

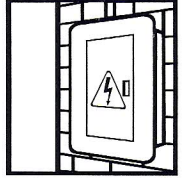


Job Name: \_\_\_\_\_ Job Site Location: \_\_\_\_\_

Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ Finish Time: \_\_\_\_\_ Foreman/Supervisor: \_\_\_\_\_

## Topic 320: Arc Flash Hazards - Protective Equipment (Part A)

**Introduction:** Employees working in areas where there are potential electrical hazards must be provided with, and must use, electrical protective equipment appropriate for the parts of the body to be protected and the work performed. Protective shields, protective barriers, or insulating materials must be used to protect each employee from shock, burns, or other electrical related injuries while the employee is working near exposed energized parts which might be accidentally contacted or where dangerous electric heating or arcing may occur. Following are guidelines for electrical protective equipment. All tables referred to below are located on Topic 322 (Part C):



**Employer Responsibility :** It is the employer's responsibility to:

- **Train each employee** who is exposed to the hazards of flames or electric arcs of the hazards involved.
- **Ensure that each employee** who is exposed to the hazards of flames or electric arcs does not wear clothing that, when exposed to flames or electric arcs, could increase the extent of injury that would be sustained by the employee.
- **Provide policies and guidelines** on selection, care, and use of protective equipment. Ensure proper equipment is worn based on the work being done.
- **Give training** on apparel related hazards and instruction on appropriate laundering.
- **The apparel required** in OSHA standard is not considered to be PPE; therefore, it is not a requirement for the employer to purchase it.

**Clothing**

- **Clothing made from** acetate, nylon, polyester, and rayon types of fabrics, either alone or in blends, is prohibited for use in electrical work unless the fabric has been treated to withstand the conditions that may be encountered or the clothing is worn in such a manner as to eliminate the hazard involved. No synthetic materials are allowed when potential exposure exists.
- **Natural fiber materials** less than 11 oz are not acceptable (generally this means less than denim weight).
- **All cotton or all wool** that is 11 oz or heavier (denim) is OK with exposure of less than 3,800 amps at 12 inches away.
- **Short sleeves** are not prohibited BUT are discouraged. Personnel must adhere to the safe work practices of the trade.



**Design requirements:** Insulating blankets, matting, covers, line hose, gloves, and sleeves made of rubber must meet the following requirements:

- **Blankets, gloves, and sleeves** must be produced by a seamless process.
- **Each item must** be clearly marked: Class 0 equipment must be marked Class 0, Class 1 equipment must be marked Class 1, etc.
- **Non-ozone resistant** equipment, except matting must be marked Type I. Ozone-resistant equipment other than matting must be marked Type II.
- **Other relevant markings**, such as the manufacturer's identification, and the size of the equipment, may also be provided.
- **Markings must be** non-conducting and applied in such a manner as not to impair the insulating qualities of the equipment.
- **Markings on gloves** must be confined to the cuff portion of the glove.



**Workmanship and finish:** Equipment must be free of harmful physical irregularities that can be detected by test or inspection. Surface irregularities that may be present on all rubber goods because of imperfections on forms or molds or because of difficulties in the manufacturing process and that may appear as indentations, protuberances, or imbedded foreign material are acceptable under the following conditions:

- **The indentation** or protuberance blends into a smooth slope when the material is stretched.
- **Foreign material** remains in place when the insulating material is folded and stretches with the insulating material surrounding it.

**Electrical requirements for equipment:**

- **Equipment must be** able of withstanding the a-c proof-test voltage shown in Table I-2, or the d-c proof-test voltage shown in Table I-3.
- **The proof test must** reliably indicate that the equipment can withstand the voltage involved.
- **The test voltage** must be applied continuously for 3 minutes for equipment other than matting and applied continuously for 1 minute for matting.
- **Gloves must** also be capable of withstanding the a-c proof-test voltage specified in Table I-2 after a 16-hour water soak. When the proof test is used on gloves, the 60-hertz proof-test current may not exceed the values specified in Table I-2 at any time during the test period.
- **For the test**, gloves (right side out) shall be filled with tap water and immersed in water to a depth that is in accordance with Table I-4. Water shall be added to or removed from the glove, as necessary, so that the water level is the same inside and outside the glove. After the 16-hour water soak, the 60-hertz proof-test current may exceed the values given in Table I-2 by not more than 2 milliamperes.
- **Equipment that** has been subjected to a minimum breakdown voltage test may not be used for electrical protection.
- **Material used for Type II** insulating equipment must be capable of withstanding an ozone test, with no visible effects. The ozone test shall reliably indicate that the material will resist ozone exposure in actual use. Any visible signs of ozone deterioration of the material, such as checking, cracking, breaks, or pitting, is evidence of failure to meet the requirements for ozone-resistant material.



**Conclusion:** This safety meeting is intended for use with **321B & 322C: Arc Flash Hazards Personal Protective Equipment**

### Work Site Review

Work-Site Hazards and Safety Suggestions: \_\_\_\_\_

Personnel Safety Violations: \_\_\_\_\_

**Employee Signatures:**

*(My signature attests and verifies my understanding of and agreement to comply with, all company safety policies and regulations, and that I have not suffered, experienced, or sustained any recent job-related injury or illness.)*


*These guidelines do not supercede local, state, or federal regulations and must not be construed as a substitute for, or legal interpretation of, any OSHA regulations.*