ARTICLE

352

RIGID POLYVINYL CHLORIDE CONDUIT (TYPE PVC)

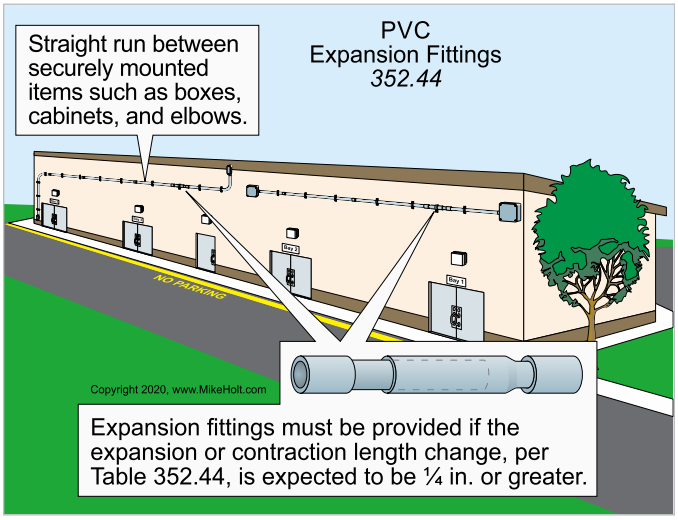
Introduction to Article 352—Rigid Polyvinyl Chloride Conduit (Type PVC)

Rigid polyvinyl chloride conduit (Type PVC) is a rigid nonmetallic conduit that provides many of the advantages of rigid metal conduit, while allowing installation in wet or corrosive areas. It is an inexpensive raceway and easily installed, lightweight, easily cut and glued together, and relatively strong. However, rigid polyvinyl chloride (PVC) is brittle when cold and will sag when hot. This type of conduit is commonly used as an underground raceway because of its low cost, ease of installation, and resistance to corrosion and decay.

352.44 Expansion Fittings

Scan this QR code for a video of Mike explaining this topic; it's a sample from the videos that accompany this textbook. www.MikeHolt.com/20UN1videos

If PVC conduit is installed in a straight run between securely mounted items such as boxes, cabinets, elbows, or other conduit terminations, expansion fittings must be provided if the expansion or contraction length change (in accordance with Table 352.44) is expected to be ¼ in. or greater. ▸Figure 352–12



▸Figure 352–12

Author's Comment:

- When determining the number and setting of expansion fittings, you must read the manufacturer's documentation. For example, instructions for Carlon® expansion fittings for PVC conduit say that when it has sunlight exposure, 30ºF must be added to the high ambient temperature.

Table 352.44 Expansion Characteristics of PVC Rigid Nonmetallic Conduit Coefficient of Thermal Expansion

Temperature Change (ºC)	Length of Change of PVC Conduit (mm/m)	Temperature Change (ºF)	Length Change of PVC Conduit (in./100 ft)
5	0.30	5	0.20
10	0.61	10	0.41
15	0.91	15	0.61
20	1.22	20	0.81
25	1.52	25	1.01
30	1.83	30	1.22
35	2.13	35	1.42
40	2.43	40	1.62
45	2.74	45	1.83
50	3.04	50	2.03
55	3.35	55	2.23

Table 352.44 Expansion Characteristics of PVC Rigid Nonmetallic Conduit Coefficient of Thermal Expansion (continued)

Temperature Change (°C)	Length of Change of PVC Conduit (mm/m)	Temperature Change (°F)	Length Change of PVC Conduit (in./100 ft)
60	3.65	60	2.43
65	3.95	65	2.64
70	4.26	70	2.84
75	4.56	75	3.04
80	4.87	80	3.24
85	5.17	85	3.45
90	5.48	90	3.65
95	5.78	95	3.85
100	6.08	100	4.06