

# U.S. Department of Labor

Occupational Safety and Health Administration  
Washington, D.C. 20210



September 9, 1997

Mr. Kenneth J. Yotz  
EMTS  
919 St. Andrews Circle  
Geneva, IL 60134-2995

Dear Mr. Yotz:

This is in response to your January 12 letter requesting clarification of the 29 CFR 1910 Subpart S - Electrical Standard as it applies to flexible power cords on appliances. Please, accept our apology for the delay in responding. Your questions, and our replies follow.

Question #1:

Can the original cord on an appliance, such as a fan, which is certified by a nationally recognized testing laboratory (NRTL) be replaced with a longer cord, perhaps 15-25 feet long, to reach an existing electrical outlet?

Reply:

Under paragraph 1910.303(a), electrical conductors and equipment are acceptable for use in the workplace only if approved. An electrical appliance which is certified by a NRTL is considered to be approved by the Occupational Safety and Health Administration (OSHA) as long as it is used in accordance with the condition(s) of NRTL certification. Replacing the existing cord (with a longer cord, perhaps 15-25 feet long) is a violation of the NRTL certification of the appliance. Flexible cords and cables may not be used as a substitute for the fixed wiring of a structure. A new receptacle, readily accessible to the fan, must be provided.

Use of an appliance with flexible cord and cable as short as possible plugged into a nearby receptacle promotes workplace safety by reducing the likelihood of being a tripping hazard and being damaged.

Question #2:

Would it make a difference if the appliance was cord and plug operated or if it is wired with a flexible cable directly into a junction box?

Reply:

Yes, cord and plug operated appliances which meet paragraph 1910.305(g) requirements may be used. However, an appliance which is wired with a flexible cable directly into a junction box may not be used in workplaces. Paragraph 1910.305(g)(1)(iii)(A) prohibits such an installation to be used to substitute for fixed structural wiring.

Question #3:

Can electrical tape be used to cover minor nicks and abrasions in the outer jacket of a flexible cord? Under what circumstances, if any, may "electrical tape" be used to repair the outer cover of a flexible cord?

Reply:

Nicks and abrasions which do not penetrate completely through the outer jacket of a flexible cord are not considered a safety concern for which corrective action, that is, repair or replacement of the flexible cord, would be required. Repair or replacement of the flexible cord is required when the outer jacket is

penetrated or the conductors or their insulation, inside are damaged. Flexible cord not less than No. 12 American Wire Gauge (AWG) may be repaired by splicing the conductors with a suitable vulcanized or molded splice. Please note that removing a damaged section of a flexible cord on an appliance and installing an attachment plug and a cord connection on the two ends would not be allowed. Such a repair would result in an extension cord between the flexible cord of the appliance and the installed building receptacle. Under paragraph 1910.305(a)(2)(i), this extension cord would be considered temporary wiring which is not permitted for workplace use.

Please note that flexible cord and cable should be visually inspected for external defects, such as insulation damage, and for indications of possible internal damage. Also, use of electrical tape to protect nicks or abrasions impedes visual inspection of the flexible cord. Flexible cords found damaged or defective must not be used until repaired.

We appreciate your interest in occupational safety and health. If we can be of further assistance, please contact the Office of General Industry Compliance Assistance [at (202) 693-1850].

Sincerely,

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