

installed in metal raceways or shall be Type MI, TC, or MC cable.

Exception: Wiring in unclassified locations, as described in 513.3(D), shall be permitted to be any suitable type wiring method recognized in Chapter 3.

(B) Pendants. For pendants, flexible cord suitable for the type of service and identified for hard usage or extra-hard usage shall be used. Each such cord shall include a separate equipment grounding conductor.

(C) Arcing Equipment. In locations above those described in 513.3, equipment that is less than 3.0 m (10 ft) above wings and engine enclosures of aircraft and that may produce arcs, sparks, or particles of hot metal, such as lamps and lampholders for fixed lighting, cutouts, switches, receptacles, charging panels, generators, motors, or other equipment having make-and-break or sliding contacts, shall be of the totally enclosed type or constructed so as to prevent the escape of sparks or hot metal particles.

Exception: Equipment in areas described in 513.3(D) shall be permitted to be of the general-purpose type.

(D) Lampholders. Lampholders of metal-shell, fiber-lined types shall not be used for fixed incandescent lighting.

(E) Stanchions, Rostrums, or Docks. Where stanchions, rostrums, or docks are not located or likely to be located in a Class I location, as defined in 513.3(C), wiring and equipment shall comply with 513.7, except that such wiring and equipment not more than 457 mm (18 in.) above the floor in any position shall comply with 513.4(B). Receptacles and attachment plugs shall be of a locking type that will not readily disconnect.

Δ (F) Mobile Stanchions. Mobile stanchions with electrical equipment complying with 513.7(E) shall carry at least one permanently affixed warning sign with the following words or equivalent:

WARNING
KEEP 5 FT CLEAR OF AIRCRAFT
ENGINES AND FUEL TANK AREAS

or

WARNING
KEEP 1.5 FT CLEAR OF AIRCRAFT
ENGINES AND FUEL TANK AREAS

513.8 Underground Wiring.

(A) Wiring and Equipment Embedded, Under Slab, or Underground. All wiring installed in or under the hangar floor shall comply with the requirements for Class I, Division 1 locations. Where such wiring is located in vaults, pits, or ducts, adequate drainage shall be provided.

(B) Uninterrupted Raceways, Embedded, Under Slab, or Underground. Uninterrupted raceways that are embedded in a

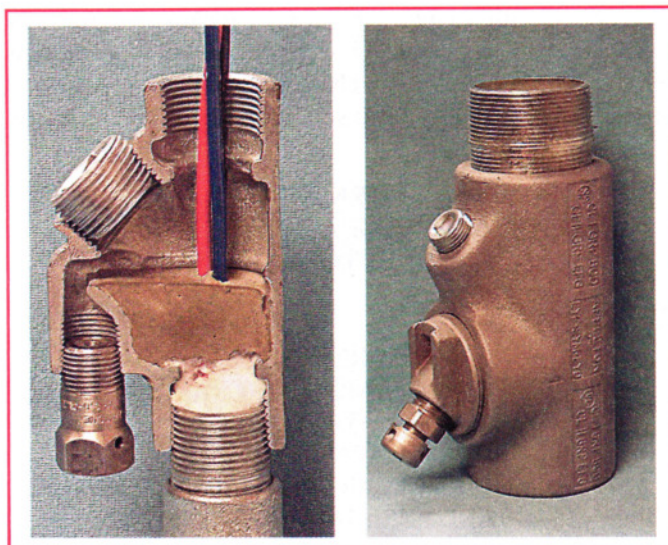


EXHIBIT 513.2 Explosionproof conduit seal fittings that can be used to meet the requirements for boundary seals in runs of conduit that transition from classified to unclassified locations. (Courtesy of Appleton™, Emerson Electric Co.)

hangar floor or buried beneath the hangar floor shall be considered to be within the Class I location above the floor, regardless of the point at which the raceway descends below or rises above the floor.

Wiring and equipment embedded in or buried below the hangar floor is considered to be in a Class I, Division 1 location, whereas uninterrupted raceways that are embedded in or buried below the hangar floor are considered to be in the same hazardous location that exists above the floor. Raceways that rise out of the floor in unclassified locations must be provided with boundary seals in accordance with 501.15. Exhibit 513.2 shows two examples of seal fittings that can be used to comply with the requirements to provide boundary seals for raceways installed in or under hangar floors.

513.9 Sealing. Seals shall be provided in accordance with 501.15 or 505.16, as applicable. Sealing requirements specified shall apply to horizontal as well as to vertical boundaries of the defined Class I locations.

513.10 Special Equipment.

(A) Aircraft Electrical Systems.

(1) De-energizing Aircraft Electrical Systems. Aircraft electrical systems shall be de-energized when the aircraft is stored in a hangar and, whenever possible, while the aircraft is undergoing maintenance.

(2) Aircraft Batteries. Aircraft batteries shall not be charged where installed in an aircraft located inside or partially inside a hangar.

Δ (B) Aircraft Battery Charging and Equipment. Battery chargers and their control equipment shall not be located