

Standard Interpretations / Training and PPE for employees performing tests on equipment.

- **Standard Number:** 1910.333(a)(1) ; 1910.335(a)(2)(i) ; 1910.331(a) ; 1910.334(c)(1)

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June 22, 1998

Ms. Deborah Green
Group Environmental & Safety Engineer
PMI Food Equipment Group
World Headquarters
Troy, Ohio 45374

Dear Ms. Green:

This is in response to your letter of April 9, asking for clarification concerning the use of personal protective equipment when working on energized 120- or 240-volt equipment. Specifically, you asked if technicians who service your commercial food equipment (dishwashers, scales, ovens, etc.) in the field are required to wear low-voltage protective gloves. You also asked in your letter, if and under what circumstances low voltage gloves are required when working on energized parts.

29 CFR 1910.333(a)(1) Selection and use of work practices; Deenergized parts states: "Live parts to which an employee may be exposed shall be deenergized before the employee works on or near them, unless the employer can demonstrate that deenergizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. Live parts that operate at less than 50 volts to ground need not be deenergized if there will be no increased exposure to electrical burns or to explosion due to electric arcs." Employees may perform testing on energized parts of equipment, but the equipment may remain energized only as long as necessary to perform the test.

Paragraph (a)(2)(i) of 1910.335 requires employees to use insulated tools or handling equipment if the tools or equipment might contact energized parts. In the case of testing equipment, the probes need to be insulated for the voltage. (See also 1910.334(c).) Paragraph [1910.335(a)(1)(i)] requires employees to use appropriate electrical protective equipment (which includes rubber insulating gloves) when working in areas with potential electrical

hazards. (Section 1910.137 contains requirements that electrical protective equipment must meet; 1910.138 does not apply.) Whether an employee needs to wear rubber insulating gloves while working with test equipment on energized circuits will depend on several factors including:

1. Whether the probes are designed so that the employee's hand can slip off the end of the insulated handle; and
2. Whether there are other exposed energized parts that the employee's hand might contact during testing.

If either of these conditions are present, the use of rubber insulating gloves or other electrical protective equipment would be warranted.

You should also be aware of other requirements that apply to this type of operation. The electrical standards at 29 CFR 1910 Subpart S include requirements for employee safety with respect to electrical hazards in general industry workplaces. According to paragraph 1910.332(a), employees who face a risk of electric shock from electrical hazards that are not reduced to a safe level by the electrical installation requirements of sections 1910.303 through 1910.308 must be trained in electrical safety-related work practices as required by sections 1910.331 through 1910.335. By paragraph 1910.332(a), employees are either qualified persons or unqualified persons when working on or near exposed energized parts. Qualified persons have training, whereas unqualified persons have little or no training, in avoiding the electrical hazards of working on or near exposed energized parts. Training requirements for "qualified persons" and "unqualified persons" are contained in section 1910.332.

Section 1910.334(c)(1) states "only qualified persons may perform testing work on electric circuits or equipment." As noted in the preceding paragraph, these qualified persons shall be capable of performing work safely on energized circuits. By 1910.333(c)(2), qualified persons must be capable of working safely on energized circuits and must be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.

if you have any additional questions please contact [the Office of General Industry Enforcement at (202) 693-1850]. Thank you for your interest in Occupational Safety and Health.

Sincerely,

John B. Miles, Jr., Director
Directorate of Compliance Programs

[Corrected 3/13/2007]

UNITED STATES DEPARTMENT OF LABOR

Occupational Safety & Health Administration
200 Constitution Ave NW
Washington, DC 20210
☎ 800-321-6742 (OSHA)
TTY
www.OSHA.gov

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