

# Foundry Service & Supplies, Inc.

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**KAOWOOL® CERAMIC FIBER**

## **KAO-LOK® ANCHORS, WASHERS, AND SPEED CLIPS KAOWOOL® CERAMIC CONE ANCHORS**

- Studs and washers available in 304SS, 310SS, 330SS, and Inconel 601 for use up to 2050°F
- Design of Kao-Lok anchor permits quick installation
- Ceramic cone anchor available as closure to increase use temperatures up to 2300°F

The maximum suggested temperature service limits\* for the various stud and washer alloys are as follows:

304SS: 1200°F

310SS: 1800°F

330SS: 1950°F

Inconel 601: 2050°F

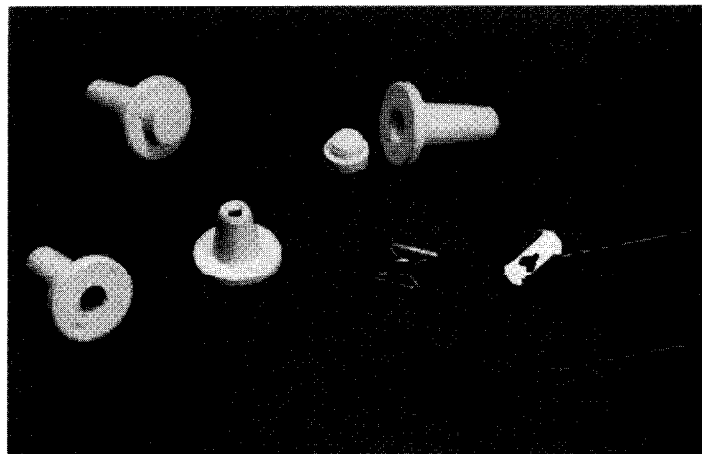
These stated temperature service limits can be influenced by a number of conditions such as atmosphere and cycling. Consult your Thermal Ceramics sales representative or distributor for a specific alloy recommendation for your application.

Kao-Lok Anchors are designed to be used with Kaowool Blanket wallpaper furnace linings. A wide range of anchor lengths is available: 1½" to 16". Stud lengths 3½" and longer have five notches which allow adjustment in compressing the blanket when installing the Kao-Lok Washer or the cone anchor. Stud lengths less than 3½" have only two notches.

Kao-Lok Washers are available in the same refractory stainless steels as the Kao-Lok Stud. The design of the washer allows for ease of handling. When properly installed, the washer will remain in place on roofs and in severe vibration applications.

To raise the use limit of Kao-Lok Anchor Systems, ceramic cone anchors can be used in lengths of 1" and 2", with or without plug, to service temperatures up to 2300°F. The cone anchor is made from a 50% Al<sub>2</sub>O<sub>3</sub>, 47% SiO composition. The void in the cone anchor is normally packed with Kaowool Bulk or Kaowool Moldable. A 4"-diameter washer with a 1⅝" I.D. hole with a stress relief slot is available for use with the cone anchors to cover a larger surface area to spread the weight and load of the insulation materials.

Kao-Lok Anchor, Washer, and Cone Anchor Systems offer ease of installation which translates to overall lower costs



because of reduced labor time to install the anchors. Kao-Lok Anchor Systems have been one of the preferred methods of installing ceramic fiber wallpaper lining systems for more than 15 years.

Kao-Lok Speed Clips are available in the following metals: mild steel, 304SS, 310SS, 330SS, and Inconel 601. These 1½"-square 26-gauge thick interference-fit washers are very useful when installing ceramic fiber linings using Kao-Lok Studs. They can be used as washers in some applications, but their chief use is to retain Kaowool on the studs until additional layers of Kaowool can be impaled on the studs and locked in place with the Kao-Lok Washer.

\*Depends on factors such as lining weight and atmosphere

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## Chemical Analysis (approximate % weight)

	304SS	310SS	330SS	Inconel 601
Carbon .....	.08 max	.25 max	.20 max	.10
Manganese .....	2.00 max	2.00 max	2.00 max	1.00
Silicon .....	1.00 max	1.50 max	1.00 max	.50
Phosphorus .....	.045 max	.045 max	.045 max	-
Sulphur .....	.030 max	.030 max	.030 max	.015
Chromium .....	18 - 20	24 - 26	15 - 17	23
Nickel .....	8 - 10	19 - 22	34 - 36	60
Iron .....	bal	bal	bal	bal

## Standard Sizes

### Kao-Lok Studs

- All alloys
- Lengths from 1½" to 16"
- ⅛" x ¼" cross section

### Kao-Lok Washer

- All alloys
- One size: 16 gauge, 1" x 1½"

### Kao-Lok Speed clip

- All alloys
- 1½" square, 26 gauge

### Ceramic Cone Anchors and Washers

#### Cone Anchor

- 1" with plug
- 2" with plug
- 1" without plug
- 2" without plug

#### Ceramic Washer

- 4" Dia. x ⅝" I.D. x ⅝" thick with ⅛" slot

## Special Installation Information Kao-Lok Stud Length

Select a stud ½" to 1" longer than the thickness of the desired lining. Make certain to get adequate compression of the Kaowool Blanket before rotating the Kao-Lok Washer. This compression will prevent the washer from working loose in high vibration applications or overhead installations.

Kao-Lok Stud Length (in.)	Kao-Lok Ceramic Cone Anchor Lining Thickness Range	
	1" Series (in.)	2" Series (in.)
3½	4 - 4½	4 - 5½
4½	5 - 5½	5 - 6½
6	6½ - 7	6½ - 8
8	8½ - 9	8½ - 10