

plate or bushing, at least  $\frac{1}{16}$  in. (1.59 mm) thick, and of appropriate length and width installed to cover the area of the wiring.

*Exception: Raceways as covered in Articles 345, 346, 347, and 348.*

**(2) Notches in Wood.** Where there is no objection because of weakening the building structure, in both exposed and concealed locations, cables or raceways shall be permitted to be laid in notches in wood studs, joists, rafters, or other wood members where the cable or raceway at those points is protected against nails or screws by a steel plate at least  $\frac{1}{16}$  in. (1.59 mm) thick installed before the building finish is applied.

*Exception: Raceways as covered in Articles 345, 346, 347, and 348.*

**(b) Nonmetallic-Sheathed Cables and Electrical Nonmetallic Tubing through Metal Framing Members.**

**(1) Nonmetallic-Sheathed Cable.** In both exposed and concealed locations where nonmetallic-sheathed cables pass through either factory or field punched, cut or drilled slots or holes in metal members, the cable shall be protected by bushings or grommets securely fastened in the opening prior to installation of the cable.

**(2) Nonmetallic-Sheathed Cable and Electrical Nonmetallic Tubing.** Where nails or screws are likely to penetrate nonmetallic-sheathed cable, or electrical nonmetallic tubing, a steel sleeve, steel plate, or steel clip not less than  $\frac{1}{16}$  in. (1.59 mm) in thickness shall be used to protect the cable or tubing.

**(c) Cables through Spaces Behind Panels Designed to Allow Access.** Cables, or raceway-type wiring methods, installed behind panels designed to allow access shall be supported according to their applicable articles.

**(d) Cables and Raceways Parallel to Framing Members.** In both exposed and concealed locations, where a cable- or raceway-type wiring method is installed parallel to framing members, such as joists, rafters, or studs, the cable or raceway shall be installed and supported so that the nearest outside surface of the cable or raceway is not less than  $1\frac{1}{4}$  in. (31.8 mm) from the nearest edge of the framing member where nails or screws are likely to penetrate. Where this distance cannot be maintained, the cable or raceway shall be protected from penetration by nails or screws by a steel plate, sleeve, or equivalent at least  $\frac{1}{16}$  in. (1.59 mm) thick.

*Exception No. 1: Raceways as covered in Articles 345, 346, 347, and 348.*

*Exception No. 2: For concealed work in finished buildings, or finished panels for prefabricated buildings where such supporting is impracticable, it shall be permissible to fish the cables between access points.*

*Exception No. 3: For mobile homes and recreational vehicles.*

**(e) Cables and Raceways Installed in Shallow Grooves.** Cable- or raceway-type wiring methods installed in a groove, to be covered by wall-board, siding, paneling, carpeting, or similar finish, shall be protected by  $\frac{1}{16}$  in. (1.59 mm) thick steel plate, sleeve, or equivalent or by not less than  $1\frac{1}{4}$ -in. (31.8 mm) free space for the full length of the groove in which the cable or raceway is installed.

*Exception: Raceways as covered in Articles 345, 346, 347, and 348.*