DARCO SOUTHERN, INC.

Industrial Gasketing, High Temperature Textiles, Compression Packing

Tetraglas®3000 Silica Cloth Data Sheet

General Description

TETRAGLAS® 3000 is made from an Amorphous Silica. This is an excellent alternative to Refractory Ceramic Fiber (RCF)

Approvals/ Certifications

Meets or exceeds NFPA 701, UL-214, UL-723, U.S. Coast Guard Specification 164.009, US Military spec MIL-C-20079 & MIL- I-24244, NRC 1.36, European BS EN407 Standards, UBC 43-1, NFPA 252, and California State Fire Marshal.

Applications

Typical applications include high temperature expansion joints, curtains, blankets, and drop cloths for light to medium industrial applications. Industries include construction, grain handling, power plants, primary metals, chemical processing, ship yards, aerospace and petroleum refineries.

Physical Properties

Style	030	041	054	090
Weight- oz./yd2 (g/m2)	19 (644)	27 (915)	36(1221)	40(1356)
Construction (Warp x fill)	48 x 33	51 x 37	51 x 33	20 x 7
Weave	8HS	12 HS	12HS	Plain
Thickness - in. (mm)	.030(.76)	.041 (1.04)	.054(1.37)	.080(2.29)
Breaking Strength lbs/in (Newtons/5cm) Warp Fill	426(3730) 390(3415)	595(5210) 440(3853)	780 (6830) 503 (4404)	408(3573) 167(1462)
Temperature –F(C) (Continuous)	2000(1090)	2000(1090)	2000(1090)	2000(1090)
K Factor –BTU/inch/ft2/F	.3385	.3385	.3385	.3385
Silica Content %	96 Min	96min	96 Min	96 Min
%Shrinkage @ 2150 F (1177C)	8-10	8-10	8-10	8-10
Width In. (mm)	36 (910) 60(1516)		36(910) 60(1516)	39 (990)
Preshrunk available	YES	NO	NO	NO

Chemical Resistance

Resists most acids, alkalies and solvents, with the exception of hydrofluoric acid and corrosive environments at elevated temperatures.

Other Available Treatment

Temperature Indicating Blue, Boron Nitride Coated, Vermiculite Coated, and Graphite Coated

Ordering Information

Length of Roll- 50 yds (45meters)

Post Office Box 454 • 253 Darco Drive • Independence, VA 24348 • Phone (276) 773-2711 • Fax (276) 773-0208 • Toll Free Fax 800-327-2610 www.darcosouthern.com 2007

Tetraglas® 3000 Independent Party Testing Results

All of the below testing was done on Tetraglas®3000 Style 054

Performance Property	Test Method	Measurement	Test Results
Flame Resistance	ASTM D 6413	After Flame: Char Length:	Warp- 0.0sec Fill- 0.0sec Warp- 0.0sec Fill- 0.0 sec
Heat Resistance Thermal Shrinkage	ISO 17493, exposure Temperature 500F (260C)	Condition following Exposure: Percent Shrinkage:	No melting , dripping, separation, or ignition Warp: 0% Fill: 0%
Conductive Protective Performance	ASTM F 1060, Contact Temperature 536F (280C); 0.5 psi	Time to Pain Time to Burn	10.6 sec 13.8 sec
Thermal Protective Performance	ISO 17492	Time to Burn TPP Rating	10.7 sec 21.4
High Temperature Degradation	ASTM D 1929 1740F FAA Part 25	Level of Degradation or Ignition Ignition or Flame Penetration	No Ignition or degradation at 1740F No Ignition at 2250F for at least 15 minutes

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Tetraglas 3000
Chemical Resistance Chart

	200F 93C	600F 316C	1000F 538C	1400F 760C	1800F 982C	2200F 1204C	2600F 1427C	3000F 1649C	3400F 1871C
ELEMENTS									
Aluminum				A					
Cadmium			G						
Calcium				G					
Carbon						B			
Gold	E								
Lead					D				
Lithium			G						
Magnesium				A					
Manganese		VERY SLIGHT ATTACK AT HIGH TEMPERTURES							
Mercury	E								
Molybdenum	E								
Phosphorus	B								
Platinum	D								
Silicon							B		
Silver	E								
Sodium	A								
Sulfur					C				
Thallium	E								
Tin	E								
Tungsten	E								
Zinc	E								

GASES									
Carbon Monxide	E								
Chlorine	E								
Fluorine		NO ATTACK WHEN DRY AT 520F - RAPID ATTACK WHEN WET							
Hydrogen						D			
Hydrogen Chloride	E								
Sulfur Dioxide	E								

GENERAL BASIC OXIDES		REACTS ABOVE 1200F - PROMOTES DEVITRIFICATION							
Aluminum Oxide					C				
Arsenic Oxide	B								
Barium Oxide					B				
Cadmium Oxide	B								
Calcium Oxide					B				
Copper Oxide					B				
Gadolinium Oxide						B			
Iron Oxide					C				
Lanthanum Oxide						B			
Lead Oxide			B						
Magnesium Oxide					B				
Neodymium Oxide						B			
Praesodymium Oxide						B			
Tellerium Oxide				B					
Thorium Oxide								B	
Vanadium Oxide				F					
Zinc Oxide				B					

GENERAL FLUORIDES		MAY ATTACK WHEN MOLTEN BIFLUORIDE USUALLY ATTACK							
Organic Fluorides					B				
Ammonium Fluoride		CAUSES DEVITRIFICATION AT ELEVATED TEMPERATURE							
Potassium Fluoride					B				
Sodium Fluoride		CAUSES DEVITRIFACTION WHEN FUSED							
Calcium Fluoride		CAUSES DEVITRIFACTION WHEN FUSED							
Zinc Fluoride		C		B	A				

A. Rapid attack at that Temperature
B. Attack at that Temperature
C. Slight attack at that Temperature
D. Very Slight attack at that Temperature
E. No Attack at all Temperature
F. Causes Devitrification
G. No Attack at that Temperature

Tetraglas 3000
Chemical Resistance Chart

ORGANIC CHLORIDES	**E**								
Barium Chloride					**B**				
Boron Chloride				**G**					
Copper Chloride				**G**					
Lithium Chloride			**B,**	**F**					
Mercury Chloride				**G**					
Platinum Chloride					**G**				
Ammonium Chloride					**G**				
Potassium Chloride	**F**								
Silicon Chloride		PROBABLE ATTACK							
Sodium Chloride			**G**	**B**					
Na & K Chloride		ATTACK WHEN FUSED							
Aluminum Chloride		ATTACK WHEN FUSED							
Zinc Chloride			**G**						

Barium Iodide		ATTACK AT ELEVATED TEMPERATURES							
Cesium Iodide				**G**					
Strontium Iodide	**E**								

Hydrogen Sulfide					**C**				
Zinc Sulfide	**B**								

Sodium Cynides		SLIGHT ATTACK IN CONCENTRATED AQUEOUS SOLUTION							

General Borates		ATTACK WHEN FUSED							
Zinc Borate				**B**					

Sodium Carbonate		REACTS IN CONCENTRATED AQUEOUS SOLUTION OR FUSED							
		HIGH PRESSURE AQUEOUS SOLUTION CAUSES DEVITRIFICATION AT 750F							
Lithium Carbonate				B					

Lead Chromate				**B**					
Zinc Chromate					**G**				

GENERAL NITRATES	**E**								
Potassium Nitrate	**E**								
Sodium Nitrate	**E**								
Strontium Nitrate			**B**						

GENERAL PHOSPHATES		REACT WHEN FUSED							
Lithium Phosphate					**B**				
Magnesium Phosphate	**E**								
Ammonium Phosphate	**E**								
Potassium Phosphate	**B**								
Sodium Phosphate	**B**								
Sodium Biphosphate	**E**								
Zinc Phosphate		**C**		**B**		**A**			

GENERAL SULFATE	**E**								
Barium Sulfate				**B**					
Lead Sulfate			**G**						
Lithium Sulfate					**A**				
Magnesium Sulfate					**G**				
Manganese Sulfate				**G**					
Sodium Sulfate	**E**								

A. Rapid attack at that Temperature
B. Attack at that Temperature
C. Slight attack at that Temperature
D. Very Slight attack at that Temperature
E. No Attack at all Temperature
F. Causes Devitrification
G. No Attack at that Temperature

Tetraglas 3000
Chemical Resistance Chart

Ammonium Hydroxide		REACTS AT HIGH TEMPERATURES							
Barium Hydroxide	**C**								
Potassium Hydroxide	**B**								
Sodium Hydroxide	**B**								
Strontium Hydroxide	**B**								

Organic Acid	**E**								
Acetic Acid				**G**					
Arsenic Acid	**E**								
Hydrochloric Acid		SLIGHT REACTION AT ELEVATED TEMPERATURE							
Hydrofluoric Acid	**A**								
Nitric Acid	**E**								
Phosphoric Acid		SLIGHT REACTION BELOW 570F WHEN CONCENTRATED							
Sulfuric Acid	**5000PSI**		**G**						

Water	NO ATTACK AT ORDINARY PRESSURE AND TEMPERATURE LESS THAN 0.2% SOLUBLE UP TO 7000PSI AND 850F

A. Rapid attack at that Temperature
B. Attack at that Temperature
C. Slight attack at that Temperature
D. Very Slight attack at that Temperature
E. No Attack at all Temperature
F. Causes Devitrification
G. No Attack at that Temperature