



Codes and Regulatory requirement for Hydrogen Gas Monitors

IFC 2006 Article 608

608.6 Ventilation

Ventilation of stationary storage battery systems shall comply with Sections 608.6.1 and 608.6.2.

608.6.1 Room ventilation.

Ventilation shall be provided in accordance with the *International Mechanical Code* and the following:

1. For flooded lead acid, flooded nickel-cadmium, and VRLA batteries, the ventilation system shall be designed to limit the maximum concentration of hydrogen to 1 percent of the total volume of the room; or
2. Continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot [$1 \text{ ft}^3/\text{min}/\text{ft}^2$ or $0.0051 \text{ m}^3/(\text{s} \cdot \text{m}^2)$] of floor area of the room.

Exception: Lithium-ion batteries shall not require ventilation.

608.6.2 Cabinet ventilation.

When VRLA batteries are installed inside a cabinet, the cabinet shall be approved for use in occupied spaces and shall be mechanically or naturally vented by one of the following methods:

1. The cabinet ventilation shall limit the maximum concentration of hydrogen to 1 percent of the total volume of the cabinet during the worst-case event of simultaneous "boost" charging of all the batteries in the cabinet; or
2. When calculations are not available to substantiate the ventilation rate, continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot [$1 \text{ ft}^3/\text{min}/\text{ft}^2$ or $0.0051 \text{ m}^3/(\text{s} \cdot \text{m}^2)$] of floor area covered by the cabinet. The room in which the cabinet is installed shall also be ventilated as required in Section 608.6.1.

Section 52.3.6—Ventilation

Ventilation shall be provided for rooms and cabinets in accordance with the mechanical code adopted by the jurisdiction and one of the following:

- The ventilation system shall be designed to limit the maximum concentration of hydrogen to 1.0 percent of the total volume of the room during the worst-case event of simultaneous boost charging of all the batteries, in accordance with nationally recognized standards.
- Continuous ventilation shall be provided at a rate of not less than $1 \text{ ft}^3/\text{min}/\text{ft}^2$ ($5.1 \text{ L}/\text{sec}/\text{m}^2$) of floor area of the room or cabinet.

Actual codes and regulations vary by geography. Check with Local Authority Having Jurisdiction for exact requirements. For additional information, go to www.osha.gov, www.nfpa.org or www.iccsafe.org.