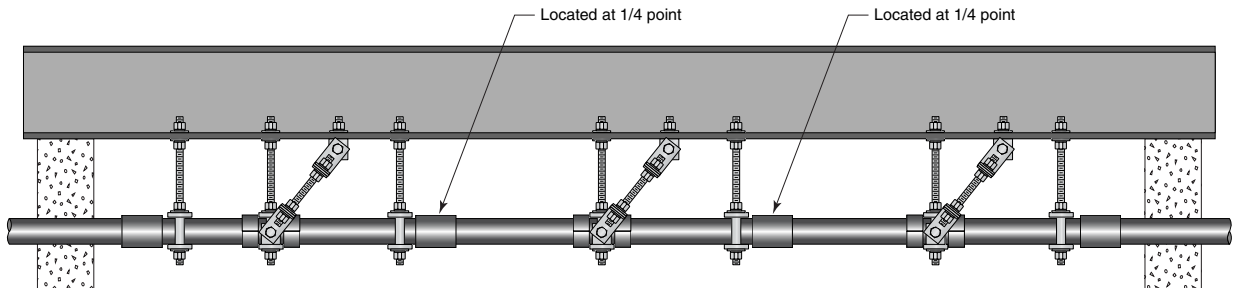


LOCATION OF SUPPORTS

The actual location of supports are determined by two factors:

1. What the National Electrical Code (NEC) allows.
2. If not guided by NEC, see the Deflection Graphs in this catalog for determination of support distances. All of the graphs are shown for five (5) different mid-span locations. After determining the total weight of the cable, the support span distance is determined based on maximum allowable mid-span deflection. A rule of thumb is that the mid-span deflection should not exceed $\frac{5}{8}$ " **(16mm)**.

If PVC conduit or any other material is used, please consult NEC and the manufacturers guidelines.



INSTALLATION OF EXPANSION JOINTS

If the fiberglass conduit is subject to expansion and contraction due to changes in the ambient temperature, Champion Fiberglass, Inc. suggests the following guidelines for installing expansion joints:

- **Conduit Length Less Than 50 ft. (15 m) No Expansion Joint Needed.**
- **If conduit length is between 50 ft. (15 m) up to 200 ft. (61 m), install one expansion joint mid-way.**
- **If conduit length is over 200 ft. (61 m), install one expansion joint every 200 ft. (61 m) apart.**
When commencing, install the first expansion joint 100 ft. (30 m) maximum from each abutment, and then space the expansion joints equally every 200 ft. (61 m) maximum).

Expansion joints should preferably be placed at $\frac{3}{4}$ point away from any hanger. This is the point where the load is at minimum and will therefore allow for smooth operation. (See Illustration above)

NEC 2011, Article 355.44 Table of Expansion Characteristics for Reinforced Thermosetting Resin Conduit (RTRC)
Coefficient of Thermal Expansion = 1.5×10^{-5} in/in/°F (2.7×10^{-5} mm/mm/°C)

Temperature Change (°F)	Length Change of RTRC Conduit (in/100 ft)	Temperature Change (°F)	Length Change of RTRC Conduit (in/100 ft)
5	0.09	105	1.89
10	0.18	110	1.98
15	0.27	115	2.07
20	0.36	120	2.16
25	0.45	125	2.25
30	0.54	130	2.34
35	0.63	135	2.43
40	0.72	140	2.52
45	0.81	145	2.61
50	0.90	150	2.70
55	0.99	155	2.79
60	1.08	160	2.88
65	1.17	165	2.97
70	1.26	170	3.06
75	1.35	175	3.15
80	1.44	180	3.24
85	1.53	185	3.33
90	1.62	190	3.42
95	1.71	195	3.51
100	1.80	200	3.60

Temperature Change (°C)	Length Change of RTRC Conduit (mm/m)
5	0.14
10	0.27
15	0.41
20	0.54
25	0.68
30	0.81
35	0.95
40	1.08
45	1.22
50	1.35
55	1.49
60	1.62
65	1.76
70	1.89
75	2.03
80	2.16
85	2.30
90	2.43
95	2.57
100	2.70