



Superwool boards are processed from a slurry consisting of Superwool bulk and organic binders. Each board has cut edges for controlled squareness and trueness. Boards up to 36" wide may be ordered with both surfaces machined smooth to a close thickness tolerance.

Superwool provides stability and resistance to chemical attack. Exceptions include hydrofluoric acid, phosphoric acid and strong alkalies (i.e. NaOH, KOH). Superwool is unaffected by incidental spills of oil or water. Thermal and physical properties are restored after drying.

Superwool boards offer an excellent alternative for molten aluminum contact. Other applications include hot face furnace linings, backup insulation and trough linings for non-ferrous metals.

**Type**

Alkaline Earth Silicate (AES) wool

CAS number: 329211-92-9

**Features**

- Rigid, self-supporting finer insulation
- Available in a variety of sizes and thicknesses
- Based on patented technology
- Reduces thickness of backup insulation up to 50% when replacing insulating firebrick or castables
- Low thermal conductivity and heat storage
- Non-wetting to molten aluminum

**Applications**

- Molten aluminum contact
- Furnace, kiln, and oven hot face linings
- Flue and chimney linings
- Insulation as backup to:
  - firebrick
  - insulating firebrick
  - refractory castables
  - rammed shapes
- Appliance and heat processing insulation

# Superwool Board

## Product Information

### Physical Properties

	607	612	612S
Color	white	white	white
Melting point, °F(°C)	2327 (1275)	2450 (1343)	2500 (1371)
Continuous use limit, up to °F (°C)	1832 (1000)	2100 (1149)	2200 (1204)
Maximum use limit, °F (°C)	2012 (1100)	2300 (1260)	2450 (1343)
Nominal density, pcf ( $kg/m^3$ )	20 - 22 (321 - 353)	18-20 (288-321)	20-23 (321-369)
Modulus of rupture, psi (MPa)	150 - 200 (1.03 - 1.38)	75 - 100 (0.52 - 0.69)	170 - 200 (1.17 - )1.38
Compressive strength, psi (Mpa)			
@ 5% deformation	35 - 50 (0.24 - 0.34)	-	-
@ 10% deformation	50 - 65 (0.34 - 0.45)	25 - 40 (0.17 - 0.28)	55 - 75 (0.38 - 0.52)
Linear shrinkage, %			
24 hrs @ 1500°F(816°C)	2.0	-	-
24 hrs @ 1800°F(982°C)	2.5	-	-
24 hrs @ 2000°F (1093°C)	-	1.5	1.5
24 hrs @ 2300°F (1260°C)	-	3.3	3.3
24hrs @ 2450°F (1343°C)	-	6.0	3.4

### Chemical Analysis

Silica, SiO <sub>2</sub>	67	71	72
Calcium Oxide, CaO	27	13	12
Magnesium Oxide, MgO	5	10	10
Other	1	1	1
Loss of ignition	4 - 7	4 - 7	4 - 7

### Thermal Conductivity, Btu•in/hr•ft<sup>2</sup>•°F ( $w/m•k$ )(ASTM 201)

Mean temperature			
@ 500°F (260°C)	0.39 (0.06)	0.47 (0.07)	0.48 (0.07)
@ 1000°F (538°C)	0.65 (0.09)	0.71 (0.10)	0.69 (0.10)
@ 1500°F (816°C)	1.04 (0.15)	1.04 (0.15)	1.05 (0.15)
@ 1800°F (982°C)	1.35 (0.19)	-	-
@ 2000°F (1093°C)	-	1.52 (0.22)	1.59 (0.23)
@ 2200°F (1204°C)	-	-	1.87 (0.27)

### Standard Sizes, nominal

Thickness range, in (mm)	½ - 3 (12.5 - 75)
Standard board sizes, in (mm)	18 x 24 (450 x 600)
	36 x 24 (900 x 600)
	18 x 48 (450 x 1200)
	36 x 48 (900 x 1200)

The values given herein are typical average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Therefore, the data contained herein should not be used for specification purposes. Check with your Thermal Ceramics office to obtain current information.

This product may be covered by one or more of the following patents or foreign equivalents: US5332699, US5714421, US5811360, US5821183, US5928975, US5955389, US5994247, US6180546, EP0906250, GB2348640. A list of foreign patent numbers is available upon request to The Morgan Crucible Company plc. Thermal Ceramics, Superwool, 607, and MAX are trademarks of The Morgan Crucible Company plc.

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