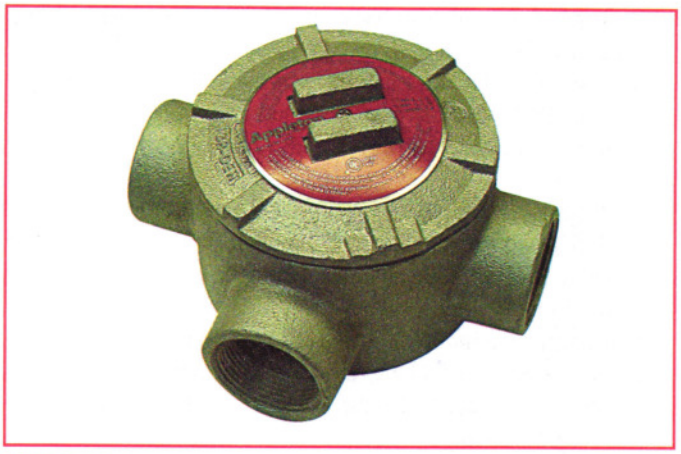

EXHIBIT 502.1 Junction box with threaded hubs, suitable for use in Class II, Group E hazardous atmospheres. *(Courtesy of Appleton™, Emerson Electric Co.)*

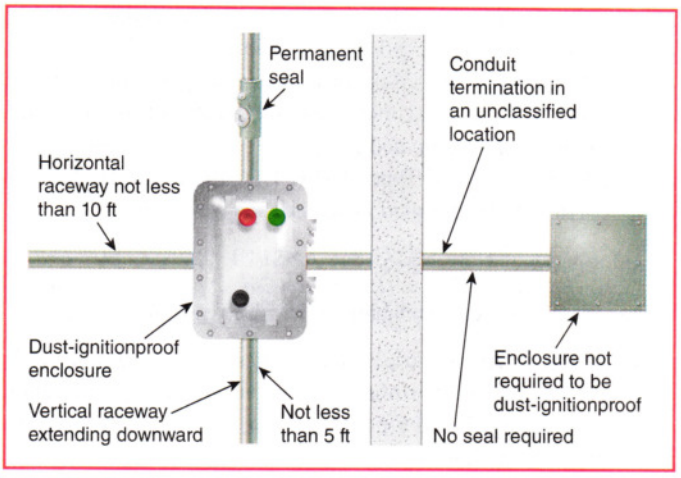

EXHIBIT 502.2 Three methods for preventing dust from entering a dust-ignitionproof enclosure through the raceway.

(4) Boxes and Fittings. All boxes and fittings shall be dusttight.

Boxes and fittings in a Class II, Division 2 location need only be dusttight. In Division 1 locations, however, boxes containing taps, joints, or terminal connections, in addition to being dusttight, must be provided with threaded hubs and must be identified for use in Class II locations. Exhibit 502.1 shows a dusttight cover.

Δ **502.15 Sealing, Class II, Divisions 1 and 2.** If a raceway provides communication between an enclosure that is required to be dust-ignitionproof and one that is not, suitable means shall be provided to prevent the entrance of dust into the dust-ignitionproof enclosure through the raceway. One of the following means shall be permitted:

(1) A permanent and effective seal
(2) A horizontal raceway not less than 3.05 m (10 ft) long
(3) A vertical raceway not less than 1.5 m (5 ft) long and extending downward from the dust-ignitionproof enclosure
(4) A raceway installed in a manner equivalent to 502.15(2) or (3) that extends only horizontally and downward from the dust-ignition proof enclosures
(5) Electrical sealing putty

If a raceway provides communication between an enclosure that is required to be dust-ignitionproof and an enclosure in an unclassified location, seals shall not be required.

Sealing fittings shall be accessible and shall not be required to be explosionproof.

Four suitable ways are provided in 502.15 to prevent dust from entering dust-ignitionproof enclosures through the raceway. Three of these methods for Class II locations are shown in Exhibit 502.2.

The requirement to provide a seal applies if a raceway connects two enclosures in a hazardous location — from one enclosure that is required to be dust-ignitionproof to one that is not required to be dust-ignitionproof. Dust could enter the system through the other enclosure that is not dust-ignitionproof. If a raceway extends from a dust-ignitionproof enclosure to an enclosure in an unclassified location, a seal in that raceway is not required since dust will not enter through the conduit system.

Seal fittings designed for use in Class I locations are acceptable for Class II locations. However, because the Class I location pressure-piling considerations are not inherent in Class II locations, conduit seals are not required to be explosionproof. Conduit seals are expected only to prevent the migration of dust into dust-ignitionproof enclosures.

502.25 Uninsulated Exposed Parts, Class II, Divisions 1 and 2. There shall be no uninsulated exposed parts, such as electrical conductors, buses, terminals, or components, that operate at more than 30 volts (15 volts in wet locations). These parts shall additionally be protected by a protection technique according to 500.7(E), (F), or (G) that is suitable for the location.

Δ **502.30 Grounding and Bonding.** Regardless of the voltage of the electrical system, wiring systems and equipment shall comply with 502.30(A) and (B).

N **(A) Grounding.** Wiring systems and equipment shall be grounded in accordance with Part I and Part VI of Article 250, as applicable.

Δ **(B) Bonding.** Bonding shall comply with Part I and Part V of Article 250, as applicable, and 502.30(B)(1) and (B)(2).

N **(1) Specific Bonding Means.** Bonding shall comply with 502.30(B)(1)(a) and (B)(1)(b).

(a) The locknut-bushing and double-locknut types of contacts shall not be depended on for bonding purposes, but bonding jumpers with identified fittings or other approved means of bonding shall be used. These bonding means shall apply to all metal raceways, fittings, boxes, cable trays, and enclosures, and other parts of raceway systems between hazardous (classified) locations and the point of grounding for service equipment or point of