

C H Murphy || Clark-Ullman Inc.

**REFRACTORY
POCKET REFERENCE GUIDE**

5565 N Dolphin Street, Portland OR 97217

800-234-6255

THE CH MURPHY CLARK-ULLMAN, INC. REFRactory POCKET REFERENCE GUIDE

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For more information on CH Murphy Clark-Ullman, Inc.
products and services.

Call us at 1-800-234-6255
24 hours a day, 7 days a week.



C H Murphy || Clark-Ullman Inc.

5565 N Dolphin Street, Portland OR 97217

800-234-6255

COUNTING ON CH MURPHY CLARK-ULLMAN, INC. IS JUST GOOD BUSINESS.

Thousands of refractory customers worldwide depend on CH Murphy Clark-Ullman, Inc. to help them become leading performers. And for good reason. We're a world class competitor with a reputation for excellence in products, performance and service. And you can rely on our top-notch research team to meet the challenges of a growing industry through extensive state-of-the-art product testing and evaluation.

Most importantly, CH Murphy Clark-Ullman, Inc. operates with a simple "whatever it takes" attitude. Thanks to our 85 years of global experience, you can depend on us for the right solutions—and

peace of mind no other refractory manufacturer can offer.

We act as your strategic problem-solving partner. Our professional team works closely with you to make sure that you get the best product for the job.

**We
sell
peace
of
mind.**

If you're looking for the latest technology, quality products, and personal customer service, count on CH Murphy Clark-Ullman, Inc. as your partner.

We're here to put your mind at ease. Whatever the problem, we'll find the best solution.

It's just good business—for you and CH Murphy Clark-Ullman, Inc.



WHATEVER THE DEMAND, WE MEET THE CHALLENGE.

CH Murphy Clark-Ullman, Inc. is a global manufacturer and distributor of products essential to the production of such materials as aluminum, steel, chemicals, glass, ceramics and cement. You'll find our products wherever extreme heat must be controlled—in oil refineries, plant emission scrubbers, boilers, power cogeneration plants and thousands of other applications.

Our product line is one of the largest in the industry and includes a wide selection of bricks, castables, plastics, mortars, ceramic fibers, as well as a wide

selection of basic products. Our wide network of plants, sales offices and distribution centers, combined with a large inventory of products is your assurance of on-time, low-cost deliver. And because of our strong investment in research and development, we can solve tough problems, fast.

*We're
there
when
you
need
us.*

The CH Murphy Clark-Ullman, Inc. distribution network covers over 60 countries in Central and South America, Africa, Asia, Europe and the Middle East. We ship from dozens of centers in the United States and Canada alone. When you need us, we're there.



TEAM UP WITH CH MURPHY CLARK-ULLMAN, INC.

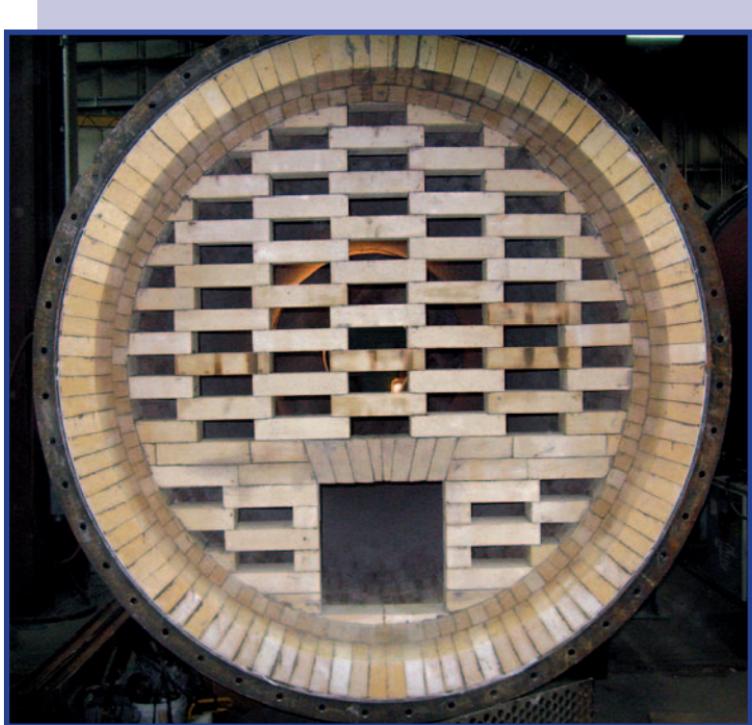
You may find the products you're looking for at another manufacturer; you may even find their delivery satisfactory. What you won't find is a unique combination of worldwide marketing experience, top-of-the-line products, quality assurance experts, and an honest approach to solving your problems—whatever it takes. Since 1910, we've operated with the philosophy that

understanding the needs of customers is our first priority. You might say we take customer relations personally.

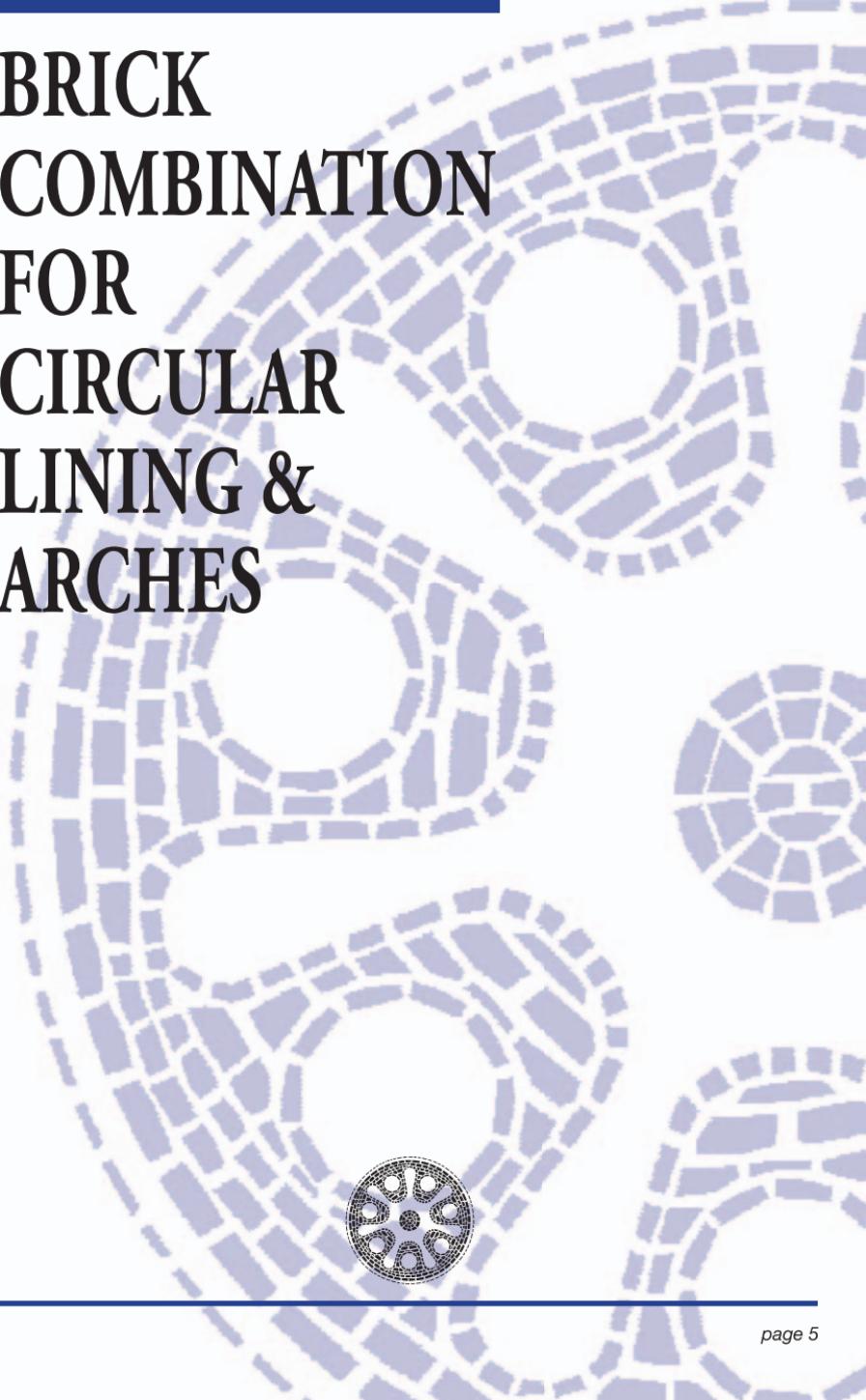
Your refractory problem- solving partners.

We believe this winning combination is what keeps us world leaders in our industry. And it's our belief that when you work with the best, you become the best, too.

As your problem-solving partner, we hope to accomplish just that for you.



BRICK COMBINATION FOR CIRCULAR LINING & ARCHES



The background features a repeating pattern of circular brick arches in light blue. A central circular emblem at the bottom is composed of a grid of small circles, with a larger circle in the center containing a six-pointed star-like pattern.

Tables of Brick Combinations for Circles and Arches

The following tables are offered for use in estimating the quantities of brick required for circular linings of various diameters and for the construction of arches. No joint allowance was used in computing these tables. Generally it will be necessary to cut one or two bricks to complete each course of the circular lining or arch.

An index for the tables is given below. They are arranged according to the thickness of the lining or arch, starting with 4 1/2 inches and progressively increasing to 18 inches.

The majority of shapes listed in the tables are stock items in many qualities. Contact your Green representative for definite shipping promises on specific bills of materials.

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COMPLETE CIRCLES

4½-INCH LINING

9" x 4½" x 2½" or 13½" x 4½" x 2½" ARCH BRICK

INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE				
	No. 3 ARCH 9x4½x (2½-1)	No. 2 ARCH 9x4½x (2½-1¾)	No. 1 ARCH 9x4½ (2½-2½)	STRAIGHT 9x4½x2½	TOTAL
0'- 6"	19	.....	.....	.....	19
0'-7"	17	4	.....	.....	21
0'-8"	16	6	.....	.....	22
0'-9"	15	8	.....	.....	23
0'-10"	14	10	.....	.....	24
0'-11"	12	14	.....	.....	26
1'-0"	11	16	.....	.....	27
1'-1"	10	18	.....	.....	28
1'-2"	9	20	.....	.....	29
1'-3"	7	24	.....	.....	31
1'-4"	6	26	.....	.....	32
1'-5"	5	28	.....	.....	33
1'-6"	4	30	.....	.....	34
1'-7"	2	34	.....	.....	36
1'-8"	1	36	.....	.....	37
1'-9"	.....	38	.....	.....	38
1'-10"	.....	36	3	.....	39
1'-11"	.....	35	6	.....	41
2'-0"	.....	34	8	.....	42
2'-1"	.....	33	10	.....	43
2'-2"	.....	31	13	.....	44
2'-3"	.....	30	16	.....	46
2'-4"	.....	29	18	.....	47
2'-5"	.....	28	20	.....	48
2'-6"	.....	26	23	.....	49
2'-7"	.....	25	26	.....	51
2'-8"	.....	24	28	.....	52
2'-9"	.....	23	30	.....	53
2'-10"	.....	21	33	.....	54
2'-11"	.....	20	36	.....	56
3'-0"	.....	19	38	.....	57
3'-1"	.....	18	40	.....	58
3'-2"	.....	16	43	.....	59
3'-3"	.....	15	46	.....	61
3'-4"	.....	14	48	.....	62
3'-5"	.....	13	50	.....	63
3'-6"	.....	11	53	.....	64
3'-7"	.....	10	56	.....	66
3'-8"	.....	9	58	.....	67
3'-9"	.....	8	60	.....	68
3'-10"	.....	6	64	.....	70
3'-11"	.....	5	66	.....	71
4'-0"	.....	4	68	.....	72
4'-1"	.....	3	70	.....	73
4'-2"	.....	1	74	.....	75
4'-3"	.....	.....	76	.....	76
4'-4"	.....	.....	76	1	77
4'-5"	.....	.....	76	2	78
4'-6"	.....	.....	76	4	80
4'-8"	.....	.....	76	6	82
4'-10"	.....	.....	76	9	85

COMPLETE CIRCLES

4 $\frac{1}{2}$ -INCH LINING9" x 4 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ " or 13 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ " ARCH BRICK

INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE				
	No. 3 ARCH 9x4 $\frac{1}{2}$ x (2 $\frac{1}{2}$ -1 $\frac{3}{4}$)	No. 2 ARCH 9x4 $\frac{1}{2}$ x (2 $\frac{1}{2}$ -2 $\frac{1}{4}$)	No. 1 ARCH 9x4 $\frac{1}{2}$ x (2 $\frac{1}{2}$ -2 $\frac{1}{8}$)	STRAIGHT 9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$	TOTAL
5'-0"	76	11	87
5'-2"	76	14	90
5'-4"	76	16	92
5'-6"	76	19	95
5'-8"	76	21	97
5'-10"	76	24	100
6'-0"	76	26	102
6'-2"	76	29	105
6'-4"	76	31	107
6'-6"	76	34	110
6'-8"	76	36	112
6'-10"	76	39	115
7'-0"	76	41	117
7'-2"	76	44	120
7'-4"	76	46	122
7'-6"	76	49	125
7'-8"	76	51	127
7'-10"	76	54	130
8'-0"	76	56	132
8'-2"	76	59	135
8'-4"	76	61	137
8'-6"	76	64	140
8'-8"	76	66	142
8'-10"	76	69	145
9'-0"	76	71	147
9'-2"	76	74	150
9'-4"	76	76	152
9'-6"	76	79	155
9'-8"	76	81	157
9'-10"	76	84	160
10'-0"	76	87	163
10'-2"	76	89	165
10'-4"	76	92	168
10'-6"	76	94	170
10'-8"	76	97	173
10'-10"	76	99	175
11'-0"	76	102	178
11'-2"	76	104	180
11'-4"	76	107	183
11'-6"	76	109	185
11'-8"	76	112	188
11'-10"	76	114	190
12'-0"	76	117	193
12'-2"	76	119	195
12'-4"	76	122	198
12'-6"	76	124	200
12'-8"	76	127	203
12'-10"	76	129	205
13'-0"	76	132	208
13'-2"	76	134	210

COMPLETE CIRCLES

4½-INCH LINING

9" x 4½" x 2½" or 13½" x 4½" x 2½" ARCH BRICK

INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE				
	No. 3 ARCH 9x4½x (2½-1)	No. 2 ARCH 9x4½x (2¹/₂-1¾)	No. 1 ARCH 9x4½x (2¹/₂-2¹/₈)	STRAIGHT 9x4½x2¹/₂	TOTAL
13'-4"	76	137	213
13'-6"	76	139	214
13'-8"	76	142	218
13'-10"	76	144	220
14'-0"	76	147	223
14'-2"	76	149	225
14'-4"	76	152	228
14'-6"	76	154	230
14'-8"	76	157	233
14'-10"	76	159	235
15'-0"	76	162	238
15'-6"	76	169	245
16'-0"	76	177	253
16'-6"	76	185	261
17'-0"	76	192	268
17'-6"	76	200	276
18'-0"	76	207	283
18'-6"	76	215	291
19'-0"	76	222	298
19'-6"	76	230	306
20'-0"	76	237	313
20'-6"	76	245	321
21'-0"	76	252	328
21'-6"	76	260	336
22'-0"	76	267	343
22'-6"	76	275	351
23'-0"	76	283	359
23'-6"	76	290	366
24'-0"	76	298	374
24'-6"	76	305	381
25'-0"	76	313	389
25'-6"	76	320	396
26'-0"	76	328	404
26'-6"	76	335	411
27'-0"	76	343	419
27'-6"	76	350	426
28'-0"	76	358	434
28'-6"	76	365	441
29'-0"	76	373	449
29'-6"	76	381	457
30'-0"	76	388	464
30'-6"	76	396	472
31'-0"	76	403	479
31'-6"	76	411	487
32'-0"	76	418	494
32'-6"	76	426	502
33'-0"	76	433	509
33'-6"	76	441	517
34'-0"	76	448	524

COMPLETE CIRCLES

4 $\frac{1}{2}$ -INCH LINING9" x 4 $\frac{1}{2}$ " x 3" or 13 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ " x 3" ARCH BRICK

INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE					TOTAL
	No. 4 ARCH 9x4 $\frac{1}{2}$ x (3-1)	No. 3 ARCH 9x4 $\frac{1}{2}$ x (3-2)	No. 2 ARCH 9x4 $\frac{1}{2}$ x (3-2 $\frac{1}{2}$)	No. 1 ARCH 9x4 $\frac{1}{2}$ x (3-2 $\frac{3}{4}$)	STRAIGHT 9x4 $\frac{1}{2}$ x3	
0'-4 $\frac{1}{2}$ "	15	.....	.....	.....	.....	15
0'-5"	14	1	.....	.....	.....	15
0'-6"	13	3	.....	.....	.....	16
0'-7"	12	5	.....	.....	.....	17
0'-8"	11	7	.....	.....	.....	18
0'-9"	10	9	.....	.....	.....	19
0'-10"	8	12	.....	.....	.....	20
0'-11"	7	14	.....	.....	.....	21
1'-0"	6	16	.....	.....	.....	22
1'-1"	5	18	.....	.....	.....	23
1'-2"	4	20	.....	.....	.....	24
1'-3"	2	24	.....	.....	.....	26
1'-4"	1	26	.....	.....	.....	27
1'-5"	.....	28	.....	.....	.....	28
1'-6"	.....	28	1	.....	.....	29
1'-7"	.....	27	3	.....	.....	30
1'-8"	.....	26	5	.....	.....	31
1'-9"	.....	25	7	.....	.....	32
1'-10"	.....	24	9	.....	.....	33
1'-11"	.....	23	11	.....	.....	34
2'-0"	.....	22	13	.....	.....	35
2'-1"	.....	21	15	.....	.....	36
2'-2"	.....	20	17	.....	.....	37
2'-3"	.....	19	19	.....	.....	38
2'-4"	.....	18	21	.....	.....	39
2'-5"	.....	17	23	.....	.....	40
2'-6"	.....	16	25	.....	.....	41
2'-7"	.....	15	27	.....	.....	42
2'-8"	.....	14	29	.....	.....	43
2'-9"	.....	13	31	.....	.....	44
2'-10"	.....	12	33	.....	.....	45
2'-11"	.....	10	36	.....	.....	46
3'-0"	.....	9	39	.....	.....	48
3'-1"	.....	8	41	.....	.....	49
3'-2"	.....	7	43	.....	.....	50
3'-3"	.....	6	45	.....	.....	51
3'-4"	.....	5	47	.....	.....	52
3'-5"	.....	4	49	.....	.....	53
3'-6"	.....	3	51	.....	.....	54
3'-7"	.....	2	53	.....	.....	55
3'-8"	.....	1	55	.....	.....	56
3'-9"	.....	.....	57	.....	.....	57
3'-10"	.....	.....	56	2	.....	58
3'-11"	.....	.....	55	4	.....	59
4'-0"	.....	.....	54	6	.....	60
4'-1"	.....	.....	52	9	.....	61
4'-2"	.....	.....	51	11	.....	62
4'-3"	.....	.....	50	13	.....	63
4'-4"	.....	.....	49	15	.....	64
4'-5"	.....	.....	48	17	.....	65
4'-6"	.....	.....	47	19	.....	66

COMPLETE CIRCLES

4¹/₂-INCH LINING9" x 4¹/₂" x 3" or 13¹/₂" x 4¹/₂" x 3" ARCH BRICK

INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE					TOTAL
	No. 4 ARCH 9x4 ¹ / ₂ x (3-1)	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 x3	
4'-7"	46	21	.....	67
4'-8"	45	23	.....	68
4'-9"	44	25	.....	70
4'-10"	42	29	.....	71
4'-11"	41	31	.....	72
5'-0"	41	32	.....	73
5'-1"	39	35	.....	74
5'-2"	38	37	.....	75
5'-3"	38	38	.....	76
5'-4"	36	41	.....	77
5'-5"	35	43	.....	78
5'-6"	34	45	.....	79
5'-7"	33	47	.....	79
5'-8"	32	49	.....	81
5'-9"	32	50	.....	82
5'-10"	30	53	.....	83
5'-11"	29	55	.....	84
6'-0"	28	57	.....	85
6'-1"	27	59	.....	86
6'-2"	26	61	.....	87
6'-3"	25	63	.....	88
6'-4"	24	65	.....	89
6'-5"	23	67	.....	90
6'-6"	21	71	.....	92
6'-7"	20	73	.....	93
6'-8"	19	75	.....	94
6'-9"	18	77	.....	95
6'-10"	17	79	.....	96
6'-11"	16	81	.....	97
7'-0"	15	83	.....	98
7'-1"	14	85	.....	99
7'-2"	13	87	.....	100
7'-3"	12	89	.....	101
7'-4"	11	91	.....	102
7'-5"	10	93	.....	103
7'-6"	9	95	.....	104
7'-7"	8	97	.....	105
7'-8"	7	99	.....	106
7'-9"	6	101	.....	107
7'-10"	5	103	.....	108
7'-11"	4	105	.....	109
8'-0"	3	107	.....	110
8'-1"	2	109	.....	111
8'-2"	1	111	.....	112
8'-3"	113	.....	113
8'-6"	113	4	117
9'-0"	113	10	123
9'-6"	113	16	129
10'-0"	113	22	135
10'-6"	113	29	142

COMPLETE CIRCLES

4¹/₂-INCH LINING9" x 4¹/₂" x 3" or 13¹/₂" x 4¹/₂" x 3" ARCH BRICK

INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE					TOTAL
	No. 4 ARCH 9x4 ¹ / ₂ x (3-1)	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 x3	
11'-0"	113	35	148
11'-6"	113	41	154
12'-0"	113	48	161
12'-6"	113	54	167
13'-0"	113	60	173
13'-6"	113	66	179
14'-0"	113	73	186
14'-6"	113	79	192
15'-0"	113	85	198
15'-6"	113	92	205
16'-0"	113	98	211
16'-6"	113	104	217
17'-0"	113	110	223
17'-6"	113	117	230
18'-0"	113	123	236
18'-6"	113	129	242
19'-0"	113	136	249
19'-6"	113	142	255
20'-0"	113	148	261
20'-6"	113	154	267
21'-0"	113	161	274
21'-6"	113	167	280
22'-0"	113	173	286
22'-6"	113	180	297
23'-0"	113	186	299
23'-6"	113	192	305
24'-0"	113	198	311
24'-6"	113	205	318
25'-0"	113	211	224
25'-6"	113	217	330
26'-0"	113	224	337
26'-6"	113	230	343
27'-0"	113	236	349
27'-6"	113	242	355
28'-0"	113	249	362
28'-6"	113	255	368
29'-0"	113	267	374
29'-6"	113	268	381
30'-0"	113	274	387
30'-6"	113	280	393
31'-0"	113	286	399
31'-6"	113	293	406
32'-0"	113	299	412
32'-6"	113	305	418
33'-0"	113	312	425
33'-6"	113	318	431
34'-0"	113	324	437

COMPLETE CIRCLES

 4 $\frac{1}{2}$ -INCH LINING

 9" x 4 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ " or 9" x 4 $\frac{1}{2}$ " x 3" CIRCLE BRICK

INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE					TOTAL
	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (24-33)	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (36-45)	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (48-57)	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (60-69)	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (72-81)	
2'-0"	12	.....	.....	.....	.....	12
2'-6"	7	7	.....	.....	.....	14
3'-0"	16	.....	.....	.....	16
3'-6"	9	9	.....	.....	18
4'-0"	20	.....	.....	20
4'-6"	11	11	.....	22
5'-0"	24	.....	24
5'-6"	13	14	27
6'-0"	29	29
INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE					Total
	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (72-81)	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (84-93)	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (96-105)	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (108-117)	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (120-129)	
6'-6"	15	16	.....	.....	.....	31
7'-0"	33	.....	.....	.....	33
7'-6"	17	18	.....	.....	35
8'-0"	37	.....	.....	37
8'-6"	19	20	.....	39
9'-0"	41	.....	41
9'-6"	21	22	43
10'-0"	45	45
INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE					Total
	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (120-129)	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (132-141)	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (144-153)	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (156-165)	9x4 $\frac{1}{2}$ x2 $\frac{1}{2}$ (168-177)	Total
10'-6"	23	24	.....	.....	.....	47
11'-0"	50	.....	.....	.....	50
11'-6"	26	26	.....	.....	52
12'-0"	54	.....	.....	54
12'-6"	28	28	.....	56
13'-0"	58	.....	58
13'-6"	30	30	60
14'-0"	62	62

COMPLETE CIRCLES

6-INCH LINING

9"x 6" x 3", or 12" x 6" x 3" or 13½" x 6 x 3" ARCH BRICK

INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE				
	No. 3 ARCH 9x6x (3-2)	No. 2 ARCH 9x6x (3-2½)	No. 1 ARCH 9x6x (3-2¾)	STRAIGHT 9x6x3	TOTAL
2'-0"	38	.....	.....	.....	38
2'-1"	37	2	.....	.....	39
2'-2"	36	4	.....	.....	40
2'-3"	35	6	.....	.....	41
2'-4"	34	8	.....	.....	42
2'-5"	33	10	.....	.....	43
2'-6"	32	12	.....	.....	44
2'-7"	31	14	.....	.....	45
2'-8"	30	16	.....	.....	46
2'-9"	28	20	.....	.....	48
2'-10"	27	22	.....	.....	49
2'-11"	26	24	.....	.....	50
3'-0"	25	26	.....	.....	51
3'-1"	24	28	.....	.....	52
3'-2"	23	30	.....	.....	53
3'-3"	22	32	.....	.....	54
3'-4"	21	34	.....	.....	55
3'-5"	20	36	.....	.....	56
3'-6"	19	38	.....	.....	57
3'-7"	18	40	.....	.....	58
3'-8"	17	42	.....	.....	59
3'-9"	16	44	.....	.....	60
3'-10"	15	56	.....	.....	61
3'-11"	14	48	.....	.....	62
4'-0"	13	50	.....	.....	63
4'-1"	12	52	.....	.....	64
4'-2"	11	54	.....	.....	65
4'-3"	10	56	.....	.....	66
4'-4"	9	58	.....	.....	67
4'-5"	8	60	.....	.....	68
4'-6"	6	64	.....	.....	70
4'-7"	5	66	.....	.....	71
4'-8"	4	68	.....	.....	72
4'-9"	3	70	.....	.....	73
4'-10"	2	72	.....	.....	74
4'-11"	1	74	.....	.....	75
5'-0"	.....	76	.....	.....	76
5'-1"	.....	75	2	.....	77
5'-2"	.....	74	4	.....	78
5'-3"	.....	72	7	.....	79
5'-4"	.....	71	9	.....	80
5'-5"	.....	70	11	.....	81
5'-6"	.....	69	13	.....	81
5'-7"	.....	68	15	.....	82
5'-8"	.....	67	17	.....	83
5'-9"	.....	66	19	.....	85
5'-10"	.....	65	21	.....	86
5'-11"	.....	64	23	.....	87
6'-0"	.....	63	25	.....	88
6'-1"	.....	62	27	.....	89

COMPLETE CIRCLES

6-INCH LINING

9"x 6" x 3 ", or 12" x 6" x 3" or 13 $\frac{1}{2}$ " x 6 x 3" ARCH BRICK

INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE				
	No. 3 ARCH 9x6x (3-2)	No. 2 ARCH 9x6x (3-2 $\frac{1}{2}$)	No. 1 ARCH 9x6x (3-2 $\frac{3}{4}$)	STRAIGHT 9x6x3	TOTAL
6'-2"	61	29	.....	90
6'-3"	60	31	.....	91
6'-4"	58	35	.....	93
6'-5"	57	37	.....	94
6'-6"	56	39	.....	95
6'-7"	55	41	.....	96
6'-8"	54	43	.....	97
6'-9"	53	46	.....	98
6'-10"	52	47	.....	99
6'-11"	51	49	.....	100
7'-0"	50	51	.....	101
7'-1"	49	53	.....	102
7'-2"	48	55	.....	103
7'-3"	47	57	.....	104
7'-4"	46	59	.....	105
7'-5"	45	61	.....	106
7'-6"	44	63	.....	107
7'-7"	43	65	.....	108
7'-8"	42	67	.....	109
7'-9"	41	69	.....	110
7'-10"	40	71	.....	111
7'-11"	39	73	.....	112
8'-0"	38	75	.....	113
8'-1"	37	78	.....	115
8'-2"	36	80	.....	116
8'-3"	35	82	.....	117
8'-4"	34	84	.....	118
8'-5"	33	86	.....	119
8'-6"	32	88	.....	120
8'-7"	31	90	.....	121
8'-8"	30	94	.....	122
8'-9"	29	94	.....	123
8'-10"	27	97	.....	124
8'-11"	26	99	.....	125
9'-0"	25	101	.....	126
9'-3"	22	107	.....	129
9'-6"	19	113	.....	132
9'-9"	13	119	.....	135
10'-0"	13	126	.....	139
10'-3"	10	132	.....	142
10'-6"	6	139	.....	145
10'-9"	3	145	.....	148
11'-0"	151	.....	151
11'-3"	151	3	154
11'-6"	151	6	157
11'-9"	151	10	161
12'-0"	151	13	164
12'-3"	151	16	167
12'-6"	151	19	170
12'-9"	151	22	173

COMPLETE CIRCLES

6-INCH LINING

9"x 6" x 3 1/2" ARCHES WITH 9" x 6 x 2 1/2" STRAIGHTS

INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE				
	No. 3 ARCH 9x6x (3 1/2-1 1/2)	No. 2 ARCH 9x6x (3 1/2-2)	No. 1 ARCH 9x6x (3 1/2-2 1/2)	STRAIGHT 9x6x2 1/2	TOTAL
0'-9"	19	.....	.....	.....	19
0'-10"	16	4	.....	.....	20
0'-11"	13	8	.....	.....	21
1'-0"	10	12	.....	.....	22
1'-1"	7	16	.....	.....	23
1'-2"	4	20	.....	.....	24
1'-3"	1	24	.....	.....	25
1'-4"	26	.....	.....	26
1'-5"	24	2	.....	26
1'-6"	22	5	.....	27
1'-7"	20	8	.....	28
1'-8"	18	11	.....	29
1'-9"	16	14	.....	30
1'-10"	14	17	.....	31
1'-11"	12	20	.....	32
2'-0"	10	23	.....	33
2'-1"	8	26	.....	34
2'-2"	8	26	.....	34
2'-3"	6	29	.....	35
2'-4"	4	32	.....	36
2'-5"	2	35	.....	37
2'-6"	38	.....	38
2'-7"	38	1	39
2'-8"	38	3	41
2'-9"	38	4	42
2'-10"	38	5	43
2'-11"	38	6	44
3'-0"	38	8	46
3'-1"	38	9	47
3'-2"	38	10	48
3'-3"	38	11	49
3'-4"	38	13	51
3'-5"	38	15	52
3'-6"	38	15	53
3'-8"	38	18	56
3'-10"	38	20	58
4'-0"	38	23	61
4'-2"	38	25	63
4'-4"	38	28	66
4'-6"	38	30	68
4'-8"	38	33	71
4'-10"	38	35	73
5'-0"	38	38	76
5'-2"	38	40	78
5'-4"	38	43	81
5'-6"	38	45	83
5'-8"	38	48	86
5'-10"	38	50	88
6'-0"	38	53	91

COMPLETE CIRCLES

6-INCH LINING

9"x 6" x 3 1/2" ARCHES WITH 9" x 6" x 3" STRAIGHTS

INSIDE DIAMETER	SHAPES REQUIRED TO TURN CIRCLE				
	No. 3 ARCH 9x6x (3 1/2-1 1/2)	No. 2 ARCH 9x6x (3 1/2-2)	No. 1 ARCH 9x6x (3 1/2-2 1/2)	STRAIGHT 9x6x3	TOTAL
0'-9"	19	.....	.....	.....	19
0'-10"	16	4	.....	.....	20
0'-11"	13	8	.....	.....	21
1'-0"	10	12	.....	.....	22
1'-1"	7	16	.....	.....	23
1'-2"	4	20	.....	.....	24
1'-3"	1	24	.....	.....	25
1'-4"	26	.....	.....	26
1'-5"	24	2	.....	26
1'-6"	22	5	.....	27
1'-7"	20	8	.....	28
1'-8"	18	11	.....	29
1'-9"	16	14	.....	30
1'-10"	14	17	.....	31
1'-11"	12	20	.....	32
2'-0"	10	23	.....	33
2'-1"	8	26	.....	34
2'-2"	8	26	.....	34
2'-3"	6	29	.....	35
2'-4"	4	32	.....	36
2'-5"	2	35	.....	37
2'-6"	38	.....	38
2'-7"	38	1	39
2'-8"	38	2	40
2'-9"	38	3	41
2'-10"	38	4	42
2'-11"	38	5	43
3'-0"	38	6	44
3'-1"	38	7	45
3'-2"	38	8	46
3'-3"	38	9	47
3'-4"	38	11	49
3'-5"	38	12	50
3'-6"	38	13	51
3'-8"	38	15	53
3'-10"	38	17	55
4'-0"	38	19	57
4'-2"	38	21	59
4'-4"	38	23	61
4'-6"	38	25	63
4'-8"	38	27	65
4'-10"	38	29	67
5'-0"	38	31	69
5'-2"	38	34	72
5'-4"	38	36	74
5'-6"	38	38	76
5'-8"	38	40	78
5'-10"	38	42	80
6'-0"	38	44	82

COMPLETE CIRCLES**6-INCH LINING****RKA – 9 x 6 x 3 Series ROTARY KILN ARCH BRICK**

KILN SIZE	DESCRIPTION	PCS/RING
7'-0"	RKA – 9 x 6 x (3 – 2.563)	88
7'-3"	RKA – 9 x 6 x (3 – 2.594)	92
7'-6"		95
7'-9"		98
8'-0"	RKA – 9 x 6 x (3 – 2.625)	101
8'-3"		104
8'-6"		107
8'-9"	RKA – 9 x 6 x (3 – 2.656)	110
9'-0"		113
9'-3"		117
9'-6"		120
9'-9"	RKA – 9 x 6 x (3 – 2.688)	123
10'-0"		126
10'-3"		129
10'-6"		132
10'-9"	RKA – 9 x 6 x (3 – 2.719)	135
11'-0"		139
11'-3"		142
11'-6"		145
11'-9"		148
12'-0"		151
12'-3"	RKA – 9 x 6 x (3 – 2.75)	154
12'-6"		157
12'-9"		161
13'-0"		164
13'-3"		167
13'-6"	RKA – 9 x 6 x (3 – 2.781)	170
13'-9"		173
14'-0"		176

To avoid cutting, one of each of the following splits should be ordered for each ring of full size liners.

RKA – 3 – 2/3 Split (ME = 1.02, PF = 1.66)

RKA – 3 – 3/4 Split (ME = 1.14, PF = 1.86)

COMPLETE CIRCLES**6-INCH LINING****RKA – 9 x 6 x 3.5 Series ROTARY KILN ARCH BRICK**

KILN SIZE	DESCRIPTION	PCS/RING
7'-0"	RKA – 9 x 6 x (3.5 – 3)	76
7'-3"	RKA – 9 x 6 x (3.5 – 3.031)	78
7'-6"		81
7'-9"		84
8'-0"	RKA – 9 x 6 x (3.5 – 3.063)	87
8'-3"		89
8'-6"	RKA – 9 x 6 x (3.5 – 3.094)	92
8'-9"		95
9'-0"		97
9'-3"	RKA – 9 x 6 x (3.5 – 3.125)	100
9'-6"		103
9'-9"		105
10'-0"	RKA – 9 x 6 x (3.5 – 3.156)	108
10'-3"		111
10'-6"		113
10'-9"		116
11'-0"		119
11'-3"	RKA – 9 x 6 x (3.5 – 3.188)	122
11'-6"		124
11'-9"		127
12'-0"		130
12'-3"		132
12'-6"	RKA – 9 x 6 x (3.5 – 3.219)	135
12'-9"		138
13'-0"		140
13'-3"		143
13'-6"	RKA – 9 x 6 x (3.5 – 3.25)	146
13'-9"		149
14'-0"		151

To avoid cutting, one of each of the following splits should be ordered for each ring of full size liners.

RKA – 3.5 – 2/3 Split (ME = 1.20, PF = 1.75)

RKA – 3.5 – 3/4 Split (ME = 1.35, PF = 1.96)