



REGULATORY AND COMPLIANCE INFORMATION

SPRING 2021



REGULATORY AND COMPLIANCE REFERENCE

OSHA 1910.269

US Occupational Safety and Health Administration

Applies To:	Electrical Power Generation, Transmission, and Distribution
Summary:	<ul style="list-style-type: none">• 1910.269(l)(8)(i) addresses personal protection from flames and electrical arcs. Employers are required to assess and estimate the available heat energy to which employees would have exposure and wear product that would not "melt, ignite, or continue to burn when exposed to flames" and gives examples of potential exposure.• 1910.269(l)(8)(ii) addresses protection against burn injury and calculation of potential incident heat energy.• 1910.269(l)(8)(iii) addresses wearing garments that cannot drip, melt or ignite while in an area with noted exposure risk of arc or electrical hazard.• 1910.269(l)(8)(iv) addresses employer responsibility for outermost layer being flame-resistant and arc-rated, based on hazard assessment performed by company.• 1910.269(l)(8)(v) addresses employer responsibility relating to PPE that is equal to or greater than estimated heat energy, whenever exceeding 2 cal / cm^2, with exceptions noted in 1910.269 (l)(8)(v)(a-e).
For More Information:	https://www.osha.gov

OSHA 1910.335

US Occupational Safety and Health Administration

Applies To:	Electrical - Safeguards For Personal Protection
Summary:	<ul style="list-style-type: none">• 1910.335(a)(1)(i) states that employees working in areas where there is potential hazard shall be provided personal protective equipment (PPE) that is appropriate for the work to be performed.• 1910.335(a)(1)(ii) states that PPE must be maintained in safe, reliable condition and inspected periodically.
For More Information:	https://www.osha.gov

REGULATORY AND COMPLIANCE REFERENCE

NFPA 70E - 2021 National Fire Protection Agency

Applies To:	Standard For Electrical Safety In The Workplace
Summary:	<ul style="list-style-type: none"> • The use of safety related work practices to prevent electrical shock and mitigate any and all injuries associated with contact on job-site. PPE must conform to state, federal and local codes. • Employer responsibility in relation to arc-hazard assessment and shock risk assessment performed to recognize and identify all hazards, and to supply personal protective equipment to meet or exceed assessment findings. Company may perform incident energy analysis or arc flash PPE category method to identify risk and PPE requirements. • Table 130.7 (C)(14) includes information relating to arc-rated clothing needs, based on workers exposed to flames and electric arc, referencing ASTM F1506. • Table 130.7 (C)(15)(a) includes information relating to arc-flash PPE categories, in relation to equipment operation, and included minimum boundary requirements and CAT levels. • Table 130.7 (C)(15)(c) includes information about specific PPE requirements for arc-rated clothing, based on minimum arc, based on arc-category chart below. • Article 250 includes information about personal safety and protective equipment maintenance and working condition.
For More Information:	https://www.nfpa.org

ARC RATING CATEGORY CHART

CAT # (HRC)	MINIMUM ARC RATING	LAYERS
CAT 1	4 cal / cm ²	1
CAT 2	8 cal / cm ²	1 OR 2
CAT 3	25 cal / cm ²	2 OR 3
CAT 4	40 cal / cm ²	3 OR MORE

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NFPA 2112 - 2018 National Fire Protection Agency

Applies To:	Standard On Flame-Resistant Clothing For Protection Of Industrial Personnel Against Short-Duration Thermal Exposures From Fire
Summary:	<ul style="list-style-type: none">• Summary: Manufactured garment shall be tested based on pass/fail standard, with three second thermal exposure fire test. Maximum total body burn shall not exceed 50% total body, based on ASTM F1930 guideline.• Regulation information for minimum testing requirements and parameters for testing facilities, and inspection of manufacturing plants.• 1.1. The use of "flash fire" has been modified to "short duration thermal exposure from fire". This standard identifies that flame-resistant garments, hoods, and gloves .• 1.3.4. This standard identifies that hoods, balaclavas, gloves and other accessories are not generally tested to NFPA 2112, unless specified.• 1.4. Flame-Resistant garments must be labeled after date of testing, and cannot be retroactively deemed 2112 certified.• 4.4.1. Garment manufacturers shall provide and maintain a quality assurance and recall processes.
For More Information:	https://www.nfpa.org

NFPA 2113 - 2020 National Fire Protection Agency

Applies To:	Standard On Selection, Care, Use and Maintenance Of Flame-Resistant Garments For Protection Of Industrial Personnel Against Short-Duration Thermal Exposures From Fire
Summary:	<ul style="list-style-type: none">• 1.4.2. Employer responsibility of performing hazard assessment, identifying risk, providing PPE for employees and maintaining PPE and replacing PPE.• 1.4.3. Employee responsibility of properly wearing PPE and attending training sessions to further understanding of PPE and risk mitigation, and informing supervisor when needing to replace goods.• 4.3.2. Discusses body coverage regulation and compliance with NPFA 2112.• 6.1. Discusses proper cleaning and decontamination of garments.• 7.1. Discusses inspection of goods performed by employer and implementation of program to assess product.• 7.2. Discusses labeling and repair in accordance with manufacturer guidelines.
For More Information:	https://www.nfpa.org

REGULATORY AND COMPLIANCE REFERENCE

ASTM F1506 American Society For Testing And Materials

Applies To:	Standard Performance Specification For Flame-Resistant And Electric Arc Rated Protective Clothing Worn By Workers Exposed To Flames And Electric Arcs
Summary:	<ul style="list-style-type: none">• Summary: Detailed information regarding the minimum performance for the arc-rating of fabrics, flame-resistance of fabrics, mechanical durability of fabrics, and the garment labeling requirements.• Garments must meet the requirements; self-extinguish within two seconds after flame and reflect a char length of less than six inches. Garment is allowed a certain number of washings prior to testing (ASTM D6413). Garment must be tested to arc-thermal performance and given an identifiable arc-rating based on arc flash assessment (ASTM F1959).
For More Information:	https://www.astm.org

ASTM F1891 American Society For Testing And Materials

Applies To:	Standard Specification For Arc and Flame-Resistant Rainwear
Summary:	<ul style="list-style-type: none">• Summary: Detailed information regarding the minimum performance for the arc-rating of rain wear.• Garments must meet minimum requirement of 5 cal / cm² and dripping is not permitted at twice the exposure level of the arc rating listed; and must self-extinguish within two seconds after flame and reflect a char length of less than six inches. Garment is allowed a certain number of washings prior to testing (ASTM D6413).• Garment must withstand water pressure of 30 psig without leaking or tearing and have trapezoidal tear resistance of six pounds in both warp and fill directions.
For More Information:	https://www.astm.org

REGULATORY AND COMPLIANCE REFERENCE

ASTM F2733

American Society For Testing And Materials

Applies To:	Standard Specification For Flame-Resistant Rainwear For Protection Against Flame Hazards
Summary:	<ul style="list-style-type: none">• Detailed information regarding the minimum performance for rain wear, in conjunction with NFPA 2112, which does not include rain wear.
For More Information:	https://www.astm.org

ASTM F1959

American Society For Testing And Materials

Applies To:	Standard Test Method For Determining The Arc Rating Of Materials For Clothing
Summary:	<ul style="list-style-type: none">• Arc flash evaluation to determine arc rating (ATPV or Ebt) of single layer or multi layer fabrics, in relation to second degree burn. Amount of energy not permitted through fabric to skin is referenced as ATPV rating.• Sample garments for testing are allowed a certain number of washings prior to testing.• Testing is supportive to ASTM F1506.
For More Information:	https://www.astm.org

ASTM D6413

American Society For Testing And Materials

Applies To:	Standard Test Method For Flame Resistance Of Textiles (Vertical Test)
Summary:	<ul style="list-style-type: none">• In relation to vertical flame testing of product, in accordance with ASTM F1506.• Samples are tested both in new condition and after a certain number of washings. Fabric is exposed to vertical flame, the afterglow and char lengths are measured to determine a pass/fail standard.
For More Information:	https://www.astm.org

REGULATORY AND COMPLIANCE REFERENCE

ASTM F1930

American Society For Testing And Materials

Applies To:	Standard Test Method For Evaluation Of Flame-Resistant Clothing For Protection Against Fire Simulations Using An Instrumented Manikin
Summary:	<ul style="list-style-type: none">• Detailed information regarding the testing and methodology relating to 2112. ASTM F1930 is designed to instruct on how to perform a manikin (mannequin) test.• The maximum body burn allowed for NFPA 2112 is 50% and the maximum body burn allowed for ASTM F2733 is 40%.
For More Information:	https://www.astm.org

ANSI / ISEA 107 TYPE R

American National Standards Institute

Applies To:	Hi-Visibility Standard For Roadway Hazards (Type R)
Summary:	<ul style="list-style-type: none">• Three distinct areas (Type O; Offroad, Type R; Roadway, P; Public Safety)• Arc-rated, flame-resistant apparel now falls into the category of "Type R"; Occupational workers exposed to roadway traffic or in an environment with moving equipment.• Three color choices; lime green (Amaril refers to as yellow), orange, red• Minimum inch requirements included for all hi-visibility product, modified to be able to accommodate smaller sizes.• Class 2: 775 in² with 201 in² in of retroreflective material and minimum tape with 1.38 in• Class 3: 1240 in² with 310 in² in of retroreflective material and minimum tape with 2.0 in
For More Information:	https://www.ansi.org