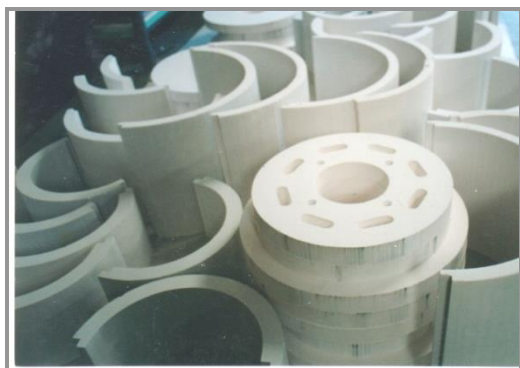


## ALTRA® KVS

### High Temperature Vacuum Formed Cylinders



**ALTRA® KVS** high temperature vacuum formed cylinders are available in formulations for service temperatures up to 1800°C. **ALTRA® KVS** cylinders feature low thermal conductivity, excellent thermal shock resistance, high purity and good density uniformity. **ALTRA® KVS** is formed from alumina and/or alumino-silicate fibers with appropriate inorganic and organic binders. **ALTRA® KVS** products are available in two forms: pre-fired to 1000°C resulting in an organic free, smoke free composition or with organic binder (dried only, no pre-firing) for increased room temperature strength.

Properties	Units	ALTRA® GRADE						
		KVS 124	KVS 144	KVS 164	KVS 164/302	KVS 174/400	KVS 184/400	
<b>Classification Temperature</b>	°F	2300	2600	3000	3000	3092	3272	
	°C	1260	1430	1650	1650	1700	1800	
<b>Service Temperature</b>	°F	2012	2372	2732	2912	3092	3272	
	°C	1100	1300	1500	1600	1700	1800	
<b>Density</b>	lbs/ft <sup>3</sup>	18	18	18	18	25	25	
	(kg/m <sup>3</sup> )	(300)	(300)	(300)	(300)	(400)	(400)	
<b>Linear Shrinkage</b> 24 hrs @ Temperature  "+" indicates growth	%	2% @ 1100°C	2% @ 1250°C	1% @ 1500°C	+1% @ 1600°C	+0.2 @ 1600°C	0.1% @ 1700°C	
				2% at 1600°C		0.3% @ 1700°C	0.8% @ 1800°C	
<b>Chemical Composition</b>	%							
		Al <sub>2</sub> O <sub>3</sub>	50	55	65	78	81	80
		SiO <sub>2</sub>	49	44	34	22	19	20

- ▲ Applications include insulation for semiconductor wafer processing furnaces, dental furnaces, fiber optic drawing furnaces, ceramic sintering furnaces and other high temperature processing
- ▲ Sizes are available from ½" ID to 30" ID with wall thicknesses up to 3"
- ▲ Available as a solid tube or with any combination of vertical and horizontal z-joints or butt joints
- ▲ All **ALTRA®** grades are also available in boards and other vacuum formed shapes

*The test data shown are based on average results on production samples and are subject to normal variation on individual tests. The test data cannot be taken as minimum or maximum values for specification purposes. ASTM test procedures used when applicable.*