

REFREX® 1400 WOVEN TEXTILES

Introduction

Refrex® 1400 woven fabrics are designed to meet the toughest thermal, mechanical and electrical performance requirements. These fabrics can perform beyond many use limits of other high temperature textiles such as aramids, carbon, quartz or glass. Refrex fabrics are woven from true ceramics. They are oxidation resistant, chemically inert, lightweight, electrically insulating at high temperatures, flexible, and fire, flame and heat resistant.



Features and Benefits

- Non-oxidizing
- Non-hygroscopic
- Good chemical resistance
- Low thermal conductivity
- Good abrasion resistance
- Fire and flame resistant

Important Processing Information

Heat Cleaning: Refrex® 1400 woven fabrics are coated during manufacture with sizings or finishes to serve as aids in textile processing. The sizings or finishes consist of organic polymers which, when first heated, may ignite and/or decompose to potentially hazardous byproducts or process contaminants. See Safety Data Sheet or contact Insulcon for more information.

Typical Applications

Application	Refrex® 1400
Continuous Use Temperature*	1300°C
Aerospace Flame barrier, thermal shields, gaskets, seals, micrometeorite debris shields	
Industrial Furnace curtains and linings, door seals, tube seals, gaskets, expansion joints, flexible couplings	
Composites Ceramic Matrix Composites (CMC), Polymer Matrix Composites (PMC)	

*40% fiber strength retention tested at room temperature after 100 hours soak

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Typical Properties

Style	Target thread count per cm		Input Fiber		Weave	Permeability (Heat cleaned)	Width cm	Sized		Heat cleaned			
	Warp	Fill	Yarn type	Denier (Tex)				Weight g/m ²	Thickness mm	Weight g/m ²	Thickness mm	Breaking strength kg/cm	
												Warp	Fill
1420	12	10	Roving	2000 (222)	5 Harness Satin	Low	91, 160	510	0.53	510	0.51	41	41
1430	8	8	½ Yarn	2000 (222)	4 Harness Satin	Med	160	680	0.81	680	0.79	29	29
1440	13	8	½ Yarn	2000 (222)	5 Harness Satin	Med	76	880	0.97	880	0.89	41	36

*Permeability (cfm/ft²): Low <20; Med 20-70; High > 70

Refrex® Thermal Conductivity

Typical Properties (not for specification purposes)

The tests were run in accordance with ASTM C-177-76, steady state heat transmission properties by means of the guarded hot plate.

Refrex® 1430	
T (°C)	TC (W/m°C)
200	0,133
300	0,137
400	0,140
500	0,145
600	0,150
700	0,165
800	0,180

Emissivity: Refrex® 1430 – 0.87