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E 5.2 Clearance and Access. The panel shall be located not less than 90cm (36 in.) but not exceeding 1.5m (60 in.) above the finished floor or a stairway landing. Clear unobstructed access shall be provided to each panel.

E 5.3 Door. The door shall be arranged such that when the door is open, it does not reduce the required exit width or create an obstruction in the path of egress.

E 5.4 Cabinet Marking. The front of each cylinder fill panel shall be marked: "FIREFIGHTER AIR SYSTEM". The lettering shall be in a color that contrasts with the cabinet front and in letters that are not less than 50mm (2 in.) high with a brush stroke equal to 10mm (3/8 in.).

E 5.5 Cabinet Components. The cabinet shall be of sufficient size to allow for the installation of the following components:

E 5.5.1 The cylinder fill panel shall contain all of the gauges, isolation valves, pressure-relief valves, pressure-regulating valves, check valves, tubing, fittings, supports, connectors, hoses, adapters, and other components to refill SCBA cylinders.

E 5.6 Cylinder Filling Hose. The design of the cabinet shall provide a means for storing the hose to prevent kinking. When the hose is coiled, the brackets shall be installed so that the hose bend radius is maintained at 100mm (4 in.) or greater. Fill hose connectors for connection to SCBA cylinders shall comply with the requirements of CGA V-1, number 346 or 347, or equivalent International Standard(s) approved by the Authority Having Jurisdiction. No other SCBA cylinder fill connections shall be permitted.

E 5.7 Security. Each panel cover shall be maintained and locked by an approved means.

E 6.0 Interior Cylinder Fill Stations and Enclosures.

E 6.1 Location. The location of the closet or room for each air fill station shall be approved by the Authority Having Jurisdiction. When approved by the Authority Having Jurisdiction, the space shall be permitted to be utilized for other firefighting purposes. The door to each room enclosing the air filling station enclosure shall be readily accessible at all times. A radius of not less than 1.8m (6 ft.) and a clear, unobstructed access equal to 3.1 radian (180 degrees) to the front of the air filling station shall be provided. The enclosure shall have emergency lighting installed in accordance with NFPA 70 or equivalent International Standard(s) approved by the Authority Having Jurisdiction.

E 6.2 Security. Each air fill station shall be installed within a lockable enclosure, closet, or room by an approved means. Access to fill equipment and controls shall be restricted to authorized personnel by key or other means.

E 6.3 Components. The air fill station shall contain all of the gauges, isolation valves, pressure-relief valves, pressure-regulating valves, check valves, tubing, fittings, supports, connectors, hoses, adapters, and other components to refill SCBA cylinders.

E 6.4 Cylinder Filling Hose. Where hoses are used, the design of the cabinet shall provide a means for storing the hose to prevent kinking. When the hose is coiled, the brackets shall be installed so that the hose bend radius is maintained at not less than 100mm (4 in.). Fill hose connectors for connection to SCBA cylinders shall comply with the requirements of CGA V-1, number 346 or 347, or equivalent International Standard(s) approved by the Authority Having Jurisdiction. For high-pressure SCBA cylinders, 310bar (4,500 psi), No. 347 connectors shall be used or equivalent International Standard(s) approved by the Authority Having Jurisdiction. For low-pressure SCBA cylinder 210bar (3,000 psi) and 150bar (2,200 psi), No. 346 connectors shall be used or equivalent International Standard(s) approved by the Authority Having Jurisdiction. No other SCBA cylinder fill connections shall be permitted.

E 6.5 Enclosure and Air Filling Station Marking. Each enclosure, closet, or room shall be marked: "FIREFIGHTERS AIR SYSTEM." The lettering shall be in a color that contrasts with the cabinet front and in letters that are not less than 50mm (2 in.) high with a brush stroke equal to 10mm (3/8 in.).

E 7.0 Materials.

Pressurized components shall be compatible for use with high-pressure breathing air equipment and self-contained breathing air apparatus. Pressurized breathing air components shall be rated for a working pressure of not less than 350bar (5,000 psi).

E 7.1 Tubing. Tubing shall be stainless steel complying with ASTM A269 or equivalent International Standard(s) approved by the Authority Having Jurisdiction, or other approved materials that are compatible with breathing air at the system pressure. Routing of tubing and bends shall be such as to protect the tubing from mechanical damage.

E 7.2 Fittings. Fittings shall be constructed of stainless steel complying with ASTM A479 or equivalent International Standard(s) approved by the Authority Having Jurisdiction, or other approved materials that are compatible with breathing air at the system pressure.