

# REFRACTORIES AND FIRING SUPPLIES

## KILN SHELF REFERENCE GUIDE

Selecting the right kiln shelves for your particular use and application is important. As with virtually any product, you can over-spend on your kiln furniture or you can "cut corners" and end up with shelves which last for only a few firings. When deciding on shelves you will have two important choices: (1) the material from which the shelves are made, and (2) the thickness of the actual shelf. The price difference between a 5/8" and a 3/4" shelf is minimal, but the price difference between a cordierite shelf and a silicon carbide shelf is significant. In order to make the right decision, consider: (1) the temperature at which you will be firing, (2) your kiln atmosphere (reduction or oxidation), and (3) frequency of firing. For assistance in making your selection, contact [info@lagunaclay.com](mailto:info@lagunaclay.com).

KILN SHELF BUYING GUIDE			
FIRING TEMPERATURE	KILN ATMOSPHERE	SHELF COMPOSITION	SHELF THICKNESS
Cone 06	Oxidation	Cordierite	1/2" or 5/8"
Cone 1	Oxidation	Cordierite	5/8" or 3/4"
Cone 5	Oxidation	Cordierite	3/4" or 1"
		Cordierite	3/4" or 1"
	Reduction	Silicon Carbide	5/8" or 3/4"
Cone 10	Oxidation	Cordierite	1"
		Cordierite	1"
	Reduction	Silicon Carbide	3/4"

Other refractories such as high alumina and nitride bonded shelves are available on a special order basis in larger quantities.

GUIDE FOR SELECTING ELECTRIC KILN SHELVES								
Inside Width of Kiln	INDIVIDUAL <sup>1</sup> Recommended Sizes & Shapes			KITS <sup>2</sup> Standard Furniture Kits				
	Shelf Size	Shape	Cat. No	Cat. No.	Quantity	Item	Approx. Ship. Wt.	Kit Price
11" to 12"	9 1/4" x 10" x 1/2" 9 1/4" x 5" x 1/2"	Hex 1/2 Hex	RF-147 RF-148	RF-350	1	RF-147 <sup>L</sup>	15 lbs.	
					2	RF-148 <sup>L</sup>		
					4	Post-1"		
					4	Post-2"		
					4	Post-4"		
14" <sup>3</sup>	13" x 5/8" 13" x 6 1/2" x 5/8"	Round 1/2 Round	RF-136 RF-144	RF-351	2	RF-136 <sup>L</sup>	30 lbs.	
					2	RF-144 <sup>L</sup>		
					8	Post-1"		
					4	Post-2"		
					4	Post-4"		
17" to 19"	16" x 15" x 5/8" 8" x 15" x 5/8" 16" x 5/8" 8" x 16" x 5/8" 16" x 15" x 1" 8" x 15" x 1"	Oct 1/2 Oct Round 1/2 Round Oct 1/2 Oct	RF-128 RF-153 RF-196 RF-197 RF-157 RF-155	RF-352	3	RF-128 <sup>L</sup>	50 lbs.	
				RF-353	2	RF-153 <sup>L</sup>		
				RF-353	3	RF-196 <sup>L</sup>	50 lbs.	
				RF-354	2	RF-197 <sup>L</sup>		
				RF-354	3	RF-157 <sup>H</sup>	85 lbs.	
				RF-354	2	RF-155 <sup>H</sup>		
				Posts included with all kits	8	Post-1"		
				6	Post-2"			
				6	Post-4"			
				4	Post-6"			
21" to 22"	19" x 20" x 5/8" 9 1/2" x 20" x 5/8" 19" x 20" x 1" 9 1/2" x 20" x 1"	Dec 1/2 Dec Dec 1/2 Dec	RF-258 RF-259 RF-260 RF-261	RF-368	1	RF-258 <sup>L</sup>	58 lbs.	
				RF-368	4	RF-259 <sup>L</sup>		
				RF-357	1	RF-260 <sup>H</sup>	93 lbs.	
				RF-357	4	RF-261 <sup>H</sup>		
				Posts included with all kits	12	Post 1"		
				8	Post 2"			
8	Post 4"							
8	Post 6"							
23" to 24"	21" x 22" x 5/8" 10 1/2" x 22" x 5/8" 21" x 22" x 1" 10 1/2" x 22" x 1"	Dec 1/2 Dec Dec 1/2 Dec	RF-109 RF-158 RF-159 RF-168	RF-355	1	RF-109 <sup>L</sup>	80 lbs.	
				RF-355	6	RF-158 <sup>L</sup>		
				RF-356	1	RF-159 <sup>H</sup>	135 lbs.	
				RF-356	6	RF-168 <sup>H</sup>		
				Posts included with all kits	12	Post 1"		
				8	Post 2"			
8	Post 4"							
8	Post 6"							
28"	13" x 26" x 5/8" 13" x 26" x 3/4" 13" x 26" x 1" 13" x 26" x 1"	1/2 12-sided 1/2 Round 1/2 12-sided 1/2 Round	RF-262 RF-137 RF-263 RF-167	RF-358	8	RF-262 <sup>L</sup>	120 lbs.	
				RF-359	8	RF-263 <sup>H</sup>	190 lbs.	
				Posts included with all kits	12	Post-1"		
				8	Post-2"			
				8	Post-4"			
4	Post-6"							

<sup>1</sup> We recommend selecting shelves with a maximum measurement approximately 2" less than the minimum inside width of your kiln.

<sup>2</sup> All shelves listed in chart are cordierite. Furniture requirements differ greatly depending on the size of the ware being fired. We have found these furniture packages to provide a good starting point for anyone purchasing a new kiln.

<sup>3</sup> 18" width gas kilns

<sup>L</sup> Low Fire (includes 1 1/2" square posts)

<sup>H</sup> High Fire (includes 2" square posts)

## CORDIERITE KILN SHELVES

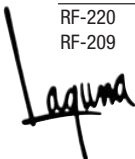
These kiln shelves are manufactured of a high refractory mullite/cordierite clay body that yields a smooth, durable surface for stacking ware in your kiln. They are available in a variety of shapes and sizes. Cone 10 firing requires 1" thick shelves. NOTE: All clay shelves are subject to warpage at high temperature and should be repeatedly flipped to remain straight.

### ROUND AND MULTI-SIDED

PRODUCT	SIZE		1-9 PRICE	10-24 PRICE	25+ PRICE*	SHIP. WT.
RF-147	9 1/4" x 10" x 1/2"	Hexagon				3 lbs.
RF-148	9 1/4" x 5" x 1/2"	Half Hexagon				2
RF-136	13" x 5/8"	Full Round				7
RF-144	13" x 6 1/2" x 5/8"	Half Round				3
RF-153	15" x 8" x 5/8"	Half Octagon				5
RF-196	16" x 5/8"	Round				9
RF-197	16" x 8" x 5/8"	Half Round				5
RF-128	16" x 15" x 5/8"	Octagon				9
RF-258	20" x 19" x 5/8"	Decagon				14
RF-259	20" x 9 1/2" x 5/8"	Half Decagon				7
RF-138	21" x 10 1/2" x 5/8"	Half Round				8
RF-158	22" x 10 1/2" x 5/8"	Half Decagon				8
RF-109	22" x 21" x 5/8"	Decagon				16
RF-265	24" x 12" x 5/8"	Half 12-sided				10
RF-262	26" x 13" x 5/8"	Half 12-sided				12
RF-202	32" x 16" x 5/8"	Half Round				18
RF-137	26" x 13" x 3/4"	Half Round				14
RF-157	15" x 16" x 1"	Octagon				14
RF-155	15" x 8" x 1"	Half Octagon				8
RF-260	20" x 19" x 1"	Decagon				22
RF-261	20" x 9 1/2" x 1"	Half Decagon				11
RF-139	21" x 10 1/2" x 1"	Half Round				13
RF-159	22" x 21" x 1"	Decagon				26
RF-168	22" x 10 1/2" x 1"	Half Decagon				13
RF-264	24" x 12" x 1"	Half 12-sided				18
RF-263	26" x 13" x 1"	Half 12-sided				19
RF-167	26" x 13" x 1"	Half Round				19

### SQUARE AND RECTANGULAR

RF-126	5" x 5" x 1/2"	Square				1
RF-130	7" x 7" x 1/2"	Square				2
RF-101	8" x 8" x 1/2"	Square				3
RF-132	9" x 9" x 1/2"	Square				3
RF-103	9" x 10" x 1/2"	Rectangular				4
RF-104	10" x 10" x 1/2"	Square				4
RF-143	12" x 12" x 1/2"	Square				5
RF-102	8" x 16" x 5/8"	Rectangular				6
RF-105	10" x 20" x 5/8"	Rectangular				9
RF-177	11" x 20" x 5/8"	Rectangular				10
RF-107	11" x 22" x 5/8"	Rectangular				11
RF-108	12" x 12" x 5/8"	Square				7
RF-110	12" x 18" x 5/8"	Rectangular				10
RF-182	12" x 22" x 5/8"	Rectangular				12
RF-111	12" x 24" x 5/8"	Rectangular				13
RF-112	13" x 14" x 5/8"	Rectangular				8
RF-184	13" x 26" x 5/8"	Rectangular				15
RF-113	14" x 14" x 5/8"	Square				9
RF-133	15" x 16" x 5/8"	Rectangular				11
RF-114	16" x 16" x 5/8"	Square				12
RF-200	16" x 20" x 5/8"	Rectangular				14
RF-115	17" x 17" x 5/8"	Square				13
RF-118	18" x 18" x 5/8"	Square				15
RF-207	18" x 24" x 5/8"	Rectangular				20
RF-208	19" x 19" x 5/8"	Square				16
RF-214	20" x 20" x 5/8"	Square				18
RF-215	21" x 21" x 5/8"	Square				20
RF-119	11" x 22" x 3/4"	Rectangular				13
RF-160	11" x 28" x 3/4"	Rectangular				17
RF-120	12" x 24" x 3/4"	Rectangular				15
RF-220	12" x 30" x 3/4"	Rectangular				19
RF-209	13" x 26" x 3/4"	Rectangular				19



PRODUCT	SIZE		1-9 PRICE	10-24 PRICE	25+ PRICE*	SHIP. WT.
RF-223	16" x 16" x 3/4"	Square				14 lbs.
RF-121	18" x 18" x 3/4"	Square				16
RF-161	9" x 24" x 1"	Rectangular				15
RF-162	12" x 18" x 1"	Rectangular				15
RF-163	12" x 24" x 1"	Rectangular				21
RF-164	14" x 22" x 1"	Rectangular				22
RF-165	18" x 18" x 1"	Square				23
RF-166	20" x 20" x 1"	Square				28
RF-230	10" x 20" x 1"	Rectangular				14
RF-231	10 1/2" x 21" x 1"	Rectangular				16
RF-233	11" x 22" x 1"	Rectangular				17
RF-234	12" x 12" x 1"	Square				10
RF-235	12" x 15" x 1"	Rectangular				13
RF-237	12" x 22" x 1"	Rectangular				19
RF-238	13" x 26" x 1"	Rectangular				24
RF-239	14" x 14" x 1"	Square				14
RF-240	14" x 16" x 1"	Rectangular				16
RF-242	15" x 15" x 1"	Square				16
RF-244	16" x 16" x 1"	Square				18
RF-246	16" x 18" x 1"	Rectangular				21
RF-248	18" x 24" x 1"	Rectangular				31
RF-250	12" x 12" x 1 1/2"	Square				16

Above shelves are combinable for quantity prices.

Other sizes available - please inquire. Cutting charge for Cordierite shelves is .10 per linear inch (straight cuts only). \*Inquire for prices on larger quantities.

## SILICON CARBIDE KILN SHELVES

High refractory and super strong, these shelves are a must for firing consistently above Cone 5 in a reduction atmosphere. Available in a variety of square and rectangular sizes by special order in large quantity.

PRODUCT	SIZE		1	2-9	10-49	50+	SHIP. WT.
RF-205	12" x 24" x 5/8"	Rectangular					18 lbs.
RF-212	12" x 24" x 3/4"	Rectangular					21 lbs.

**CAUTION: Because of the wide variety of applications that kiln shelves are subject to, neither the manufacturer nor Laguna Clay Company are able to guarantee their performance to the purchaser. The purchaser must inspect all kiln shelves for defects in material or workmanship upon receiving, as claims after that date will not be accepted.**



## REFRACTORY POSTS

These posts are used to support kiln shelves when firing. They are available in lengths from 1" to 20" to utilize the maximum stacking space in your kiln. They are extruded from high refractory material and are acceptable for use in any firing atmosphere up to Cone 10. For firing above Cone 5, we recommend 2" square posts. 1 1/2" or 2" square with fluted sides and hole in the center. Please specify 1 1/2" or 2" square.

PRODUCT	LENGTH	1 1/2"SQ.	2"SQ.	PRODUCT	LENGTH	1 1/2"SQ.	2"SQ.
RF-301	1"	\$.65	\$.77	RF-311	11"		
RF-302	2"	.65	.77	RF-312	12"		
RF-303	3"	.89	1.02	RF-313	13"		
RF-304	4"	.95	1.10	RF-314	14"		
RF-305	5"	1.06	1.18	RF-315	15"		
RF-306	6"	1.21	1.29	RF-316	16"	—	
RF-307	7"	1.34	1.41	RF-317	17"	—	
RF-308	8"	1.45	1.69	RF-318	18"	—	
RF-309	9"	1.67	1.86	RF-319	19"	—	
RF-310	10"	1.87	2.05	RF-320	20"	—	

1 1/2" posts weigh 0.1# per inch; 2" posts weigh 0.2# per inch, plus packing.

## PEEPHOLE PLUGS

- FS-213 **Olympic** Peephole plug.
- FS-214 **Skutt** Peephole plug.
- FS-215 **Laguna** Peephole plug is approximately 4 1/2" long and tapers from approx. 2" to 1". Made of soft insulating brick which makes a cool, durable plug for peepholes on many types of kilns.
- FS-216 **Cress** Peephole plug is approximately 4 1/2" long and tapers from approx. 1 3/4" to 3/4". Made of soft firebrick.

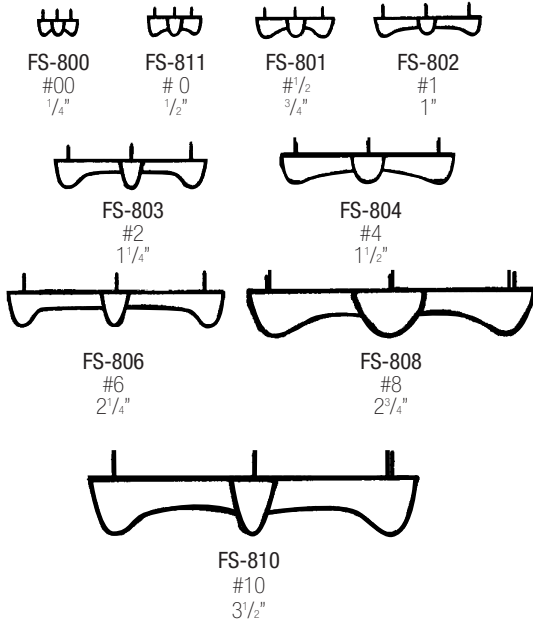
### Paragon Peephole Plugs

- FS-212-PL1 Drilled with hole for Thermocouple.
- FS-212-PL2 Cone shaped.
- FS-212-PL3 For M, L, S, H, and K Series Kilns

# STILTS

Stilts are used to elevate glazed ceramic ware to prevent them from sticking to the kiln shelf during firing. Laguna Clay offers two types: Double Pointed Stilts are strong and durable but leave a small stilt mark (a rough unglazed spot) on the bottom of ware; Steel Point Stilts are designed to reduce stilt marks by the use of fine steel points to support the ware. Steel pointed stilts can soften and bend when fired above Cone 5 or 6.

STILT DIMENSIONS ARE FROM POINT TO POINT



## STEEL POINT STILTS

PRODUCT	STILT #	DOZEN	SHIP.WT.	GROSS	SHIP.WT.
FS-800	00	\$4.05	1/4 lb.		3 lbs.
FS-811	0	4.05	1/4 lb.		3
FS-801	1/2	4.55	1/2 lb.		6
FS-802	1	4.95	1/2 lb.		6
FS-803	2	5.50	1/2 lb.		6
FS-804	4	6.35	1/2 lb.		6
FS-806	6	7.60	1 lb.		8
FS-808	8	8.95	2 lbs.		12
FS-810	10	10.00	2 lbs.		24
FS-817	3H	7.40	1 lb.		8
FS-818	6H	8.55	2 lbs.		15
FS-820	3B	9.90	1 lb.		8
FS-821	4B	10.55	1 lb.		10
FS-822	1P	4.05	1/4 lb.		3
FS-823	2P	4.95	1 lb.		8
FS-832	2S	10.35	1 lb.		8
FS-836	6S	17.80	1 lb.		8
FS-839	10S	25.15	2.5 lb.		30
FS-805	4 x 6	8.10	1/2 lb.		6

## MULTIPLE POINT STILTS

These stilts are designed for use with heavy ware. Other sizes available.



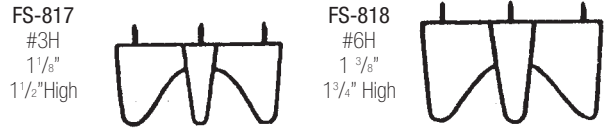
## PYRAMID STILTS

These stilts save valuable firing space. They are ideal for small deep footed ware. 3/4" or 1 1/2" high.



## HIGHBOY STILTS

These stilts are suitable for ware with an overhang such as boxes, lids, etc.



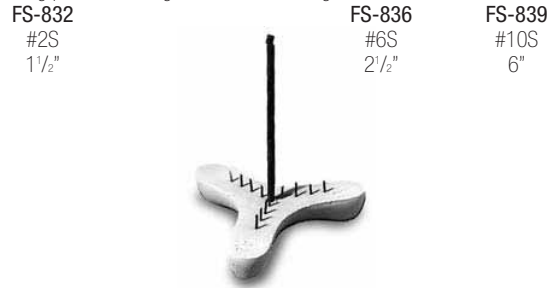
## BAR STILTS

These stilts save valuable firing space. Used for hard to stilt items and heavy ware. 3 1/4" or 4" lengths.



## PERFUME STOPPERS

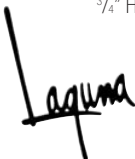
Perfume stoppers come equipped with a center pole for added strength. Ideal for stiling pixies, vases, figurines, etc. Rod height is 1 1/2", 2 1/2" or 6".



## DOUBLE POINTED STILTS

Dimensions given for stilts are measured from point to point.

PRODUCT	STILT #	DIMENSIONS	DOZEN	SHIP.WT.	GROSS	SHIP.WT.
FS-201	1	1 1/8"	\$3.30	1/4 lb.		1 lb.
FS-202	2	1 1/2"	3.45	1/4 lb.		2
FS-203	3	1 3/4"	3.65	1/4 lb.		3
FS-204	4	1 7/8"	5.25	1/2 lb.		3
FS-205	5	2 1/8"	4.25	1/2 lb.		4
FS-206	6	2 3/8"	6.15	1/2 lb.		5
FS-207	7	2 1/2"	4.95	1 lb.		7
FS-208	8	3 1/4"	8.25	1 lb.		8



**SPEEDY SPURS**

For use up to Cone 01 (2150° F), Speedy Spurs outlast all other stiling devices. They are unbreakable, sturdy, indefinitely re-usable, and eliminate unsightly stilt scars. Only one size is required to support all ware, from the smallest jewelry to the largest bowls.

- FS-844A Vial of 18 Ship. wt. 1/4 lb.
- FS-844B Vial of 36 Ship. wt. 1/4 lb.
- FS-844C Vial of 72 Ship. wt. 1/4 lb.



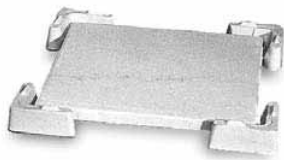
**FS-219 PLATE RACK**

Unique plate rack enables the potter to fire from 1 to 6 plates in a stacking arrangement. Space-saving feature means using only as many as needed. Strong, sturdy and easy to use. Fire up to cone 5 only. Set of 3.



**FS-220 STACKING TILE HOLDERS**

Stackable and interlocking tile holders support the corners of your tiles and save space in your kiln. Accommodate any size tile. Requires 4 holders per tile. Fire up to cone 5 only. Set of 4.



**NICHROME WIRE**

A flexible wire capable of use up to Cone 5 (2250° F). In short lengths, it can be suspended between two kiln posts or refractory bricks to support beads or jewelry in firing. The 15 gauge wire may be imbedded in moist clay to form a permanent hook for hanging wall plaques. May be used for many applications in the kiln where a high temperature wire is needed. It is available in regular 15 gauge (3/64" diameter) and heavy 9 gauge (3/32" diameter).

	GAUGE	1 FT.	5 FT.	10 FT.	25 FT.	50 FT.	100 FT.
FS-209	15						
FS-210	9						

**FS-105 CERAMIC FIBER WASHER**

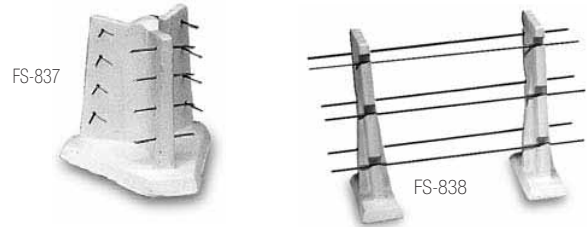
For use with nichrome tie wire. 2" diameter.

**FS-837 BEAD TREE**

Designed not only for the potter but also the jewelry maker, this new concept uses shorter lengths of wire to eliminate sagging. This problem occurs with long rods, allowing small objects to touch and stick together. All wires are removable, to be used for various sizes of beads and hanging objects. Maximum firing temperature recommended is Cone 6. Ship. wt. 2 lbs.

**FS-837R Replacement Wires**

Set of 12 Ship. wt. 1/4 lb.



**FS-838 LARGE BEAD RACK**

Two durable stoneware supports with 6-10" long wires, provide a versatile, space-saving device for firing macrame beads and other larger hanging objects. The heavy gauge wires can be staggered to accommodate various size objects. Allows 6-7" spans between supports; the excess wire beyond the support can also be utilized. This eliminates the possibility of sagging and allows use of all possible space on the wires. Ship. wt. 2 lbs.

**FS-838R Replacement Wires**

Set of 6 Ship. wt. 1/4 lb

**LAGUNA TILE RACK**

The efficient, adjustable, open air design of this tile rack significantly reduces the mass of refractory material in the rack, while adding features which will make your work easier and more productive. A third middle pin provides valuable support for heavier tiles and makes loading easier with less ware slipping through the racks. Adjustable pin placement is ideal for thicker, handmade tiles. Up to 14 rows may be used depending on the thickness of the tiles being fired. Rack width is measured by stacking space between the uprights. The FS-841 (10" wide) is recommended up to Cone 5, and the FS-840 (16" wide) for Cone 01 and below. Both racks stand 15 7/8" tall and include 2 uprights, 2 cross-straps and 40 pins.

- FS-840E 17 7/8" Straps 1 Set
- FS-840 Set of 6 (includes 250 pins)
- FS-841E 11 3/4" Straps 1 Set
- FS-841 Set of 6 (includes 250 pins)

TILES FIRED PER RACK		
(assumes average thickness tiles of dimensions specified)		
TILE SIZE	FS-841 to Δ 5	FS-840 to Δ 01
4 1/2" x 4 1/2"	28	42
6" x 6"	14	28
8" x 8"	14	14

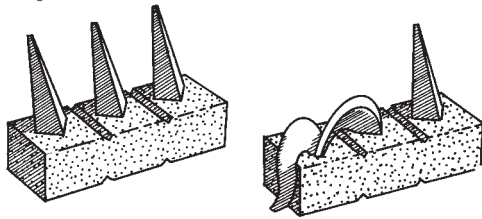


# CONES, BARS AND CONE PLAQUES

Orton pyrometric cones have been the standard of the ceramic industry since 1896. They are elongated pyramid shapes made of clay and various fluxes. Each cone number will melt (bend) at a known temperature, when heated at the rate per hour as indicated on the temperature equivalent chart. Cone numbers can be confusing for the beginner. For example: Cone 06 is a lower temperature than Cone 6. Generally Cone 022 through Cone 017 are used for China Paints, Lusters, Metallics and Decals, Cone 07 through 01 for Bisque and Low Fire Glazes, and Cone 1 through 10 for Porcelain and Stoneware. Refer to chart for proper selection.

## LARGE CONES

These 2 inch high cones are for use inside the kiln firing chamber. Usually three cones are used, one for the intended firing temperature, one lower and one higher. Example: for a Cone 06 firing use Cone 07 as the guide cone (lower), Cone 06 as the firing cone and Cone 05 (higher) as the guard cone. Cones should be set in a cone plaque or holder, then placed inside the kiln in a location where they can be viewed through the peephole of the kiln. When the guide cone starts to bend it serves as a warning that the firing process is approaching completion. When the tip of the firing cone touches the plaque, the kiln is to be turned off. If the guard cone bends the ware has been overfired. Available from Cone 021 through Cone 20 in boxes of 50.



## SMALL CONES AND BARS

Small (Junior) Cones measure 1 1/8" high and Bars are 1" long. Both are used in a Dawson Kiln-Sitter although small cones can also be used in cone plaques. When the selected Cone or Bar melts, it activates a trigger which turns the kiln off. The use of a kiln-sitter does not eliminate the use of large cones as they should be used as "witness" cones to determine temperature variations throughout the kiln and the accuracy of the kiln-sitter.

## SELF SUPPORTING CONES

A unique cone that does not require a holder. Available in most common numbers. Cones are 2 1/2" and come in boxes of 25.

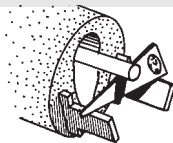
PRODUCT	SIZE	1 Box	5 Bxs	10 Bxs	20 Bxs	50 Bxs
FS-104-A	Large Cone					
FS-104-B	Small Cone					
FS-129	Bar					
FS-104SS	Self Supporting					

Prices are per box.

FS-104-A and FS-104-SS ship wt. 1 lb. FS-104-B and FS-129 ship wt. 1/4 lb.

## KSCS KILN-SITTER CONE SUPPORTS

pair Ship. wt. 1/4 lb.



## CONE PLAQUES

The use of plaques and holders assures that cones are positioned at the correct angle to obtain the most accurate indication of proper firing. Plaques for large cones are available in two and four hole scored bars. They may be fired up to Cone 34 and are not reusable. Small (Junior) cone plaques have four holes and fire up to Cone 16.

PRODUCT	SIZE	EACH	DOZEN	CASE	# IN CASE	CASE SHIP. WT.
FS-104-C	Large 2 Hole				208 pcs.	24 lbs.
FS-104-D	Large 4 Hole				104 pcs.	24 lbs.
FS-104-E	Small 4 Hole				48 pcs.	3 lbs.

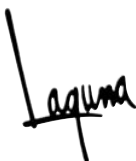
## TEMPERATURE EQUIVALENTS FOR ORTON STANDARD PYROMETRIC CONES

CONE NO.	LARGE CONES RATE OF ASCENSION		SELF SUP. CONES RATE OF ASCENSION		SMALL CONES RATE OF ASCENSION	
	150°C	270°F	150°C	270°F	300°C	540°F
022			590	1094	625	1157
021	611	1132	617	1143	646	1195
020	634	1173	638	1180	664	1227
019	685	1265	686	1267	712	1314
018	725	1337	727	1341	755	1391
017	752	1386	755	1391	785	1445
016	784	1443	785	1445	825*	1517*
015	807	1485	809	1488	843*	1549*
014	831	1528	833	1531	880	1616
013	859	1578	861	1582	892	1638
012	864	1587	866	1591	900	1652
011	884	1623	886	1627	918	1684
010	894*	1641*	896	1645	919*	1686*
09	923*	1693*	925	1697	955*	1751*
08	955*	1751*	957	1756	983*	1801*
07	984*	1803*	986	1807	1008*	1846*
06	999*	1830*	1001	1834	1023*	1873*
05	1046*	1915*	1048	1918	1062*	1944*
04	1060*	1940*	1062	1944	1098*	2008*
03	1101*	2014*	1103	2017	1131*	2068*
02	1120*	2048*	1122	2052	1148*	2098*
01	1137*	2079*	1139	2082	1178*	2152*
1	1154*	2109*	1156	2113	1179*	2154*
2	1162*	2124*	1164	2127	1179*	2154*
3	1168*	2134*	1170	2138	1196*	2185*
4	1168*	2167*	1187	2169	1209*	2208*
5	1196*	2185*	1204	2199	1221*	2230*
6	1222*	2232*	1222	2232	1255*	2291*
7	1240*	2264*	1245	2273	1264*	2307*
8	1263*	2305*	1268	2314	1300*	2372*
9	1280*	2336*	1280	2336	1317*	2403*
10	1305*	2381*	1305	2381	1330*	2426*
11	1315*	2399*	1315	2399	1336*	2437*
12	1326*	2419*	1326	2419	1355*	2471*
13	1346*	2455	1348	2458	1349	2460
14	1366*	2491	1384	2523	1398	2548
15	1431*	2608	1428	2602	1430	2606
16	1473*	2683	1475	2687	1491	2716
17	1485*	2705	1487	2709	1512	2754
18	1506*	2743	1508	2746	1522	2772

\* Temperature equivalents as determined by the National Bureau of Standards by H.P.Beerman (see Journal of the American Ceramic Society Volume 39, 1956). Large cones at 2 inch mounting height, Small & PCE cones at 1 3/16".

1. The temperature equivalents in this table apply only to Orton Standard Pyrometric Cones, heated at the rate indicated in air atmosphere.
2. The rates shown were maintained during the last several hundred degrees of temperature rise.
3. Temperature equivalents are not necessarily those at which cones will deform under firing conditions different from those of calibration determinations.
4. For reproducible results, care should be taken to insure that the cones are set in a plaque with the bending face at the correct angle of 8° from the vertical with the cone tips at a uniform height above the plaque. Self-Supporting Cones are made with the correct mounting height and angle.

For more information on pyrometric cones visit [www.ortonceramic.com](http://www.ortonceramic.com).



## KILN FIRING SUPPLIES & ACCESSORIES

### PYROMETERS

These instruments measure high temperatures and are used to monitor the heating or cooling rate of your kiln. They are a composite of four parts; a meter, lead wire, ceramic connector block and a thermocouple. A dial on the meter indicates the temperature. The meter should be mounted on a wall away from the heat of the kiln. The thermocouple is inserted through a hole drilled in the kiln wall so the tip extends several inches inside the firing chamber.

**FS-314 CRESS PYROMETER** Ship. wt. 2 lbs.  
This instrument operates in the 0-2400°F range. The meter is marked for Fahrenheit, Celsius and cone readings. Furnished with four feet of lead wire and your choice of 7", 10", or 12" thermocouple. Specify thermocouple length when ordering.



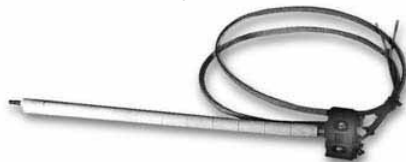
**FS-317 CRESS DIGITAL PYROMETER** Ship. wt. 3 lbs.  
Not a replacement for pyrometric cones, but a convenient aid for checking the progress of a firing. Operates to 2400°F. Furnished with heavy-duty thermocouple and 4' of flexible lead wire. Specify AC or battery and thermocouple length.



**FS-315 OLYMPIC PYROMETER** Ship. wt. 2 lbs.  
Indicates temperature from 0-2500°F and 0-1360°C. Equipped with a metal mounting bracket, 5 feet of lead wire and your choice of 6" or 10" thermocouple. Specify thermocouple length when ordering.

**FS-314-1 CRESS THERMOCOUPLE** Ship. wt. 1/4 lb.  
Thermocouple with connector block. Specify length, 7", 10" or 12".

**FS-315-1 OLYMPIC THERMOCOUPLE** Ship. wt. 2 lbs.  
Thermocouple with connector block. Specify length, 6" or 10".



**FS-302 12" LCC THERMOCOUPLE w/WIRE** Ship. wt. 1 lb.  
This 12" heavy duty thermocouple is constructed of Chromel-Alumel wire covered with porcelain protection sleeves. Complete with ceramic connector block and 6 feet of insulated lead wire. Shorter lengths available on request.

**FS-302-1 LCC REPLACEMENT THERMOCOUPLE** Ship. wt. 1 lb.  
The same as FS-302 but without block and lead wire.

**FS-303 LCC DUAL THERMOCOUPLE W/WIRE** Ship. wt. 1 lb.  
Same as FS-302, but dual thermocouple with dual block and 12' of 4-wire lead.

**FS-303-1 LCC REPLACEMENT DUAL THERMOCOUPLE** Ship. wt. 1 lb.  
The same as FS-302, but without block and lead wire.

**FS-10912 LCC PROTECTION TUBE & BRACKET** Ship. wt. 3 1/2 lbs.  
This porcelain protection tube and mounting bracket will protect and extend the life of the 12" LCC thermocouple. It is a must for anyone consistently firing to high reduction temperatures. Ship. wt. 3 1/2 lbs.

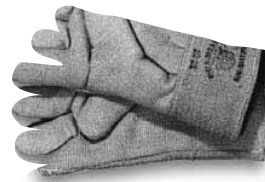
**FS-11012 LCC REPLACEMENT TUBE** Ship. wt. 1/4 lb.  
12" replacement porcelain protection tube for FS-10912.



**FS-302-W THERMOCOUPLE WIRE**  
Sold by the foot.

**KEVLAR® GLOVES & VERTEX® MITTENS**  
These woven fiber gloves and mittens are flameproof, durable and lined with wool fleece for added protection. Their general use is for unloading kilns or handling hot items. They are a must to protect hands from heat during the Raku firing process. 18" and 23" gloves and mittens are available by special order. Available in one hand size.

	PAIR	SHIP.WT.
<b>FS-222</b> Glove 14"	Protection up to 750° F	1 lb. ea.
<b>FS-223</b> Mitten 14"	Protection 1100° F-2000° F	2 lbs. ea.



FS-222



FS-223

**RUBBING BRICKS**  
These fluted, silicon carbide bricks are one of the most effective ways to clean glaze drips and excessive build up of kiln wash from kiln shelves. The brick is thick and long-lasting and is available with or without handle.



	EACH	DOZEN	SHIP.WT.
<b>FS-306</b> Brick 8" x 2" x 2"			2 lbs. ea.
<b>FS-307</b> Brick with Handle 1" x 3" x 6"			2 lbs. ea.

**KILN WASH**  
A protective coating for kiln shelves and other areas inside the kiln that may be subjected to dripping glaze during firing. Mix this dry compound with water to a creamy consistency and apply with a brush to the top side of kiln shelves. Sometimes kiln wash is used in the decorative process of pots and handbuilt pieces. Apply frequently to give maximum protection.

	1 LB.	5 LBS.	10 LBS.	50 LBS.	100 LBS.
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**RF-504** Standard  
**RF-505** High Temp  
Super Duty

## AIR MIXERS

This burner is the industry's standard in Natural Gas Atmospheric Burners. It is available as a burner manifold only or as a complete burner with your choice of 8" or 12" flame tube. It has a completely adjustable primary air shutter adjustment and removable orifice. It fits a standard 1/2" pipe fitting. This burner has a stock capacity of approximately 35,000 B.T.U.'s per hour, but may be adjusted upward to approximately 55,000 B.T.U.'s per hour by orifice adjustments. Specify natural gas or propane gas when ordering.

		EACH	SHIP.WT.
FS-116N & FS-116P	Burner Only with Pin		2 lbs.
FS-117N & FS-117P	Burner w/ 8" Tube		4 lbs.
FS-118N & FS-118P	Burner w/ 12" Tube		6 lbs.
FS-124-8	8" Flame Tube Only		3 lbs.
FS-124-12	12" Flame Tube Only		4 lbs.

### ORIFICE REPLACEMENTS FOR AIR MIXER BURNERS

Machined brass orifices for use with Air Mixer Burners. Available for natural gas (No. 32 drill) or propane gas (No. 50 drill)

		EACH	DOZEN
FS-119N	Natural Gas Orifice		
FS-119P	Propane Gas Orifice		

### FS-121 MIXER PIN

The mixer pin is the threaded brass fitting which is the main body of Venturi and Air Mixer burners. It screws into a standard 1/2" pipe fitting and comes complete with an orifice of your choice. Specify orifice drill size when ordering.

### FS-122 VENTURI BURNER

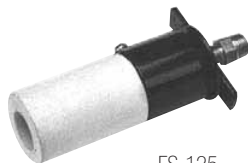
This burner is one of the most effective burners available for its price and size. Its tapered throat creates its own vacuum, thereby increasing the velocity of the flame through the burner. Cast into the tip of the burner is a flame retention nozzle that condenses the flame to its maximum heat capacity. This burner also has a primary air shutter and a removable orifice for maximum burner adjustment. The total length of the burner is only 8", yet it yields approximately 75,000 B.T.U.'s per hour at 7" of water column pressure. Screws into a standard 1/2" pipe fitting. Specify for natural gas or propane gas when ordering.

		EACH	DOZEN	SHIP.WT.
FS-122N	Natural Gas			2 1/2 lbs.
FS-122P	Propane Gas			2 1/2 lbs.

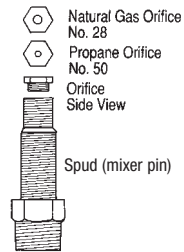
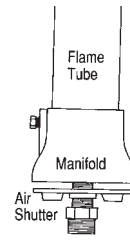
### FS-125 LAGUNA CERAMIC TIP VENTURI BURNER

These natural draft, high velocity, ceramic venturi burners were specifically designed to produce excellent fuel-air mixture without the need of electric blowers, providing simple and trouble-free firing. Specify for natural gas or propane gas when ordering. 70,000 BTUs @ 7" water column pressure.

		EACH	DOZEN	SHIP.WT.
FS-125N	Natural Gas			2 lbs.
FS-125P	Propane Gas			2 lbs.



FS-125



### ORIFICE REPLACEMENTS FOR LAGUNA AND VENTURI BURNERS

Burners may be converted from natural gas to propane (bottled) gas or vice versa by changing the orifice. These machined brass orifices are available for natural gas (No. 28 drill) or for propane gas (No. 38 drill).

		EACH	DOZEN
FS-126N	Natural Gas Orifice		
FS-126P	Propane Gas Orifice		

### GAS SHUTOFF VALVES

These valves are made of high quality cast aluminum with a permanently lubricated brass interior fitting. They offer maximum adjustability of the gas flow, with smooth easy turning. All sizes have a tapped outlet on each side to allow for the connection of Water Column Pressure Gauges or pilot light assemblies. Available in 4 sizes.

FS-111	1/2" Valve	Ship. wt. 1/2 lb.
FS-112	3/4" Valve	Ship. wt. 1/2 lb.
FS-113	1" Valve	Ship. wt. 1/2 lb.
FS-114	1 1/4" Valve	Ship. wt. 1/2 lb.

### FS-115 WATER COLUMN GAS GAUGE

This Water Column Gas Pressure Gauge is an invaluable device for anyone wanting to establish a kiln firing schedule. It measures the gas pressure to the burners as an indication of how much gas is entering the kiln. It is easily installed in the side of the Gas Shutoff valve and reads gas pressure on a calibrated scale of 0-15" of water column pressure.

## KILN SAFETY SYSTEM

### FS-135 BASO 100% SHUTOFF SAFETY VALVE

3/4" automatic pilot valve. Designed to provide safe lighting and complete shutoff of pilot and main burner gas.

### THERMOCOUPLES

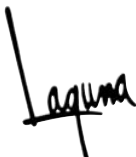
For use on gas fired kilns with FS-135 Baso Valve.

FS-13618	18" lead length	Ship. wt. 1/4 lb.
FS-13624	24" lead length	Ship. wt. 1/4 lb.
FS-13636	36" lead length	Ship. wt. 1/4 lb.
FS-13648	48" lead length	Ship. wt. 1/4 lb.

### FS-137 PILOT BURNER

For use with FS-135 Baso Valve and FS-136 Thermocouples above.

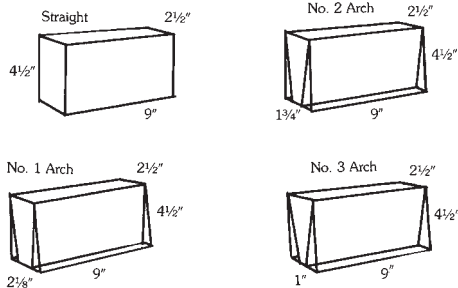
Ship. wt. 1/4 lb.



## FIREBRICK

Laguna Clay offers a wide range of brick for kiln building and repair. Hard refractory bricks are used where the most demanding applications are anticipated. Soft insulating bricks are used for general kiln construction because they are lightweight and easy to cut without the use of special saws or tools. They are available in two temperature ranges and four of the most common brick shapes used for kiln construction. Also available are soaps—a hard refractory brick of the same composition as hard straight brick. Soaps are one-half the width of the straight with the same height. Other sizes and types available on request.

NO.	DESCRIPTION	TEMP.	EACH	SHIP.		CASE (25)	SHIP. WT. lbs.
				WT. lbs.	DOZEN		
RF-420	Hard Soaps	3000	\$4.00	4	\$42.96	48	96
RF-427	Hard Straight	3000	4.00	8	42.96	96	192
RF-429	Hard #2 Arch	3000	4.00	7	42.96	85	170
RF-430	Hard #3 Arch	3000	4.00	7	42.96	82	160
RF-423	Soft Straight K-23	2300	3.10	2	33.00	25	50
RF-433	Soft #1 Arch K-23	2300	4.10	2	43.80	25	50
RF-443	Soft #2 Arch K-23	2300	4.10	2	43.80	25	50
RF-453	Soft #3 Arch K-23	2300	4.10	2	43.80	25	50
RF-426	Soft Straight K-26	2600	4.15	3	44.40	36	78
RF-436	Soft #1 Arch K-26	2600	5.30	3	56.40	36	78
RF-446	Soft #2 Arch K-26	2600	5.30	3	56.40	36	78
RF-456	Soft #3 Arch K-26	2600	5.30	3	56.40	36	78



**RF-501 WET BRICKSET** Ship. wt. 20 lbs.  
 Brickset is a first quality, general purpose, high temperature bonding mortar used for laying, surfacing and bonding firebrick. Its excellent working ability, good bonding strength and high fusion make it a good choice for all types of firebrick construction. Available ready-to-use in one gallon containers. Sets when kiln is fired.

**RF-512 WET SMOOTHSET MORTAR** Ship. wt. 75 lbs.  
 Use with firebrick and insulating firebrick. Air setting. Maximum service temperature 2850°F. 75 lb. drum.

**RF-513 DRY SMOOTHSET MORTAR**  
 Same as RF-512 but in dry form. Maximum service temperature 2900°F.  
 1 LB.      5 LB.      10 LB.      50 LB.      100 LB.

## CERABLANKET® & CERACHEM® FIBER INSULATION

Lightweight, chemical and water resistant, low thermal conductivity, easy to handle, cut, fit and install, CERABLANKET® & CERACHEM® are perfect for fiber kilns of all shapes and sizes. CERABLANKET® is made of alumina and silica oxides with a maximum temperature rating of 2400°F and a continuous use limit up to 2150°F. CERACHEM® is a 2600°F maximum temperature rated alumina-silica-zirconia blanket with a continuous use limit up to 2400°F. At continuous temperatures above 2150°F (Cone 5), CERABLANKET® will show signs of shrinkage and deterioration where CERACHEM® will hold shape and fiber integrity through Cone 10 firings and above.

QUANTITY*			Price Per Square Foot			
			CERABLANKET®		CERACHEM®	
Sq. Feet *	Width	Thick	RF-460	RF-461	RF-468	RF-469
			6 lb. Density	8 lb. Density	6 lb. Density	8 lb. Density
2	24"	1"				
10	24"	1"				
24	24"	1"				
50	24"	1"				
100	48"	1"				
Shipping Weight per sq. ft.			1/2 lb.	2/3 lb.	1/2 lb.	2/3 lb.
Sq. Feet *	Width	Thick				
			RF-460	RF-461	RF-468	RF-469
2	24"	2"				
10	24"	2"				
24	24"	2"				
50	24"	2"				
60	48"	2"				
Shipping Weight per sq. ft.			1 lb.	1 1/3 lbs.	1 lb.	1 1/3 lbs.

\* ALL FIBER SOLD IN INCREMENTS OF 2 SQ. FT.  
 48" WIDE SOLD ONLY IN FULL ROLLS.



**RF-462 PBVC VENEERING CEMENT** Ship. wt. 55 lbs.  
 Used in conjunction with fiber blanket, this cement will withstand temperatures to 2500° F. It may be used to bond layers of blanket together as well as to rigid material such as insulating firebrick or metal. (Insulating brick must first be sealed with Rigidizer). Brush cement on both surfaces and join before it sets up. Allow to dry for 8 to 10 hours before firing. Available ready to use in 50 pound drum.

**RF-458 RIGIDIZER** Ship. wt. 11 lbs.  
 This liquid material has several uses in connection with fiber insulation materials. It is primarily used to seal the soft surface of fiber blanket to make it more resistant to abrasion. It is also used to seal insulation brick before applying PBVC Veneering Cement and fiber blanket insulation. Available in gallon cans.

**RF-466 MOLDABLE CERAMIC FIBER CAULKING** Ship. wt. 1/2 lb.  
 Use to fill gaps and holes in ceramic fiber. Ready to use, easy to apply, air dries and hardens. 1 3/4 oz. tube. Fits standard caulking gun (not included).

**RF-467 BRAIDED KILN ROPE**  
 For kiln gasket. 3/4" square braided rope.  
 1' - 9'  
 10' - +