

# HELD TO A HIGHER STANDARD

Flame Resistant Apparel Guide



## PROTECTION FOR ELECTRICAL SAFETY HAZARDS.



ELECTRIC & GAS UTILITIES



TELECOM



POWER GENERATION



PIPELINE & CONSTRUCTION WORK



PETROCHEMICAL



# KNOW THE STANDARDS & TEST METHODS



## ASTM D6413

Baseline test method for the flame resistance of textiles.



## ASTM F1959

Panel test to determine Arc Rating of a material.



## ASTM F1930

Manikin test for flash fire, measures total body burn.



## ASTM F1506

Minimum Performance Standard for Arc and Flame-Resistant Clothing



## ASTM F1891

Minimum Performance Standard for Arc and Flame-Resistant Rainwear



## ASTM F2733

Flash Fire Standard for Rainwear  
Total Body Burn <40% to pass

Requires that material receives an Arc Rating per ASTM F1959

# NFPA 70E

The National Fire Protection Association Standard

Wear arc rated clothing when exposed to any thermal hazard significant enough to cause second degree burns.

PPE must meet the below standards + provide adequate protection for the hazard risk:

\*To be compliant, rainwear must meet ASTM F1891

HAZARD RISK CATEGORY (CAT)	MINIMUM ARC RATING
CAT 1	4 CAL/CM <sup>2</sup>
CAT 2	8 CAL/CM <sup>2</sup>
CAT 3	25 CAL/CM <sup>2</sup>
CAT 4	40 CAL/CM <sup>2</sup>



## KNOW THE MATERIAL



### Modacrylic / Cotton

- ✓ Won't melt or drip when exposed to flame
- ✓ Provides high-visibility performance



### PVC on Nomex®

- ✓ Extreme heat thickens fibers to increase protective barrier
- ✓ Excellent heat resistant properties



### FR PVC / Polyester

- ✓ Lightweight, durable with limited flame resistance
- ✓ Self-extinguishing when flame is removed

# KNOW THE HAZARD RISK

**CAT 1: Minimum Arc Rating 4 cal/cm<sup>2</sup>**

**High Visibility & Flame Resistance**

✔ Electric Utilities

✔ Telecommunications

Modacrylic / Cotton Blend

**JOB SIGHT FR**  
CLASS 2 VISIBILITY



**Mesh Vest**

5.1 cal/cm<sup>2</sup> Arc Rating



**Standard Vest**

6.8 cal/cm<sup>2</sup> Arc Rating



**Breakaway Vest**

6.8 cal/cm<sup>2</sup> Arc Rating



**Surveyor Vest**

6.8 cal/cm<sup>2</sup> Arc Rating



**CAT 2: Minimum Arc Rating 8 cal/cm<sup>2</sup>**

**High Visibility & Flame Resistance**

✔ Electric Utilities

✔ Telecommunications

Modacrylic / Cotton Blend

**JOB SIGHT FR**  
CLASS 3 VISIBILITY



**Long Sleeve**

9.1 cal/cm<sup>2</sup> Arc Rating



**Zip-Up Hoodie**

15 cal/cm<sup>2</sup> Arc Rating



# KNOW THE HAZARD RISK

**CAT 2: Minimum Arc Rating 8 cal/cm<sup>2</sup>**

## Wide-Ranging FR Rain Wear

- ✓ Electric & Gas Utilities
- ✓ Pipeline & Construction
- ✓ Power Generation
- ✓ Energy Exploration



High-Visibility - Liquid Proof - Arc Resistant - Flash Fire Compliant (Excludes Coats)

PVC on Non-Woven Nomex<sup>®</sup>

**ECLIPSE**  
QUAD-HAZARD PROTECTION



**Yellow-Green Jacket**  
8.7 cal/cm<sup>2</sup> Arc Rating



**Yellow-Green Overalls**  
8.7 cal/cm<sup>2</sup> Arc Rating



**Yellow-Green Coat**  
8.7 cal/cm<sup>2</sup> Arc Rating



**Orange-Red Jacket**  
11 cal/cm<sup>2</sup> Arc Rating



**Orange-Red Overalls**  
11 cal/cm<sup>2</sup> Arc Rating



**Orange-Red Coat**  
11 cal/cm<sup>2</sup> Arc Rating



# KNOW THE HAZARD RISK

**CAT 2: Minimum Arc Rating 8 cal/cm<sup>2</sup>**

## Flash Fire & Chemical Protection

- ✓ Petrochemical
- ✓ Off-Shore Drilling
- ✓ Chemical



Liquid Proof – Arc Resistant – Flash Fire Compliant

PVC on Non-Woven Nomex<sup>®</sup>

**ECLIPSE**  
TRI-HAZARD PROTECTION



**Blue Jacket**  
14 cal/cm<sup>2</sup> Arc Rating



**Blue Overalls**  
14 cal/cm<sup>2</sup> Arc Rating



**Detachable Hood**  
14 cal/cm<sup>2</sup> Arc Rating



**Flame Resistant / Self-Extinguishing ASTM D6413**

## Safety, Comfort & Affordability

- ✓ Construction
- ✓ General Industry

Heat-Sealed PVC on Polyester

**COMFORT-BRITE**  
LIGHTWEIGHT AND DURABLE



**Jacket, Overalls, Coat**  
Multipurpose FR



**Jacket, Overalls**  
Multipurpose FR



\*Self extinguishing with flameout and afterglow less than or equal to 2 seconds after removal of ignition source and char length less than 6 inches.

LAYERING FR CLOTHING GIVES

**INCREASED  
BURN  
PROTECTION**

***TINGLEY***

— est. 1896 —

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