



NFPA 2112 & NFPA 70E Requirements

Protection Done Right™

	NFPA 2112	NFPA 70E
Summary	<ul style="list-style-type: none">• Standard for oil & gas industry• Protects against flash fire<ul style="list-style-type: none">◦ i.e., ignition of oil & gas fumes	<ul style="list-style-type: none">• Standard for electrical safety• Protects against arc flash<ul style="list-style-type: none">◦ i.e., arc explosion fireball
ASTM F1506	No	Yes
Wash Test	100 Wash	25 Wash
Special Test	Manikin Burn Test - ASTM 1930 Simulates flash fire, such as fumes igniting in oil field. Manikin engulfed in continuous propane torch flame blasts for over 3 seconds in lab.	Arc Blast Test - ASTM F1959 Simulates arc flash, such as triggered by arc fault in plant and utility power equipment. Fabrics exposed to high-powered electric explosions in lab.
Other Requirements	<ul style="list-style-type: none">• 3rd Party Certification• Thermal Shrinkage Test• Thermal Protective Performance Test• Thermal Stability Test	<ul style="list-style-type: none">• Thermal Shrinkage Test• Cover metal from skin• FR thread
Labeling	NFPA 2112 Certification	HRC and ATPV labels
OSHA Enforcement	Dec. 18, 2012 – OSHA guideline for FR enforcement	Oct. 2014 – all clothing must be arc rated FR
Related OHSA Standards	1910.132	1910.269

See back for definition of terms



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Definition of Terms

NFPA - National Fire Protection Association

The authority on fire, electrical, and building safety.

ATPV - Arc Thermal Protective Value (Under NFPA 70E)

Measurement of how much heat can be exposed to a flame resistant garment before the onset of a second degree burn injury is expected to occur. It signifies the amount of protection the clothing will provide when an electrical arc comes in contact with the fabric. The ARC rating determines the protective characteristics of the fabric. The higher the ARC rating value, the greater the protection.

HRC - Hazard Risk Category (Under NFPA 70E)

Guidelines used to determine the necessary arc rating of a garment worn during a given job task that has been identified to pose an arc flash hazard. See table below.

HRC (Hazard Risk Category)	ATPV (Required Minimum Arc Rating)	PPE (Personal Protective Equipment)
1	4	Arc rated shirt (long sleeve) and pants or coverall
2	8	Arc rated shirt (long sleeve) and pants or coverall, and arc flash suit so that the system arc rating meets the required minimum
3	25	Arc rated shirt (long sleeve) and pants or coverall, and arc flash suit selected so that the system arc rating meets the required minimum
4	40	Arc rated shirt (long sleeve) and pants or coverall, and arc flash suit selected so that the system arc rating meets the required minimum

Compliant Fabric vs. Certified Garment

NFPA 2112

NFPA 70E

Compliant	<ul style="list-style-type: none">Typically means only fabric passed required testsBut product not certified and requires 3rd party certification of all tests and factory inspection	<ul style="list-style-type: none">Product passed all required testsTests arranged by manufacturerTest results need not be certified by 3rd party
	<ul style="list-style-type: none">Product passed all required testsTests arranged and certified by 3rd party, such as ULIncludes certified factory inspection	<ul style="list-style-type: none">NFPA 70E does not require 3rd party certification