

**North Carolina Department of Labor  
Occupational Safety and Health Division**

**Raleigh, North Carolina**

Field Information System

Standards Notice 19A

**Subject:** Class I and Class II, Division 2 hazardous locations for spray finishing

**A. Purpose.**

The purpose of this standards notice is to clarify Class I or Class II, Division 2 hazardous locations surrounding spray finishing operations.

**B. Standards.**

1. **29 CFR 1910.107(c)(2).** Minimum separation. There shall be no open flame or spark producing equipment in any spraying area nor within 20 feet thereof, unless separated by a partition.
2. **29 CFR 1910.107(c)(6).** Wiring type approved. Electrical wiring and equipment not subject to deposits of combustible residues but located in a spraying area as herein defined shall be of explosion-proof type approved for Class I, group D locations and shall otherwise conform to the provision of subpart S of this part, for Class I, Division 1 Hazardous Locations. Electrical wiring, motors, and other equipment outside of but within twenty (20) feet of any spraying area, and not separated there from by partitions, shall not produce sparks under normal operating conditions and shall otherwise conform to the provision of subpart S of this part for Class I, Division 2 Hazardous Locations.
3. **NEC Article 516-2(b) – 1999**, states: The following spaces shall be considered Class I or Class II, Division 2 as applicable.
  1. For open spraying, all space outside of but within 20 ft (6.10 m) horizontally and 10 ft (3.05 m) vertically of the Class I, Division 1 location as defined in Section 516-2(a), and not separated from it by partitions. See Figure 516-2(b)(1).
  2. If spray application operations are conducted within a closed-top, open-face, or open-front booth or room, any electrical wiring or utilization equipment located outside of the booth or room but within the boundaries designated as Division 2 in Figure 516(b)(2) shall be suitable for Class I, Division 2 or Class II, Division 2 locations, whichever is applicable.

The Class I, Division 2 or Class II, Division 2 locations shown in Figure 516-2(b)(2) shall extend from the edges at the open face or open front of the booth or room in accordance with the following:

- a. If the exhaust ventilation system is interlocked with the spray application equipment, then the Division 2 location shall extend

5 ft (1525 mm) horizontally and 3 ft (915 mm) vertically from the open face or open front of the booth or room, as shown in Figure 516(b)(2) top.

- b. If the exhaust ventilation system is not interlocked with the spray application equipment, then the Division 2 location shall extend 10 ft (3050 mm) horizontally and 3 ft (915 mm) vertically from the open face or open front of the booth or room, as shown in Figure 516-2(b)(2) bottom.

For purposes of this subsection, “interlocked” shall mean that the spray application equipment cannot be operated unless the exhaust ventilation system is operating and functioning properly and spray application is automatically stopped if the exhaust ventilation system fails.

3. For spraying operations conducted within an open top spray booth, the space 3 ft. (914 mm) vertically above the booth and within 3 ft (914 mm) of other booth openings shall be considered Class I or Class II, Division 2.
  4. For spraying operations confined to an enclosed spray booth or room, the space within 3 ft. (914 mm) in all directions from any openings shall be considered Class I or Class II, Division 2.
4. **NFPA 33 – 2000.** Distances specified are identical to those found in NEC 516-2(b).

D. **Discussion.**

29 CFR 1910.107 was originally adopted from the NFPA 33 – 1969. The 20 foot distance specified in 29 CFR 1910.107(c)(2) and (c)(6) does not provide a direction.

The 1999 National Electrical Code and NFPA 33 -2000 specify both horizontal **and** vertical distances, measured from the open spraying operation or from the front of the spray booth or spray room, which are to be considered as Class I or Class II, Division 2 hazardous locations. In addition, both specify vertical and horizontal distances for spray booths that are dependent upon interlocking of the spray application equipment with the exhaust ventilation system. See NFPA 33 (2000) or NEC (1999) for corresponding figures.

E. **Interpretations.**

1. The 20 foot distance referenced in 29 CFR 1910.107(c)(2) and (c)(6) is interpreted to mean 20 feet horizontally.
2. If an employer is in compliance with the 20 foot horizontal distance, but is not meeting the 10 ft. vertical distance specified in either NFPA 33 or NEC Article 516 - 1999, a general duty clause citation should be considered. If a general duty citation is not issued, the employer will be notified of and encouraged to meet the vertical distances.

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3. With regards to spray booths, an employer who is complying with the requirements of NFPA 33 - 2000 or NEC Article 516-1999 is considered to be in compliance with 29 CFR 1910.107.

F. **Effective Date.**

SN 19 is canceled. This Standards Notice will be effective on the date of signature. It will remain in effect until revised or canceled by the Director.

Signed on Original  
J. Edgar Geddie, Ph.D.  
Health Standards Officer

Signed on Original  
Allen McNeely  
Director

8/09/05  
Date of Signature