

CHALLENGE[®] X-23 (DRAFT)

CHEMICAL PROTECTIVE COMPOSITE

CHALLENGE[®] X-23 chemical protective fabric is a 5 layer composite with 3 barrier films. It is used in collective protection shelter systems for use in Chemical/Biological environments. The composite is made of high strength aramid fibers and polytetrafluoroethylene (PTFE). The PTFE is applied as a cast film providing an extremely uniform protective layer with extraordinary resistance to a broad range of chemicals and live agents resulting in a composite that is essentially chemically impermeable. The material is easily decontaminable and offers other valuable properties including IR matching, low flammability and high/low operating temperature range. The aramid (KEVLAR[®] and NOMEX[®]) substrates are tear resistant, highly flexible, and lightweight. The composite has an integral indicator (orange) hi-lighting areas of excessive wear.

Saint-Gobain Performance Plastics Corporation
 701 Daniel Webster Highway
 Merrimack, NH 03054
Customer Service: (800) 451-6101
 Tel: (603) 424-9000
 Fax: (603) 424-9012

www.plastics.saint-gobain.com

Typical Physical Properties

Property	Units	Value	Test Method
Construction		5 Layer Composite (3 Barrier Layers)	
Weight	Oz./Yd. ²	15.5	ASTM D751
Thickness	Mil	15.0	ASTM D751
Width	Inches	Up to 42	
Breaking Strength			
Warp (Dry)	Lb.f/In.	> 350	ASTM D751
Fill (Dry)	Lb.f/In.	> 350	
Tear Strength, Trapezoidal			
Warp (Dry)	Lb.f	> 40	ASTM D4851
Fill (Dry)	Lb.f	> 40	
Flame Resistance		0 Seconds to Flameout	NFPA 701
Water Absorption	%	< 2.0	MIL-STD-191-5502 (48 hr.)
Permeation Resistance to Warfare Agents (72 Hour Exposure)			LP/P DES 1-94b
Initial exposure (HD, tGD, VX)		< Minimum Detection Levels	CRDC-SP-84010
After Accelerated Weathering (HD, tGD, VX)		< Minimum Detection Levels	CRDC-SP-84010
After Decontamination (HD, tGD, VX)		< Minimum Detection Levels	CRDC-SP-84010
Permeation Resistance to 21 Industrial Chemicals*		< Minimum Detection Levels	ASTM F739
Spectral Reflectance		To Customer Requirements	
Color		Bi-Color to Customer Requirements	
Abrasion Resistance (Weight Loss)	Grams	< 0.15	FED-STD-191-5306
Stiffness, Warp Only	Cm	< 24.5	MIL-STD-191-5204
Opacity			
Combined Visible and Non-Visible		< 0.030 watts/cm ² steradian	MIL-STD-191-5780
Visible		< 0.020 foot-lamberts	MIL-STD-191-5781
Fungus Resistance		No Growth	MIL-STD-810 Method 508.4

The data listed above is for reference only. It is not intended for use as a guarantee of product performance.

* 21 standard industrial chemicals as specified per NFPA 1991-2000.

Limited Warranty: For a period of 6 months from the date of first sale, Saint-Gobain Performance Plastics Corporation warrants this product(s) to be free from defects in manufacturing. Our only obligation will be to provide replacement product for any portion proving defective, or at our option, to refund the purchase price thereof. User assumes all other risks, if any, including the risk of injury, loss or damage, whether direct or consequential, arising out of the use, misuse, or inability to use this product(s). SAINT-GOBAIN PERFORMANCE PLASTICS DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

NOTE: Saint-Gobain Performance Plastics Corporation does not assume any responsibility or liability for any advice furnished by it, or for the performance or results of any installation or use of the product(s) or of any final product into which the product(s) may be incorporated by the purchaser and/or user. The purchaser and/or user should perform its own tests to determine the suitability and fitness of the product(s) for the particular purpose desired in any given situation.

CHALLENGE[®] is a registered trademark.
 KEVLAR[®] and NOMEX[®] are registered trademarks of the DuPont Company.
 ©2002 Saint-Gobain Performance Plastics Corporation
 AFF-1176-PDF-1002-SGCS