



frequently asked questions

What is GlenGuard® FR?

GlenGuard FR fabric is a proprietary blend of Kermel®, modacrylic, and anti-static fibers.

Who uses GlenGuard FR garments?

GlenGuard FR garments are used where protection of industrial personnel against flash fire is required. Examples include the petrochemical oil and gas services, utilities, railway workers, electrical workers, airline, explosives transportation and delivery and fire fighting industries.

What is revolutionary about GlenGuard FR?

GlenGuard FR is one of the lightest weight NFPA70E Class 2 fabric available on the market. GlenGuard FR has the best weight to protection ratio available today in a single layer garment. GlenGuard FR fabrics are commonly used in coveralls, shirts and pants.

What is NFPA70E?

In 1976, The National Fire Protection Association, Inc. (NFPA) appointed a committee to develop a set of safety standards for electrical workers as a part of the Occupational Safety and Health Act (OSHA). The committee's findings and recommendations were laid out in a book of standards and practices entitled NFPA 70E. The purpose of the document was to create an easy-to-understand set of guidelines and restrictions in order to protect the health and interests of electrical workers nation-wide.

Is GlenGuard FR flame resistant?

Yes, GlenGuard FR fabrics are inherently flame resistant, the flame resistance is built into the fiber and is not a topical treatment. Flame resistant means that the fabric's characteristics resist ignition and will self extinguish if ignited.

Can molten metal workers or welders use GlenGuard FR?

No, GlenGuard FR is not recommended to be used around molten metal substances or welding operations.

Will laundering affect GlenGuard FR?

Laundering GlenGuard FR will not affect its resistance to fire. Unlike FR cotton fabric products, which can lose their protection through laundering over time, GlenGuard maintains its flame resistance throughout the life of the garment.

Is GlenGuard FR available in a variety of colors?

Yes, we keep an inventory of GlenGuard FR in the following colors: navy, tan, and cool blue. Red, orange and yellow are kept in smaller quantities.

What if I want GlenGuard FR in another color?

We will produce GlenGuard FR in a custom color with a 12,000 yard minimum order.

Glen Raven Technical Fabrics, LLC
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What are the effects of acids and alkalis on GlenGuard FR?

GlenGuard FR is highly resistant to most acids and to low concentrations of cold alkali.

What are the effects of bleaches and solvents on GlenGuard FR?

GlenGuard FR is resistant to most solvents (except phenols and solvents that are very polar) and chlorine bleach although, chlorine bleach should never be used with any FR fabric. The Kermel fiber in GlenGuard resists alkalis, bleaches, solvents and low acid concentrations.

What are the effects of aging, sunlight and abrasion on GlenGuard FR?

GlenGuard FR has excellent resistance to aging, sunlight and abrasion. Sunlight represents problems for PBI fabrics and Nomex® IIIA and all aramids especially bright colors such as orange and red.

Abrasion resistance comparison using the Martindale test method:

- GlenGuard FR >100,000 cycles
- Nomex® IIIA = 50,000 cycles
- Indura® = 20,000 cycles

What are the care instructions for laundering GlenGuard FR?

Washing (NFPA2113-2001)[†]:

Operations	Time (mm:sec)	Temperature °F	Water Level	Quantity / 20lb Wash Load
BREAK	10:00	140	Low	
50% active caustic soda				142 ml / 4.8 oz
nonyl phenol ethoxylate				47 ml / 1.6 oz
30% sodium tripolyphosphate				24 ml / 0.8 oz
DRAIN	0:30			
RINSE	2:00	140	High	
DRAIN	0:45			
RINSE	2:00	130	High	
DRAIN	0:45			
RINSE	2:00	115	High	
DRAIN	0:45			
SOUR	5:00	100	Low	
23% hydrofluorosilic acid				6 ml / 0.2 oz
DRAIN	0:30			
EXTRACT	4:00			

[†] Standard on selection, care, use and maintenance of flame resistant garments for protection of industrial personnel against flash fire.

Drying:

GlenGuard FR garments should be removed from the washing machine and dried in a gas tumble dryer set on medium/permanent press with a drying/exhaust temperature of 155°F. Do not over dry.

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What is the thermal stability of GlenGuard FR?

GlenGuard FR has excellent thermal stability and does not melt. In addition, it is conforms to the following certifications:

- NFPA70E
- NFPA2112
- CGSB155.20
- CGSB155.22
- EN531 (Protective Clothing for workers exposed to heat)
- EN533 (Protection against heat and flame)
- EN13034 (Protection against liquid chemicals)

What is GlenGuard FR's moisture regain and static control qualities?

GlenGuard FR has the touch of cotton and inherent moisture management ability and uses a static dissipative fiber to combat nuisance static. Kermel A90 conforms to EN1149, which states that an antistatic garment does not affect the electrostatic dissipative properties of a garment when the wearer is securely earthed.

How much does a GlenGuard FR garment cost?

GlenGuard FR fabrics cost slightly more than the equivalent weights of Nomex IIIA but provide better test results with regards to:

- Protection against flame
- Protection against electric arc
- Abrasion resistance
- Color Fastness

What is the expected life of a GlenGuard FR garment?

Under normal wear conditions, a GlenGuard FR garment can last as long as 3 to 5 years. GlenGuard FR garments will last longer than Nomex IIIA garments and 3 times as long as FR cotton/nylon blend garments.

Can you tell me about the Kermel launch of an FR fabric that was unsuccessful?

Yes, the first Kermel flame resistant fabric launched in the United States contained a very different fiber blend (50/50 blend of Kermel and FR viscose) in the fabric, which had limited laundering durability with significant shrinkage and wear issues. This was due to the FR viscose component as it was found to weaken when it got wet, so with each wash the product got progressively worse. GlenGuard contains no FR viscose. The other issue with the original Kermel fabric was limited availability, which frustrated the end users. Glen Raven maintains a sufficient inventory to supply customer needs.

Why should I purchase GlenGuard FR?

- It is the lightest weight NFPA70E Class 2 fabric available
- It is inherently flame resistant
- It will launder many times
- It is resistant to most acids
- It is resistant to bleach, mildew and sunlight
- It is resistant to abrasion
- It is comfortable
- GlenGuard FR provides more protection, is a better value and is readily available.

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