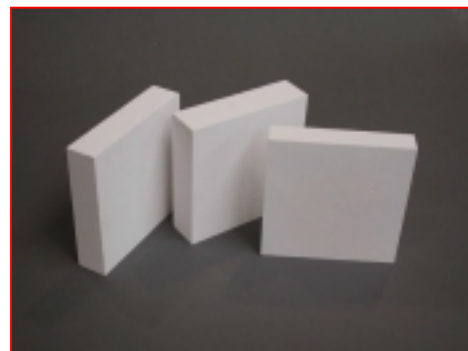


## ALTRA®

### High Density Vacuum Formed Boards

ALTRA® high-density vacuum formed board products are available in formulations for service temperatures up to 1800°C. ALTRA® high-density boards are available for high temperature, oxidizing environments (KVS) and high temperature, reducing environments (KVR). ALTRA® boards are formed from alumina or mullite polycrystalline fibers with appropriate inorganic and organic binders. All grades are pre-fired to 1000°C or greater, resulting in an organic free composition. Possible applications include furnace hearth plates and low mass sintering setters.



Properties	Units	ALTRA GRADE			
		KVS 174/700	KVS 184/700	KVR 164/702	KVR 174/702
<b>Classification Temperature</b>	<sup>0</sup> F <sup>0</sup> C	3092 1700	3272 1800	2912 1600	3092 1700
<b>Service Temperature</b>	<sup>0</sup> F <sup>0</sup> C	3092 1700	3272 1800	2822 1550	3002 1650
<b>Density</b>	lbs/ft <sup>3</sup> (kg/m <sup>3</sup> )	45 700	45 700	45 700	45 700
<b>Linear Shrinkage</b> 24 hrs @ Temperature “+” indicates growth	%	0.5@1700°C 0.7@1750°C	0.1@1700°C 0.2@1750°C 0.7@1800°C	1.0@1500°C	0.3@1500°C 0.7@1600°C 1.8@1700°C
<b>Thermal Conductivity</b> <i>Hot Wire Method</i>	BTUin/hrft <sup>2</sup> <sup>0</sup> F (W/mK)				
392 <sup>0</sup> F(200 <sup>0</sup> C)		1.11(0.16)	1.04(0.15)	1.45(0.21)	1.52(0.22)
752 <sup>0</sup> F (400 <sup>0</sup> C)		1.32(0.19)	1.18(0.17)	1.52(0.22)	1.59(0.23)
1112 <sup>0</sup> F (600 <sup>0</sup> C)		NA	1.32(0.19)	1.66(0.24)	1.66(0.24)
1472 <sup>0</sup> F (800 <sup>0</sup> C)		NA	1.52(0.22)	1.80(0.26)	1.80(0.26)
1832 <sup>0</sup> F(1000 <sup>0</sup> C)		2.29(0.33)	1.80(0.26)	1.94(0.28)	1.94(0.28)
2192 <sup>0</sup> F(1200 <sup>0</sup> C)		2.43(0.35)	1.94(0.28)	2.08(0.30)	2.08(0.30)
2552 <sup>0</sup> F(1400 <sup>0</sup> C)		NA	2.15(0.31)	2.21(0.32)	2.21(0.32)
<b>Chemical Composition</b>	%				
Al <sub>2</sub> O <sub>3</sub>		86	82	>96	>96
SiO <sub>2</sub>		14	18	<4	<4
<b>Fiber Type</b>		Mullite	Mullite	Alumina	Alumina