

Ceramic Fiber Products

INTRODUCTION

The Ceramic fiber are made from industrial minerals by spun or blown production method into bulk, then needled into a blanket, folded into modules, converted into papers, boards, and shapes, die-cut into gaskets, twisted into yarns, woven into rope and cloth, and blended into liquid binders for mastics and cements.

Firebird supply different types of Ceramic Fiber Products, which include:

- Blanket
- Bulk
- Board
- Modules
- Vacuum Formed
- Felt
- Paper
- Textiles
- Binding Cement

CHARACTERS

- Low Thermal Conductivity;
- Good Linear Shrinkage;
- Good Quality Consistency;
- High Purity and Low Shot Content;
- Long Service Life;

TYPICAL APPLICATION

● Glass & Ceramics

Glass Melting Furnace, Glass Annealing Furnace, Glass Forge, Roller Kiln, Shuttle Kiln, High-temperature experimental oven, Tunnel Kiln and Kiln to Burn Special Ceramics

● Metallurgy & Mechanism

Annealing Furnace, Forge Furnace, Covering Furnace, Aluminum Melting Furnace, Sintering Furnace, Carbon Reaction Furnace, Insulating lining for the top of steel wrapping, CAL, CGEL, Reheating furnace and the other kind of heat-treatment furnace.

● Petrochemical Industry

Cracking furnace, conversion furnace, hydrogen making furnace, normal pressure furnace, reducing pressure furnace, burning furnace

PRODUCTION



TYPICAL INDEXES

Ceramic Fiber Blanket					
Items	F-1260ST	F-1260PT	F-1425ZT	F-1600LT	
Grade	Standard	High purity	Zirconia	Crystal	
Classification temperature, °C	1260	1260	1425	1600	
Color	White	White	White	White	
Density, kg/m ³	96,128	96,128,160	96,128,160	96,128	
Fiber Diameter, μm	3.5	3.5	3.5	5	
Shot Content, %	≤15	≤15	≤12	≤2	
Rate of Linear Shrinkage, (%)	-3 (1000°C*24h)	-3 (1100°C*24h)	-3 (1350°C*24h)	-1 (1400°C*24h)	
Thermal Conductivity, W/m·K	0.09 (400°C)	0.09 (400°C)	0.09 (600°C)	0.16 (600°C)	
	0.23 (800°C)	0.23 (800°C)	0.23 (800°C)	0.32 (1000°C)	
	--	0.30 (1000°C)	0.30 (1000°C)	0.65 (1400°C)	
Composition, %	Al ₂ O ₃	≥44	≥45	≥34	72
	SiO ₂	≥52	≥54	≥50	27
	ZrO ₂	-	-	≥15	-
	Fe ₂ O ₃ +TiO ₂	≤1.0	≤0.5	≤0.5	0.2
	Na ₂ O+K ₂ O	≤1.0	≤0.2	≤0.2	
Standard sizes	7200mm*610mm*(6,12.5,20,25)mm; 3600mm610mm*50mm				

Data are average results of test conducted under standard procedures and are subject to variation. Results should not be used for specification purposes.



Ceramic Fiber Bulk				
Products	F-1260SF	F-1260PF	F-1425ZF	F-1600LF
Classification Temperature, °C	1260	1260	1260	1260
Color	White	White	White	White
Melting Point, °C	1760	1760	1760	--
Average diameter, μm	3.3	3.0	2.8	3.2
Specific Gravity, g/cm ³	2.7	2.7	2.7	3.2
Al ₂ O ₃ , %	≥44	≥45	≥34	72
SiO ₂ , %	≥52	≥54	≥50	27
ZrO ₂ , %	--	--	≥15	--
Fe ₂ O ₃ , %	≤1.0	≤0.5	≤0.5	≤0.5
K ₂ O+Na ₂ O, %	≤1.0	≤0.2	≤0.2	≤0.2
Packing	20kg per bag or as per customer's requirement.			

Ceramic Fiber Paper			
Items	F-1000GP	F-1260SP	F-1400ZP
Classification temperature, °C	1100	1260	1400
Color	white	white	white
Density, Kg/m ³	200	200	200
Linear shrinkage, % (°C x 24 h)	3.5 (1000)	3.5 (1000)	3.5 (1350)
Modulus of rupture, MPa	0.5	0.65	0.65
Content of the organic binder (%)	10	8	8
Thermal conductivity, W/m.K ,ASTM C201			
400 °C	0.09	0.09	0.09
600 °C	0.13	0.13	0.13
800 °C	0.20	0.20	0.20
1000°C			0.28
Al ₂ O ₃	44	47	52
SiO ₂	54	51	45
Standard Size	Length: 10000mm,20000mm,40000mm; Width: 1200/600 Thickness: 0.5,1,2,3,4,5,6mm		

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Ceramic Fiber Board				
Items	F-1260SB	F-1260PB	F-1425ZB	F-1600LB
Grade	General	High purity	zirconia	Crystal
Classification temperature, °C	1260	1260	1425	1600
Max working temperature, °C	1100	1200	1350	1500
Color	white	white	white	white
Water Content, %	≤1	≤1	≤1	≤1
Density, kg/m ³	280/300/320	280/300/320	280/300/320	350/400
Linear Shrinkage after heating, %	-3 (1000°C*24h)	-3 (1100°C*24h)	-3 (1350°C*24h)	<1 (1400°C*24h)
Thermal Conductivity, W/m·K	0.08 (400°C)	0.008 (400°C)	0.08 (400°C)	0.13 (600°C)
	0.11 (600°C)	0.15 (800°C)	0.15 (800°C)	0.16 (800°C)
	0.15 (800°C)	0.20 (1000°C)	0.20 (1000°C)	0.21 (1000°C)
Cold Crushing Strength, MPa	0.5	0.5	0.5	0.8
Loss of Ignition, %	≤7	≤7	≤7	≤6
Standard Size	900mm*600mm/1000mm*600mm/1200mm*1000mm*Thickness Thickness:6,8,10,15,20,25,30,40,50,75,100mm			

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Ceramic Fiber Module			
Grade	F— 1260SM	F-1260PM	FB— 1425ZM
Classification Temperature, °C	1260	1260	1425
Density, kg/m ³	220	220	220
Linear Shrinkage after Heating, %	1100°C×24h≤3	1100°C×24h≤3	1350°C×24h≤3.5
Specification, mm	300 X 300 X 150/200/250/300		
Al ₂ O ₃ %	≥44	≥45	≥34
SiO ₂ %	≥52	≥54	≥50
Fe ₂ O ₃ + TiO ₂ , %	≤1.0	≤0.5	≤0.5
ZrO ₂ , %	--	--	≥15
Thermal Conductivity, W/m·K			
400°C	0.090	0.101	0.118
600°C	0.152	0.175	0.172
800°C	0.18	0.20	0.20
Packing	Plastic Bag Inside, Carton Box Outside		

PACKING

Generally by Cartons, Wooden pallets, bags or other kinds can also be provided as per customer's requirement.

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