



## Firwin Plus

### Description

**Firwin Plus** uses a patented technology that manufactures high temperature insulation wool with low bio-persistence.

**Firwin Plus is an Alkaline Earth Silicate** (CAS number: 329211-92-9) offering the same benefits as our standard FWN 1800 but with improved handling strength and enhanced thermal properties.

### Firwin Plus

- Is manufactured from pure raw materials using a new manufacturing technology.
- Has enhanced thermal properties; large nuisance dust particles have been effectively eliminated making the product soft to the touch and less irritating during use.
- Is made of long AES fibers
- Has the same chemical formulation as Firwin 1800
- Have outstanding insulating properties at elevated temperatures
- Offers excellent thermal stability
- Retains its original soft fibrous structure up to its maximum continuous use temperature
- Is needled from both sides and possesses high strength, before and after heating
- Contains neither binder nor lubricant and does not emit any fumes or smell during the first firing
- Is flexible, easy to cut and shape and easy to install
- Offers low heat storage
- Has good resistance to tearing
- Is immune to thermal shock
- Has good sound absorption
- Is exonerated from any carcinogenic classification under note Q of directive 97/69EC 6

### Classification Temperature

- Rated Temperature 1200°C / 2192°F EN 1094 [Continuous use]
- Proven to withstand Continuous use in an oxidizing atmosphere at 1000°C.

### Properties

<b>Color:</b>	White	
<b>Density:</b>	64, 96, 128, 160 kg/m <sup>3</sup> (4, 6, 8, 10) lbs/ft <sup>3</sup>	
<b>Tensile strength:</b>	128 kg/m <sup>3</sup> 75 kPa	
<b>Thickness:</b>	1/4" – 2" [6.25 – 50mm]	
<b>Linear Shrinkage;</b>	@1000°F [538°C]	2
	@1800°F [982°C]	3
	@ 2282°F [1250°C]	-

### High Temperature Performance

Permanent linear shrinkage after 24 hours isotherm heating at 1200°C <1%

### Chemical Composition

**SiO<sub>2</sub>:** 62-68%  
**CaO:** 26-32%  
**MgO:** 3-7%  
**Other:** <1%



## Firwin Plus

### Thermal Conductivity (ASTM C-201)

Mean Temperature		W/m.K (BTU in/hr/ft <sup>2</sup> /°F)			
		64kg/m <sup>3</sup> 4lbs/ft <sup>2</sup>	96kg/m <sup>3</sup> 6lbs/ft <sup>2</sup>	128kg/m <sup>3</sup> 8lbs/ft <sup>2</sup>	160kg/m <sup>3</sup> 10lbs/ft <sup>2</sup>
200°C	392°F	0.06 [0.42]	0.05 (0.35)	0.05 (0.33)	0.05 (0.32)
400°C	752°F	0.26 (1.80)	0.09 (0.62)	0.08 (0.55)	0.08 (0.54)
600°C	1112°F	0.10 (0.69)	0.14 (0.97)	0.12 (0.83)	0.11 (0.79)
800°C	1472°F	0.17 (1.18)	0.21 (1.46)	0.18 (1.25)	0.16 (1.11)
1000°C	1832°F	0.38 (2.63)	0.29 (2.01)	0.25 (1.73)	0.22(1.49)

