

Conduit, Tubing, and Cable Tray Fill Tables for Conductors and Fixture Wires of the Same Size

INFORMATIVE
ANNEX

C

This informative annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

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*Where this table is used in conjunction with Tables C.1 through C.13, the conductors installed must be of the compact type.

The Informative Annex C conduit and tubing conductor fill tables are provided only as an informational tool and are not part of the mandatory requirements of the NEC®. These conductor fill values have been calculated based on the conductor fill requirements, conduit and tubing dimensions, and conductor dimensions from Chapter 9, Tables 1, 4, 5, and 5A. Where all the conductors in conduit or tubing are the same physical size and have the same insulation characteristics, the use of the Informative Annex C tables to determine the maximum number of conductors ensures compliance with the requirements for raceway fill found in 300.17 and the respective conduit and tubing articles. Although the values for maximum conduit or tubing fill do not exceed those permitted by Chapter 9, Table 1, the advice provided in Informational Note No. 1 to that table on considering a lesser conductor fill or a larger size conduit to that table should always be considered where the wire-pulling conditions are not optimum.

Chapter 9, Table 1, sets forth the percentage fill required, and Tables 4, 5, and 5A list the accurate conduit, tubing, and wire dimensions. Users can calculate the percent fill or use the tables in Informative Annex C, all of which were generated using Chapter 9, Tables 1, 4, 5, and 5A.

The 13 sets of tables in Informative Annex C correspond to the 13 conduit and tubing wiring methods in Chapter 3 of the NEC. Each set of tables is subdivided into three conductor categories: (1) conductors for general wiring (Article 310), (2) fixture wires (Article 402), and (3) compact stranded conductors. In Informative Annex C, tables that use compact stranding are listed as "A" tables.

To select the correct metric designator or trade size conduit or tubing, proceed as follows:

Step 1. Select the appropriate table using the lists of metal and nonmetallic wiring methods.

Step 2. Choose the appropriate conductors (general wiring conductors, fixture wires, or compact conductors).

Step 3. Choose the appropriate insulation.

Step 4. Select the correct trade size conduit or tubing for the given quantity and size of conductors required.

The following examples detail how to determine the correct trade size conduit or tubing.