

Pull Boxes for Conduits

Installing Boxes

Install:

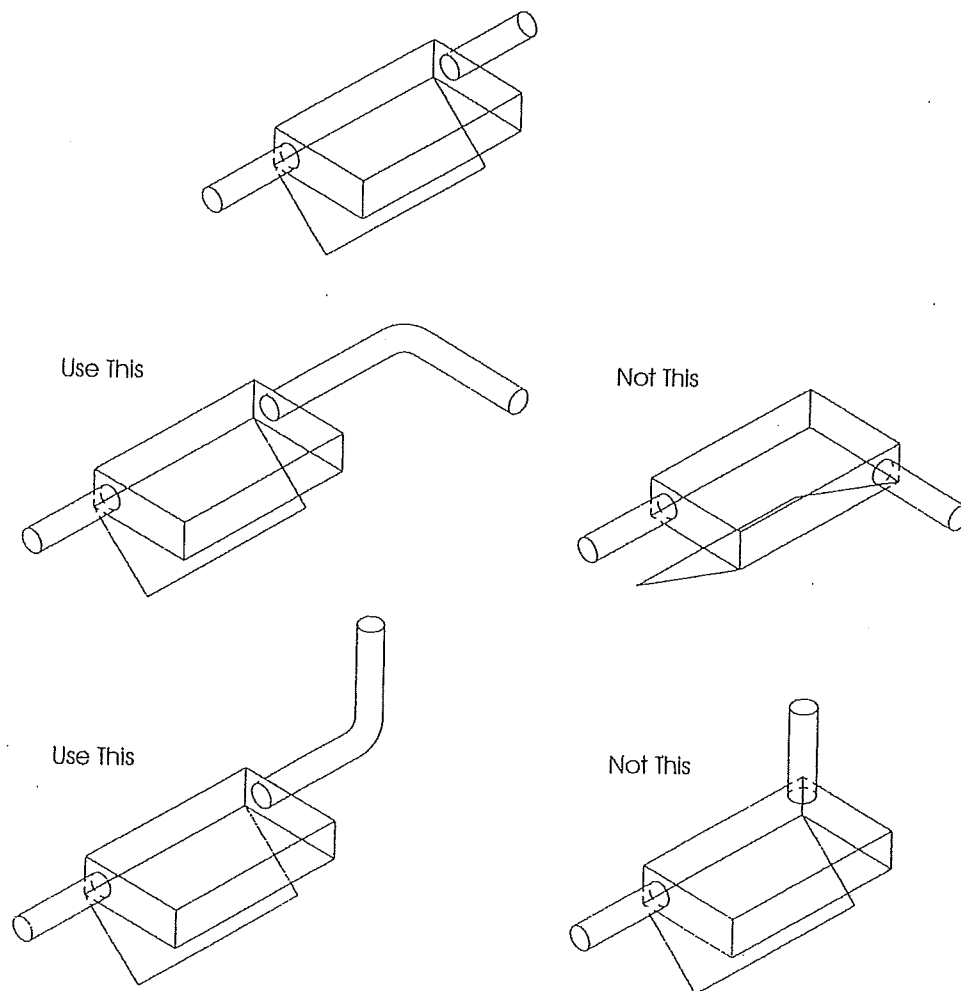
- Pull boxes in easily accessible locations.
- Horizontal cabling boxes immediately above suspended ceilings.

NOTE: The following pull box information applies to inside plant cables only.

For direct access to a box, provide a suitable, marked, hinged panel (or equivalent) in the suspended ceiling. This access panel can also serve as the cover for the box.

The following illustration shows recommended box configurations.

Figure 4.33
Recommended box configurations



Slip-sleeves and Gutters

The following chart describes slip-sleeves and gutters.

Table 4.17
Slip-sleeves and gutters

A . . .	Is . . .
Slip-sleeve	A conduit sleeve which is: <ul style="list-style-type: none"> • Larger than the main conduit. • Slipped over an opening in a conduit run after the cable is in place.
Gutter	A square, sheet-metal housing which is placed over an opening in a conduit run.

Using Slip-sleeves or Gutters

Slip-sleeves or gutters:

- Can be used in place of a pull box.
- Will provide more space for pulling.
- Are more economical to install than a pull box.

Do not use slip-sleeves or gutters as splice locations.

To allow for the installation of slip-sleeves and gutters, provide an opening in the main conduit which is long enough to form a cable loop during the pulling-in operation.

Sizes and Purposes of Boxes, Slip-sleeves, and Gutters

For horizontal cable, the box, slip-sleeve, or gutter's:

- Width and depth must be adequate for fishing, pulling, and looping the cable.
- Length must be 12 times the diameter of the largest conduit. In some cases (e.g., when large cables are planned to serve multiple work areas), a box length of 16 times the diameter of the largest conduit may be appropriate.

These requirements facilitate:

- Pulling cable into the box.
- Looping cable for pulling into the next length of conduit.

Boxes for Pulling and Looping Cable

Boxes for pulling and looping cable are suitable only for cables that have an outside diameter of 5 cm (2 in.) or less. If the cable is larger than 5 cm (2 in.) in diameter, do not locate the box in the ceiling; route the cable and conduit down a wall or column.

Pull boxes must be placed in readily accessible locations. Place a pull box in interstitial ceiling space only if the pull box is:

- Listed for that purpose.
- and
- Placed above a suitably marked, removable ceiling panel.

Do not use pull boxes for splicing cable.

NOTE: Splices are not permitted in twisted-pair horizontal cables.

Placing Pull Boxes in Conduit Sections

Place pull boxes in sections of conduit that:

- Are 30 m (98 ft.) or more in length.
- or
- Contain more than two 90° bends.
- or
- Contain a reverse bend.

Do not use a pull box in lieu of a bend. Align conduits that enter the pull box from opposite ends with each other.

Choosing a Pull Box Size

Use the following table to select the proper size of pull box.

Table 4.18

Minimum space requirements in pull boxes having one conduit each in opposite ends of the box

Maximum Trade Size of Conduit	Size of Box			For Each Additional Conduit Increase Width
	Width	Length	Depth	
3/4	102 mm (4 in.)	305 mm (12 in.)	76 mm (3 in.)	51 mm (2 in.)
1	102 mm (4 in.)	406 mm (16 in.)	76 mm (3 in.)	51 mm (2 in.)
1 1/4	152 mm (6 in.)	508 mm (20 in.)	76 mm (3 in.)	76 mm (3 in.)
1 1/2	203 mm (8 in.)	686 mm (27 in.)	102 mm (4 in.)	102 mm (4 in.)
2	203 mm (8 in.)	914 mm (36 in.)	102 mm (4 in.)	127 mm (5 in.)
2 1/2	254 mm (10 in.)	1067 mm (42 in.)	127 mm (5 in.)	152 mm (6 in.)
3	305 mm (12 in.)	1219 mm (48 in.)	127 mm (5 in.)	152 mm (6 in.)
3 1/2	305 mm (12 in.)	1372 mm (54 in.)	152 mm (6 in.)	152 mm (6 in.)
4	381 mm (15 in.)	1524 mm (60 in.)	203 mm (8 in.)	203 mm (8 in.)

