



Michigan Department of Consumer and Industry Services  
Bureau of Construction Codes & Fire Safety  
Interpretation No: 03-01  
Sections 400-7(a)8 and 400-8(5) 1999 Michigan Electrical Code

Cleanroom, as defined by NFPA 318, Section 3.3.4: "A room in which the concentration of airborne particles is controlled to specific limits. Cleanrooms include areas below the raised floor and above the ceiling grid if these areas are part of the air path and within the rated construction.

Question: Can fan filter units installed in cleanroom ceiling grids be supplied with flexible cords and plugs for the electrical supply connection as allowed in Section 400-7(a)(8); or, does the installation violate Section 400-8(5) of the 1999 MEC?

Section 400-7, Uses Permitted; and 400-7(a) Uses, of the 1999 MEC provides, "Flexible cords and cables shall be used only for the following:

"(8) Appliances where the fastening means and mechanical connections are specifically designed to permit ready removal for maintenance and repair, and the appliance is intended or identified for flexible cord connection."

Answer: Yes. Fan filter units may be installed in cleanroom ceiling grids with cord and plug power supply. Fan filter units are designed to comply with UL Standard 507. Section 13.1.1 of the standard requires the power supply of permanently connected appliances to be provided by means of permanent electrical connection. Section 13.1.2 of the standard lists the types of appliances in reference to the requirement being, Section 13.1.2(b), "An appliance intended for permanent attachment to a building structure." Exception No. 3 to this section would allow the use of a power supply cord when specific criteria of the cord has been met. (See page number 37 of UL 507).

- a) Has three conductors;
- b) Is Type SJ or heavier terminating in an acceptable grounding type attachment plug;
- c) Has a length of 0.30 – 3.7m (1-12 feet);
- d) Is permanently attached to the fan;
- e) Complies with the requirements of 14.1.2 and 14.2.1 – 14.2.5; and
- f) Is marked in accordance with 62.1.10 or 111.1

Section 400-8, Uses Not Permitted, of the 1999 MEC provides, "Unless specifically permitted in Section 400-7, flexible cords and cables shall not be used for the following:

"(5) Where concealed behind building walls, structural ceilings, suspended ceilings, dropped ceilings, or floors."

Fan filter units are typically intended for permanent installation by means of a permanent wiring method. However, manufacturers are allowed to provide an optional power supply cord at the customer's request. Additionally, compliance to Section 400-8(5) and 300-22(c)(1) of the 1999 MEC is still required if the units are provided with the supply cord. (See May 27, 2003 letter from UL).

Approved by the Construction Code Commission: September 24, 2003