- (4) Central office cable entrance. (i) Filled cable or filled splices are not recommended for use inside central offices except in cable vault locations. Outside plant cable sheath and cable filling compound are susceptible to fire and will support combustion. Fire, smoke, and gases generated by these materials during burning are detrimental to telephone switching equipment.
- (ii) As a first choice, the outside plant fiber optic cable shall be spliced to an all-dielectric fire retardant cable in a cable vault with the all-dielectric cable extending into the central office and terminating inside a fiber patch panel.
- (iii) As a second choice, the outside plant cable may be spliced inside the central office if a flame retardant fiber optic splice case or a noncombustible central office splice housing equipped with organizer trays is used to contain the splice.
- (iv) In cases referenced in paragraphs (f)(4)(ii) and (f)(4)(iii) of this section, as a minimum the fire retardant all-dielectric cable used to provide the connection between the cable entrance splice and the fiber patch panel shall be listed as Communication Riser Cable (Type CMR) in accordance with Sections 800–50 and 800–51(b) of the 1993 National Electrical Code.
- (v) Splices inside the central office shall be made as close as practicable to the point where the outside plant cables enter the building. Except in cable vault locations, outside plant cables within the central office shall be wrapped with fireproof tape or enclosed in noncombustible conduit.
- (g) Bonding and grounding fiber optic cable, copper cable, and copper service wire—(1) Bonding. Bonding is electrically connecting two or more metallic items of telephone hardware to maintain a common electrical potential.

- Bonding may involve connections to another utility.
- (2) Copper cable shield bond connections. (i) Cable shields shall be bonded at each splice location. Only RUS accepted cable shield bond connectors shall be used to provide bonding and grounding connections to metallic cable shields. The shield bond connector manufacturer's instructions shall be followed concerning installation and use.
- (ii) (A) Shield bonding conductors shall be either stranded or braided tinned copper wire equivalent to a minimum No. 6 American Wire Gauge (AWG) and shall be RUS accepted. The conductor connections shall be tinned or of a compatible bimetallic design to avoid corrosion problems associated with dissimilar metals. The number of shield bond connectors required per pair size and gauge shall be as shown in Table 8:

TABLE 8.—SHIELD BOND CONNECTORS PER PAIR SIZE AND GAUGE

19 AWG	Pair size and gauge			No. of shield
	22 AWG	24 AWG	26 AWG	bond connectors
0-25	0–100	0-150	0-200	1
50–100 150–200	150–300 400–600	200–400 600–900	300–600 900–1500	3
300–600	900–1200	1200–2100	1800–3600	4

(B) It is permissible to strap across the shield bond connectors of several cables with a single length of braided wire. However, both ends of the braid shall be

terminated on the pedestal ground bracket to provide a bonding loop. Shield bond connection methods for individual cables are shown in Figures 13 through 15, and the bonding of several cables inside a pedestal using the bonding loop is shown in Figure 16:

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