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2. **CABLE TRAY.** Max 18 in. (457 mm) wide by 5 in. (127 mm) deep open ladder steel cable tray fabricated from min 16 ga. (0.060 in. [1.52 mm]) galvanized steel with nominal 1 in. (25 mm) dia. rungs spaced 9 in. (229 mm) o.c. or max 18 in. (457 mm) wide by 5 in. (127 mm) deep open ladder cable tray with channel-shaped side rails formed from 0.080 in. (2.03 mm) thick aluminum with nominal 1 in. (25 mm) dia. rungs spaced 9 in. (229 mm) o.c. Max two cable trays to be installed in the opening with a separation of 8 in. (203 mm) between cable trays. The annular space between the cable tray and the periphery of the opening shall be min 3 in. (76 mm) to max 16 in. (406 mm).
3. **CABLES.** Aggregate cross-sectional area of cables in cable tray shall be max 30% of the cross-sectional area of cable tray based on a max 3 7/8 in. (98 mm) loading depth within the cable tray. Any combination of the following types and sizes of copper conductor cables may be used:
 - a. Max 1/C-350 kcmil cable with PVC insulation and jacket.
 - b. Max 3/C-No. 2 AWG cable with PVC insulation and jacket.
 - c. Max 7/C-No. 12 AWG cable with PVC insulation and jacket.
 - d. Max 2/C-No. 16 AWG cable with PVC insulation and jacket.
4. **FIRE STOP COMPONENTS.**
 - a. **Fill Material.** Pillow-like material tightly packed within the annular space between the cable trays and the periphery of the opening, between the cables and the periphery of the opening, and between the cable trays. The pillows may be installed horizontally or vertically within the opening such that the ends project a min of 2 1/2 in. (64 mm) beyond each surface of the floor or wall.
 - b. **Fill Material (not shown).** After installation of the pillows (Item 4a), putty material is then forced within the voids between the cables and between the cables and the pillows and between the cable tray and the pillows on both sides of the floor or wall assembly.
 - c. **Wire Mesh.** Nom 1 in. (25 mm) diamond shaped mesh fabricated from min No. 20 AWG steel wire shall be cut to fit the contour of the opening and installed on both surfaces of the opening. The wire mesh shall extend min 2 in. (51 mm) beyond the periphery of the opening and be secured on both surfaces of floor or wall assembly with 1/4 in. (6 mm) dia. by 1 3/4 in. (38 mm) long concrete anchors in conjunction with 1/4 in. (6 mm) by 1 1/4 in. (32 mm) dia. steel fender washers, spaced max 6 in. (152 mm) o.c. The joints within the wire mesh shall overlap a min 2 in. (51 mm) and shall be secured together by means of No. 20 AWG steel wire spaced max 6 in. (152 mm) o.c.

Specified Technologies Inc
210 Evans Way, Somerville, New Jersey 08876, USA

Design Component	Product	Product Type	Listing Country	Certification Type	Class of Work
4a	SpecSeal® SSB Firestop Pillows	Fill Material	United States of America	FM Approved	4990-Penetration Seal & Fire Stop
4b	SpecSeal® Intumescent Putty/Pads	Fill Material	United States of America	FM Approved	4990-Penetration Seal & Fire Stop

Fire Stop Design 294

Category: Penetration Seal
Design Number: 294
Ratings: 3, 0, 1
Construction: Floor, Wall
Penetrant: Cable or Cable Tray

Floor/Wall Material
Type: Concrete

Joint Type: na

Min. Wall Thickness
(in.): 4 1/2

Min. Wall Thickness
(mm): 114

Min. Floor
Thickness (in.): 4 1/2

Min. Floor
Thickness (mm): 114

Class of Work: 4990-Penetration Seal & Fire Stop