(9) Underground splices (manholes). Underground splice cases accommodate straight splices, branch splices, and load coils. Underground splices shall be filled.

(10) Central office tip cable splices. (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) Tip cables should be spliced in a cable vault. However, as a last resort, tip

cables may be spliced inside a central office if flame retardant splice cases or a noncombustible central office splice housing is used to contain the splice.

(iii) Splices inside the central office shall be made as close as practical 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.

(e) Splicing considerations for fiber optic cables—(1) Connection characteristics. Splicing efficiency between optical fibers is a function of light loss across the fiber junctions measured in decibels (dB). A loss of 0.2 dB in a splice corresponds to a light transmission efficiency of approximately 95.5 percent.

(2) Fiber core alignment. Fiber splicing techniques shall be conducted in such a manner that the cores of the fibers will be aligned as perfectly as possible to allow maximum light transmission from one fiber to the next. Without proper alignment, light will leave the fiber core and travel through the fiber cladding. Light outside the fiber core is not a usable light signal. Core misalignment is illustrated in Figure 6:

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FIGURE 6 CORE MISALIGNMENT



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