

Data Sheet

ArmorWool™ Standard Grade Blankets

a product of ArmorMax Engineered Systems

Introduction

ArmorWool Standard Grade Blankets consist of 3 Refractory Ceramic Fiber (RCF) blankets: ArmorWool X, ArmorWool HP and ArmorWool ZR. These products use the Ultra Low Shot (ULS) technology, achieving the highest possible thermal insulation value and handling strength.

ArmorWool X

ArmorWool X raises the bar for RCF blankets with a unique blend of high purity alumina, silica and kaolin. The precise formulation of these 3 raw materials results in the lowest thermal conductivity and shrinkage properties of any standard RCF blanket currently available.

ArmorWool HP

ArmorWool HP is produced by advanced spinning of a high purity blend of alumina and silica. It is designed to meet the specifications of a high purity fiber.

ArmorWool ZR

With the addition of zirconia, ArmorWool ZR provides a proven solution in applications continuously operating to temperatures of 2400°F. The chemical composition of ArmorWool ZR is the preferred solution in most applications in the iron and steel, ceramics, or petrochemical industries.

ArmorWool Blankets are available in a wide range of dimensions and densities from 4 PCF to 8 PCF. Higher density products are available upon request. All products have been developed to meet requirements specific to the final application.



Type

ArmorWool Blankets are manufactured from high temperature Refractory Ceramic Fiber.

Temperature range

Blanket	Classification Temperature	Maximum Continuous Use Limit*
ArmorWool X	2300°F	2100°F
ArmorWool HP	2400°F	2150°F
ArmorWool ZR	2600°F	2400°F

*The maximum continuous use temperature provided on the data sheet is a guideline and only applicable in a clean oxidizing atmosphere.

Typical applications

- Thermal insulation for furnace lining
- Thermal insulation for lining stacks and chimneys
- Blanket for module making
- Furnace lining in ceramics and glass
- Thermal insulation for petrochemical industry
- Thermal insulation for steel treatment
- Thermal insulation of furnaces and industrial applications

Benefits

- Proven technical solution
- Low shot technology
- Excellent insulation performance
- High handling strength
- Unaffected by most chemicals
- Excellent thermal stability
- Resistant to thermal shock

Additional products

Other ArmorWool Blanket products include Special Grade ArmorWool HA, ArmorWool CR, and ArmorWool PCW, as well as a low biopersistence solution, ArmorWool AES.

Properties measured	Typical Values							
	Standard	Unit	ArmorWool X		ArmorWool HP		ArmorWool ZR	
Grade			RCF		RCF		RCF	
Color			white		white		white	
Classification temperature		°F	2300		2400		2600	
Continuous use temperature		°F	2100		2150		2400	
Density		PCF	6	8	6	8	6	8
Tensile strength	GB/T 17911	PSI	11.5	14.5	10.5	13	9.5	13
Permanent linear shrinkage	GB/T 17911	% @2200°F @2550°F	< 3 -		< 3 -		< 2 < 3.5	
Thermal conductivity	ASTM C201	BTU·in/hr·ft ² ·°F						
		@ 500°F	0.45	0.42	0.45	0.42	0.45	0.42
		@ 1000°F	0.80	0.72	0.80	0.72	0.80	0.74
		@ 1500°F	1.42	1.17	1.42	1.21	1.49	1.24
		@ 1800°F	1.81	1.53	1.86	1.59	1.93	1.65
@ 2000°F	2.16	1.79	2.21	1.86	2.28	1.96		
Chemical composition, %	GB/T 21114	SiO ₂	53-55		54-56		48-51	
		Al ₂ O ₃	44-46		44-46		34-37	
		ZrO ₂	-		-		14-17	
		Fe ₂ O ₃	< 0.4		< 0.2		< 0.2	
		Other	< 0.4		< 0.25		< 0.25	

Availability

ArmorWool Blankets are supplied in standard shrinkwrap plastic film, but can also be supplied in carton boxes (except 1/4 inch which is only available with 4 rolls per carton box). The blankets are placed on a heat-treated pallet with 24 rolls per pallet. Please refer to the list below for availability and dimensions of the fiber; other sizes are available on request.

Length (In)	Width (In)	Thickness (In)	Square feet
216	24	1/4	36
600	24	1/2	100
300	24	1	50
200	24	1-1/2	33.33
150	24	2	25

Product range

ArmorWool Standard Grade Blankets are part of an extensive product range of high temperature insulation products provided to meet industry demands for a distributor focused on value, responsiveness and high-quality refractory insulation and specialty products to heat-processing industries.

Technical support

ArmorMax Engineered Systems, Inc. provides help with material selections for applications, engineering services and installation, as well as compliance with applicable regulations and performance standards. For additional information, please contact the team at ArmorMax Engineered Systems, Inc.

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