

REFRACTORY ANCHORS

GENERAL SPECIFICATIONS — (Miscellaneous Anchors)

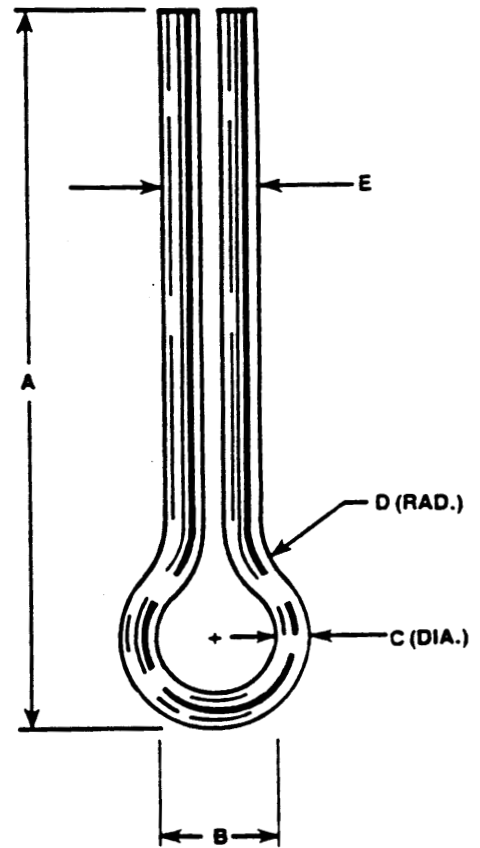
MISCELLANEOUS ANCHORS	This catalog section lists some of the most often used "non-stud-welded" or "miscellaneous" refractory anchors available. Our technical representatives can provide information on the availability of other standard refractory anchors and also assist you in designing a special anchor to meet your refractory fastening requirements.
MATERIALS	Miscellaneous Refractory Anchors are generally available in the following materials: <ol style="list-style-type: none"> 1. Low Carbon Steel, 2. Stainless Steel — types 304, 310, 316 & RA 330 3. Inconel 601. Other materials are available by special order.
TO ORDER OR SPECIFY GIVE:	<ol style="list-style-type: none"> 1. Product Code RA - 000 (found in top-right corner of page) 2. Dash Number -00 (found in left side column of chart) 3. Material (as required) <p>The dimensions shown in the charts represent the most commonly used sizes, however, these refractory anchors can be manufactured to the dimensions required for your application. To order special sizes, replace the Dash Number with -(NS) and give your required dimensions.</p> <p>EXAMPLE: (see pg. 2)</p> <ol style="list-style-type: none"> 1. RA -261 2. -(NS) A = 3½," all other dimensions same as -(01) 3. Stainless Steel 310

REFRACTORY ANCHORS

RA 261

RA-261

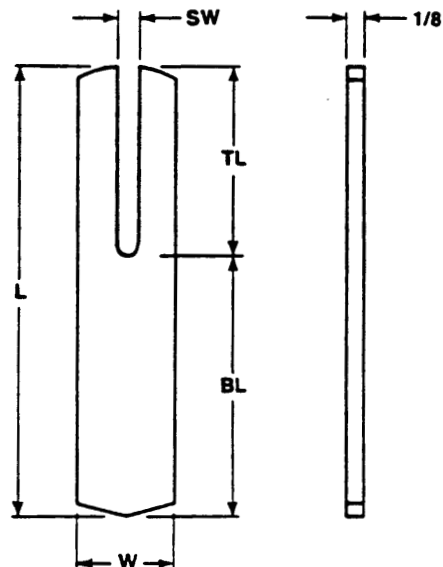
ANCHOR					
DASH NO.	A	B	C	D	E
-01	3"	1"	3/16	1/2	1/2
-02	4"	1"	3/16	1/2	1/2
-03	5"	1"	3/16	1/2	1/2
-04	6"	1"	3/16	1/2	1/2
-05	6-3/4"	1"	3/16	1/2	1/2



REFRACTORY ANCHORS
RECTANGULAR-TWO TINE

RA R-2T

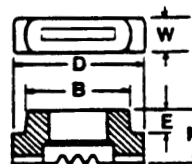
STUD					
W	SW	MIN L	MIN BL	MIN TL	FERRULE CODE
3/8	1/8	1-1/4	1/4	1"	R375
5/8	5/32	1-1/4	5/8	5/8	R625



MATERIAL	LOW CARBON STEEL C - 0.23% max. P - 0.04% max. Mn - 0.90% max. S - 0.05% max.	STAINLESS STEEL AISI grade - 18-8 Other grades available upon request.
MECHANICAL PROPERTIES	Tensile 60,000 psi (min.) Yield 50,000 psi (min.) Elongation 20% (in 2 inches)	Values for various grades available upon request.
PLATING	Plating is not standard. Copper, Nickel, and Zinc available upon customer request.	Does not apply to Stainless.

FERRULES: Ferrules are component parts of studs.
Not sold separately.

FERRULE				
CODE	B	D	E	M
R375	.505	.625	.156	.390
R625	.921	.500	.188	.438



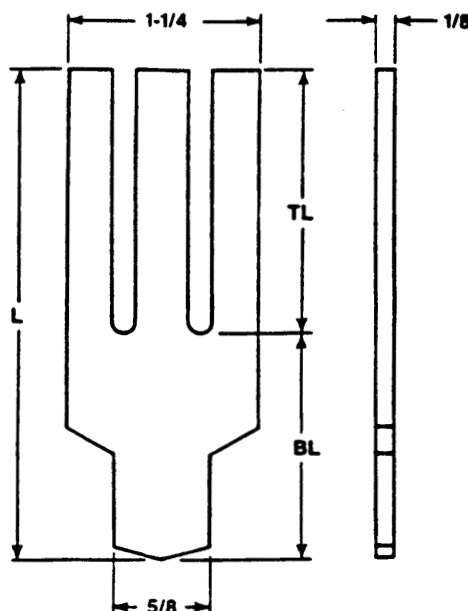
TO ORDER OR SPECIFY GIVE:

1. Product Code RA R-2T
2. Size 1/8 x W
3. Length L
4. Tine Length TL
5. Material

REFRACTORY ANCHORS RECTANGULAR-THREE TINE

RA R-3T

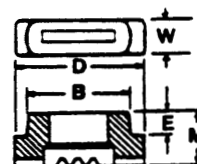
STUD			
MIN L	MIN BL	MIN TL	FERRULE CODE
2-1/4	1-1/4	1	R625



MATERIAL:	LOW CARBON STEEL C - 0.23% max. P - 0.04% max. Mn - 0.90% max. S - 0.05% max.	STAINLESS STEEL AISI grade - 18-8 Other grades available upon request.
MECHANICAL PROPERTIES:	Tensile 60,000 psi (min.) Yield 50,000 psi (min.) Elongation 20% (in 2 inches)	Values for various grades available upon request.
PLATING:	Plating is not standard. Copper, Nickel, and Zinc available upon customer request.	Does not apply to Stainless.

FERRULES: Ferrules are component parts of studs. Not sold separately.

FERRULE				
CODE	B	D	E	M
R625	.921	.500	.188	.438



- TO ORDER OR SPECIFY GIVE:**
1. Product Code RA R31
 2. Size 1/8 x 5/8
 3. Length L
 4. Twine Length TL
 5. Material

REFRACTORY ANCHORS

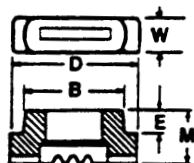
RECTANGULAR — CORRUGATED

RA R-C

STUD			
L	TL	CORRU-GATIONS	FERRULE CODE
2-1/8 thru 3"	1-5/8	1	R625
3-1/8 thru 4"	2-5/8	2	
4-1/8 thru 13"	3-5/8	3	

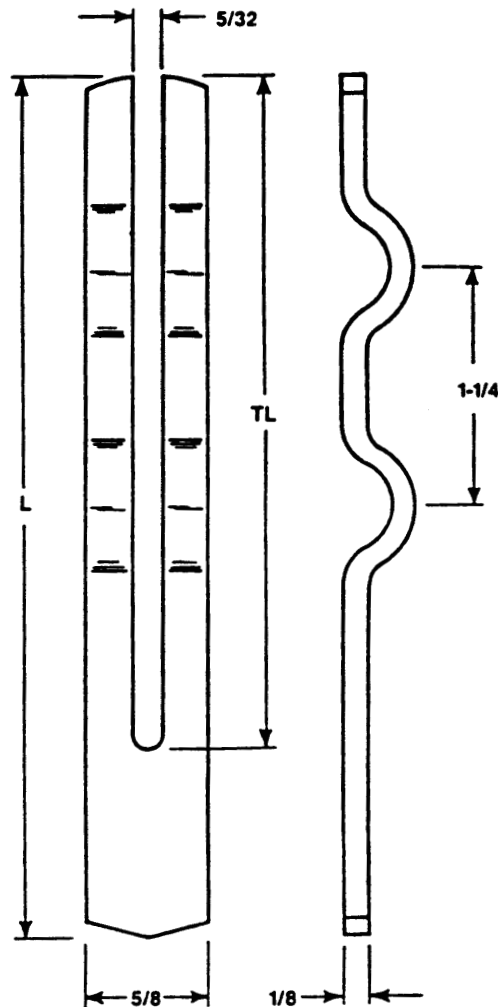
MATERIAL:	LOW CARBON STEEL C - 0.23% max P - 0.04% max Mn - 0.90% max. S - 0.05% max
MECHANICAL PROPERTIES:	Tensile 60,000 psi (min.) Yield 50,000 psi (min.) Elongation 20% (in 2 inches)
PLATING:	Plating is not standard. Copper, Nickel, and Zinc available upon customer request.

MATERIAL:	STAINLESS STEEL AISI grade - 304, 310 & 316 std. Other grades available upon request.
MECHANICAL PROPERTIES:	Values for various grades available upon request.
PLATING:	Does not apply to Stainless.



FERRULE				
CODE	B	D	E	M
R625	.921	1.093	.188	.438

FERRULES: Ferrules are component parts of studs.
Not sold separately.



TO ORDER OR SPECIFY GIVE:

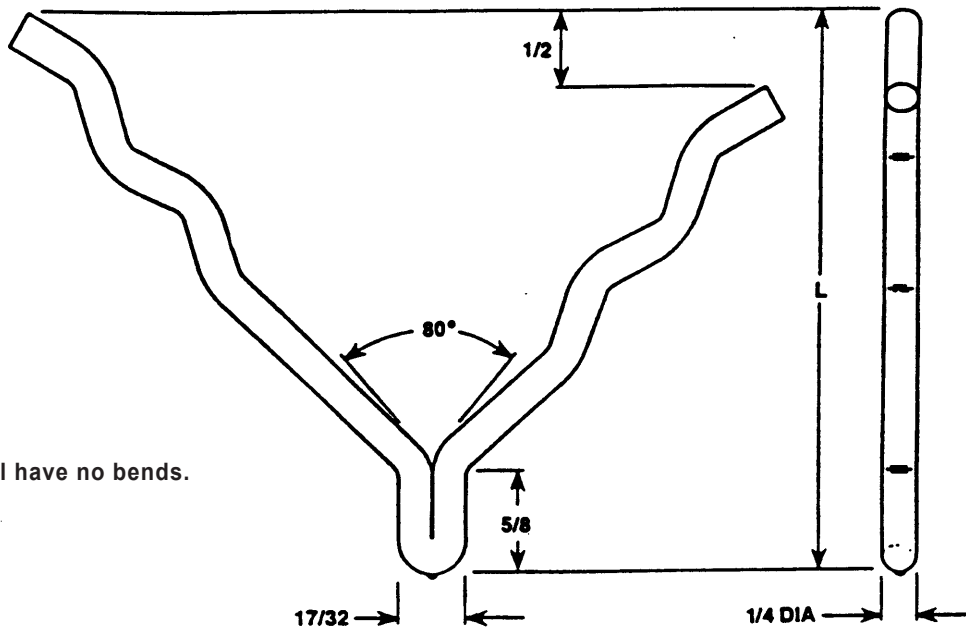
1. Product Code RA R-C
2. Size 1/8 x 5/8
3. Length L
4. Material

REFRACTORY ANCHOR "Y" ANCHOR

RA Y

STUD	
MIN L	FERRULE CODE
2-7/16	RA 250

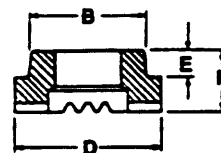
Studs shorter than L MIN will have no bends.



MATERIAL:	LOW CARBON STEEL	STAINLESS STEEL
	C - 0.23% max. Mn - 0.90% max.	P - 0.04% max. S - 0.05% max.
MECHANICAL PROPERTIES:	Tensile 60,000 psi (min.) Yield 50,000 psi (min.) Elongation 20% (in 2 inches)	Values for various grades available upon request.

FERRULES: Ferrules are component parts of studs.
Not sold separately.

FERRULE				
CODE	B	D	E	M
RA250	.785	1.030	.156	.406

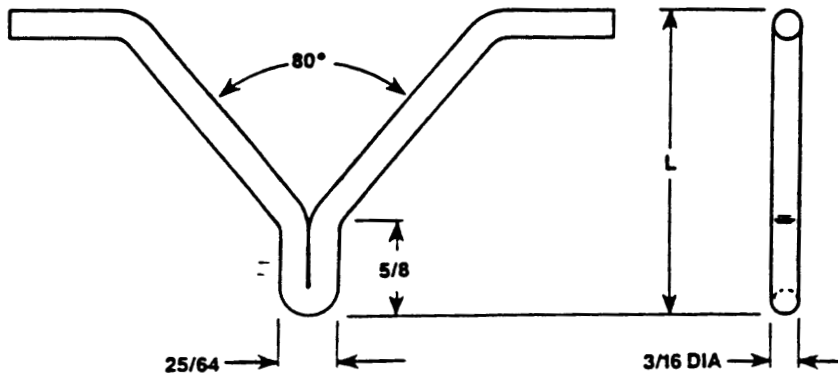


- TO ORDER OR SPECIFY GIVE:**
1. Product Code RA Y
 2. Diameter 1/4
 3. Length L
 4. Material

REFRACTORY ANCHORS BULL HORN

RA BH

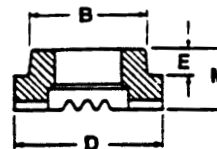
STUD	
MIN L	FERRULE CODE
1-1/8	RA 187



MATERIAL:	LOW CARBON STEEL C - 0.23% max. P - 0.04% max. Mn - 0.90% max. S - 0.05% max.	STAINLESS STEEL AISI grade - 304, 310, 316 & 330 std. Other grades available upon request.
MECHANICAL PROPERTIES:	Tensile 60,000 psi (min.) Yield 50,000 psi (min.) Elongation 20% (in 2 inches)	Values for various grades available upon request.
PLATING:	Plating is not standard. Copper, Nickel, and Zinc available upon customer request.	Does not apply to Stainless.

FERRULES: Ferrules are component parts of studs. Not sold separately.

FERRULE				
CODE	B	D	E	M
RA187	.785	1.030	.156	.406

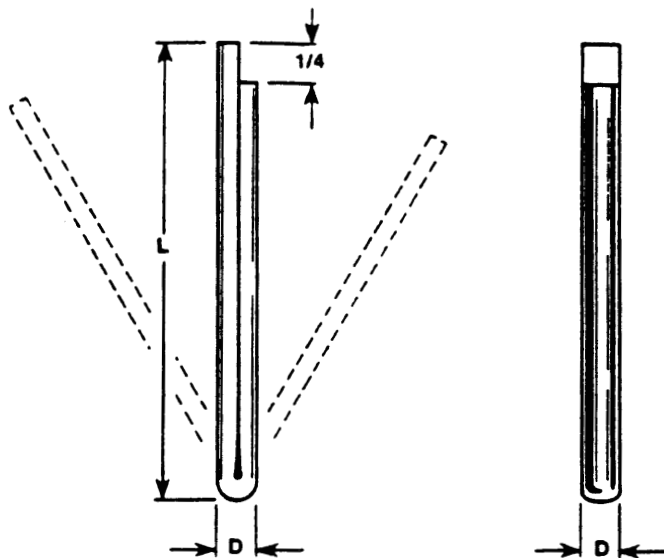


- TO ORDER OR SPECIFY GIVE:**
1. Product Code RA BH
 2. Diameter 3/16
 3. Length L
 4. Material

REFRACTORY ANCHOR SPLIT PIN

RA SP

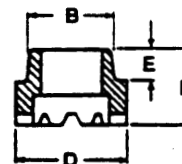
STUD		
D	MIN L	FERRULE CODE
3/16	7/8	P250
1/4	7/8	P312
5/16	7/8	P375



MATERIAL:	LOW CARBON STEEL C - 0.23% max. P - 0.04% max. Mn - 0.90% max. S - 0.05% max.	STAINLESS STEEL AISI grade - 18-8 Other grades available upon request.
MECHANICAL PROPERTIES:	Tensile 60,000 psi (min.) Yield 50,000 psi (min.) Elongation 20% (in 2 inches)	Values for various grades available upon request.
PLATING:	Plating is not standard. Copper, Nickel, and Zinc available upon customer request.	Does not apply to Stainless.

FERRULES: Ferrules are component parts of studs. Not sold separately.

FERRULE				
CODE	B	D	E	M
P250	.380	.455	.125	.250
P312	.445	.535	.125	.250
P375	.505	.595	.125	.265



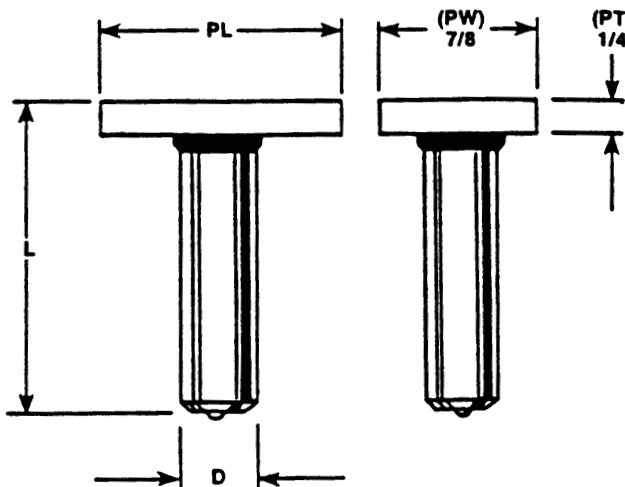
- TO ORDER OR SPECIFY GIVE:**
1. Product Code RA SP
 2. Diameter D
 3. Length L
 4. Material

REFRACTORY ANCHORS "T"-PLATE

RA T-PLT

STUD			
D	MIN L	PL	FERRULE CODE
3/8	1-1/8	2-1/2	F375
3/8	1-1/8	3	
1/2	1-1/8	2-1/2	F500
1/2	1-1/8	3	

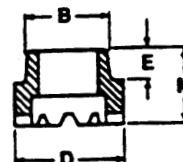
NOTE: Other sizes are available upon request.



MATERIAL	LOW CARBON STEEL C - 0.23% max. Mn - 0.90% max.	P - 0.04% max. S - 0.05% max.	STAINLESS STEEL AISI grade - 302/304/305 std. Other grades available upon request.
MECHANICAL PROPERTIES	Tensile 60,000 psi (min.) Yield 50,000 psi (min.) Elongation 20% (in 2 inches)		Values for various grades available upon request.
PLATING	Plating is not standard. Copper, Nickel, and Zinc available upon customer request.		Does not apply to Stainless.

FERRULES: Ferrules are component parts of studs. Not sold separately.

FERRULE				
CODE	B	D	E	M
F375	.505	.640	.156	.390
F500	.650	.795	.188	.438



- TO ORDER OR SPECIFY GIVE:**
1. Product Code RA T-PLT
 2. Diameter D
 3. Length L
 4. Plate Length PL
 5. Material

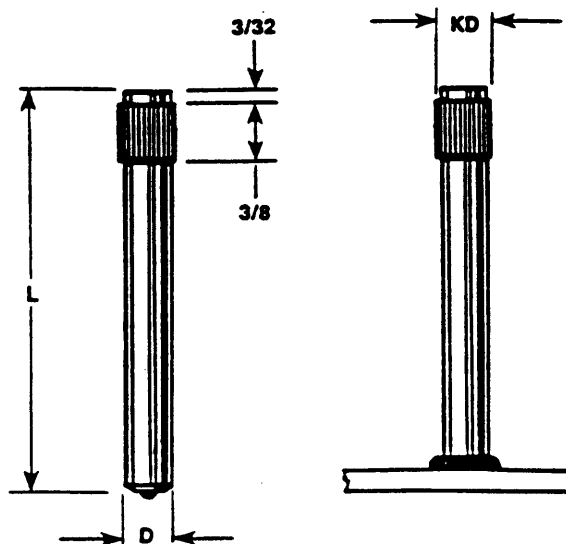
REFRACTORY ANCHORS KNURLED

RA KNRL

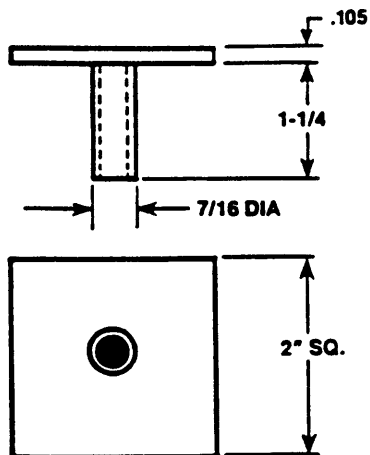
STUD			
D	MIN L	KD	FERRULE CODE
5/16	1"	.327	F312

MATERIAL:	LOW CARBON STEEL C - 0.23% max. P - 0.04% max. Mn - 0.90% max. S - 0.05% max.
MECHANICAL PROPERTIES:	Tensile 60,000 psi (min.) Elongation . . . 20% (in 2 inches)

MATERIAL:	STAINLESS STEEL AISI grade - 302/304/305 std. Other grades available upon request.
MECHANICAL PROPERTIES:	Values for various grades available upon request.



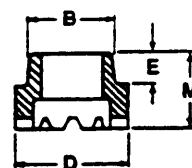
DRIVE PLATE
(WCN DRPLT) 2" Square



DRIVEPLATE: Sold separately. Not a component part of stud.

FERRULE				
CODE	B	D	E	M
F312	.445	.578	.156	.390

FERRULES: Ferrules are component parts of studs. Not sold separately.



TO ORDER OR SPECIFY GIVE:

1. Product Code RA KNRL
2. Diameter D
3. Length L
4. Material

**REFRACTORY ANCHOR
BALL STUD**

RA BALL

STUD	
D	MINIMUM PLATE THICKNESS
3/8	14 GA (.075)
1/2	12 GA (.105)
5/8	10 GA (.135)

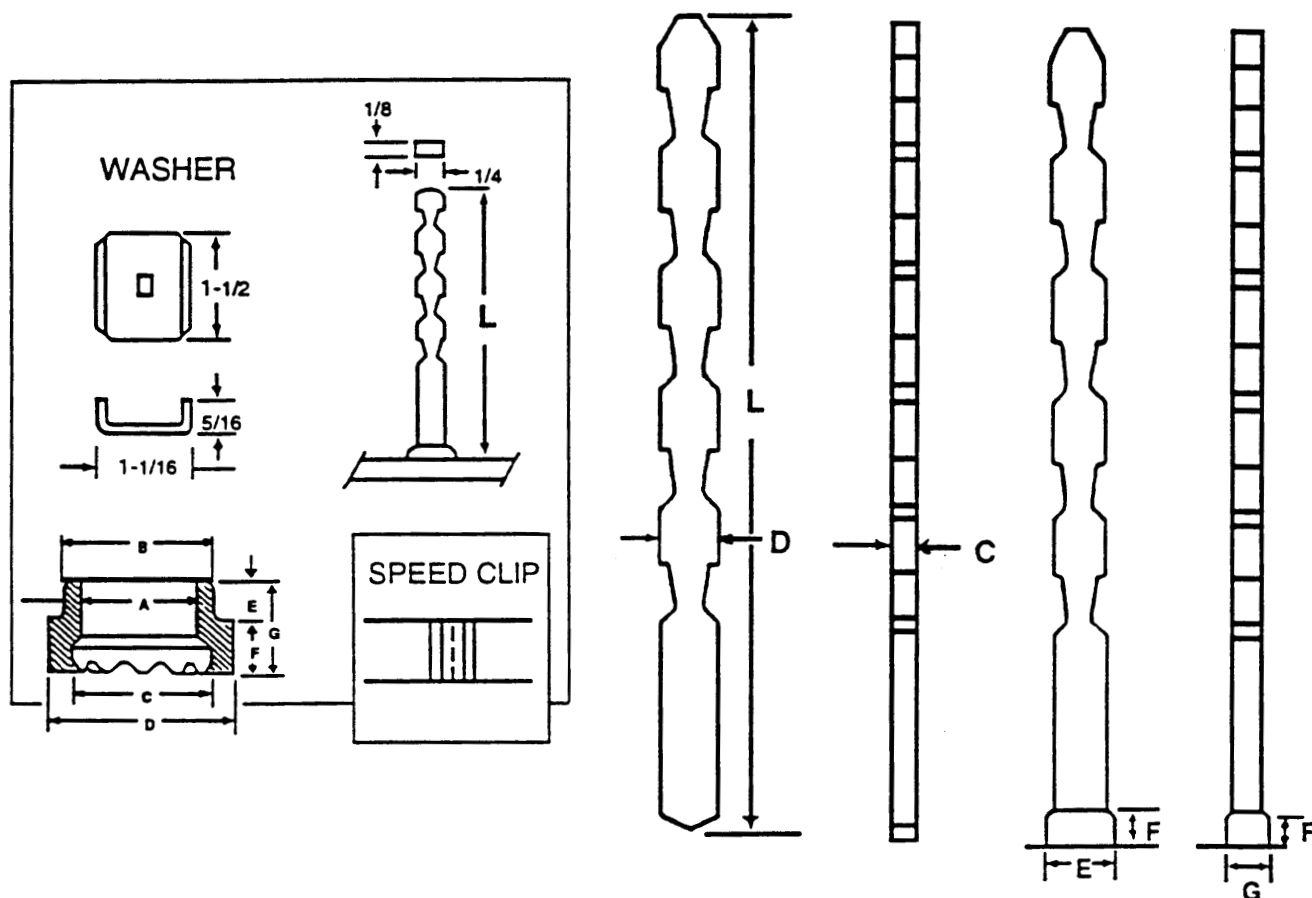


MATERIAL	LOW CARBON STEEL	STAINLESS STEEL
	C - 0.23% max. P - 0.04% max. Mn - 0.90% max. S - 0.05% max.	AISI grade - 430 std. Other grades available upon request.
MECHANICAL PROPERTIES	Tensile 60,000 psi (min.) Yield 50,000 psi (min.) Elongation 20% (in 2 inches)	Values for various grades available upon request.

**FERRULES ARE NOT REQUIRED FOR
WELDING BALL STUDS.**

TO ORDER OR SPECIFY GIVE:
 1. Product Code **RA BALL**
 2. Diameter **D**
 3. Material

RT TWIST REFRACTORY ANCHOR



STUD SPECIFICATIONS						FERRULE SPECIFICATIONS				
D	MIN. L.	C	FILLET DIMENSION			NO.	B	D	G	F
			E	F	G					
1/4	1 1/4	1/8	9/32	3/32	7/32	009-661	.505	.640	.390	.125

TYPICAL USE: Securing blanket refractories. Once the stud is welded in place, the refractory is impaled on the anchor and a locking washer is clipped in place to hold it.

LENGTH SPECIFICATIONS: Available in specified lengths from 1-1/4" (BW)

MATERIALS: 304 SS, 310 SS, RA 330, Inconel 601, and mild steel.

ARC SHIELDS: All orders include arc shields, which are supplied with the studs and are not sold individually. Part No. 009-661.

TO ORDER: Specify Twist Refractory Anchors, quantity, L (BW) material, arc shield.

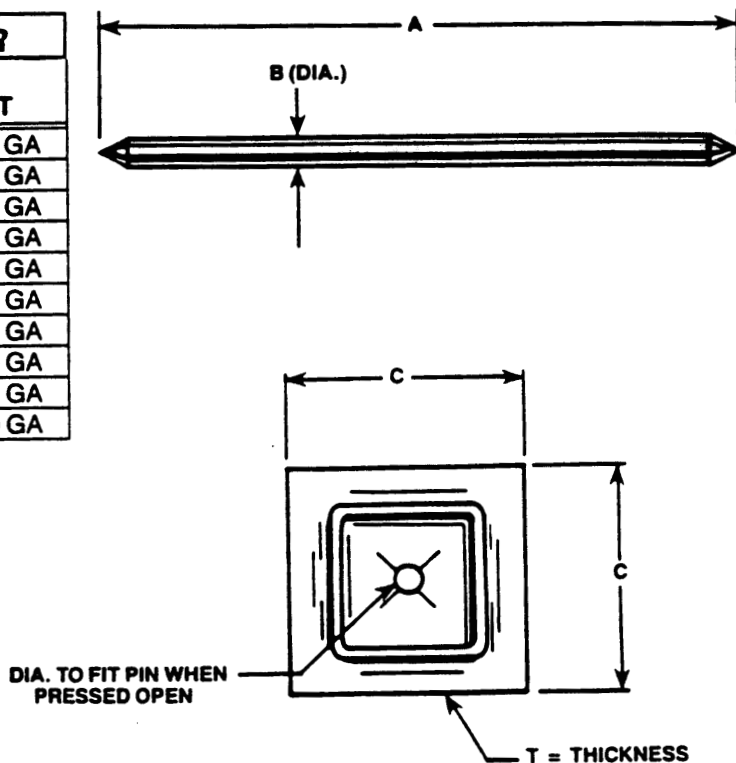
LENGTHS AVAILABLE: 1-1/4" thru 16"

REFRACTORY ANCHORS

RA 265

RA-265

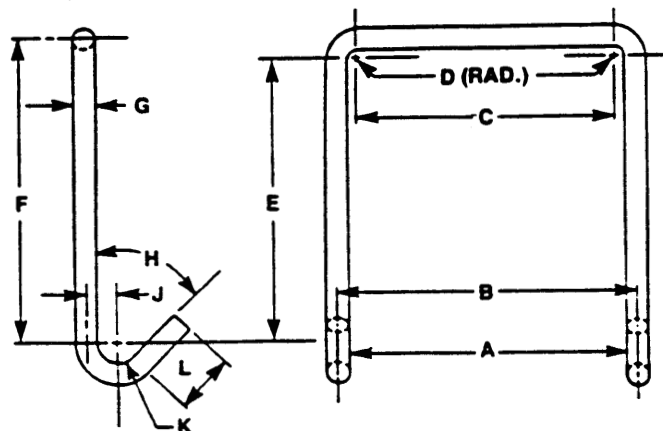
ANCHOR			WASHER	
DASH NO.	A	B	C	T
-01	2-1/8	1/8	1-1/2	20 GA
-02	4-1/8	1/8	1-1/2	20 GA
-03	2-1/8	3/16	1-1/2	20 GA
-04	4-1/8	3/16	1-1/2	20 GA
-05	2-1/8	1/4	2-1/2	20 GA
-06	4-1/8	1/4	2-1/2	20 GA
-07	5"	10 GA	1-1/2	20 GA
-08	3"	3/16	1-1/2	20 GA
-09	2-5/8	10 GA	1-1/2	20 GA
-10	4-5/8	1/8	1-1/2	20 GA



REFRACTORY ANCHORS

RA 268

RA-268



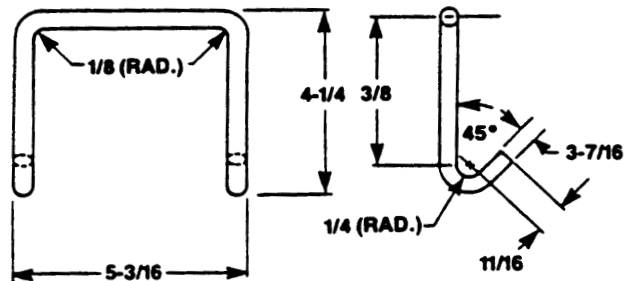
ANCHOR											
DASH NO.	A	B	C	D	E	F	G	H	J	K	L
-01	3-5/16	3-9/16	3-1/16	1/8	3-7/16	3-11/16	1/4	45°	3/8	1/4	3/4
-02	3-3/16	3-7/16	2-15/16	1/8	4-1/2	4-3/4	1/4	60°	1/4	1/8	3/4
-03	3-5/8	4"	3"	5/16	4-3/16	4-11/16	3/8	60°	1/2	5/16	3/4

REFRACTORY ANCHORS

RA 269

RA-269

ANCHOR	
DASH NO.	DIMENSIONS
- 01	(see above)

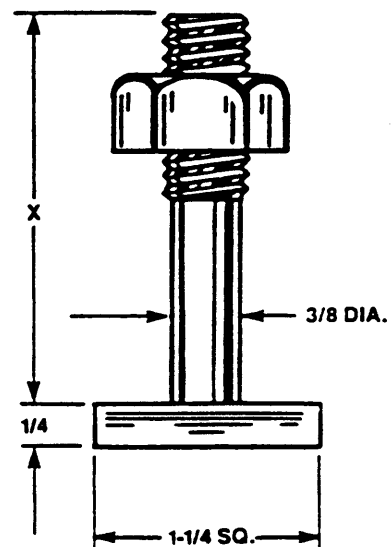


REFRACTORY ANCHORS

RA 270

RA-270

ANCHOR							
DASH NO.	X	NO.	X	DASH NO.	X	NO.	X
-01	2	17	6	-09	4	25	8
-02	2-1/4	18	6-1/4	-10	4-1/4	26	8-1/4
-03	2-1/2	19	6-1/2	-11	4-1/2	27	8-1/2
-04	2-3/4	20	6-3/4	-12	4-3/4	28	8-3/4
-05	3	21	7	-13	5	29	9
-06	3-1/4	22	7-1/4	-14	5-1/4	30	9-1/4
-07	3-1/2	23	7-1/2	-15	5-1/2	31	9-1/2
-08	3-3/4	24	7-3/4	-16	5-3/4	32	9-3/4

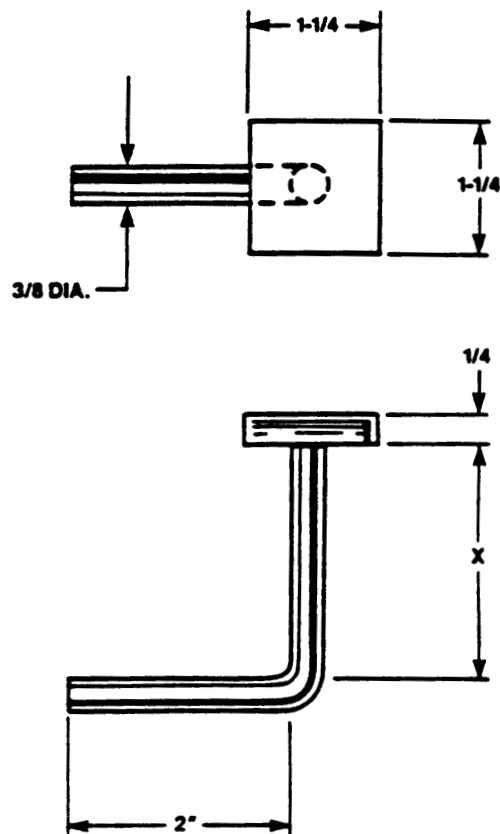


REFRACTORY ANCHORS

RA 271

RA-271

ANCHOR			
DASH NO.	DIM. X	DASH NO.	DIM. X
-01	1-9/16	-18	5-13/16
-02	1-13/16	-19	6-1/16
-03	2-1/16	-20	6-5/16
-04	2-5/16	-21	6-9/16
-05	2-9/16	-22	6-13/16
-06	2-13/16	-23	7-1/16
-07	3-1/16	-24	7-5/16
-08	3-5/16	-25	7-9/16
-09	3-9/16	-26	7-13/16
-10	3-13/16	-27	8-1/16
-11	4-1/16	-28	8-5/16
-12	4-5/16	-29	8-9/16
-13	4-9/16	-30	8-13/16
-14	4-13/16	-31	9-1/16
-15	5-1/16	-32	9-5/16
-16	5-5/16	-33	9-9/16
-17	5-9/16	-34	9-13/16

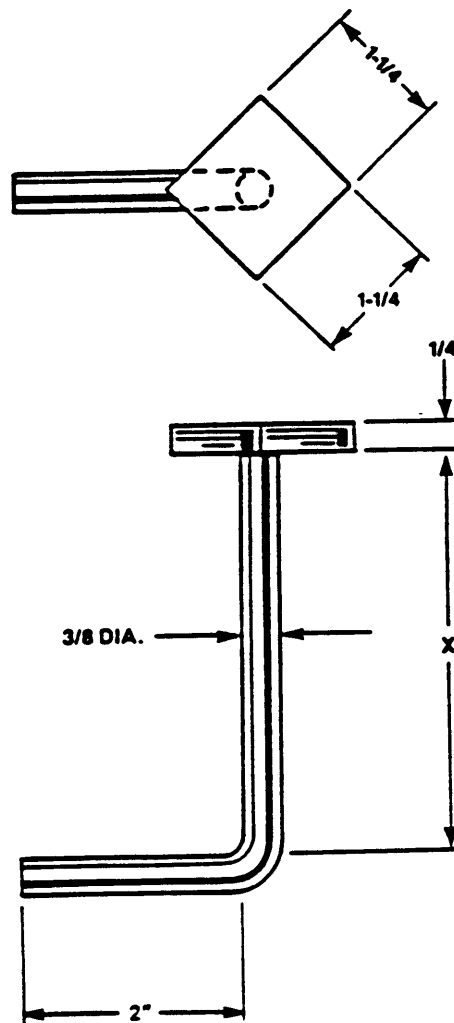


REFRACTORY ANCHORS

RA 272

RA-272

ANCHOR			
DASH NO.	DIM. X	DASH NO.	DIM. X
-01	1-1/16	-18	5-5/16
-02	1-5/16	-19	5-9/16
-03	1-9/16	-20	5-13/16
-04	1-13/16	-21	6-1/16
-05	2-1/16	-22	6-5/16
-06	2-5/16	-23	6-9/16
-07	2-9/16	-24	6-13/16
-08	2-13/16	-25	7-1/16
-09	3-1/16	-26	7-5/16
-10	3-5/16	-27	7-9/16
-11	3-9/16	-28	7-13/16
-12	3-13/16	-29	8-1/16
-13	4-1/16	-30	8-5/16
-14	4-5/16	-31	8-9/16
-15	4-9/16	-32	8-13/16
-16	4-13/16	-33	9-1/16
-17	5-1/16		

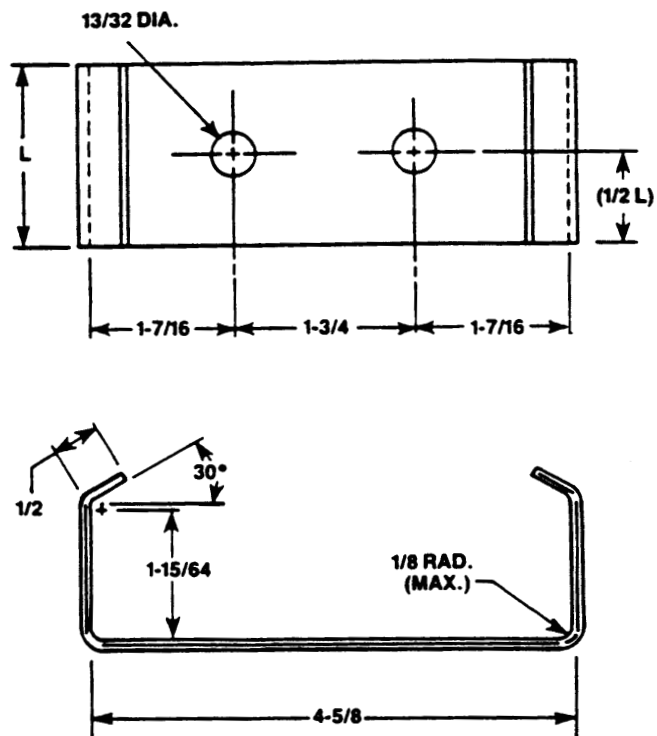


REFRACTORY ANCHORS

RA 273

RA-273

ANCHOR			
DASH NO.	THICKNESS	L (INCHES)	STEEL TYPE
-01	3 GA.	2-1/2	CARBON
-02	11 GA.	2-1/2	CARBON
-03	3 GA.	1-1/2	304 S.S.
-04	11 GA.	1-1/2	304 S.S.
-05	3 GA.	1-1/2	309 S.S.
-06	11 GA.	1-1/2	309 S.S.
-07	3 GA.	1-1/2	310 S.S.
-08	11 GA.	1-1/2	310 S.S.
-09	3 GA.	1-1/2	316 S.S.
-10	11 GA.	1-1/2	316 S.S.



REFRACTORY ANCHORS

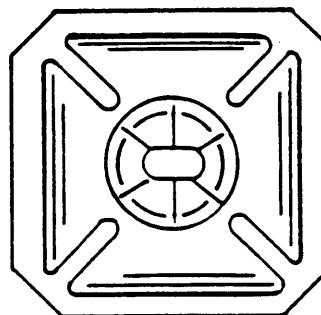
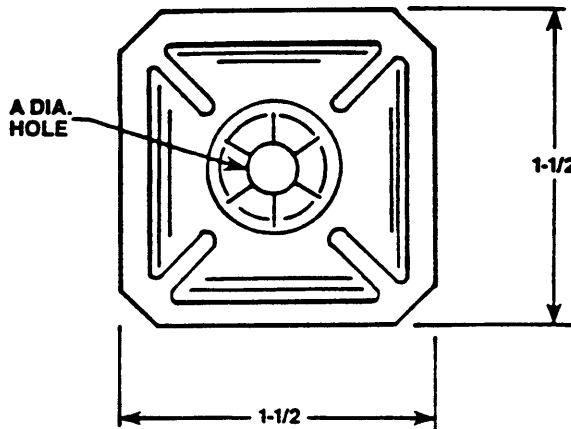
RA 276

RA-276

WASHER		
DASH NO.	A	PRODUCT † CODE
-01	1/4	WCN K150S B 1/4
-02	3/16	WCN K150S B 3/16
-03	RT *	WCN K150S B (RT)

† It is not necessary to use the RA Number or Dash Number when ordering. Just specify Product Code and Material.

* For Twist refractory anchor

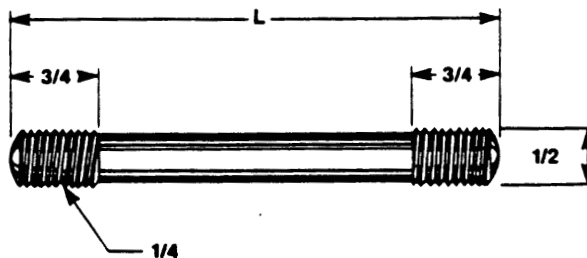
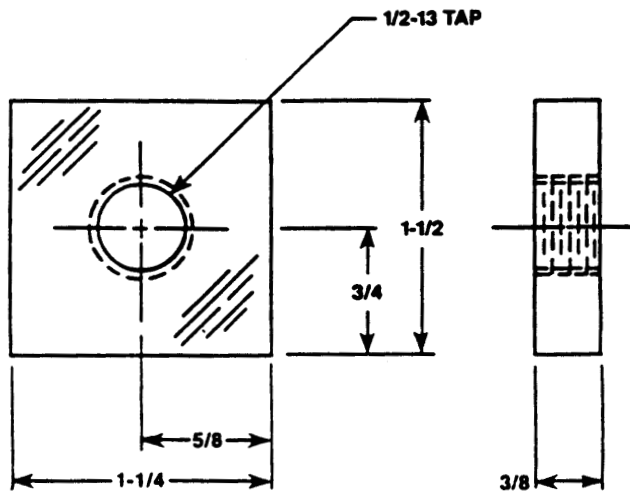


REFRACTORY ANCHORS
RA-353

RA 353

PLATE
As Shown

ANCHOR	
L	As Required

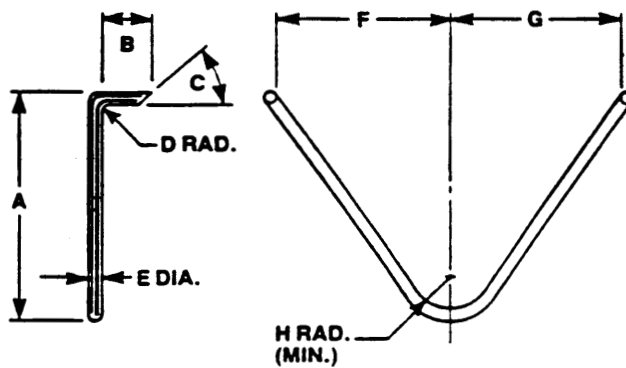


REFRACTORY ANCHORS

RA 611

RA-611

ANCHOR								
NO.	A	B	C	D	E	F	G	H
-01	1-1/2	3/4	45°	1/8	1/8	2-1/4	2-1/4	5/8
-02	2-1/4	3/4	45°	1/8	1/8	2-1/4	2-1/4	5/8
-03	3-1/4	3/4	45°	1/8	1/8	2-1/4	2-1/4	5/8
-04	4-1/4	3/4	45°	1/8	1/8	2-1/4	2-1/4	5/8
-05	5-1/4	3/4	45°	1/8	1/8	2-1/4	2-1/4	5/8
-06	3-5/16	7/8	45°	1/8	1/8	2-1/4	2-1/4	5/8
-07	4-11/16	7/8	45°	1/8	1/8	2-1/4	2-1/4	5/8

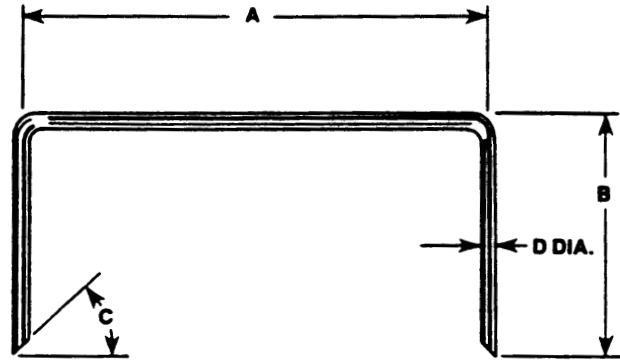


REFRACTORY ANCHORS

RA 612

RA-612

ANCHOR				
DASH NO.	A	B	C	D
-01	2-1/2	2-1/4	45°	1/8
-02	4-1/2	2-1/4	45°	1/8

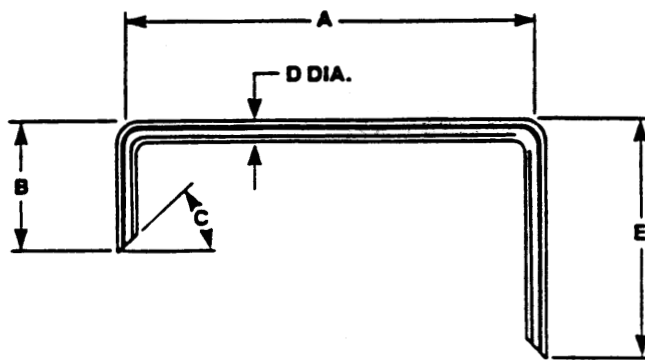


REFRACTORY ANCHORS

RA 613

RA-613

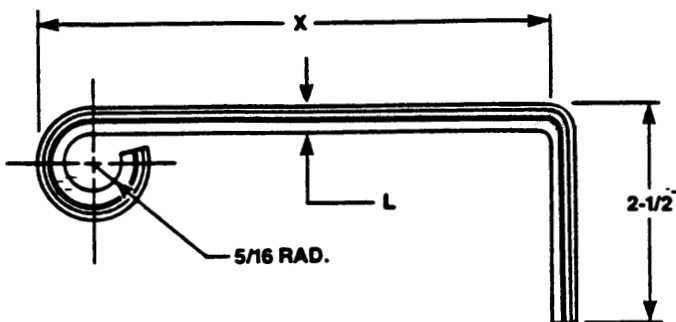
ANCHOR					
DASH NO.	A	B	C	D	E
-01	3	1-1/4	45°	3/16	2-1/4
-02	4	1-1/4	45°	3/16	2-1/4
-03	5	1-1/4	45°	3/16	2-1/4
-04	5-1/2	1-1/4	45°	3/16	2-1/4



REFRACTORY ANCHORS

RA 614

RA-614

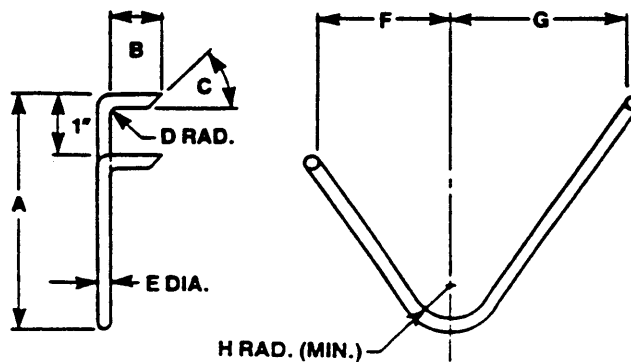


REFRACTORY ANCHORS

RA 615

RA-615

ANCHOR								
DASH NO.	A	B	C	D	E	F	G	H
-01	1-1/2	3/4	45°	1/8	1/8	1-5/8	2-1/4	5/8
-02	2-1/4	3/4	45°	1/8	1/8	1-5/8	2-1/4	5/8
-03	3-1/4	3/4	45°	1/8	1/8	1-5/8	2-1/4	5/8
-04	4-1/4	3/4	45°	1/8	1/8	1-5/8	2-1/4	5/8
-05	5-1/4	3/4	45°	1/8	1/8	1-5/8	2-1/4	5/8
-06	3-5/16	7/8	45°	1/8	1/8	1-5/8	2-1/4	5/8
-07	4-11/16	7/8	45°	1/8	1/8	1-5/8	2-1/4	5/8

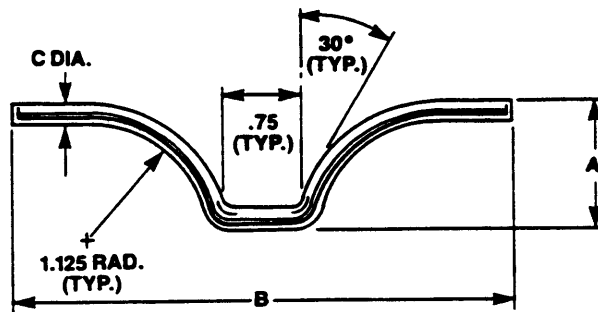


REFRACTORY ANCHORS

RA 730

RA-730

ANCHOR							
DASH NO.	A	B	C	DASH NO.	A	B	C
-01	1	4.73	3/16	-12	1	4.73	1/4
-02	1.5	5.30	3/16	-13	1.5	5.30	1/4
-03	2	5.88	3/16	-14	2	5.88	1/4
-04	2.5	6.45	3/16	-15	2.5	6.45	1/4
-05	3	7.03	3/16	-16	3	7.03	1/4
-06	3.5	7.61	3/16	-17	3.5	7.61	1/4
-07	4	8.18	3/16	-18	4	8.18	1/4
-08	4.5	8.76	3/16	-19	4.5	8.76	1/4
-09	5	9.33	3/16	-20	5	9.33	1/4
-10	5.5	9.91	3/16	-21	5.5	9.91	1/4
-11	6	10.4	3/16	-22	6	10.4	1/4

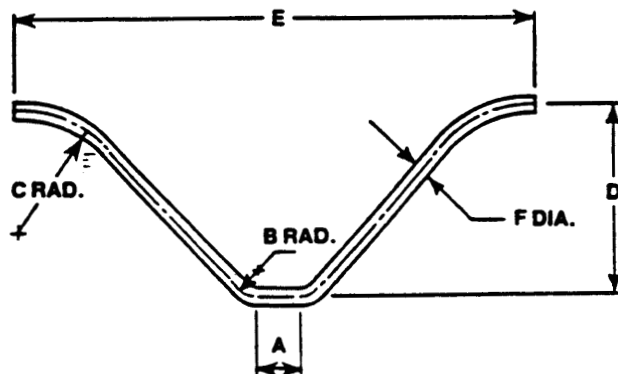


REFRACTORY ANCHORS

RA 731

RA-731

ANCHOR						
DASH NO.	A	B	C	D	E	F
-01	7/16	5/16	1-3/8	3/4	5-3/4	3/16
-02	7/16	5/16	1-3/8	1	5-3/4	3/16
-03	7/16	5/16	1-3/8	1-1/2	5-3/4	3/16
-04	7/16	5/16	1-3/8	2	5-3/4	3/16
-05	7/16	5/16	1-3/8	2-1/4	5-3/4	3/16
-06	1/2	1/2	1-1/2	2-1/2	6	3/16
-07	1/2	1/2	2-1/4	3	7	3/16
-08	1/2	1/2	1-1/2	3-1/2	6	3/16
-09	1/2	1/2	2-1/4	3-1/2	7-3/4	3/16
-10	3/4	3/4	2	3-3/4	8	3/16
-11	1/2	1/2	2-1/4	4-1/2	8	3/16
-12	3/4	3/4	2-1/4	5	9-15/16	3/16
-13	3/4	3/4	2	3-3/4	8	1/4
-14	3/4	3/4	2	4	8	1/4
-15	3/4	3/4	2-1/2	4-1/2	8-1/2	1/4
-16	3/4	3/4	4	6	11-1/2	5/16

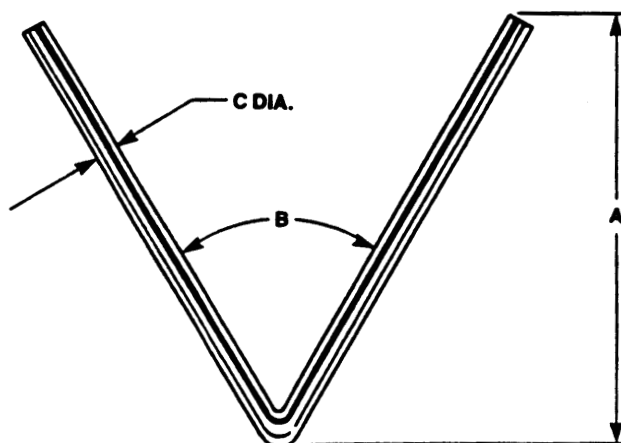


REFRACTORY ANCHORS

RA 732

RA-732

ANCHOR			
DASH NO.	A	B	C
-01	1	60°	3/16
-02	1-1/2	60°	3/16
-03	2	60°	3/16
-04	3	60°	3/16
-05	4	60°	3/16
-06	5	60°	3/16
-07	6	60°	3/16

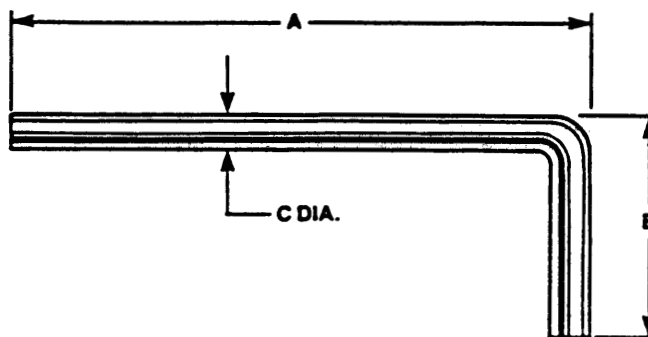


REFRACTORY ANCHORS

RA 733

RA-733

ANCHOR							
DASH NO.	A	B	C	DASH NO.	A	B	C
-01	1	1-1/2	3/16	-19	1	1-1/2	1/4
-02	1-1/2	1-1/2	3/16	-20	1-1/2	1-1/2	1/4
-03	1-3/4	1-1/2	3/16	-21	1-3/4	1-1/2	1/4
-04	2	1-1/2	3/16	-22	2	1-1/2	1/4
-05	2-1/2	1-1/2	3/16	-23	2-1/2	1-1/2	1/4
-06	3	1-1/2	3/16	-24	3	1-1/2	1/4
-07	4	1-1/2	3/16	-25	4	1-1/2	1/4
-08	4-1/2	1-1/2	3/16	-26	4-1/2	1-1/2	1/4
-09	5	1-1/2	3/16	-27	5	1-1/2	1/4
-10	5-1/2	1-1/2	3/16	-28	5-1/2	1-1/2	1/4
-11	6	1-1/2	3/16	-29	6	1-1/2	1/4
-12	6-1/2	1-1/2	3/16	-30	6-1/2	1-1/2	1/4
-13	7	1-1/2	3/16	-31	7	1-1/2	1/4
-14	7-1/2	1-1/2	3/16	-32	7-1/2	1-1/2	1/4
-15	7-3/4	1-1/2	3/16	-33	7-3/4	1-1/2	1/4
-16	8-1/2	1-1/2	3/16	-34	8-1/2	1-1/2	1/4
-17	9	1-1/2	3/16	-35	9	1-1/2	1/4
-18	9-1/2	1-1/2	3/16	-36	9-1/2	1-1/2	1/4

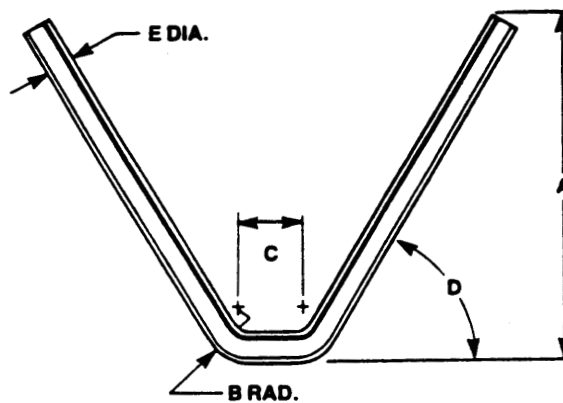


REFRACTORY ANCHORS

RA 734

RA-734

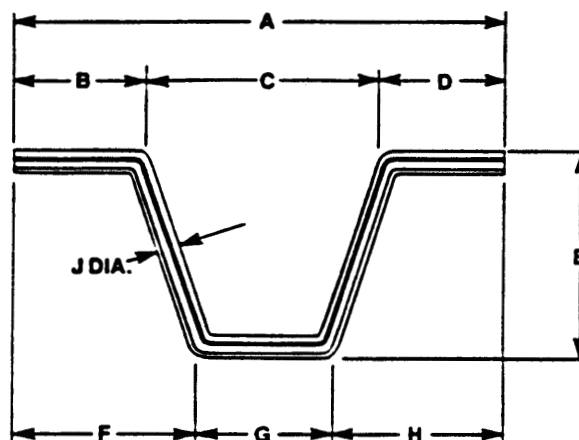
ANCHOR					
DASH NO.	A	B	C	D	E
-01	2	3/4	3/4	60°	1/8
-02	3	3/4	3/4	60°	1/8
-03	6-1/2	3/4	3/4	60°	1/8
-04	1-1/2	3/4	3/4	60°	3/16
-05	2	3/4	3/4	60°	3/16
-06	2-1/4	3/4	3/4	60°	3/16
-07	2-3/4	3/4	3/4	60°	3/16
-08	3-3/4	3/4	3/4	60°	3/16
-09	4-1/2	3/4	3/4	60°	3/16
-10	5-1/2	3/4	3/4	60°	3/16
-11	6-1/2	3/4	3/4	60°	3/16
-12	1-1/2	3/4	3/4	60°	1/4
-13	2-1/4	3/4	3/4	60°	1/4
-14	2-3/4	3/4	3/4	60°	1/4
-15	3-3/4	3/4	3/4	60°	1/4
-16	4-1/2	3/4	3/4	60°	1/4
-17	5-1/2	3/4	3/4	60°	1/4
-18	6-1/2	3/4	3/4	60°	1/4



REFRACTORY ANCHORS

RA 735

RA-735



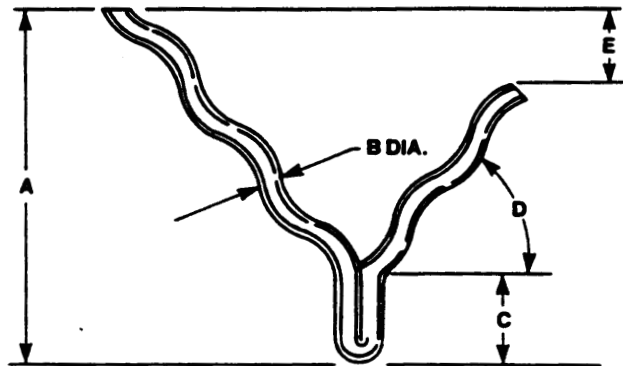
ANCHOR									
DASH NO.	A	B	C	D	E	F	G	H	J
- 01	6	1-1/2	3	1-1/2	2-1/4	2-1/4	1-1/2	2-1/4	3/16
- 02	6	1-1/2	3	1-1/2	3-1/4	2-1/4	1-1/2	2-1/4	3/16
- 03	6	1-1/2	3	1-1/2	3-1/2	2-1/4	1-1/2	2-1/4	3/16
- 04	6	1-1/2	3	1-1/2	5	2-1/4	1-1/2	2-1/4	3/16
- 05	6	1-1/2	3	1-1/2	6-1/4	2-1/4	1-1/2	2-1/4	3/16
- 06	6	1-1/2	3	1-1/2	8-1/2	2-1/4	1-1/2	2-1/4	3/16
- 07	7	1-3/4	3-1/2	1-3/4	3-1/2	2-3/4	1-1/2	2-3/4	3/16

REFRACTORY ANCHORS

RA 737

RA-737

ANCHOR					
DASH NO.	A	B	C	D	E
-01	2	1/4	3/4	50°	1/2
-02	2-5/8	1/4	3/4	50°	1/2
-03	3-1/8	1/4	3/4	50°	1/2
-04	3-5/8	1/4	3/4	50°	1/2
-05	4-1/8	1/4	3/4	50°	1/2
-06	5	1/4	3/4	50°	1/2
-07	5-1/8	1/4	3/4	50°	1/2
-08	7-1/8	1/4	3/4	50°	1/2
-09	2-5/8	5/16	3/4	50°	1/2
-10	3-1/8	5/16	3/4	50°	1/2
-11	3-5/8	5/16	3/4	50°	1/2
-12	4-1/8	5/16	3/4	50°	1/2
-13	4-5/8	5/16	3/4	50°	1/2
-14	5 1/8	5/16	3/4	50°	1/2
-15	7-1/8	5/16	3/4	50°	1/2

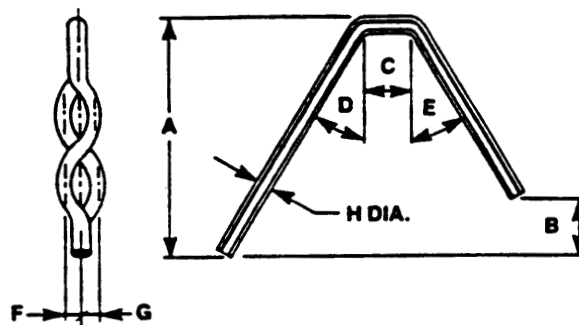


REFRACTORY ANCHORS

RA 738

RA-738

ANCHOR								
DASH NO.	A	B	C	D	E	F	G	H
-01	1-1/4	1/2	3/4	30°	30°	3/16	3/16	3/16
-02	2-1/4	1/2	3/4	30°	30°	3/16	3/16	3/16
-03	2-3/4	1/2	3/4	30°	30°	3/16	3/16	3/16
-04	3-3/4	1/2	3/4	30°	30°	3/16	3/16	3/16
-05	4-3/4	1/2	3/4	30°	30°	3/16	3/16	3/16
-06	5-3/4	1/2	3/4	30°	30°	3/16	3/16	3/16
-07	6-3/4	1/2	3/4	30°	30°	3/16	3/16	3/16
-08	1-1/4	1/2	3/4	30°	30°	3/16	3/16	1/4
-09	2-1/4	1/2	3/4	30°	30°	3/16	3/16	1/4
-10	2-3/4	1/2	3/4	30°	30°	3/16	3/16	1/4
-11	3-3/4	1/2	3/4	30°	30°	3/16	3/16	1/4
-12	4-3/4	1/2	3/4	30°	30°	3/16	3/16	1/4
-13	5-3/4	1/2	3/4	30°	30°	3/16	3/16	1/4
-14	6-3/4	1/2	3/4	30°	30°	3/16	3/16	1/4

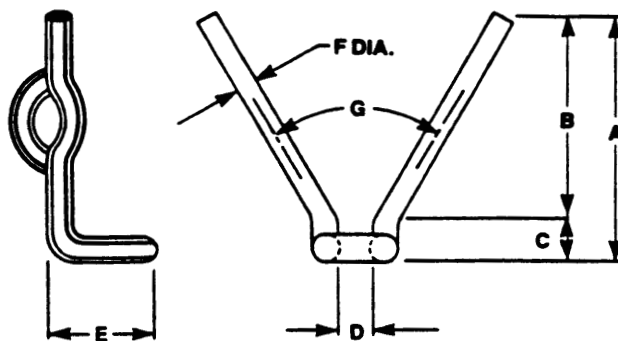


REFRACTORY ANCHORS

RA 739

RA-739

ANCHOR							
DASH NO.	A	B	C	D	E	F	G
-01	2-5/8	2-1/8	1/2	.406	1-1/4	1/4	60°
-02	3-1/8	2-5/8	1/2	.406	1-1/4	1/4	60°
-03	4-1/8	3-1/8	1	.406	1-1/4	1/4	60°
-04	5-1/8	4-1/8	1	.406	1-1/4	1/4	60°
-05	6-1/8	5-1/8	1	.406	1-1/4	1/4	60°
-06	2-1/8	2-1/8		.406	1-1/4	5/16	60°
-07	2-1/2	2	1/2	.406	1-1/4	5/16	60°
-08	2-5/8	2-5/8		.406	1-1/4	5/16	60°
-09	3-1/8	3-1/8		.406	1-1/4	5/16	60°
-10	3-5/8	3-5/8	1	.406	1-1/4	5/16	60°
-11	3	2-1/2	1/2	.406	1-1/4	5/16	60°
-12	3-1/2	2-1/2	1	.406	1-1/4	5/16	60°
-13	4	3	1	.406	1-1/4	5/16	60°
-14	5-1/8	4-1/8	1	.406	1-1/4	5/16	60°
-15	6-1/8	5-1/8	1	.406	1-1/4	5/16	60°

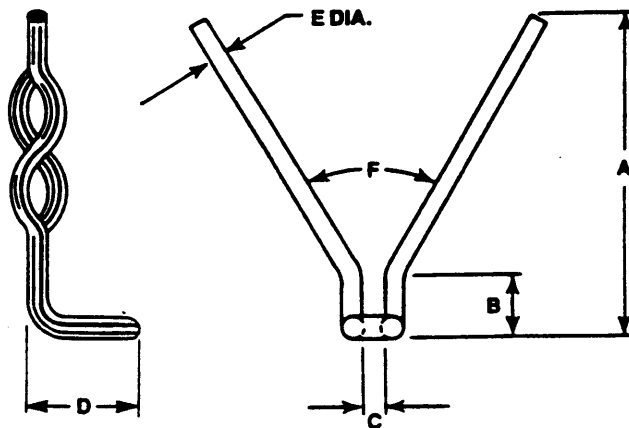


REFRACTORY ANCHORS

RA 740

RA-740

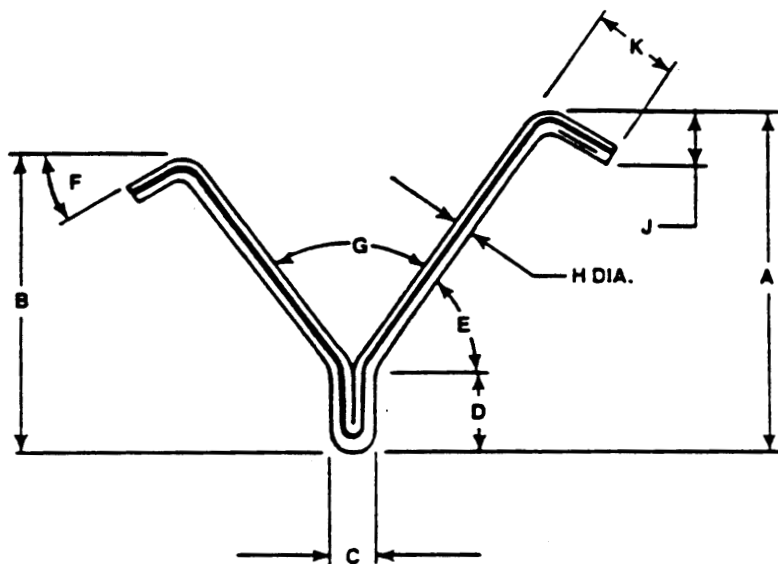
ANCHOR						
DASH NO.	A	B	C	D	E	F
-01	5-1/8	1	.406	1-1/4	1/4	60°
-02	7-1/8	3-1/8	.406	1-1/4	1/4	60°
-03	4-1/4	3/4	.406	1-1/4	5/16	60°
-04	5	1	.406	1-1/4	5/16	60°
-05	6	2	.406	1-1/4	5/16	60°
-06	6	1	.406	1-1/4	5/16	60°
-07	7	3	.406	1-1/4	5/16	60°
-08	8	3	.406	1-1/4	5/16	60°
-09	8	4	.406	1-1/4	5/16	60°
-10	9	4	.406	1-1/4	5/16	60°
-11	10	5	.406	1-1/4	5/16	60°
-12	10	6	.406	1-1/4	5/16	60°
-13	11	6	.406	1-1/4	5/16	60°
-14	12	7	.406	1-1/4	5/16	60°



REFRACTORY ANCHORS

RA 741

RA-741

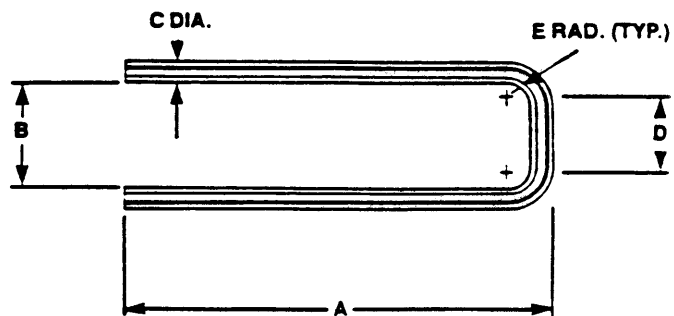


ANCHOR										
DASH NO.	A	B	C	D	E	F	G	H	J	K
-01	1-5/8	1-3/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-02	2-1/8	1-7/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-03	2-5/8	2-3/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-04	3-1/8	2-7/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-05	3-5/8	3-3/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-06	4-1/8	3-7/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-07	4-5/8	4-3/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-08	5-1/8	4-7/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-09	7-1/8	6-7/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-10	9-1/8	8-7/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16

REFRACTORY ANCHORS

RA 742

RA-742



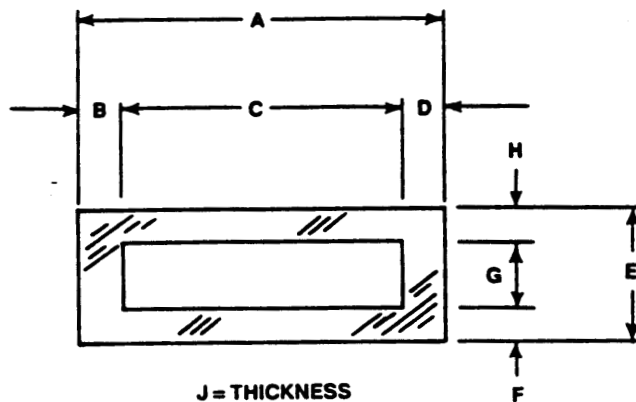
ANCHOR											
DASH NO.	A	B	C	D	E	DASH NO.	A	B	C	D	E
-01	4	1	3/16	3/8	5/16	-09	9	1	1/4	3/8	5/16
-02	4-3/4	1	3/16	3/8	5/16	-10	4-3/4	1	1/4	3/8	5/16
-03	5-3/4	1	3/16	3/8	5/16	-11	5-3/4	1	1/4	3/8	5/16
-04	6	1	3/16	3/8	5/16	-12	6	1	1/4	3/8	5/16
-05	6-1/8	1	3/16	3/8	5/16	-13	6-1/8	1	1/4	3/8	5/16
-06	8-1/2	1	3/16	3/8	5/15	-14	7	1	1/4	3/8	5/16
-07	7	1	3/16	3/8	5/16	-15	8	1	1/4	3/8	5/16
-08	8	1	3/16	3/8	5/16	-16	8-1/2	1	1/4	3/8	5/16

REFRACTORY ANCHORS

RA 743

RA-743

PLATE									
DASH NO.	A	B	C	D	E	F	G	H	J
-01	2-1/8	1/4	1-5/8	1/4	3/4	7/32	5/16	7/32	1/8

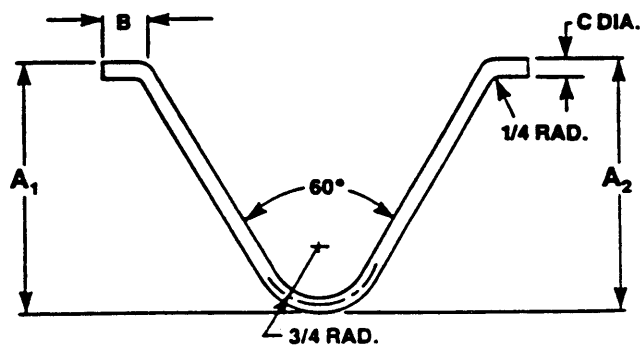


REFRACTORY ANCHORS

RA 744

RA-744

ANCHOR				
DASH NO.	A ₁	A ₂	B	C
-01	2	2	1/2	3/16
-02	2	4	1	3/16
-03	3	3	1	3/16
-04	3	5	1	3/16
-05	4	4	1	3/16
-06	4	6	1	3/16
-07	5	5	1	3/16
-08	5	7	1	3/16
-09	6	6	1	3/16

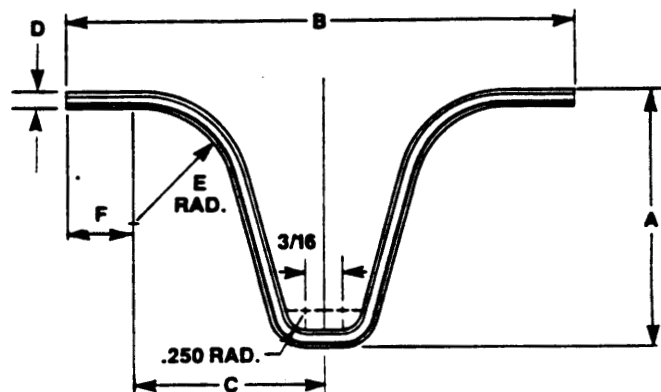


REFRACTORY ANCHORS

RA 745

RA-745

ANCHOR						
DASH NO.	A	B	C	D	E	F
-01	3-1/2	6	2-1/4	3/16	1-1/4	3/4
-02	4	6	2-1/4	3/16	1-1/4	3/4
-03	4-1/2	6	2-1/4	3/16	1-1/4	3/4
-04	5	6	2-1/4	3/16	1-1/4	3/4
-05	5-1/2	6	2-1/4	3/16	1-1/4	3/4
-06	6	6	2-1/4	3/16	1-1/4	3/4

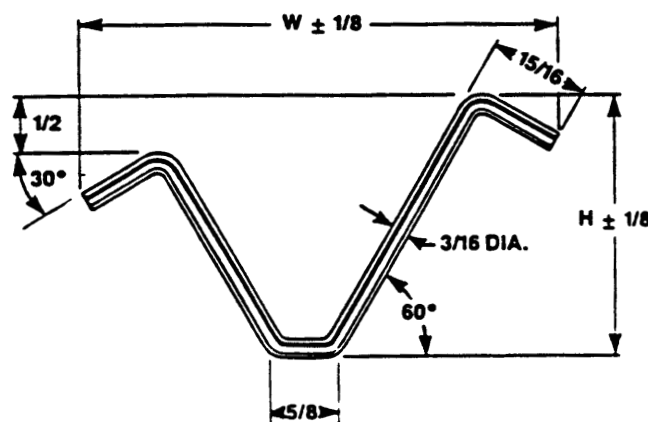


REFRACTORY ANCHORS

RA 746

RA-746

ANCHOR					
DASH NO.	H	W	DASH NO.	H	W
-01	2	3-1/2	-09	6	9-1/2
-02	2-1/2	4-1/4	-10	6-1/2	10-1/4
-03	3	5	-11	7	11
-04	3-1/2	5-3/4	-12	7-1/2	11-3/4
-05	4	6-1/2	-13	8	12-1/2
-06	4-1/2	7-1/4	-14	8-1/2	13-1/4
-07	5	8	-15	9	14
-08	5-1/2	8-3/4			

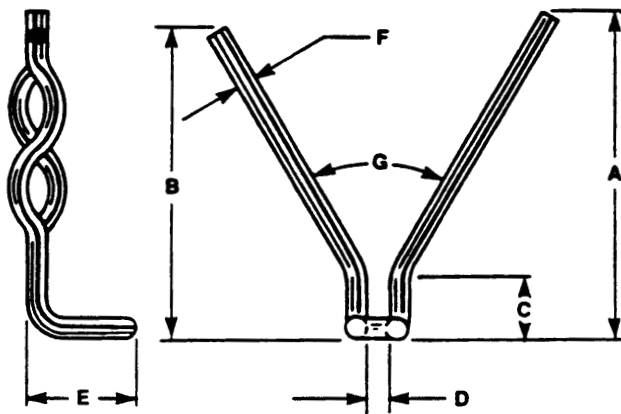


REFRACTORY ANCHORS

RA 750

RA-750

ANCHOR							
DASH NO.	A	B	C	D	E	F	G
-01	7	6-1/2	3-1/8	7/16	1-1/4	1/4	60°

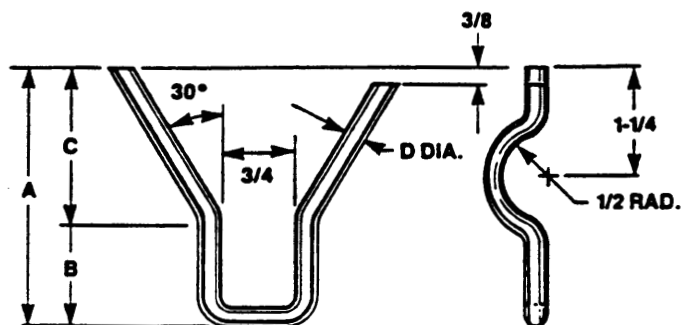


REFRACTORY ANCHORS

RA 751

RA-751

ANCHOR									
DASH NO.	A	B	C	D	DASH NO.	A	B	C	D
-01	2.2	0	2.2	1/4	-06	7	2	4	1/4
-02	3	1	2	1/4	-07	8	3	5	1/4
-03	4	1	3	1/4	-08	9	4	5	1/4
-04	5	2	3	1/4	-09	10	5	5	1/4
-05	6	2	4	1/4	-10	11	6	5	1/4

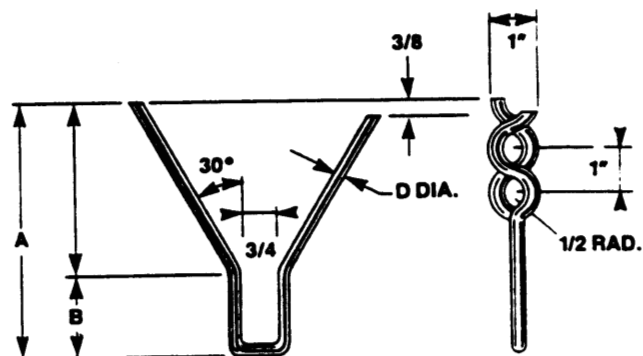


REFRACTORY ANCHORS

RA 752

RA-752

ANCHOR									
DASH NO.	A	B	C	D	DASH NO.	A	B	C	D
-01	2.2	0	2.2	1/4	-06	7	2	4	1/4
-02	3	1	2	1/4	-07	8	3	5	1/4
-03	4	1	3	1/4	-08	9	4	5	1/4
-04	5	2	3	1/4	-09	10	5	5	1/4
-05	6	2	4	1/4	-10	11	6	5	1/4

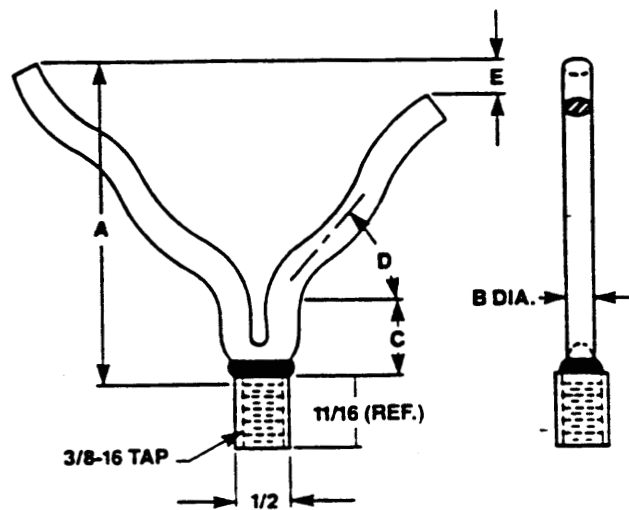


REFRACTORY ANCHORS

RA 801

RA-801

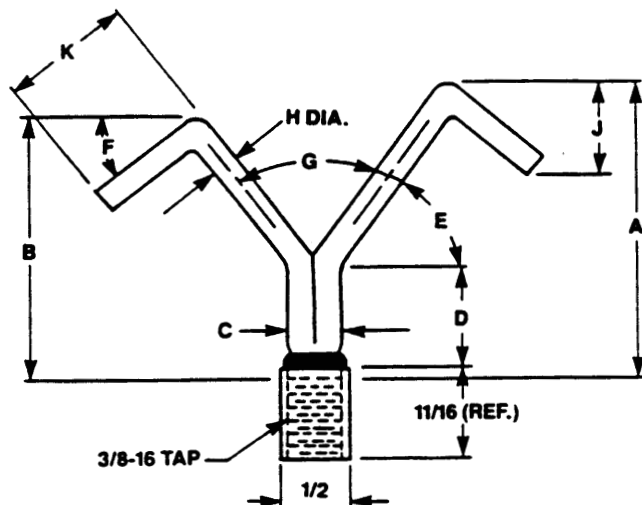
ANCHOR					
DASH NO.	A	B	C	D	E
-01	2	1/4	3/4	50°	1/2
-02	2-5/8	1/4	3/4	50°	1/2
-03	3-1/8	1/4	3/4	50°	1/2
-04	3-5/8	1/4	3/4	50°	1/2
-05	4-1/8	1/4	3/4	50°	1/2
-06	5	1/4	3/4	50°	1/2
-07	5-1/8	1/4	3/4	50°	1/2
-08	7-1/8	1/4	3/4	50°	1/2
-09	2-5/8	5/16	3/4	50°	1/2
-10	3-1/8	5/16	3/4	50°	1/2
-11	3-5/8	5/16	3/4	50°	1/2
-12	4-1/8	5/16	3/4	50°	1/2
-13	4-5/8	5/16	3/4	50°	1/2
-14	5-1/8	5/16	3/4	50°	1/2
-15	7-1/8	5/16	3/4	50°	1/2



REFRACTORY ANCHORS

RA 802

RA-802



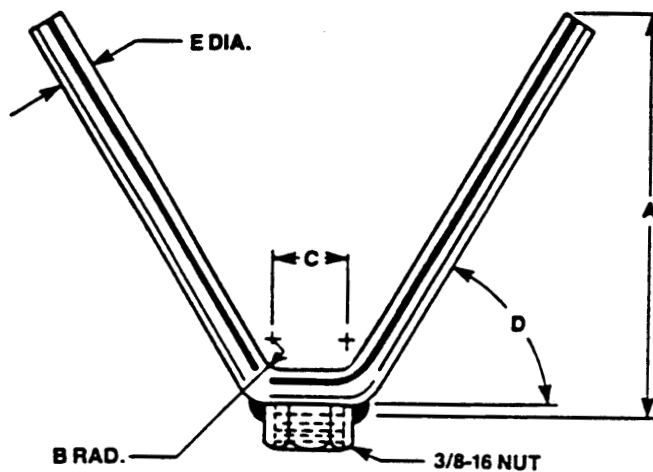
ANCHOR										
DASH NO.	A	B	C	D	E	F	G	H	J	K
-01	1-5/8	1-3/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-02	2-1/8	1-7/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-03	2-5/8	2-3/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-04	3-1/8	2-7/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-05	3-5/8	3-3/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-06	4-1/8	3-7/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-07	4-5/8	4-3/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-08	5-1/8	4-7/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-09	7-1/8	6-7/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16
-10	9-1/8	8-7/8	3/8	3/4	54°	30°	72°	3/16	9/16	15/16

REFRACTORY ANCHORS

RA 803

RA-803

ANCHOR					
DASH NO.	A	B	C	D	E
-01	2	3/4	3/4	60°	1/8
-02	3	3/4	3/4	60°	1/8
-03	6-1/2	3/4	3/4	60°	1/8
-04	1-1/2	3/4	3/4	60°	3/16
-05	2	3/4	3/4	60°	3/16
-06	2-1/4	3/4	3/4	60°	3/16
-07	2-3/4	3/4	3/4	60°	3/16
-08	3-3/4	3/4	3/4	60°	3/16
-09	4-1/2	3/4	3/4	60°	3/16
-10	5-1/2	3/4	3/4	60°	3/16
-11	6-1/2	3/4	3/4	60°	3/16
-12	1-1/2	3/4	3/4	60°	1/4
-13	2-1/4	3/4	3/4	60°	1/4
-14	2-3/4	3/4	3/4	60°	1/4
-15	3-3/4	3/4	3/4	60°	1/4
-16	4-1/2	3/4	3/4	60°	1/4
-17	3-1/2	3/4	3/4	60°	1/4
-18	6-1/2	3/4	3/4	60°	1/4



REFRACTORY ANCHORS

RA 804

RA-804

ANCHOR								
DASH NO.	A	B	C	D	E	F	G	H
-01	1-1/4	1/2	3/4	30°	30°	3/16	3/16	3/16
-02	2-1/4	1/2	3/4	30°	30°	3/16	3/16	3/16
-03	2-3/4	1/2	3/4	30°	30°	3/16	3/16	3/16
-04	3-3/4	1/2	3/4	30°	30°	3/16	3/16	3/16
-05	4-3/4	1/2	3/4	30°	30°	3/16	3/16	3/16
-06	5-3/4	1/2	3/4	30°	30°	3/16	3/16	3/16
-07	6-3/4	1/2	3/4	30°	30°	3/16	3/16	3/16
-08	1-1/4	1/2	3/4	30°	30°	3/16	3/16	1/4
-09	2-1/4	1/2	3/4	30°	30°	3/16	3/16	1/4
-10	2-3/4	1/2	3/4	30°	30°	3/16	3/16	1/4
-11	3-3/4	1/2	3/4	30°	30°	3/16	3/16	1/4
-12	4-3/4	1/2	3/4	30°	30°	3/16	3/16	1/4
-13	5-3/4	1/2	3/4	30°	30°	3/16	3/16	1/4
-14	6-3/4	1/2	3/4	30°	30°	3/16	3/16	1/4

