

Use our fabric guide to help you select the optimal Bulwark® fabric for any situation. Our comprehensive range of industry-leading options guarantees a perfect fit for a wide variety of industrial applications.

# (i) iQ SERIES®

iQ products shift our collective mindset from the garment to the wearer and are designed to solve real-world problems. From the yarn blending to the fabric finishing, this fabric is created by a team of professional scientists and skilled technicians with a hands-on approach. iQ products are created from blends of high performance fibers incorporated into superior fabrics using a unique dual elemental FR treatment. iQ products are available in a variety of weights and are designed to achieve multiple industry standards.

### THE BULWARK® APP

### CONVENIENCE IN THE PALM OF YOUR HAND!

Search product. Share product. Find a distributor. Find an event. Browse the latest catalog.

Available for iPhone and Android.





# **EXCEL FR®** 100% COTTON, 100% COMFORT. 100% FLAME-RESISTANT.

EXCEL FR® cotton garments offer unbeatable protection for foundries, flame cutting and welding, as well as electrical utilities and the chemical, oil, gas and petrochemical industries. All EXCEL FR° cotton apparel is permanently treated to guarantee flame resistance for the life of the garment.

# **EXCEL FR® COMFORTOUCH®** COTTON'S COMFORT. NYLON'S DURABILITY.

This practical 88% Cotton/12% Nylon blend provides long-lasting protection for nearly all work environments. Ideal applications include ferrous metals, electrical utilities and the chemical, oil, gas and petrochemical industries. Every EXCEL FR® ComforTouch® garment is engineered to provide flame resistance for the life of the garment.

# NOMEX® IIIA LIGHTWEIGHT. BREATHABLE. INHERENTLY FLAME-RESISTANT.

DuPont Nomex® IIIA (93% Nomex® Aramid/5% Kevlar® Aramid/ 2% Anti-Static Fiber) garments are extremely durable and are not damaged by laundering. Nomex® IIIA apparel is preferred by workers in petrochemical and refinery environments and makes a great choice for electric and gas utility workers.

# COOLTOUCH® 2 DURABLE, WICKABLE, BLENDED INHERENT.

CoolTouch® 2 garments provide flame-resistant protection in a lightweight blended fabric (48% Modacrylic/37% Lyocell/15% Para-Aramid and 45% Modacrylic/35% Lyocell/15% Polyamide/ 5% Para-Aramid). The result - unbeatable softness coupled with lasting durability and available in CAT1 and CAT2 protection.

# FR HI-VISIBILITY FLAME-RESISTANT, COMFORTABLE, COMPLIANT,

Bulwark® offers garments designed to provide additional wearer safety during periods of limited visibility or in the often complex and varying backgrounds found in many occupations such as traffic control, construction and utility work along roadways and equipment operation.

# HI-VISIBILITY RAINWEAR BE SAFE. BE DRY. BE SEEN.

Flame-resistant rainwear from Bulwark® provides an effective barrier against rain and wind. Extra confidence comes from knowing these garments will not melt, drip or burn when exposed to an electrical arc or flash fire.

# MOLTEN METAL® PROTECTION SHED MOLTEN ALUMINUM. CAST OFF CRYOLITE.

Because of its unique ability to shed molten aluminum as well as cryolite, specialized Molten Metal® Protective garments are used extensively throughout the aluminum casting industry. Our products are inherently flame-resistant, so their ability to protect will never be compromised by laundering.

# FR DISPOSABLES PROTECT OTHER GARMENTS. PREVENT CONTAMINANT SOILING.

Sontara® Extend FR garments are water-repellent and made to withstand minor splashes without saturation to garments underneath. Use them to extend the life of more expensive thermal protective garments.

## **ELECTRICAL SWITCHING CLOTHING** PROTECTION FOR MAXIMUM EXPOSURE.

For employees installing, maintaining or repairing high-voltage electrical systems, Bulwark 's 40 cal/cm<sup>2</sup> electrical switching coat, bib and hood with face shield provide protection from extreme electrical arc risks.

### **ICON LEGEND**

Throughout the catalog, you will notice different icons next to the product descriptions for our garments. The icons help you quickly determine new products, CAT protection, NPFA® 2112 Compliance and ISO/EN certification.



#### **NEW PRODUCT FOR 2016**



#### **CATEGORY 1 PROTECTION**

Arc-rated FR long-sleeve shirt and FR pants or FR coverall with a required minimum ATPV of 4 cal/cm<sup>2</sup>.



### **CATEGORY 2 PROTECTION**

Arc-rated FR long-sleeve shirt and FR pants or FR coverall with a required minimum ATPV of 8 cal/cm<sup>2</sup>.



#### **CATEGORY 3 PROTECTION**

Arc-rated FR long-sleeve shirt and pants or FR coverall, and arc flash suit selected so that the system arc rating meets the required minimum and a required minimum ATPV of 25 cal/cm<sup>2</sup>.



#### **CATEGORY 4 PROTECTION**

Arc-rated FR long-sleeve shirt and pants or FR coverall, and arc flash suit selected so that the system arc rating meets the required minimum and a required minimum ATPV of 40 cal/cm<sup>2</sup>.



#### NFPA® 2112 COMPLIANT

Bulwark\* Protective Apparel offers flame-resistant protective garments that are certified by Underwriters Laboratories to meet the requirements of NFPA\* 2112 Standard on Flame Resistant Garments for Protection of Industrial Personnel Against Flash Fire, 2012 Edition. NFPA\* 2113 Standard on Selection, Care, Use, and Maintenance of Flame Resistant Garments for Protection of Industrial Personnel Against Flash Fire, 2015 Edition, requires that garments cover the upper and lower body and flammable underlayers as completely as possible. Bulwark® garments meet this requirement either as a single garment such as a coverall or when worn with another certified garment such as a shirt or pants to provide both upper and lower body coverage.



This BULWARK\* FR collection has been designed according to the PPE Directive 89/686/EEC and specifically to the European Standards EN 340:2003 (General Requirements for protective clothing), EN ISO 11612: 2008 (Protective Clothing for Industrial workers exposed to heat and flame), EN 1149-5:2008 (Protective clothing - Electrostatic properties) and IEC 61482-2:2009 (Protective Clothing against the thermal hazards of an electric arc) to the referenced performance levels. ECType examination by a Notified Body has proven that the clothing meets the fundamental requirements as described in the European Directive 89/686/EEG. The CE mark is the visible sign of our compliant PPE.



Do not use bleach, hydrogen peroxide, starch or fabric softeners on any Bulwark garment. Please visit bulwark.com for complete laundry instructions.



INDUSTRIAL LAUNDER: This method of laundering is commonly used to remove heavy soil with a combination of higher water temperatures (160° F max) and harsher chemistry. More aggressive wash formulas may be necessary to remove heavy soils but may result in accelerated color loss and perhaps reduced garment service life.



LIGHT SOIL: This less aggressive (industrial) laundering process is commonly used on uniforms which are lightly soiled or made of fabrics that are not designed to withstand higher wash temperatures or harsher chemistry. Water temperatures in light soil formula are usually held to a maximum of 140° F.



HOME WASH: A laundering process normally defined as washing in a residential type top- or front-loading unit followed by tumble drying. Detergents used in this process are formulated for home use and are readily available on the consumer market.

# ISO 13688 (formerly EN 340:2003) - Protective clothing -

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PERFORMANCE CLASSIFICATION	PERFORMANCE CLASSIFICATION	PICTOGRAM	
<ul> <li>Innocuousness</li> <li>Design</li> <li>Comfort</li> <li>Ageing</li> <li>Sizes (body dimensions)</li> <li>Marking</li> <li>User info</li> </ul>	Compliant	EN 340: 2003	

### EN ISO 11612:2008 - Protective clothing against heat and flame

PERFORMANCE CLASSIFICATION	PERFORMANCE CLASSIFICATION	PICTOGRAM
A = Limited flamespread (A1 = surface ignition, A2 = edge ignition) B = Convective heat (class 1-3) C = Radiation heat (class 1-4) D = Molten aluminium (class 1-3) E = Molten iron (class 1-3) F = Contact heat (class 1-3) "0" means no protection offered	A1 B1 C1 D0 E0 F0	EN ISO 11612 :2008 A1,B1,C1

### IEC 61482-2:2009 - Live working - Protective Clothing against the thermal hazards of an electric arc

PERFORMANCE CLASSIFICATION	PERFORMANCE CLASSIFICATION	PICTOGRAM
Arc thermal resistance on garment tested against:  IEC 61482-1-1 ATPV method Min ATPV: 4 cal/cm9 Arc current: 8 kA Voltage: 2000 V Distance to sample: 30 cms Duration: 0,05-1,5 sec  IEC 614825-1-2 Box test method Class 1-4 kA or Class 2-7 kA	ATPV test method For individual ATPV ratings, see label sewn into garment	IEC 61482-2:2009 ATPV = 4.1 CAL/CM <sup>2</sup>

### EN 1149-5:2008 - Protective Clothing - Electrostatic properties, part 5: performance requirements

PERFORMANCE CLASSIFICATION	PERFORMANCE CLASSIFICATION	PICTOGRAM
The material test has been carried out according to EN 1149-3:2004: Test method for measurement of charge decay. Half decay time $T_{50} < 4$ sec And/or shielding factor $S > 0.2$	Compliant	EN 1149-5:2008

### **DELUXE COVERALLS**

CMD4 (shown) - Men's (Reg) 34-58. (Long) 42-58. (Long) 42-58. NFPA® 2112 Compliant

Elastic waist inserts. Two inset lower front pockets are topstitched and lined. Two angled chest pockets with concealed flap zipper closures. Two patch hip pockets have single concealed snap closures. Left sleeve pocket. Side vent openings with snap closure. Onepiece rule pocket on right leg.

Fabric: Flame-resistant, 5.8 oz. (200 q/m²) Grey, Khaki, Red: 48% Modacrylic / 37% Lyocell / 15% Aramid, Navy: 45% Modacrylic / 35% Lyocell / 20% Aramid Protection (Grey, Khaki, Red): Arc Rating ATPV 6.5 calories/cm<sup>2</sup> Protection (Navy): Arc Rating ATPV 5.7 calories/cm<sup>2</sup> Colors: Grey (GY), Khaki (KH), Navy (NV), Red (RD)

NFPA® 2112 Compliant

Two angled chest pockets with flaps that conceal zipper closures.

Fabric: EXCEL FR® ComforTouch® Flame-resistant, 6 oz. (205 g/m²) Sateen, 88% Cotton / 12% Nylon

Protection: Arc Rating ATPV 8.7 calories/cm<sup>2</sup> Colors: Grey (GY), Khaki (KH), Navy (NV), Red (RD), Royal Blue (RB)

CED2 (shown) - Men's (Reg) 38-64. (Long) 42-58. (1) (1) (1) (1) (2) NFPA® 2112 Compliant

Fabric: EXCEL FR® Flame-resistant, 9 oz. (305 g/m²) Twill, 100% Cotton Protection: Arc Rating ATPV 11 calories/cm<sup>2</sup> Colors: Khaki (KH), Navy (NV), Orange (OR), Royal Blue (RB)

CMD6 - Men's (Reg) 38-58. (Long) 42-58. (1) (1) (1) (1) NFPA® 2112 Compliant

Fabric (Khaki): Flame-resistant, 7 oz. (235 q/m²) 48% Modacrylic / 37% Lyocell / 15% Aramid

Fabric (Navy): Flame-resistant 7 oz. (235 g/m²) Khaki: 48% Modacrylic / 37% Lyocell / 15% Aramid, Navy: 45% Modacrylic / 35% Lyocell / 20% Aramid Protection (Khaki): Arc Rating ATPV 9.0 calories/cm<sup>2</sup>

Protection (Navy): Arc Rating ATPV 10 calories/cm<sup>2</sup> Colors: Khaki (KH), Navy (NV)

### FIT CHARTS ON PAGE 94-95

CONTRACTOR OF THE PARTY OF THE			
<b>GY</b> Grey	KH Khaki	NV Navy	_
OR Orange	RD Red	RB Royal Blue	ı

Please Note: Colors vary for each garment. Reference the two letter color code for

ALL PRODUCT ON SPREAD | Imported of Fabric Made in U.S.A.

