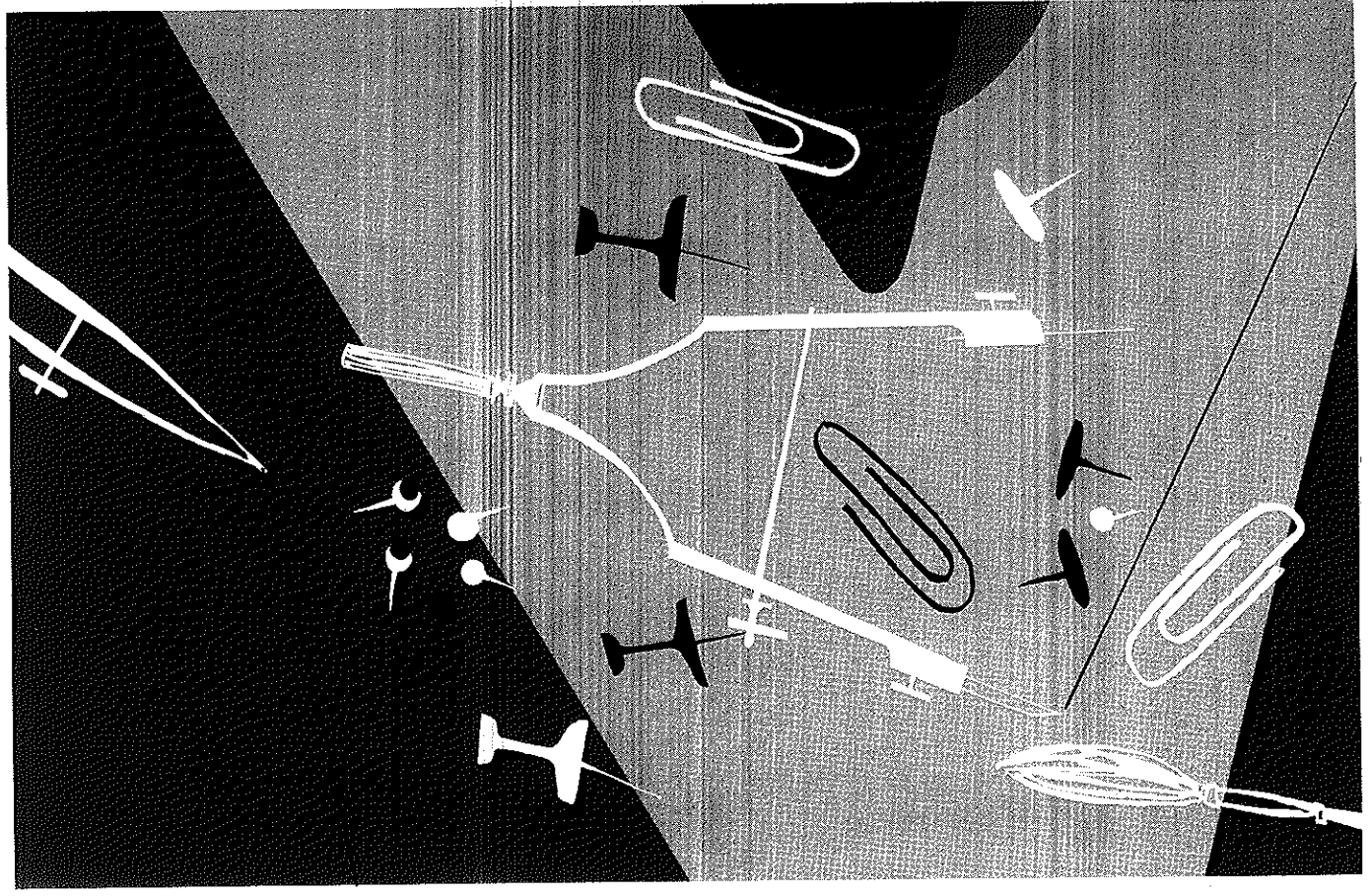
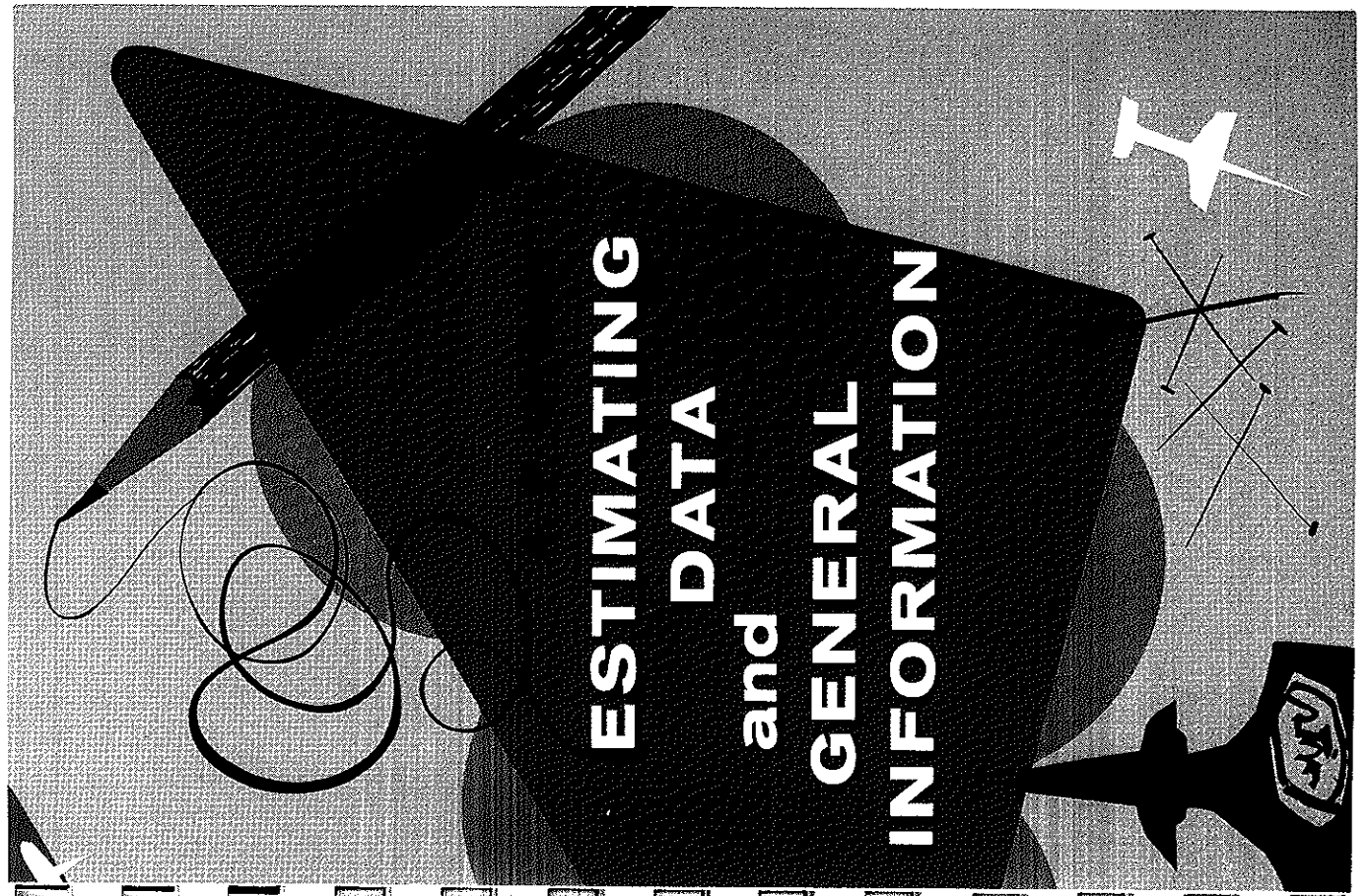
**18-INCH ARCH THICKNESS**  
Central Angle=60°

**18-INCH ARCH THICKNESS**  
Central Angle=60°

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			TOTAL
			No. 2 WEDGE 18x6x3 (3-2 1/2")	No. 1 WEDGE 18x6x3 (3-2 1/2")	STRAIGHTS 18x6x3	
20'-6"	2'-8 1/2"	20'-6"	58	34	.....	92
20'-9"	2'-9 3/4"	20'-9"	57	36	.....	93
21'-0"	2'-10"	21'-0"	56	38	.....	94
21'-3"	2'-10 3/4"	21'-3"	55	40	.....	96
21'-6"	2'-11"	21'-6"	55	42	.....	97
21'-9"	2'-11 1/4"	21'-9"	54	44	.....	98
22'-0"	2'-11 3/8"	22'-0"	53	46	.....	99
22'-3"	2'-11 3/4"	22'-3"	52	48	.....	100
22'-6"	2'-11 7/8"	22'-6"	50	51	.....	101
22'-9"	2'-12"	22'-9"	49	53	.....	102
23'-0"	2'-12 1/4"	23'-0"	48	55	.....	103
23'-3"	2'-12 1/2"	23'-3"	47	57	.....	104
23'-6"	2'-12 3/4"	23'-6"	46	59	.....	105
23'-9"	2'-13"	23'-9"	45	61	.....	106
24'-0"	2'-13 1/4"	24'-0"	44	63	.....	107
24'-3"	2'-13 1/2"	24'-3"	43	65	.....	108
24'-6"	2'-13 3/4"	24'-6"	42	67	.....	109
24'-9"	2'-14"	24'-9"	41	69	.....	110
25'-0"	2'-14 1/4"	25'-0"	40	71	.....	111
25'-3"	2'-14 1/2"	25'-3"	39	73	.....	112
25'-6"	2'-14 3/4"	25'-6"	38	75	.....	113
25'-9"	2'-15"	25'-9"	37	77	.....	114
26'-0"	2'-15 1/4"	26'-0"	36	79	.....	115
26'-3"	2'-15 1/2"	26'-3"	34	82	.....	116
26'-6"	2'-15 3/4"	26'-6"	33	84	.....	117
26'-9"	2'-16"	26'-9"	33	86	.....	119
27'-0"	2'-16 1/4"	27'-0"	32	88	.....	120
27'-3"	2'-16 1/2"	27'-3"	31	90	.....	121
27'-6"	2'-16 3/4"	27'-6"	30	92	.....	122
27'-9"	2'-17"	27'-9"	29	94	.....	123
28'-0"	2'-17 1/4"	28'-0"	27	97	.....	124
28'-3"	2'-17 1/2"	28'-3"	26	99	.....	125
28'-6"	2'-17 3/4"	28'-6"	25	101	.....	126
28'-9"	2'-18"	28'-9"	24	103	.....	127
29'-0"	2'-18 1/4"	29'-0"	23	105	.....	128
29'-3"	2'-18 1/2"	29'-3"	22	107	.....	129
29'-6"	2'-18 3/4"	29'-6"	21	109	.....	130
29'-9"	2'-19"	29'-9"	20	111	.....	131
30'-0"	2'-19 1/4"	30'-0"	19	113	.....	132
30'-3"	2'-19 1/2"	30'-3"	18	115	.....	133
30'-6"	2'-19 3/4"	30'-6"	17	117	.....	134
31'-0"	2'-20"	31'-0"	15	121	.....	136
31'-6"	2'-20 3/4"	31'-6"	12	126	.....	138
32'-0"	2'-21"	32'-0"	10	130	.....	140
32'-6"	2'-21 3/4"	32'-6"	9	134	.....	143
33'-0"	2'-22"	33'-0"	7	138	.....	145
33'-6"	2'-22 1/4"	33'-6"	4	143	.....	147
34'-0"	2'-22 1/2"	34'-0"	2	147	.....	149
34'-6"	2'-22 3/4"	34'-6"	.....	151	.....	151
35'-0"	2'-23"	35'-0"	.....	151	.....	153

SPAN	RISE	INSIDE RADIUS	BRICK REQUIRED PER COURSE			TOTAL
			No. 2 WEDGE 18x6x3 (3-2 1/2")	No. 1 WEDGE 18x6x3 (3-2 1/2")	STRAIGHTS 18x6x3	
8'-0"	1'-0 1/2"	8'-0"	36	4	.....	40
8'-3"	1'-1 1/4"	8'-3"	35	6	.....	41
8'-6"	1'-1 3/8"	8'-6"	34	8	.....	42
8'-9"	1'-1 1/2"	8'-9"	32	11	.....	43
9'-0"	1'-1 5/8"	9'-0"	31	13	.....	44
9'-3"	1'-1 3/4"	9'-3"	30	15	.....	45
9'-6"	1'-1 7/8"	9'-6"	29	17	.....	46
9'-9"	1'-2"	9'-9"	28	19	.....	47
10'-0"	1'-2 1/4"	10'-0"	28	21	.....	49
10'-3"	1'-2 1/2"	10'-3"	27	23	.....	50
10'-6"	1'-2 3/4"	10'-6"	25	26	.....	51
10'-9"	1'-2 7/8"	10'-9"	24	28	.....	52
11'-0"	1'-3"	11'-0"	23	30	.....	53
11'-3"	1'-3 1/4"	11'-3"	22	32	.....	54
11'-6"	1'-3 1/2"	11'-6"	21	34	.....	55
11'-9"	1'-3 3/4"	11'-9"	20	36	.....	56
12'-0"	1'-3 7/8"	12'-0"	19	38	.....	57
12'-3"	1'-4"	12'-3"	18	40	.....	58
12'-6"	1'-4 1/4"	12'-6"	17	42	.....	59
12'-9"	1'-4 1/2"	12'-9"	16	44	.....	60
13'-0"	1'-4 3/4"	13'-0"	15	46	.....	61
13'-3"	1'-4 7/8"	13'-3"	14	48	.....	62
13'-6"	1'-5"	13'-6"	13	50	.....	63
13'-9"	1'-5 1/4"	13'-9"	12	52	.....	64
14'-0"	1'-5 1/2"	14'-0"	11	54	.....	65
14'-3"	1'-5 3/4"	14'-3"	9	57	.....	66
14'-6"	1'-5 7/8"	14'-6"	8	59	.....	67
14'-9"	1'-6"	14'-9"	7	61	.....	68
15'-0"	1'-6 1/4"	15'-0"	6	63	.....	69
15'-3"	1'-6 1/2"	15'-3"	5	65	.....	70
15'-6"	1'-6 3/4"	15'-6"	5	67	.....	72
15'-9"	1'-6 7/8"	15'-9"	4	69	.....	73
16'-0"	1'-7"	16'-0"	2	72	.....	74
16'-3"	1'-7 1/4"	16'-3"	2	74	.....	75
16'-6"	1'-7 1/2"	16'-6"	1	76	.....	76
16'-9"	1'-7 3/4"	16'-9"	.....	75	.....	77
17'-0"	1'-7 7/8"	17'-0"	.....	74	.....	78
17'-3"	1'-8"	17'-3"	.....	72	.....	79
17'-6"	1'-8 1/4"	17'-6"	.....	71	.....	80
17'-9"	1'-8 1/2"	17'-9"	.....	70	.....	81
18'-0"	1'-8 3/4"	18'-0"	.....	69	.....	82
18'-3"	1'-8 7/8"	18'-3"	.....	68	.....	83
18'-6"	1'-9"	18'-6"	.....	67	.....	84
18'-9"	1'-9 1/4"	18'-9"	.....	66	.....	85
19'-0"	1'-9 1/2"	19'-0"	.....	65	.....	86
19'-3"	1'-9 3/4"	19'-3"	.....	64	.....	87
19'-6"	1'-9 7/8"	19'-6"	.....	63	.....	88
19'-9"	1'-10"	19'-9"	.....	62	.....	89
20'-0"	1'-10 1/4"	20'-0"	.....	61	.....	90
20'-3"	1'-10 1/2"	20'-3"	.....	60	.....	91

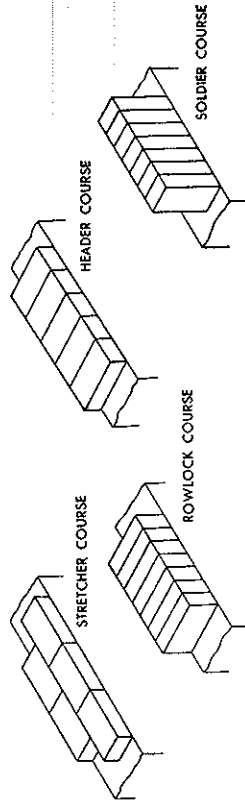
**ESTIMATING  
DATA  
and  
GENERAL  
INFORMATION**



**STANDARD FIREBRICK**

Approximate weight per brick.....	7.6-8.4 lb.	9" x 4 1/2" x 3"
Approximate weight per cubic foot.....	130-140 lb.	
One cubic foot requires.....	17.0 brick	
One square foot of wall or floor requires the following number of brick:		
2 1/2" thick.....	3.6	
3" thick.....	3.6	
4 1/2" thick.....	6.4	
5" thick.....	5.3	
6" thick.....	7.2	
7 1/2" thick.....	10.8	
9" thick.....	12.8	
13 1/2" thick.....	19.2	
18" thick.....	25.6	
22 1/2" thick.....	32.0	
27" thick.....	38.4	

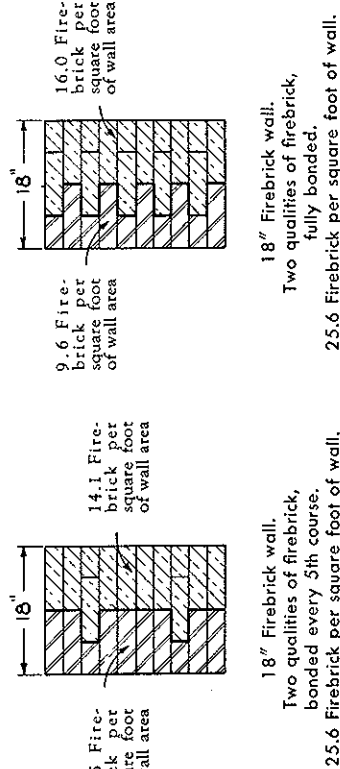
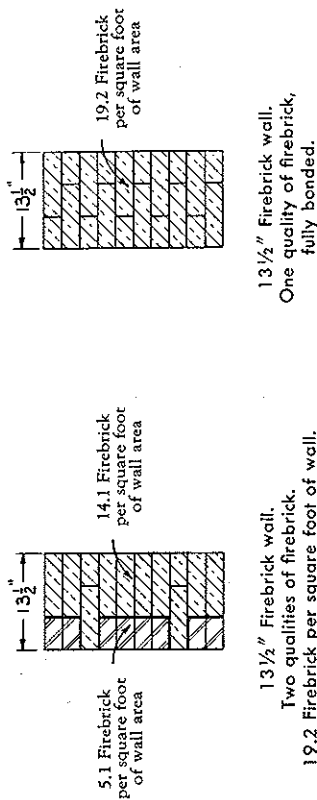
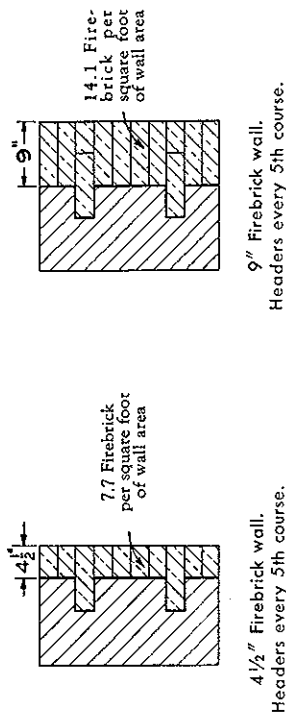
**FOUR BRICK ARRANGEMENTS OFTEN USED**



SIZE	MORTAR REQUIRED TO LAY 1,000 PIECES			
	@ 250 Lb. per M. 9" Straights	@ 300 Lb. per M. 9" Straights	@ 350 Lb. per M. 9" Straights	@ 400 Lb. per M. 9" Straights
9 x 4 1/2 x 2 1/2	250	300	350	400
9 x 4 1/2 x 3	270	325	380	435
9 x 6 x 2 1/2	305	370	430	490
9 x 6 x 3	335	400	465	535
9 x 6 x 3 1/2 Arches	355	425	500	570
9 x 6 1/2 x 2 1/2	335	405	475	540
9 x 6 1/2 x 3	365	435	510	580
9 x 9 x 2 1/2	425	510	595	680
12 x 6 x 2 1/2	395	470	550	630
12 x 6 x 3	425	510	595	680
13 1/2 x 4 1/2 x 2 1/2	355	425	500	570
13 1/2 x 6 x 2 1/2	435	520	610	695
13 1/2 x 6 x 3	470	560	660	750
9 x 6 x 4 Liners	515	460	385	615
9 x 9 x 4 Liners	515	460	385	615
9 x 4 1/2 x 9 Calliaus	545	655	765	875

For estimating data on specific A. P. Green mortars; see page 41.

Sectional views illustrating various types of firebrick walls with quantity figures to indicate the approximate number of brick required for each type of wall. The walls shown are of 9 x 4 1/2 x 2 1/2-inch brick.



### Estimating Data

#### CASTABLES

(See pages 60 to 81 for specific product information.)

PRODUCT	POUNDS OF MATERIAL REQUIRED PER SQUARE FOOT OF WALL THICKNESS - NET								
	1" Wall	2" Wall	3" Wall	4" Wall	5" Wall	6" Wall	7" Wall	8" Wall	9" Wall
Castable Block Mix	1.7	3.5	5.2	7.0	8.7	10.5	12.2	14.0	15.8
Castable Insulation No. 20	4.6	9.2	13.8	18.3	22.9	27.5	32.1	36.7	41.3
Castable No. 22	4.2	8.3	12.5	16.7	20.8	25.0	29.2	33.3	37.5
Castite	9.6	19.2	28.8	38.3	47.9	57.5	67.1	76.7	86.3
Castex 24 C	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0
Castex 25 C	10.2	20.3	30.5	40.7	50.8	61.0	71.2	81.3	91.5
Greencast-12	10.2	20.3	30.5	40.7	50.8	61.0	71.2	81.3	91.5
Greencast-12 GR (Gunned)	10.2	20.3	30.5	40.7	50.8	61.0	71.2	81.3	91.5
Greencast-12 GR (Troweled)	9.8	19.7	29.5	39.3	49.2	59.0	68.8	78.7	88.5
Greencast-34	13.6	27.2	40.8	54.3	67.9	81.5	95.1	108.7	122.3
Greencast-34 GR	13.3	26.7	40.0	53.3	66.7	80.0	93.3	106.7	120.0
Greencast-97	12.8	25.5	38.3	51.0	63.8	76.5	89.3	102.0	114.8
Greencast-97 GR	13.3	26.7	40.0	53.3	66.7	80.0	93.3	106.7	120.0
Greencast-97 L GR	7.1	14.2	21.3	28.3	35.4	42.5	49.6	56.7	63.8
Greencast-28 GR	8.8	17.5	26.3	35.0	43.8	52.5	61.3	70.0	78.8
Greencast-28 GR	10.3	20.5	30.8	41.0	51.3	61.5	71.8	82.0	92.3
Greencast-22-L GR	8.0	16.0	24.0	32.0	40.0	48.0	56.0	64.0	72.0
Greencrete ARC	17.2	34.3	51.3	68.3	85.3	102.3	119.3	136.3	153.3
Green Crete C Standard	13.9	27.8	41.8	55.7	69.6	83.5	97.4	111.3	125.3
Green Crete C Super	14.6	29.2	43.8	58.3	72.9	87.5	102.1	116.7	131.3
Gunweld-90	17.5	35.0	52.5	70.0	87.5	105.0	122.5	140.0	157.5
Gunweld-70	15.5	31.0	46.5	62.0	77.5	93.0	108.5	124.0	139.5
Gunweld-50	14.0	28.0	42.0	56.0	70.0	84.0	98.0	112.0	126.0
Hydrocrete	12.0	24.0	36.0	48.0	60.0	72.0	84.0	96.0	108.0
Hydroset	12.5	25.0	37.5	50.0	62.5	75.0	87.5	100.0	112.5
Kast-O-Life 30	9.0	18.0	27.0	36.0	45.0	54.0	63.0	72.0	81.0
Kast-O-Life 30 GR	9.7	19.4	29.1	38.8	48.5	58.2	67.9	77.6	87.3
Kast-O-Life 25	8.2	16.4	24.6	32.8	41.0	49.2	57.4	65.6	73.8
Kast-O-Life 25 GR (Gunned)	8.8	17.6	26.4	35.2	44.0	52.8	61.6	70.4	79.2
Kast-Set	7.7	15.3	23.0	30.7	38.3	46.0	53.7	61.3	69.0
Krozite Castable	11.5	23.0	34.5	46.0	57.5	69.0	80.5	92.0	103.5
KS-4 (Gunned)	12.1	24.2	36.3	48.3	60.4	72.5	84.5	96.5	108.5
KS-4	9.8	19.7	29.5	39.3	49.2	59.0	68.8	78.7	88.5
KS-4V (Gunned)	10.4	20.8	31.3	41.7	52.1	62.5	72.9	83.3	93.8
KS-4V	12.2	24.3	36.4	48.5	60.6	72.7	84.8	96.9	109.0
Lo-Abrade	13.2	26.4	39.6	52.8	66.0	79.2	92.4	105.6	118.8
Lo-Abrade GR	13.0	26.0	39.0	52.0	65.0	78.0	91.0	104.0	117.0
MC-22	10.7	21.3	32.0	42.7	53.3	64.0	74.7	85.3	96.0
MC-25	12.5	25.0	37.5	50.0	62.5	75.0	87.5	100.0	112.5
MC-30	10.1	20.2	30.3	40.3	50.4	60.5	70.6	80.7	90.8
MC-34	9.8	19.7	29.5	39.3	49.2	59.0	68.8	78.7	88.5
Mizzou Castable	11.7	23.3	35.0	46.7	58.3	70.0	81.7	93.3	105.0
Mizzou GR	13.0	26.0	39.0	52.0	65.0	78.0	91.0	104.0	117.0
Petrocrete-ER	10.6	21.1	31.7	42.2	52.7	63.2	73.7	84.2	94.7
SK-7	4.4	8.8	13.2	17.6	22.0	26.4	30.8	35.2	39.6
SK-7 (Gunned)	3.7	7.4	11.0	14.7	18.3	22.0	25.7	29.4	33.0
Steelkon	4.6	9.2	13.8	18.3	22.9	27.5	32.0	36.5	41.0
Steelkon BF (Gunned)	13.3	26.6	39.9	53.2	66.5	79.8	93.1	106.4	119.7
Steelkon GR	11.1	22.2	33.3	44.3	55.4	66.5	77.6	88.7	99.8
Steel Plant Castable A	13.0	26.0	39.0	52.0	65.0	78.0	91.0	104.0	117.0
Steel Plant Castable B	12.0	24.0	36.0	48.0	60.0	72.0	84.0	96.0	108.0
Super Kast-Set	12.2	24.3	36.4	48.5	60.6	72.7	84.8	96.9	109.0
VSL-50	4.2	8.3	12.5	16.7	20.8	25.0	29.2	33.3	37.5
VSL-50 (Gunned)	5.7	11.3	17.0	22.7	28.4	34.1	39.8	45.5	51.2

### Estimating Data

#### PLASTICS

(See pages 48 to 58 for specific product information.)

PRODUCT	POUNDS OF MATERIAL REQUIRED PER SQUARE FOOT OF WALL THICKNESS - NET								
	1" Wall	2" Wall	3" Wall	4" Wall	5" Wall	6" Wall	7" Wall	8" Wall	9" Wall
Graphpak	165	330	495	660	825	990	1155	1320	1485
Greenpak-85-P	185	370	555	740	925	1110	1295	1480	1665
Greenpak-85-PF	185	370	555	740	925	1110	1295	1480	1665
Greenpak-90-P	195	390	585	780	975	1170	1365	1560	1755
Greenpak-90-PF	185	370	555	740	925	1110	1295	1480	1665
Greenpak-80	175	350	525	700	875	1050	1225	1400	1575
Green P.C.	210	420	630	840	1050	1260	1470	1680	1890
Green-X	140	280	420	560	700	840	980	1120	1260
High Alumina Plastic	165	330	495	660	825	990	1155	1320	1485
Jade Pak-88-P	200	400	600	800	1000	1200	1400	1600	1800
Metalkleen	150	300	450	600	750	900	1050	1200	1350
Quik-Pak	140	280	420	560	700	840	980	1120	1260
Red-X	138	276	414	552	690	828	966	1104	1242
Super Fire Wall	142	284	426	568	710	852	994	1136	1278
Super G	148	296	444	592	739	887	1035	1183	1331
Super H	145	290	435	580	725	870	1015	1160	1305
Super Hybrid	145	290	435	580	725	870	1015	1160	1305
Super Plastic	145	290	435	580	725	870	1015	1160	1305
Val-Pak	135	270	405	540	675	810	945	1080	1215

#### RAMMING MIXES

(See page 83 for specific product information.)

Daupax-wet	140	280	420	560	700	840	980	1120	1260
Graphram	175	350	525	700	875	1050	1225	1400	1575
Greenram-80	172	344	516	688	860	1032	1204	1376	1548
Greenram-87 W	205	410	615	820	1025	1230	1435	1640	1845
Greenram-90 W	193	386	579	772	965	1158	1351	1544	1737
Greenram-SC	155	310	465	620	775	930	1085	1240	1395
Greenram-ZP	220	440	660	880	1100	1320	1540	1760	1980
Greenram-MA	170	340	510	680	850	1020	1190	1360	1530
Green Ram Super	172	344	516	688	860	1032	1204	1376	1548

#### FORMULAS

CIRCLE: Circumference = Diameter × 3.1416  
Area = Diameter<sup>2</sup> × .7854

TRIANGLE: Area = 1/2 base × perpendicular height.

CYLINDER: Volume = area of section × length.

CONE OR PYRAMID: Volume = area of base × 1/3 perpendicular height.

FRUSTUM OF A CONE: Volume = .2618 × perpendicular height × [large diameter<sup>2</sup> + small diameter<sup>2</sup> + product of large and small diameters.]

#### ARCHES:

$$\text{Radius} = \frac{\text{Span}^2}{8 \times \text{Rise}} + \frac{\text{Rise}}{2}$$

$$\text{Rise} = \text{Radius} - \sqrt{\text{Radius}^2 - \left(\frac{\text{Span}}{2}\right)^2}$$

$$\text{Rise} = \text{Radius} - (\text{Cosine } \frac{1}{2} \text{ central angle} \times \text{radius}).$$

The test for Pyrometric Cone Equivalent (P.C.E.) is the oldest and most widely used test for fire-clay refractories. By means of this test, the comparative fusion point of a refractory material is determined by comparison with Standard Pyrometric Cones having known fusion properties. Standard Pyrometric Cones are available in a wide range of temperature equivalents. They are made according to a definite formula and, when heated in a furnace operated under proper conditions at the correct rate, will bend at a definite temperature.

Shown below are the approximate temperature equivalents corresponding to the end points of those Standard Pyrometric Cones (P.C.E.) that are used in connection with refractory testing in accordance with A.S.T.M. Method C24.

**HOW TO USE ARCH CONSTANT TABLE**

Example: Given an arch, 9" in thickness, with 10'-0" span, and 17½" rise.

Then, the rise in inches per foot of span =  $\frac{17.5}{10} = 1.75$ " per foot.

To find radius:

$$\begin{aligned} \text{Radius} &= \text{Span} \times 0.9301 \text{ (from table)} \\ &= 120" \times 0.9301 \\ &= 111.6" = 9'-3\frac{1}{2}" \\ \text{Diameter} &= 223.2" = 18'-7" \end{aligned}$$

To find number of brick for each course in arch:

Use the wedge brick table showing the number of brick for a complete circle, using the inside diameter as figured above, and multiply by the factor shown under "Part of Circle" in the arch constant table. (In this example, 0.1807)

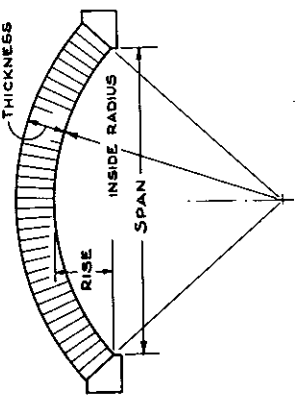
From the brick table showing 9" No. 1-X Wedges and 9" Straights (Page 132), we find it requires to turn an 18'-7" inside diameter circle, approximately 227 — 9" No. 1-X Wedges and 76 — 9" Straights.

Then, each course in the arch requires:

$$\begin{aligned} 227 \times 0.1807 &= 41 \text{ — } 9" \text{ No. 1-X Wedges} \\ 76 \times 0.1807 &= 14 \text{ — } 9" \text{ Straights} \end{aligned}$$

The same principle will apply in figuring arches of 4½" thickness using 9x4½x2½" arch brick tables, or in figuring arches of 13½" thickness using the 13½x6" wedge brick tables.

**Arch Constants**



Rise in Inches Per Foot of Span	Inside Radius	Part of Circle
1"	Span × 1.5417	0.1051
1¼"	Span × 1.2521	0.1308
1½"	Span × 1.0625	0.1560
1.608"	Span × 1.0000	0.1667
1¾"	Span × 0.9301	0.1807
2"	Span × 0.8333	0.2048
2½"	Span × 0.7604	0.2284
2.502"	Span × 0.7474	0.2333
2½"	Span × 0.7042	0.2513
2¾"	Span × 0.6600	0.2736
3"	Span × 0.6250	0.2952

CONE NUMBER	END POINT		CONE NUMBER	END POINT	
	DEGREE F.	DEGREE C.		DEGREE F.	DEGREE C.
12	2439	1337	31	3061	1683
13	2460	1349	31½	3090	1699
14	2548	1398	32	3123	1717
15	2606	1430	32½	3135	1724
16	2716	1491	33	3169	1743
17	2754	1512	34	3205	1763
18	2772	1522	35	3245	1785
19	2806	1541	36	3279	1804
20	2847	1564	37	3308	1820
23	2921	1605	38	3335	1835
26	2950	1621	39	3389	1865
27	2984	1640	40	3425	1885
28	2995	1646	41	3578	1970
29	3018	1659	42	3659	2015
30	3029	1665			

Cones 28 and 30 are shown above as information only. They are manufactured and used in special applications in industry but are not used in the P.C.E. test as specified by A.S.T.M. Method C24.

Heating Rate: Cones 12 to 37, incl.: 150° C. per hr.; Cone 38: 100° C. per hr.; Cones 39 to 42, incl.: 600° C. per hr.



Temperature Conversion Tables

NOTE:—The numbers in bold face type refer to the temperature either in degrees Centigrade or Fahrenheit which is to be converted into the other scale. If converting from Fahrenheit to Centigrade the equivalent temperature will be found in the left column. When converting from degrees Centigrade to Fahrenheit, the answer will be found in the column on the right. Interpolation factors are at the bottom right hand corner of the table.

C.	F.	C.	F.	C.	F.	C.	F.
-17.8	0	10.0	50	122.0	38	100	212
-17.2	1	10.6	51	123.8	43	110	230
-16.7	2	11.2	52	125.6	49	120	248
-16.1	3	11.7	53	127.4	54	130	266
-15.6	4	12.2	54	129.2	60	140	284
-15.0	5	12.8	55	131.0	66	150	302
-14.4	6	13.3	56	132.8	71	160	320
-13.9	7	13.9	57	134.6	77	170	338
-13.3	8	14.4	58	136.4	82	180	356
-12.8	9	15.0	59	138.2	88	190	374
-12.2	10	15.6	60	140.0	93	200	392
-11.7	11	16.1	61	141.8	99	210	410
-11.1	12	16.7	62	143.6	104	220	428
-10.6	13	17.2	63	145.4	110	230	446
-10.0	14	17.8	64	147.2	116	240	464
-9.44	15	18.3	65	149.0	121	250	482
-8.89	16	18.9	66	150.8	127	260	500
-8.33	17	19.4	67	152.6	132	270	518
-7.78	18	20.0	68	154.4	138	280	536
-7.22	19	20.6	69	156.2	143	290	554
-6.67	20	21.1	70	158.0	149	300	572
-6.11	21	21.7	71	159.8	154	310	590
-5.56	22	22.2	72	161.6	160	320	608
-5.00	23	22.8	73	163.4	166	330	626
-4.44	24	23.3	74	165.2	171	340	644
-3.89	25	23.9	75	167.0	177	350	662
-3.33	26	24.4	76	168.8	182	360	680
-2.78	27	25.0	77	170.6	188	370	698
-2.22	28	25.6	78	172.4	193	380	716
-1.67	29	26.1	79	174.2	199	390	734
-1.11	30	26.7	80	176.0	204	400	752
-0.56	31	27.2	81	177.8	210	410	770
0	32	27.8	82	179.6	216	420	788
0.56	33	28.3	83	181.4	221	430	806
1.11	34	28.9	84	183.2	227	440	824
1.67	35	29.4	85	185.0	232	450	842
2.22	36	29.9	86	186.8	238	460	860
2.78	37	30.6	87	188.6	243	470	878
3.33	38	31.1	88	190.4	249	480	896
3.89	39	31.7	89	192.2	254	490	914
4.44	40	32.2	90	194.0	260	500	932
5.00	41	32.8	91	195.8	266	510	950
5.56	42	33.3	92	197.6	271	520	968
6.11	43	33.9	93	199.4	277	530	986
6.67	44	34.4	94	201.2	282	540	1004
7.22	45	35.0	95	203.0	288	550	1022
7.78	46	35.6	96	204.8	293	560	1040
8.33	47	36.1	97	206.6	299	570	1058
8.89	48	36.7	98	208.4	304	580	1076
9.44	49	37.2	99	210.2	310	590	1094

Temperature Conversion Tables—Continued

C.	F.	C.	F.	C.	F.	C.	F.
598	1100	2012	871	1600	2912	1149	2100
599	1110	2030	877	1610	2930	1154	2110
604	1120	2048	882	1620	2948	1160	2120
610	1130	2066	888	1630	2966	1166	2130
616	1140	2084	893	1640	2984	1171	2140
621	1150	2102	899	1650	3002	1177	2150
627	1160	2120	904	1660	3020	1182	2160
632	1170	2138	910	1670	3038	1188	2170
638	1180	2156	916	1680	3056	1193	2180
643	1190	2174	921	1690	3074	1199	2190
649	1200	2192	927	1700	3092	1204	2200
654	1210	2210	932	1710	3110	1210	2210
660	1220	2228	938	1720	3128	1216	2220
666	1230	2246	943	1730	3146	1221	2230
671	1240	2264	949	1740	3164	1227	2240
677	1250	2282	954	1750	3182	1232	2250
682	1260	2300	960	1760	3200	1238	2260
688	1270	2318	966	1770	3218	1243	2270
693	1280	2336	971	1780	3236	1249	2280
699	1290	2354	977	1790	3254	1254	2290
704	1300	2372	982	1800	3272	1260	2300
710	1310	2390	988	1810	3290	1266	2310
716	1320	2408	993	1820	3308	1271	2320
721	1330	2426	999	1830	3326	1277	2330
727	1340	2444	1004	1840	3344	1282	2340
732	1350	2462	1010	1850	3362	1288	2350
738	1360	2480	1016	1860	3380	1293	2360
743	1370	2498	1021	1870	3398	1299	2370
749	1380	2516	1027	1880	3416	1304	2380
754	1390	2534	1032	1890	3434	1310	2390
760	1400	2552	1038	1900	3452	1316	2400
766	1410	2570	1043	1910	3470	1321	2410
771	1420	2588	1049	1920	3488	1327	2420
777	1430	2606	1054	1930	3506	1332	2430
782	1440	2624	1060	1940	3524	1338	2440
788	1450	2642	1066	1950	3542	1343	2450
793	1460	2660	1071	1960	3560	1349	2460
799	1470	2678	1077	1970	3578	1354	2470
804	1480	2696	1082	1980	3596	1360	2480
810	1490	2714	1088	1990	3614	1366	2490
816	1500	2732	1093	2000	3632	1371	2500
821	1510	2750	1099	2010	3650	1377	2510
827	1520	2768	1104	2020	3668	1382	2520
832	1530	2786	1110	2030	3686	1388	2530
838	1540	2804	1116	2040	3704	1393	2540
843	1550	2822	1121	2050	3722	1399	2550
849	1560	2840	1127	2060	3740	1404	2560
854	1570	2858	1132	2070	3758	1410	2570
860	1580	2876	1138	2080	3776	1416	2580
866	1590	2894	1143	2090	3794	1421	2590

INTERPOLATION FACTORS	
0.56	1
1.11	2
1.67	3
2.22	4
2.78	5
3.33	6
3.89	7
4.44	8
5.00	9
5.56	10

Circumferences and Areas of Circles

Diam.	Circum.	Area	Diam.	Circum.	Area	Diam.	Circum.	Area
1/4	0.04909	0.00019	4	12.566	12.566	9 1/2	29.845	70.882
1/2	0.09818	0.00077	4 1/2	13.352	13.364	9 3/4	30.238	72.760
3/4	0.14727	0.00163	4 3/4	13.745	14.186	10	30.631	74.662
1	0.19635	0.00270	5	14.137	15.033	10 1/2	31.023	76.589
1 1/4	0.24544	0.00400	5 1/2	14.530	15.904	11	31.416	78.540
1 1/2	0.29452	0.00550	5 3/4	14.923	16.800	11 1/2	31.809	80.516
1 3/4	0.34361	0.00720	6	15.315	17.721	11 3/4	32.201	82.516
2	0.39270	0.00910	6 1/2	15.708	18.665	12	32.594	84.541
2 1/4	0.44179	0.01120	6 3/4	16.101	19.635	12 1/2	32.987	86.590
2 1/2	0.49087	0.01350	7	16.493	20.629	13	33.379	88.664
2 3/4	0.53995	0.01600	7 1/2	16.886	21.648	13 1/2	33.772	90.763
3	0.58905	0.01870	7 3/4	17.279	22.691	14	34.165	92.886
3 1/4	0.63813	0.02160	8	17.672	23.758	14 1/2	34.558	95.033
3 1/2	0.68722	0.02470	8 1/2	18.064	24.850	15	34.950	97.205
3 3/4	0.73631	0.02800	8 3/4	18.457	25.967	15 1/2	35.343	99.402
4	0.78540	0.03150	9	18.850	27.109	16	35.736	101.62
4 1/4	0.83449	0.03520	9 1/2	19.242	28.274	16 1/2	36.128	103.87
4 1/2	0.88358	0.03910	9 3/4	19.635	29.465	17	36.521	106.14
4 3/4	0.93267	0.04320	10	20.028	30.680	17 1/2	36.914	108.43
5	0.98176	0.04750	10 1/2	20.420	31.919	18	37.306	110.75
5 1/4	1.03085	0.05200	10 3/4	20.813	33.183	18 1/2	37.699	113.10
5 1/2	1.07994	0.05670	11	21.206	34.472	19	38.092	115.47
5 3/4	1.12903	0.06160	11 1/2	21.598	35.785	19 1/2	38.485	117.86
6	1.17812	0.06670	11 3/4	21.991	37.122	20	38.877	120.28
6 1/4	1.22721	0.07200	12	22.384	38.485	20 1/2	39.270	122.72
6 1/2	1.27630	0.07750	12 1/2	22.777	39.871	21	39.663	125.19
6 3/4	1.32539	0.08320	12 3/4	23.169	41.282	21 1/2	40.055	127.68
7	1.37448	0.08910	13	23.562	42.718	22	40.448	130.19
7 1/4	1.42357	0.09510	13 1/2	23.955	44.179	22 1/2	40.841	132.73
7 1/2	1.47266	0.09120	14	24.347	45.664	23	41.233	135.30
7 3/4	1.52175	0.09750	14 1/2	24.740	47.173	23 1/2	41.626	137.89
8	1.57084	0.10400	14 3/4	25.133	48.707	24	42.019	140.50
8 1/4	1.61993	0.11070	15	25.525	50.265	24 1/2	42.412	143.14
8 1/2	1.66902	0.11760	15 1/2	25.918	51.849	25	42.804	145.80
8 3/4	1.71811	0.12470	15 3/4	26.311	53.456	25 1/2	43.197	148.49
9	1.76720	0.13200	16	26.704	55.088	26	43.590	151.20
9 1/4	1.81629	0.13950	16 1/2	27.096	56.745	26 1/2	43.982	153.94
9 1/2	1.86538	0.14720	17	27.489	58.426	27	44.375	156.70
9 3/4	1.91447	0.15510	17 1/2	27.882	60.132	27 1/2	44.768	159.48
10	1.96356	0.16320	18	28.274	61.862	28	45.160	162.30
10 1/4	2.01265	0.17150	18 1/2	28.667	63.617	28 1/2	45.553	165.13
10 1/2	2.06174	0.18000	19	29.060	65.397	29	45.946	167.99
10 3/4	2.11083	0.18870	19 1/2	29.452	67.201	29 1/2	46.339	170.87
11	2.15992	0.19760	20	29.845	69.029	30	46.731	173.78

Circumferences and Areas of Circles—Continued

Diam.	Circum.	Area	Diam.	Circum.	Area	Diam.	Circum.	Area
15	47.124	176.71	20 1/2	64.403	330.06	26	81.681	530.93
15 1/4	47.517	179.67	20 3/4	64.795	334.10	26 1/4	82.074	536.05
15 1/2	47.909	182.65	21	65.188	338.16	26 1/2	82.467	541.19
15 3/4	48.302	185.66	21 1/4	65.581	342.25	26 3/4	82.860	546.35
16	48.695	188.69	21 1/2	65.973	346.36	27	83.252	551.55
16 1/4	49.087	191.75	21 3/4	66.366	350.50	27 1/4	83.645	556.76
16 1/2	49.480	194.83	22	66.759	354.66	27 1/2	84.038	562.00
16 3/4	49.873	197.93	22 1/4	67.152	358.84	27 3/4	84.430	567.27
17	50.266	201.06	22 1/2	67.544	363.05	28	84.823	572.56
17 1/4	50.658	204.22	22 3/4	67.937	367.28	28 1/4	85.216	577.87
17 1/2	51.051	207.39	23	68.330	371.54	28 1/2	85.608	583.21
17 3/4	51.444	210.60	23 1/4	68.722	375.83	28 3/4	86.001	588.57
18	51.836	213.82	23 1/2	69.115	380.13	29	86.394	593.96
18 1/4	52.229	217.08	23 3/4	69.508	384.46	29 1/4	86.787	599.37
18 1/2	52.622	220.35	24	69.900	388.82	29 1/2	87.179	604.81
18 3/4	53.014	223.65	24 1/4	70.293	393.20	29 3/4	87.572	610.27
19	53.407	226.98	24 1/2	70.686	397.61	30	87.965	615.75
19 1/4	53.800	230.33	24 3/4	71.079	402.04	30 1/4	88.357	621.26
19 1/2	54.193	233.71	25	71.471	406.49	30 1/2	88.750	626.80
19 3/4	54.585	237.10	25 1/4	71.864	410.97	30 3/4	89.143	632.36
20	54.978	240.53	25 1/2	72.257	415.48	31	89.535	637.94
20 1/4	55.371	243.98	25 3/4	72.649	420.00	31 1/4	89.928	643.55
20 1/2	55.763	247.45	26	73.042	424.56	31 1/2	90.321	649.18
20 3/4	56.156	250.95	26 1/4	73.435	429.13	31 3/4	90.714	654.84
21	56.549	254.47	26 1/2	73.827	433.74	32	91.106	660.52
21 1/4	56.941	258.02	26 3/4	74.220	438.36	32 1/4	91.499	666.23
21 1/2	57.334	261.59	27	74.613	443.01	32 1/2	91.892	671.96
21 3/4	57.727	265.18	27 1/4	75.006	447.69	32 3/4	92.284	677.71
22	58.120	268.80	27 1/2	75.398	452.39	33	92.677	683.49
22 1/4	58.512	272.45	27 3/4	75.791	457.11	33 1/4	93.070	689.30
22 1/2	58.905	276.12	28	76.184	461.86	33 1/2	93.462	695.13
22 3/4	59.298	279.81	28 1/4	76.578	466.64	33 3/4	93.855	700.98
23	59.690	283.53	28 1/2	76.969	471.44	34	94.248	706.86
23 1/4	60.083	287.27	28 3/4	77.362	476.26	34 1/4	94.641	712.76
23 1/2	60.476	291.04	29	77.754	481.11	34 1/2	95.033	718.69
23 3/4	60.868	294.83	29 1/4	78.147	485.98	34 3/4	95.426	724.64
24	61.261	298.65	29 1/2	78.540	490.87	35	95.819	730.62
24 1/4	61.654	302.49	29 3/4	78.933	495.79	35 1/4	96.211	736.62
24 1/2	62.047	306.35	30	79.325	500.74	35 1/2	96.604	742.64
24 3/4	62.439	310.24	30 1/4	79.718	505.71	35 3/4	96.997	748.69
25	62.832	314.16	30 1/2	80.111	510.71	36	97.389	754.77
25 1/4	63.225	318.10	30 3/4	80.503	515.72	36 1/4	97.782	760.87
25 1/2	63.617	322.06	31	80.896	520.77	36 1/2	98.175	766.99
25 3/4	64.010	326.05	31 1/4	81.289	525.84	36 3/4	98.568	773.14

Circumferences and Areas of Circles—Continued

Diam.	Circum.	Area	Diam.	Circum.	Area	Diam.	Circum.	Area
31 1/2	98.960	779.31	37	116.24	1075.2	42 1/2	133.52	1418.6
31 5/8	99.353	785.51	37 1/8	116.63	1082.5	42 5/8	133.91	1427.0
31 3/4	99.746	791.73	37 1/4	117.02	1089.8	43	134.30	1435.4
31 7/8	100.14	797.98	37 3/8	117.42	1097.1	43 1/8	134.70	1443.8
32	100.53	804.25	37 1/2	117.81	1104.5	43 1/4	135.09	1452.2
32 1/8	100.92	810.54	37 3/4	118.20	1111.8	43 3/8	135.48	1460.7
32 1/4	101.32	816.86	37 7/8	118.60	1119.2	43 1/2	135.87	1469.1
32 3/8	101.71	823.21	38	118.99	1126.7	43 3/4	136.27	1477.6
32 1/2	102.10	829.58	38 1/8	119.38	1134.1	43 7/8	136.66	1486.2
32 3/4	102.49	835.97	38 1/4	119.77	1141.6	44	137.05	1494.7
32 7/8	102.89	842.39	38 1/2	120.17	1149.1	44 1/8	137.45	1503.3
33	103.28	848.83	38 3/4	120.56	1156.6	44 1/4	137.84	1511.9
33 1/8	103.67	855.30	38 7/8	120.95	1164.2	44 1/2	138.23	1520.5
33 1/4	104.07	861.79	39	121.34	1171.7	44 3/8	138.62	1529.2
33 1/2	104.46	868.31	39 1/8	121.74	1179.3	44 1/2	139.02	1537.9
33 3/4	104.85	874.85	39 1/4	122.13	1186.9	44 3/4	139.41	1546.6
33 7/8	105.24	881.41	39 1/2	122.52	1194.6	44 7/8	139.80	1555.3
34	105.64	888.00	39 3/4	122.92	1202.3	44 7/8	140.19	1564.0
34 1/8	106.03	894.62	39 7/8	123.31	1210.0	44 7/4	140.59	1572.8
34 1/4	106.42	901.26	39 7/8	123.70	1217.7	44 7/2	140.98	1581.6
34 3/8	106.81	907.92	39 7/4	124.09	1225.4	44 7/2	141.37	1590.3
34 1/2	107.21	914.61	39 3/2	124.48	1233.2	44 7/2	141.76	1599.3
34 3/4	107.60	921.32	39 3/4	124.88	1241.0	44 7/2	142.16	1608.2
34 7/8	107.99	928.06	39 3/4	125.27	1248.8	44 7/2	142.55	1617.0
34 7/8	108.39	934.82	40	125.66	1256.6	44 7/2	142.94	1626.0
34 7/4	108.78	941.61	40 1/8	126.05	1264.5	44 7/2	143.34	1634.9
34 7/2	109.17	948.42	40 1/4	126.45	1272.4	44 7/2	143.73	1643.9
34 7/2	109.56	955.25	40 1/2	126.84	1280.3	44 7/2	144.12	1652.9
34 7/2	109.96	962.11	40 3/4	127.24	1288.2	44 7/2	144.51	1661.9
34 7/2	110.35	969.00	40 3/4	127.63	1296.2	44 7/2	144.91	1670.9
34 7/2	110.74	975.91	40 3/4	128.02	1304.2	44 7/2	145.30	1680.0
34 7/2	111.13	982.84	40 3/4	128.41	1312.2	44 7/2	145.69	1689.1
34 7/2	111.53	989.80	41	128.81	1320.3	44 7/2	146.08	1698.2
34 7/2	111.92	996.78	41 1/8	129.20	1328.3	44 7/2	146.48	1707.4
34 7/2	112.31	1003.8	41 1/4	129.59	1336.4	44 7/2	146.87	1716.5
34 7/2	112.71	1010.8	41 1/4	129.98	1344.5	44 7/2	147.26	1725.7
34 7/2	113.10	1017.9	41 1/2	130.38	1352.7	44 7/2	147.66	1734.9
34 7/2	113.49	1025.0	41 3/4	130.77	1360.8	44 7/2	148.05	1744.2
34 7/2	113.88	1032.1	41 3/4	131.16	1369.0	44 7/2	148.44	1753.5
34 7/2	114.28	1039.2	41 3/4	131.55	1377.2	44 7/2	148.83	1762.7
34 7/2	114.67	1046.3	42	131.95	1385.4	44 7/2	149.22	1772.0
34 7/2	115.06	1053.5	42 1/8	132.34	1393.7	44 7/2	149.61	1781.3
34 7/2	115.45	1060.7	42 1/4	132.73	1402.0	44 7/2	150.00	1790.6
34 7/2	115.85	1068.0	42 1/4	133.13	1410.3	44 7/2	150.39	1799.9

Circumferences and Areas of Circles—Continued

Diam.	Circum.	Area	Diam.	Circum.	Area	Diam.	Circum.	Area
47 1/2	149.23	1772.1	60	188.50	2827.4	80	251.33	5026.5
47 3/8	149.62	1781.4	60 1/8	190.07	2874.8	80 1/8	252.90	5089.6
47 1/4	150.01	1790.8	61	191.64	2922.5	81	254.47	5153.0
47 3/4	150.40	1800.1	61 1/8	193.21	2970.6	81 1/8	256.04	5216.8
48	150.80	1809.6	62	194.78	3019.1	82	257.61	5281.0
48 1/8	151.19	1819.0	62 1/8	196.35	3068.0	82 1/8	259.18	5345.6
48 1/4	151.58	1828.5	63	197.92	3117.2	83	260.75	5410.6
48 3/8	151.97	1837.9	63 1/8	199.49	3166.9	83 1/8	262.32	5476.0
48 1/2	152.37	1847.5	64	201.06	3217.0	84	263.89	5541.8
48 3/8	152.76	1857.0	64 1/8	202.63	3267.5	84 1/8	265.47	5607.9
48 1/4	153.15	1866.5	65	204.20	3318.3	85	267.04	5674.5
48 3/4	153.55	1876.1	65 1/8	205.77	3369.6	85 1/8	268.61	5741.5
49	153.94	1885.7	66	207.35	3421.2	86	270.18	5808.8
49 1/8	154.33	1895.4	66 1/8	208.92	3473.2	86 1/8	271.75	5876.5
49 1/4	154.72	1905.0	67	210.49	3525.7	87	273.32	5944.7
49 3/8	155.12	1914.7	67 1/8	212.06	3578.5	87 1/8	274.89	6013.2
49 1/2	155.51	1924.4	68	213.63	3631.7	88	276.46	6082.1
49 3/8	155.90	1934.2	68 1/8	215.20	3685.3	88 1/8	278.03	6151.4
49 1/4	156.29	1943.9	69	216.77	3739.3	89	279.60	6221.1
49 3/4	156.69	1953.7	69 1/8	218.34	3793.7	89 1/8	281.17	6291.2
50	157.08	1963.5	70	219.91	3848.5	90	282.74	6361.7
50 1/8	157.47	1973.3	70 1/8	221.48	3903.6	90 1/8	284.31	6432.6
50 1/4	157.86	1983.1	71	223.05	3959.2	91	285.89	6503.9
50 3/8	158.25	1992.9	71 1/8	224.62	4015.2	91 1/8	287.46	6575.5
50 1/2	158.64	2002.7	72	226.20	4071.5	92	289.03	6647.6
50 3/8	159.03	2012.5	72 1/8	227.77	4128.2	92 1/8	290.60	6720.1
50 1/4	159.42	2022.3	73	229.34	4185.4	93	292.17	6792.9
50 3/4	159.81	2032.1	73 1/8	230.91	4242.9	93 1/8	293.74	6866.1
51	160.20	2041.9	74	232.48	4300.8	94	295.31	6939.8
51 1/8	160.59	2051.7	74 1/8	234.05	4359.2	94 1/8	296.88	7013.8
51 1/4	160.98	2061.5	75	235.62	4417.9	95	298.45	7088.2
51 3/8	161.37	2071.3	75 1/8	237.19	4477.0	95 1/8	300.02	7163.0
51 1/2	161.76	2081.1	76	238.76	4536.5	96	301.59	7238.2
51 3/8	162.15	2090.9	76 1/8	240.33	4596.3	96 1/8	303.16	7313.8
51 1/4	162.54	2100.7	77	241.90	4656.6	97	304.73	7389.8
51 3/4	162.93	2110.5	77 1/8	243.47	4717.3	97 1/8	306.31	7466.2
52	163.32	2120.3	78	245.04	4778.4	98	307.88	7543.0
52 1/8	163.71	2130.1	78 1/8	246.62	4839.8	98 1/8	309.45	7620.1
52 1/4	164.10	2140.0	79	248.19	4901.7	99	311.02	7697.7
52 3/8	164.49	2149.8	79 1/8	249.76	4963.9	99 1/8	312.59	7775.6

Conversion Factors

TO CONVERT: FROM TO  
 MULTIPLY BY ← → MULTIPLY BY

**LENGTH**

0.09937	Inches	25.4	Millimeters
0.3937	Inches	2.54	Centimeters
39.37	Inches	0.0254	Meters
3.2808	Feet	0.3048	Meters
1.0936	Yards	0.9144	Meters
0.62137	Statute Miles	1.6093	Kilometers

**AREA**

0.155	Square Inches	6.4516	Square Centimeters
10.764	Square Feet	0.0929	Square Meters
1.196	Square Yards	0.83613	Square Meters
0.0015625	Square Miles	640.	Acres
2.471	Acres	0.40469	Hectares

**VOLUME**

0.061023	Cubic Inches	16.387	Cubic Centimeters
27.	Cubic Feet	1728.	Cubic Inches
35.315	Cubic Feet	0.037037	Cubic Yards
0.03531	Cubic Feet	0.028317	Cubic Meters
0.13368	Cubic Feet	28.32	Liters
1.3079	Cubic Yards	7.4805	U.S. Gallons, Liq.
0.2642	U.S. Gallons, Liquid	0.76456	Cubic Meters
1.201	U.S. Gallons, Liquid	3.785	Liters
0.12	U.S. Gallons, Liquid	0.8327	Imperial Gallons
0.554	Ounces (Fluid)	8.336	Lb. of Water, 62° F.
		1.805	Cubic Inches

**VELOCITY**

88.	Feet per Minute	0.01136	Miles per Hour
1.467	Feet per Second	0.6818	Miles per Hour

Conversion Factors—Continued

TO CONVERT: FROM TO  
 MULTIPLY BY ← → MULTIPLY BY

**WEIGHT, BULK DENSITY**

0.035274	Ounces, Avoirdupois	28.350	Grams
0.0022046	Pounds, Avoirdupois	453.59	Grams
2.2046	Pounds, Avoirdupois	0.45359	Kilograms
2000.	Pounds, Avoirdupois	0.0005	Short Tons
2240.	Pounds, Avoirdupois	0.000446	Long Tons
1000.	Kilograms	0.001	Metric Tons
62.425	Pounds per Cubic Foot	0.016019	Grams per Cubic Centimeter
17.07	Pounds per Cubic Foot	0.05859	Pounds per 9" Equivalent
3.6575	Pounds per 9" Equivalent	0.27941	Grams per Cubic Centimeter
0.578	Ounces per Cubic Inch	1.73	Grams per Cubic Centimeter

**HEAT, ENERGY, POWER**

.003968	B.t.u.'s	252.0	Gram-Calories
3.968	B.t.u.'s	.2520	Kilogram-Calories
.001285	B.t.u.'s	778.26	Foot-Pounds
1.8	B.t.u.'s per Pound	.5556	Gram-Calories per Gram
.1124	B.t.u.'s per Cubic Foot	8.899	Kg.-Cal. per Cubic Meter
1.341	Horsepower	.7457	Kilowatts
.02357	Horsepower	42.42	B.t.u.'s per Minute

**PRESSURE**

14.22	Pounds per Square Inch	Kilograms per Sq. Cm.
14.696	Pounds per Square Inch	Atmospheres
.4335	Pounds per Square Inch	Feet of Water at 39.2° F.
.4912	Pounds per Square Inch	Inches of Mercury at 0° C.
2.0483	Pounds per Square Foot	Grams per Square Centimeter
.0334	Atmosphere	Inches of Mercury at 0° C.
.0295	Atmosphere	Feet of Water at 39.2° F.

**THERMAL CONDUCTIVITY**

.2712	Gm.-Cal. per Sq. Cm.	B.t.u.'s per Square Foot
.6889	Gm.-Cal. per Sq. Cm. for 1 Cm. Thickness	B.t.u.'s per Square Foot for 1" Thickness
1.24	Gm.-Cal. per Sq. Cm. per Hr. per 1° C. per Cm. Thickness	B.t.u.'s per Sq. Ft. per Hr. per 1° F. per Inch Thickness

### Decimal Equivalents of Fractions

.015625.....1/64	.515625....33/64
1/32.... .03125	17/32.... .53125
.046875.....3/64	.546875.....35/64
1/16..... .0625	9/16..... .5625
.078125.....5/64	.578125....37/64
3/32.... .09375	19/32.... .59375
.109375.....7/64	.609375.....39/64
1/8..... .125	5/8..... .625
.140625.....9/64	.640625....41/64
5/32.... .15625	21/32.... .65625
.171875.....11/64	.671875.....43/64
3/16..... .1875	11/16.... .6875
.203125....13/64	.703125....45/64
7/32.... .21875	23/32.... .71875
.234375.....15/64	.734375.....47/64
1/4..... .25	3/4..... .75
.265625....17/64	.765625....49/64
9/32.... .28125	25/32.... .78125
.296875 ....19/64	.796875.....51/64
5/16..... .3125	13/16.... .8125
.328125...21/64	.828125...53/64
11/32.... .34375	27/32.... .84375
.359375.....23/64	.859375.....55/64
3/8..... .375	7/8..... .875
.390625...25/64	.890625...57/64
13/32.... .40625	29/32.... .90625
.421875.....27/64	.921875.....59/64
7/16..... .4375	15/16.... .9375
.453125...29/64	.953125...61/64
15/32.... .46875	31/32... .96875
.484375.....31/64	.984375.....63/64
1/2..... .5	1..... 1.0

### Decimals of a Foot Equivalent to Inches and Fractions of an Inch

Inch	0	1	2	3	4	5	6	7	8	9	10	11
0	Foot	0.0833	0.1667	0.2500	0.3333	0.4167	0.5000	0.5833	0.6667	0.7500	0.8333	0.9167
1/32	0.026	.0859	.1693	.2526	.3359	.4193	.5026	.5859	.6693	.7526	.8359	.9193
1/16	.052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	.6719	.7552	.8385	.9219
3/32	.07875	.0911	.1745	.2578	.3411	.4245	.5078	.5911	.6745	.7578	.8411	.9245
1/8	.104	.0938	.1771	.2604	.3438	.4271	.5104	.5938	.6771	.7604	.8438	.9271
5/32	.130	.0964	.1797	.2630	.3464	.4297	.5130	.5964	.6797	.7630	.8464	.9297
3/16	.156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9223
7/32	.182	.1016	.1849	.2682	.3516	.4349	.5182	.6016	.6849	.7682	.8516	.9349
1/4	.208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375
5/32	.234	.1068	.1901	.2734	.3568	.4401	.5234	.6068	.6901	.7734	.8568	.9401
5/16	.260	.1094	.1927	.2760	.3594	.4427	.5260	.6094	.6927	.7760	.8594	.9427
11/32	.286	.1120	.1953	.2786	.3620	.4453	.5286	.6120	.6953	.7786	.8620	.9453
3/8	.313	.1146	.1979	.2813	.3646	.4479	.5313	.6146	.6979	.7813	.8646	.9479
13/32	.339	.1172	.2005	.2839	.3672	.4505	.5339	.6172	.7005	.7839	.8672	.9505
7/16	.365	.1198	.2031	.2865	.3698	.4531	.5365	.6198	.7031	.7865	.8698	.9531
15/32	.391	.1224	.2057	.2891	.3724	.4557	.5391	.6224	.7057	.7891	.8724	.9557
1/2	.417	.1250	.2083	.2917	.3750	.4583	.5417	.6250	.7083	.7917	.8750	.9583
17/32	.443	.1276	.2109	.2943	.3776	.4609	.5443	.6276	.7109	.7943	.8776	.9609
9/16	.469	.1302	.2135	.2969	.3802	.4635	.5469	.6302	.7135	.7969	.8802	.9635
19/32	.495	.1328	.2161	.2995	.3828	.4661	.5495	.6328	.7161	.7995	.8828	.9661
5/8	.521	.1354	.2188	.3021	.3854	.4688	.5521	.6354	.7188	.8021	.8854	.9688
21/32	.547	.1380	.2214	.3047	.3880	.4714	.5547	.6380	.7214	.8047	.8880	.9714
11/16	.573	.1406	.2240	.3073	.3906	.4740	.5573	.6406	.7240	.8073	.8906	.9740
23/32	.599	.1432	.2266	.3099	.3932	.4766	.5599	.6432	.7266	.8099	.8932	.9766
3/4	.625	.1458	.2292	.3125	.3958	.4792	.5625	.6458	.7292	.8125	.8958	.9792
25/32	.651	.1484	.2318	.3151	.3984	.4818	.5651	.6484	.7318	.8151	.8984	.9818
13/16	.677	.1510	.2344	.3177	.4010	.4844	.5677	.6510	.7344	.8177	.9010	.9844
27/32	.703	.1536	.2370	.3203	.4036	.4870	.5703	.6536	.7370	.8203	.9036	.9870
7/8	.729	.1563	.2396	.3229	.4063	.4896	.5729	.6563	.7396	.8229	.9063	.9896
29/32	.755	.1589	.2422	.3255	.4089	.4922	.5755	.6589	.7422	.8255	.9089	.9922
15/16	.781	.1615	.2448	.3281	.4115	.4948	.5781	.6615	.7448	.8281	.9115	.9948
31/32	.807	.1641	.2474	.3307	.4141	.4974	.5807	.6641	.7474	.8307	.9141	.9974
Inch	0	1	2	3	4	5	6	7	8	9	10	11

EXAMPLE: To find decimal equivalent in feet of 10 7/8 inches, read down under "10" and across from "7/8" and find .9063; 10 7/8 inches equals .9063 feet.

Millimeters	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters	Inches
1	.03937	101	3.97637	151	5.94487	201	7.91837
2	.07874	102	4.01574	152	5.98424	202	7.95774
3	.11811	103	4.05511	153	6.02361	203	7.99711
4	.15748	104	4.09448	154	6.06298	204	8.03648
5	.19685	105	4.13385	155	6.10235	205	8.07585
6	.23622	106	4.17322	156	6.14172	206	8.11522
7	.27559	107	4.21259	157	6.18109	207	8.15459
8	.31496	108	4.25196	158	6.22046	208	8.19396
9	.35433	109	4.29133	159	6.25983	209	8.23333
10	.39370	110	4.33070	160	6.29920	210	8.27270
11	.43307	111	4.37007	161	6.33857	211	8.31207
12	.47244	112	4.40944	162	6.37794	212	8.35144
13	.51181	113	4.44881	163	6.41731	213	8.39081
14	.55118	114	4.48818	164	6.45668	214	8.43018
15	.59055	115	4.52755	165	6.49605	215	8.46955
16	.62992	116	4.56692	166	6.53542	216	8.50892
17	.66929	117	4.60629	167	6.57479	217	8.54829
18	.70866	118	4.64566	168	6.61416	218	8.58766
19	.74803	119	4.68503	169	6.65353	219	8.62703
20	.78740	120	4.72440	170	6.69290	220	8.66640
21	.82677	121	4.76377	171	6.73227	221	8.70577
22	.86614	122	4.80314	172	6.77164	222	8.74514
23	.90551	123	4.84251	173	6.81101	223	8.78451
24	.94488	124	4.88188	174	6.85038	224	8.82388
25	.98425	125	4.92125	175	6.88975	225	8.86325
26	1.02362	126	4.96062	176	6.92912	226	8.90262
27	1.06299	127	4.99999	177	6.96849	227	8.94199
28	1.10236	128	5.03936	178	7.00786	228	8.98136
29	1.14173	129	5.07873	179	7.04723	229	9.02073
30	1.18110	130	5.11810	180	7.08660	230	9.06010
31	1.22047	131	5.15747	181	7.12597	231	9.09947
32	1.25984	132	5.19684	182	7.16534	232	9.13884
33	1.29921	133	5.23621	183	7.20471	233	9.17821
34	1.33858	134	5.27558	184	7.24408	234	9.21758
35	1.37795	135	5.31495	185	7.28345	235	9.25695
36	1.41732	136	5.35432	186	7.32282	236	9.29632
37	1.45669	137	5.39369	187	7.36219	237	9.33569
38	1.49606	138	5.43306	188	7.40155	238	9.37506
39	1.53543	139	5.47243	189	7.44093	239	9.41443
40	1.57480	140	5.51180	190	7.48030	240	9.45380
41	1.61417	141	5.55117	191	7.51967	241	9.49317
42	1.65354	142	5.59054	192	7.55904	242	9.53254
43	1.69291	143	5.62991	193	7.59841	243	9.57191
44	1.73228	144	5.66928	194	7.63778	244	9.61128
45	1.77165	145	5.70865	195	7.67715	245	9.65065
46	1.81102	146	5.74802	196	7.71652	246	9.68992
47	1.85039	147	5.78739	197	7.75589	247	9.72929
48	1.88976	148	5.82676	198	7.79526	248	9.76866
49	1.92913	149	5.86613	199	7.83463	249	9.80803
50	1.96850	150	5.90550	200	7.87400	250	9.84740

Millimeters	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters	Inches
251	9.88187	351	13.81887	451	17.75887	551	21.63587
252	9.92124	352	13.85824	452	17.79824	552	21.67524
253	9.96061	353	13.89761	453	17.83761	553	21.71461
254	9.99998	354	13.93698	454	17.87698	554	21.75398
255	10.03935	355	13.97635	455	17.91635	555	21.79335
256	10.07872	356	14.01572	456	17.95572	556	21.83272
257	10.11809	357	14.05509	457	17.99509	557	21.87209
258	10.15746	358	14.09446	458	18.03446	558	21.91146
259	10.19683	359	14.13383	459	18.07383	559	21.95083
260	10.23620	360	14.17320	460	18.11320	560	21.99020
261	10.27557	361	14.21257	461	18.15257	561	22.02957
262	10.31494	362	14.25194	462	18.19194	562	22.06894
263	10.35431	363	14.29131	463	18.23131	563	22.10831
264	10.39368	364	14.33068	464	18.27068	564	22.14768
265	10.43305	365	14.37005	465	18.31005	565	22.18705
266	10.47242	366	14.40942	466	18.34942	566	22.22642
267	10.51179	367	14.44879	467	18.38879	567	22.26579
268	10.55116	368	14.48816	468	18.42816	568	22.30516
269	10.59053	369	14.52753	469	18.46753	569	22.34453
270	10.62990	370	14.56690	470	18.50690	570	22.38390
271	10.66927	371	14.60627	471	18.54627	571	22.42327
272	10.70864	372	14.64564	472	18.58564	572	22.46264
273	10.74801	373	14.68501	473	18.62501	573	22.50201
274	10.78738	374	14.72438	474	18.66438	574	22.54138
275	10.82675	375	14.76375	475	18.70375	575	22.58075
276	10.86612	376	14.80312	476	18.74312	576	22.62012
277	10.90549	377	14.84249	477	18.78249	577	22.65949
278	10.94486	378	14.88186	478	18.82186	578	22.69886
279	10.98423	379	14.92123	479	18.86123	579	22.73823
280	11.02360	380	14.96060	480	18.89760	580	22.77760
281	11.06297	381	14.99997	481	18.93697	581	22.81697
282	11.10234	382	15.03934	482	18.97634	582	22.85634
283	11.14171	383	15.07871	483	19.01571	583	22.89571
284	11.18108	384	15.11808	484	19.05508	584	22.93508
285	11.22045	385	15.15745	485	19.09445	585	22.97445
286	11.25982	386	15.19682	486	19.13382	586	23.01382
287	11.29919	387	15.23619	487	19.17319	587	23.05319
288	11.33856	388	15.27556	488	19.21256	588	23.09256
289	11.37793	389	15.31493	489	19.25193	589	23.13193
290	11.41730	390	15.35430	490	19.29130	590	23.17130
291	11.45667	391	15.39367	491	19.33067	591	23.21067
292	11.49604	392	15.43304	492	19.37004	592	23.25004
293	11.53541	393	15.47241	493	19.40941	593	23.28941
294	11.57478	394	15.51178	494	19.44878	594	23.32878
295	11.61415	395	15.55115	495	19.48815	595	23.36815
296	11.65352	396	15.59052	496	19.52752	596	23.40752
297	11.69289	397	15.62989	497	19.56689	597	23.44689
298	11.73226	398	15.66926	498	19.60626	598	23.48626
299	11.77163	399	15.70863	499	19.64563	599	23.52563
300	11.81100	400	15.74800	500	19.68500	600	23.56500

Mm.	In.	Mm.	In.	Mm.	In.	Mm.	In.
501	19.72437	551	21.69287	601	23.66137	651	25.62987
502	19.76374	552	21.73224	602	23.70074	652	25.66924
503	19.80311	553	21.77161	603	23.74011	653	25.70861
504	19.84248	554	21.81098	604	23.77948	654	25.74798
505	19.88185	555	21.85035	605	23.81885	655	25.78735
506	19.92122	556	21.88972	606	23.85822	656	25.82672
507	19.96059	557	21.92909	607	23.89759	657	25.86609
508	19.99996	558	21.96846	608	23.93696	658	25.90546
509	20.03933	559	22.00783	609	23.97633	659	25.94483
510	20.07870	560	22.04720	610	24.01570	660	25.98420
511	20.11807	561	22.08657	611	24.05507	661	26.02357
512	20.15744	562	22.12594	612	24.09444	662	26.06294
513	20.19681	563	22.16531	613	24.13381	663	26.10231
514	20.23618	564	22.20468	614	24.17318	664	26.14168
515	20.27555	565	22.24405	615	24.21255	665	26.18105
516	20.31492	566	22.28342	616	24.25192	666	26.22042
517	20.35429	567	22.32279	617	24.29129	667	26.25979
518	20.39366	568	22.36216	618	24.33066	668	26.29916
519	20.43303	569	22.40153	619	24.37003	669	26.33853
520	20.47240	570	22.44090	620	24.40940	670	26.37790
521	20.51177	571	22.48027	621	24.44877	671	26.41727
522	20.55114	572	22.51964	622	24.48814	672	26.45664
523	20.59051	573	22.55901	623	24.52751	673	26.49601
524	20.62988	574	22.59838	624	24.56688	674	26.53538
525	20.66925	575	22.63775	625	24.60625	675	26.57475
526	20.70862	576	22.67712	626	24.64562	676	26.61412
527	20.74799	577	22.71649	627	24.68499	677	26.65349
528	20.78736	578	22.75586	628	24.72436	678	26.69286
529	20.82673	579	22.79523	629	24.76373	679	26.73223
530	20.86610	580	22.83460	630	24.80310	680	26.77160
531	20.90547	581	22.87397	631	24.84247	681	26.81097
532	20.94484	582	22.91334	632	24.88184	682	26.85034
533	20.98421	583	22.95271	633	24.92121	683	26.88971
534	21.02358	584	22.99208	634	24.96058	684	26.92908
535	21.06295	585	23.03145	635	24.99995	685	26.96845
536	21.10232	586	23.07082	636	25.03932	686	27.00782
537	21.14169	587	23.11019	637	25.07869	687	27.04719
538	21.18106	588	23.14956	638	25.11806	688	27.08656
539	21.22043	589	23.18893	639	25.15743	689	27.12593
540	21.25980	590	23.22830	640	25.19680	690	27.16530
541	21.29917	591	23.26767	641	25.23617	691	27.20467
542	21.33854	592	23.30704	642	25.27554	692	27.24404
543	21.37791	593	23.34641	643	25.31491	693	27.28341
544	21.41728	594	23.38578	644	25.35428	694	27.32278
545	21.45665	595	23.42515	645	25.39365	695	27.36215
546	21.49602	596	23.46452	646	25.43302	696	27.40152
547	21.53539	597	23.50389	647	25.47239	697	27.44089
548	21.57476	598	23.54326	648	25.51176	698	27.48026
549	21.61413	599	23.58263	649	25.55113	699	27.51963
550	21.65350	600	23.62200	650	25.59050	700	27.55900
551	21.69287	601	23.66137	651	25.62987	701	27.59837
552	21.73224	602	23.70074	652	25.66924	702	27.63774
553	21.77161	603	23.74011	653	25.70861	703	27.67711
554	21.81098	604	23.77948	654	25.74798	704	27.71648
555	21.85035	605	23.81885	655	25.78735	705	27.75585
556	21.88972	606	23.85822	656	25.82672	706	27.79522
557	21.92909	607	23.89759	657	25.86609	707	27.83459
558	21.96846	608	23.93696	658	25.90546	708	27.87396
559	22.00783	609	23.97633	659	25.94483	709	27.91333
560	22.04720	610	24.01570	660	25.98420	710	27.95270
561	22.08657	611	24.05507	661	26.02357	711	27.99207
562	22.12594	612	24.09444	662	26.06294	712	28.03144
563	22.16531	613	24.13381	663	26.10231	713	28.07081
564	22.20468	614	24.17318	664	26.14168	714	28.11018
565	22.24405	615	24.21255	665	26.18105	715	28.14955
566	22.28342	616	24.25192	666	26.22042	716	28.18892
567	22.32279	617	24.29129	667	26.25979	717	28.22829
568	22.36216	618	24.33066	668	26.29916	718	28.26766
569	22.40153	619	24.37003	669	26.33853	719	28.30703
570	22.44090	620	24.40940	670	26.37790	720	28.34640
571	22.48027	621	24.44877	671	26.41727	721	28.38577
572	22.51964	622	24.48814	672	26.45664	722	28.42514
573	22.55901	623	24.52751	673	26.49601	723	28.46451
574	22.59838	624	24.56688	674	26.53538	724	28.50388
575	22.63775	625	24.60625	675	26.57475	725	28.54325
576	22.67712	626	24.64562	676	26.61412	726	28.58262
577	22.71649	627	24.68499	677	26.65349	727	28.62199
578	22.75586	628	24.72436	678	26.69286	728	28.66136
579	22.79523	629	24.76373	679	26.73223	729	28.70073
580	22.83460	630	24.80310	680	26.77160	730	28.74010
581	22.87397	631	24.84247	681	26.81097	731	28.77947
582	22.91334	632	24.88184	682	26.85034	732	28.81884
583	22.95271	633	24.92121	683	26.88971	733	28.85821
584	22.99208	634	24.96058	684	26.92908	734	28.89758
585	23.03145	635	24.99995	685	26.96845	735	28.93695
586	23.07082	636	25.03932	686	27.00782	736	28.97632
587	23.11019	637	25.07869	687	27.04719	737	29.01569
588	23.14956	638	25.11806	688	27.08656	738	29.05506
589	23.18893	639	25.15743	689	27.12593	739	29.09443
590	23.22830	640	25.19680	690	27.16530	740	29.13380
591	23.26767	641	25.23617	691	27.20467	741	29.17317
592	23.30704	642	25.27554	692	27.24404	742	29.21254
593	23.34641	643	25.31491	693	27.28341	743	29.25191
594	23.38578	644	25.35428	694	27.32278	744	29.29128
595	23.42515	645	25.39365	695	27.36215	745	29.33065
596	23.46452	646	25.43302	696	27.40152	746	29.37002
597	23.50389	647	25.47239	697	27.44089	747	29.40939
598	23.54326	648	25.51176	698	27.48026	748	29.44876
599	23.58263	649	25.55113	699	27.51963	749	29.48813
600	23.62200	650	25.59050	700	27.55900	750	29.52750

Mm.	In.	Mm.	In.	Mm.	In.	Mm.	In.
751	29.56687	801	31.53537	851	33.50387	901	35.47237
752	29.60624	802	31.57474	852	33.54324	902	35.51174
753	29.64561	803	31.61411	853	33.58261	903	35.55111
754	29.68498	804	31.65348	854	33.62198	904	35.59048
755	29.72435	805	31.69285	855	33.66135	905	35.62985
756	29.76372	806	31.73222	856	33.70072	906	35.66922
757	29.80309	807	31.77159	857	33.74009	907	35.70859
758	29.84246	808	31.81096	858	33.77946	908	35.74796
759	29.88183	809	31.85033	859	33.81883	909	35.78733
760	29.92120	810	31.88970	860	33.85820	910	35.82670
761	29.96057	811	31.92907	861	33.89757	911	35.86607
762	29.99994	812	31.96844	862	33.93694	912	35.90544
763	30.03931	813	32.00781	863	33.97631	913	35.94481
764	30.07868	814	32.04718	864	34.01568	914	35.98418
765	30.11805	815	32.08655	865	34.05505	915	36.02355
766	30.15742	816	32.12592	866	34.09442	916	36.06292
767	30.19679	817	32.16529	867	34.13379	917	36.10229
768	30.23616	818	32.20466	868	34.17316	918	36.14166
769	30.27553	819	32.24403	869	34.21253	919	36.18103
770	30.31490	820	32.28340	870	34.25190	920	36.22040
771	30.35427	821	32.32277	871	34.29127	921	36.25977
772	30.39364	822	32.36214	872	34.33064	922	36.29914
773	30.43301	823	32.40151	873	34.37001	923	36.33851
774	30.47238	824	32.44088	874	34.40938	924	36.37788
775	30.51175	825	32.48025	875	34.44875	925	36.41725
776	30.55112	826	32.51962	876	34.48812	926	36.45662
777	30.59049	827	32.55899	877	34.52749	927	36.49599
778	30.62986	828	32.59836	878	34.56686	928	36.53536
779	30.66923	829	32.63773	879	34.60623	929	36.57473
780	30.70860	830	32.67710	880	34.64560	930	36.61410
781	30.74797	831	32.71647	881	34.68497	931	36.65347
782	30.78734	832	32.75584	882	34.72434	932	36.69284
783	30.82671	833	32.79521	883	34.76371	933	36.73221
784	30.86608	834	32.83458	884	34.80308	934	36.77158
785	30.90545	835	32.87395	885	34.84245	935	36.81095
786	30.944						

# INDEX

68-B . . . . . 38  
 80 ALUMINA . . . . . 15, 18  
 90-B . . . . . 19, 23  
 99-AD . . . . . 19, 23

## a

A-1 . . . . . 26  
 Acid Resistant Brick . . . . . 35  
 ACTO . . . . . 9  
 Advantages of Castables . . . . . 60  
 Advantages of Plastics . . . . . 49  
 Allied Products . . . . . 92  
 Alloy Anchors . . . . . 85  
 Alumina Mortars . . . . . 41, 44, 45  
 Alumina Ramming Mixes . . . . . 82  
 Anchorage Systems . . . . . 85, 86  
 A. P. Green Refractories Co. . . . . 4  
 Manufacturing Facilities . . . . . 7  
 Product Development . . . . . 5  
 Quality Control . . . . . 5  
 Research . . . . . 5  
 A. P. Green Services, Inc. . . . . 6  
 ARC-HARD D . . . . . 36  
 Arch Constants . . . . . 206  
 ATLANTIC FIRST . . . . . 11  
 ATMOSSET . . . . . 41

## b

Baffle Brick, Oil Burner . . . . . 93  
 Basic Brick . . . . . 29-32  
 Basic Castables . . . . . 74  
 Basic Mortars . . . . . 41, 46  
 Basic Ramming Mixes . . . . . 83  
 Basic Refractories . . . . . 28-32  
 BIG CHIEF . . . . . 15, 16  
 Blast Furnace Bottom Blocks . . . . . 163  
 Blast Furnace Keys . . . . . 107  
 Block Insulation . . . . . 88

Blocks, Car . . . . . 39  
 CTX . . . . . 39  
 SKC . . . . . 39  
 Blocks, Cupola . . . . . 102, 103  
 Blocks, Nose . . . . . 38  
 Blocks, Rear Arch. . . . . 93  
 Blocks, Rotary Kiln . . . . . 103  
 Blow-Off Protector Tile . . . . . 93

## Brick

Acid . . . . . 35  
 C-ACID . . . . . 35  
 G-ACID . . . . . 35  
 Basic . . . . . 28-32  
 DELTA 1 . . . . . 30  
 DELTA 50 . . . . . 30  
 GREEN B 80 . . . . . 31  
 GREEN B 70 . . . . . 31  
 GREEN-OX . . . . . 32  
 Checker Brick . . . . . 37  
 Extra High Alumina (85-99%) . . . . . 19-23  
 85%-DV . . . . . 19, 20  
 85%-DV-38 . . . . . 19, 21  
 85%-DV-38-P . . . . . 19, 20  
 90% GREENAL-90 . . . . . 19, 22  
 94% GREENAL-94 . . . . . 19, 22  
 99%-99-AD . . . . . 19, 23

## High Alumina (50-80%)

50%-BIG CHIEF . . . . . 15, 16  
 60%-MIZZOU . . . . . 15, 16  
 70%-KRUZITE D . . . . . 15, 17  
 70%-KRUZITE R . . . . . 15, 17  
 75%-DV-75-P . . . . . 15, 18  
 80%-80 ALUMINA . . . . . 15, 18  
 High Duty . . . . . 10, 11  
 ATLANTIC FIRST . . . . . 11  
 CHAMPION . . . . . 11  
 CLIMAX . . . . . 11  
 EMPIRE . . . . . 11  
 EMPIRE BF . . . . . 11  
 EMPIRE STOVE . . . . . 11  
 EMPIRES . . . . . 11

EMPIRE W . . . . . 11  
 HOT ZONE . . . . . 11  
 IDAHO . . . . . 11  
 MONARC . . . . . 11  
 PCP . . . . . 11  
 PYRO STEEL . . . . . 11  
 S-1 . . . . . 11  
 Insulating . . . . . 33, 34  
 GREENLITE . . . . . 33, 34  
 XSILITE . . . . . 35  
 Ladle Brick . . . . . 37  
 Low Duty . . . . . 9  
 ACTO . . . . . 9  
 KIMBERLY . . . . . 9  
 Medium Duty . . . . . 9  
 DIXIE . . . . . 9  
 D-SAVAGE . . . . . 9  
 LONE STAR . . . . . 9  
 MORRIS . . . . . 9  
 PAR . . . . . 9  
 Mullite . . . . . 25  
 CRYSTALITE . . . . . 25  
 CRYSTALITE A . . . . . 25  
 MUL-8 . . . . . 25  
 Pitch Bonded . . . . . 32  
 Semi-Mullite . . . . . 24  
 GREENMUL-60 . . . . . 24  
 Semi-Silica . . . . . 27  
 VALENTINE XX . . . . . 27  
 Silica . . . . . 27  
 XSIL . . . . . 27  
 XSIL-E . . . . . 27  
 Silicon Carbide . . . . . 26  
 A-1 . . . . . 26  
 Super Duty . . . . . 12, 14  
 CLIPPER . . . . . 12, 13  
 KX-99 . . . . . 12, 14  
 KX-99-BF . . . . . 12, 14  
 MEX-KO . . . . . 12, 13  
 SDS . . . . . 12  
 YUKON . . . . . 12, 13  
 Zircon . . . . . 26  
 Brick Combinations, Circles and Arches, Index . . . . . 109, 110  
 BTG Marine Burner Tile . . . . . 37

EMPIRE W . . . . . 11  
 HOT ZONE . . . . . 11  
 IDAHO . . . . . 11  
 MONARC . . . . . 11  
 PCP . . . . . 11  
 PYRO STEEL . . . . . 11  
 S-1 . . . . . 11  
 Insulating . . . . . 33, 34  
 GREENLITE . . . . . 33, 34  
 XSILITE . . . . . 35  
 Ladle Brick . . . . . 37  
 Low Duty . . . . . 9  
 ACTO . . . . . 9  
 KIMBERLY . . . . . 9  
 Medium Duty . . . . . 9  
 DIXIE . . . . . 9  
 D-SAVAGE . . . . . 9  
 LONE STAR . . . . . 9  
 MORRIS . . . . . 9  
 PAR . . . . . 9  
 Mullite . . . . . 25  
 CRYSTALITE . . . . . 25  
 CRYSTALITE A . . . . . 25  
 MUL-8 . . . . . 25  
 Pitch Bonded . . . . . 32  
 Semi-Mullite . . . . . 24  
 GREENMUL-60 . . . . . 24  
 Semi-Silica . . . . . 27  
 VALENTINE XX . . . . . 27  
 Silica . . . . . 27  
 XSIL . . . . . 27  
 XSIL-E . . . . . 27  
 Silicon Carbide . . . . . 26  
 A-1 . . . . . 26  
 Super Duty . . . . . 12, 14  
 CLIPPER . . . . . 12, 13  
 KX-99 . . . . . 12, 14  
 KX-99-BF . . . . . 12, 14  
 MEX-KO . . . . . 12, 13  
 SDS . . . . . 12  
 YUKON . . . . . 12, 13  
 Zircon . . . . . 26  
 Brick Combinations, Circles and Arches, Index . . . . . 109, 110  
 BTG Marine Burner Tile . . . . . 37

## C

C-ACID . . . . . 35  
 Car Blocks . . . . . 39  
 Cartons, Plastic . . . . . 51  
 CASTABLE BLOCK MIX . . . . . 77  
 CASTABLE INSULATION NO. 20 . . . . . 77  
 CASTABLE NO. 22 . . . . . 76  
 CASTEX 24 C . . . . . 72  
 CASTEX 25 C . . . . . 72  
 CASTITE . . . . . 73  
 Castable Refractories . . . . . 60-79  
 Advantages of Castables . . . . . 60  
 Anchors for Castables . . . . . 84, 85  
 Basic Castables . . . . . 74  
 GREEN CRETE ARC . . . . . 74  
 GREEN CRETE C . . . . . 74  
 STANDARD . . . . . 74  
 GREEN CRETE C SUPER . . . . . 74  
 Extra Strength Castables . . . . . 66, 67  
 GREENCAST-12 . . . . . 67  
 LO-ABRADE . . . . . 67  
 MC-22 . . . . . 66  
 MC-25 . . . . . 66  
 MC-30 . . . . . 66  
 STEELKON . . . . . 67  
 Extreme Temperature Castables . . . . . 64, 65  
 GREENCAST-94 . . . . . 64  
 GREENCAST-97 . . . . . 64  
 KRUZITE CASTABLE . . . . . 65  
 MIZZOU CASTABLE . . . . . 65  
 STEEL PLANT CASTABLE A . . . . . 65  
 General Purpose Castables . . . . . 72, 73  
 CASTEX 25 C . . . . . 72  
 CASTEX 24 C . . . . . 72  
 CASTITE . . . . . 73  
 HYDROCRETE . . . . . 73  
 HYDROSET . . . . . 73  
 KAST-SET . . . . . 73  
 STEEL PLANT CASTABLE B . . . . . 72  
 SUPER KAST-SET . . . . . 72  
 Gun Applied Castables . . . . . 68-71  
 GREENCAST-12 GR . . . . . 71  
 GREENCAST-28 GR . . . . . 69  
 GREENCAST-94 GR . . . . . 68



GREENCAST-97 GR . . . . . 68  
 KS-4 . . . . . 71  
 KS-4V . . . . . 70  
 LO-ABRADE GR . . . . . 70  
 MIZZOU GR . . . . . 68  
 STEELKON GR . . . . . 69  
 STEELKON BF . . . . . 69  
 INSULATING CASTABLES-  
 General Purpose . . . . . 75-77  
 CASTABLE BLOCK MIX . . . . . 77  
 CASTABLE NO. 20 . . . . . 77  
 CASTABLE NO. 22 . . . . . 76  
 GREENCAST-97-L . . . . . 75  
 KAST-O-LITE-25 . . . . . 76  
 KAST-O-LITE-30 . . . . . 75  
 INSULATING CASTABLES:  
 Gun Applied . . . . . 78, 79  
 GREENCAST-22-L GR . . . . . 79  
 GREENCAST-97-L GR . . . . . 78  
 KAST-O-LITE 30 GR . . . . . 78  
 SK-7 . . . . . 79  
 VSL-50 . . . . . 79  
 Selection Chart . . . . . 61-63  
 Castables, Estimating Data . . . . . 204  
**Cement**  
 High Temperature . . . . . 41, 46  
 INSULATING CEMENT . . . . . 89  
 CHAMPION . . . . . 11  
 Checker Brick-  
 Blast Furnace Stove . . . . . 37  
 Chrome Brick . . . . . 28-32  
 Chrome Castables . . . . . 74  
 Chrome Mortars . . . . . 41, 46  
 Chrome Plastic . . . . . 58  
 Circle Brick . . . . . 102  
 Circumferences &  
 Areas of Circles . . . . . 210-213  
 CLIMAX . . . . . 11  
 CLIPPER . . . . . 12, 13  
**Coatings**  
 GREENCOTE . . . . . 82  
 Combinations for Circles and  
 Arches, Index . . . . . 109, 110  
 Combustion Chambers . . . . . 90-92  
 Allied Products . . . . . 93  
 PERFECTO . . . . . 91  
 STANDARD I.F.B. . . . . 92  
 STREAMLINED . . . . . 90

**f**  
 Conversion Factors . . . . . 214, 215  
 Area, Length, Volume, Velocity . . . . . 214  
 Heat, Energy, Power-Pressure-  
 -Thermal Conductivity-  
 Weight, Bulk Density . . . . . 215  
 Conversion Tables,  
 Temperature . . . . . 208, 209  
 CRYSTALITE . . . . . 25  
 CRYSTALITE A . . . . . 25  
 CTX . . . . . 39  
 Cupola Blocks . . . . . 102, 103

**d**  
 DAUBPAX . . . . . 82  
 Decimal Equivalent of  
 Fractions . . . . . 216  
 Decimals of a Foot . . . . . 217  
 DELTA 1 . . . . . 30  
 DELTA 90 . . . . . 30  
 DIXIE . . . . . 9  
 D-SAVAGE . . . . . 9  
 Door Jamb Brick . . . . . 105  
 DV . . . . . 19, 20  
 DV-38-P . . . . . 19, 20  
 DV-38 . . . . . 19, 21  
 DV-75-P . . . . . 15, 18

**e**  
 EMPIRE . . . . . 11  
 EMPIRE BF . . . . . 11  
 EMPIRE STOVE . . . . . 11  
 EMPIRE S . . . . . 11  
 EMPIRE W . . . . . 11  
 Engineering Tables, Index . . . . . 109, 110  
 Estimating Data . . . . . 204, 205  
 Castables . . . . . 204  
 Firebrick . . . . . 202, 203  
 Mortars . . . . . 41, 202  
 Plastics . . . . . 205  
 Ramming Mixes . . . . . 205  
 Extra High Alumina Brick . . . . . 19-23  
 Extra Strength Castables . . . . . 66, 67  
 Extreme Temperature  
 Castables . . . . . 64, 65  
 Extruded Plastic Block . . . . . 49, 58

GREENPAK-85-PF . . . . . 49, 54  
 GREENPAK-90-P . . . . . 49, 54  
 GREENPAK-90-PF . . . . . 49, 55  
 GREENRAM-80 . . . . . 83  
 GREENRAM-87-W . . . . . 83  
 GREENRAM-90-W . . . . . 83  
 GREENRAM-MA . . . . . 83  
 GREENRAM-SC . . . . . 83  
 GREENRAM-Z-P . . . . . 83  
 GREENRAM SUPER . . . . . 83  
 GREENSET-78 . . . . . 41  
 GREENSET-85-P . . . . . 41  
 GREENSET-90 . . . . . 41  
 GREEN TARAM-60 . . . . . 83  
 GREEN-X . . . . . 49, 56  
 Gun Applied Castables . . . . . 68-71  
 Gun Mixes . . . . . 80-82  
 GUNPATCH . . . . . 82  
 GUNWELD . . . . . 80  
 PETROCRETE-ER . . . . . 81  
 Gun, PERFECTO Spray . . . . . 83

**h**

HEATITE . . . . . 41-43  
 High Alumina Brick . . . . . 15-18  
 HIGH ALUMINA PLASTIC . . . . . 49, 52  
 High Duty Brick . . . . . 10, 11  
 HOT ZONE . . . . . 11  
 HYDROCRETE . . . . . 73  
 HYDROSET . . . . . 73

**i**

IDAHO . . . . . 11  
 Index to  
 Engineering Tables . . . . . 109, 110  
**Industrial Insulations** . . . . . 87-89  
 INSBLANKET . . . . . 87  
 INSBLOK-19 . . . . . 88  
 INSBLOK-12 . . . . . 88  
 INSFELT . . . . . 87  
 INSFAPER . . . . . 87  
 INSROPE . . . . . 87  
 INSULATING CEMENT . . . . . 89

**f**  
 Firebrick  
 Estimating Data . . . . . 202, 203  
 Firebrick Shapes . . . . . 95-103  
 Fireclay Brick (see Brick)  
 Formulas . . . . . 205  
 Furnace Accessories . . . . . 85-93

**g**

G-20, G-23, G-26 . . . . . 33  
 G-ACID Brick . . . . . 35  
 General Purpose Castables . . . . . 72, 73  
 Graphite Plastics . . . . . 56, 57  
 GRAPHPAK . . . . . 57  
 GRAPHAM . . . . . 83  
 GREENAL-90 . . . . . 19, 22  
 GREENAL-94 . . . . . 19, 22  
 GREEN B-80 . . . . . 31  
 GREEN B 70 . . . . . 31  
 GREENCAST-12 . . . . . 67  
 GREENCAST-12 GR . . . . . 71  
 GREENCAST-22-L GR . . . . . 79  
 GREENCAST-28 GR . . . . . 69  
 GREENCAST-94 . . . . . 64  
 GREENCAST-94 GR . . . . . 68  
 GREENCAST-97 . . . . . 64  
 GREENCAST-97 GR . . . . . 68  
 GREENCAST-97-L . . . . . 75  
 GREENCAST-97-L GR . . . . . 78  
 GREEN CHROME MORTAR . . . . . 41, 46  
 GREENCLAD DOOR JAMB  
 BRICK . . . . . 105  
 GREENCOTE . . . . . 82  
 GREEN CRETE ARC . . . . . 74  
 GREEN CRETE C-STANDARD . . . . . 74  
 GREEN CRETE C-SUPER . . . . . 74  
 GREENLITE-28-33-KL . . . . . 33, 34  
 GREEN MAGNESITE  
 MORTAR . . . . . 41, 46  
 GREENMUL-60 . . . . . 24  
 GREEN-OX . . . . . 32  
 GREENPAK-80 . . . . . 49, 53  
 GREENPAK-85-P . . . . . 49, 53

INSWOOL . . . . . 87  
 LOOSE WOOL INSULATION . . . . . 89  
 Inert Supports . . . . . 38  
 INSBLOK-19 . . . . . 88  
 INSBLOK-12 . . . . . 88  
 Installation Service . . . . . 6  
 INSFIBER . . . . . 87  
 Insulating Castables . . . . . 66-79  
 General Purpose . . . . . 66, 77  
 Gun Applied . . . . . 78, 79  
 INSULATING CEMENT . . . . . 89  
 Insulating Firebrick . . . . . 33, 34  
 INSWOOL . . . . . 87  
 Isostatically Pressed . . . . . 36

**i**

JADE PAK-88-P . . . . . 49, 55

**k**

KAST-O-LITE 25 . . . . . 76  
 KAST-O-LITE-30 . . . . . 75  
 KAST-O-LITE 30 GR . . . . . 78  
 KAST-SET . . . . . 73  
 KD-2 . . . . . 41, 44  
 Kiln Furniture . . . . . 38  
 Kiln Blocks, Rotary . . . . . 103  
 KIMBERLY . . . . . 9  
 KRUZITE CASTABLE . . . . . 65  
 KRUZITE D . . . . . 15, 17  
 KRUZITER . . . . . 15, 17  
 KS-4 . . . . . 71  
 KS-4V . . . . . 70  
 KX-99 . . . . . 12, 14  
 KX-99-BF . . . . . 12, 14

**l**

Ladle Brick . . . . . 37  
 LO-ABRADE . . . . . 67  
 LO-ABRADE GR . . . . . 70  
 LONE STAR . . . . . 9  
 Loose Wool Insulation . . . . . 89

Low Brick Duty . . . . . 9  
 LOXOL-65 . . . . . 41, 43  
 Magnesia  
 GREEN MAGNESITE  
 MORTAR . . . . . 41, 46  
 Silica-Fireclay  
 ATMOSSET . . . . . 41  
 MONARC . . . . . 11  
 MORRIS . . . . . 9  
 Mortars, Estimating  
 Data . . . . . 41, 202  
 MUL-8 . . . . . 25  
 Mullite Brick . . . . . 25  
 Mullite Mortars . . . . . 41  
 Manufacturing Plants . . . . . 229  
 Magnesia Ramming Mixes . . . . . 82  
 Magnesite Brick . . . . . 28, 32  
 Magnesite Mortars . . . . . 41, 46  
 Manufacturing Facilities . . . . . 7  
 Marine Burner Tile . . . . . 36  
 MC-22 . . . . . 66  
 MC-25 . . . . . 66  
 MC-30 . . . . . 66  
 Medium Duty Brick . . . . . 9  
 Metal-Encased Brick . . . . . 30, 31  
 METALKLEEN . . . . . 49, 57  
 MEX-KO . . . . . 12, 13  
 MEXI-KOMO . . . . . 41, 45  
 Milled Fireclay . . . . . 45  
 Millimeters to Inches—  
 Table . . . . . 218-221

**m**

MIZZOU . . . . . 15, 16  
 MIZZOU CASTABLE . . . . . 65  
 MIZZOU GR . . . . . 68  
 Mortars . . . . . 41-46  
 Alumina  
 GREENSET-78 . . . . . 41  
 GREENSET-85-P . . . . . 41  
 GREENSET-90 . . . . . 41  
 LOXOL-65 . . . . . 41, 43  
 No. 36 REFRACTORY  
 CEMENT . . . . . 41, 44  
 No. T-36 REFRACTORY  
 CEMENT . . . . . 41, 44  
 SATANITE . . . . . 41, 45  
 Chrome  
 GREEN CHROME  
 MORTAR . . . . . 41, 46  
 Fireclay  
 HEATITE . . . . . 41, 43  
 KD-2 . . . . . 41, 44  
 MEXI-KOMO . . . . . 41, 45  
 Milled Fire Clay . . . . . 45  
 'SAIRBOND . . . . . 41, 43  
 'SAIRMIX-7 . . . . . 41, 42  
 'SAIRSET . . . . . 41, 42

GREENPAK-80 . . . . . 49, 53  
 GREENPAK-85-P . . . . . 49, 53  
 GREENPAK-85-PF . . . . . 49, 54  
 GREENPAK-90-P . . . . . 49, 54  
 GREENPAK-90-PF . . . . . 49, 55  
 GREEN-X . . . . . 49, 56  
 HIGH ALUMINA  
 PLASTIC . . . . . 49, 52  
 JADE PAK-88-P . . . . . 49, 55  
 METALKLEEN . . . . . 49, 57  
 QUIK-PAK . . . . . 49, 50  
 RED-X . . . . . 49, 56  
 SUPER FIRE WALL . . . . . 49  
 SUPER G . . . . . 49, 52  
 SUPER H . . . . . 49, 51  
 SUPER HYBOND . . . . . 49, 51  
 SUPER PLASTIC . . . . . 49, 50  
 VAL-PAK . . . . . 49, 58  
 Plastics, Estimating Data . . . . . 205  
 Plastics, Packaging . . . . . 48  
 Product Development . . . . . 5  
 Pyrometric Cones . . . . . 207  
 PYRO STEEL . . . . . 11

**n**

No. 36 REFRACTORY  
 CEMENT . . . . . 41, 44  
 No. T-36 REFRACTORY  
 CEMENT . . . . . 41, 44  
 Nose Blocks . . . . . 38

**o**

Observation Port . . . . . 93  
 Oil Burner Baffle Brick . . . . . 93  
 Oil Burner Combustion  
 Chambers . . . . . 89, 91

**p**

PAR . . . . . 9  
 PCP . . . . . 11  
 PERFECTO Blow-Off Tile . . . . . 93  
 PERFECTO Combustion  
 Chamber . . . . . 91  
 PERFECTO Observation Port . . . . . 93  
 PERFECTO Rear Arch Block . . . . . 93  
 PERFECTO Spray Gun . . . . . 93  
 PETROCRETE-ER . . . . . 81  
 PLANT LOCATIONS . . . . . 229  
 Plastic Refractories . . . . . 48-58  
 Anchors for Plastics . . . . . 85  
 Extruded Plastic Block . . . . . 49, 58  
 GRAPHPAK . . . . . 49, 57

**q**

Quality Control . . . . . 5  
 QUIK-PAK . . . . . 49, 50

**r**

Ramming Mixes . . . . . 83  
 Ramming Mixes,  
 Estimating Data . . . . . 205  
 Rear Arch Blocks . . . . . 93  
 RED-X . . . . . 49, 56  
 Refractory Anchors . . . . . 85, 86  
 Research . . . . . 5  
 Rotary Kiln Blocks . . . . . 103

**s**

S-1 . . . . . 11  
 'SAIRBOND . . . . . 41, 43  
 'SAIRMIX-7 . . . . . 41, 42

'SAIRSET	41, 42
SATANITE	41, 45
SDS	12
Selection Chart-Castables	61-63
Selection Chart-Mortars	41
Selection Chart-Ramming Mixes	83
Semi-Mullite	24
Semi-Silica Brick	27
Shiplap Tile	101
Silica Brick	27
Silica Brick-Insulating	35
Silicious Gunning Mix	82
Silicious Ramming Mix	83
Silicon Carbide Brick	26
Silicon Carbide Mortars	41
Silicon Carbide Ramming Mix	83
SK-7	79
SKC	39
Skews	106
<b>Special Blocks</b>	<b>93</b>
Oil Burner Baffle Brick	93
PERFECTO Blow Off Tile	93
PERFECTO Rear Arch Blocks	93
Special Insulating Firebrick	35
<b>Special Refractory Products</b>	<b>36-39</b>
Acid Brick	35
Ceramic Wear Liners	36
BTG Marine Burner Tile	37
Car Blocks	39
Checker Brick	37
Inert Supports	38
Kiln Furniture	38
Ladle Brick	37
Nose Blocks	38
Special Shapes	104-107
Spray Gun	93
Square Edge Tile	101
<b>STANDARD I.F.B. Combustion Chambers</b>	<b>92</b>
Standard Shapes	95-103
STEELKON	67
STEELKON BF	69
STEELKON GR	69
STEEL PLANT CASTABLE A	65
STEEL PLANT CASTABLE B	72

<b>STREAMLINED</b>	
Combustion Chambers	90
Super Duty Brick	12-14
<b>SUPER FIRE WALL</b>	<b>49</b>
SUPER G	49, 52
SUPER H	49, 51
SUPER HYBOND	49, 51
SUPER KAST-SET	72
SUPER PLASTIC	49, 50
<b>T</b>	
Tables, Engineering	109-199
Index	109, 110
Tables of Useful Information	204-221
Pitch Bonded Brick	32
Temperature Conversion Table	208, 209
<b>V</b>	
VALENTINE XX	27
VAL-PAK	49, 58
VSL-50	79
VS & SS Rod Type Alloy Anchors	86
<b>W</b>	
Warehouse Locations	229
<b>X</b>	
XSIL	27
XSIL-E	27
XSILITE	35
<b>Y</b>	
YUKON	12, 13
<b>Z</b>	
Zircon Brick	26
Zircon Mortars	41
Zircon Ramming Mixes	83

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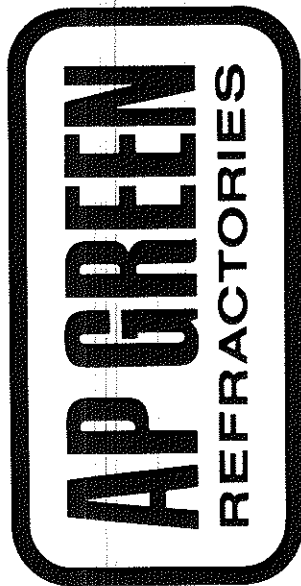
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