

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 pages 58-61 in this catalog for determination of support distance. 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 $\frac{1}{8}$ " (16 mm).

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 following guidelines for installing expansion joints.

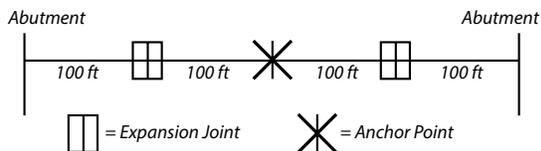
(see also page 7 in this catalog for expansion chart):

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 $\frac{1}{4}$ away from any hanger. This is the point where the load is at minimum and will therefore allow for smooth operation.



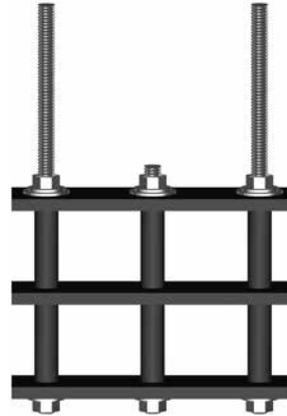
ANCHOR POINT

If more than one expansion joint is installed in a conduit run, split anchor rings need to be installed around the hanger that is closest to mid-way between each expansion joint.

The hangers that have split anchor rings, need to be braced as these hangers can be distorted, (because of the bending forces from the conduit contracting and expanding as ambient temperature varies). A hanger that is braced is most commonly referred to as an anchor hanger. The bracing is supplied using adjustable rods.

INTERMEDIATE HANGER

This is the most widely used type of hanger for support under bridges. It is a trapeze hanging system, using threaded rods that are attached to the bridge. The horizontal components are fiberglass flatbars, 2" wide x $\frac{1}{2}$ " (52 mm x 13 mm) thick, and the threaded rods are sleeved over using 1" (25 mm) fiberglass pultruded pipe, in order not to abrade the conduit. For more information see our website www.championfiberglass.com.



ANCHOR HANGER

Wherever split anchor rings are used around a hanger, this hanger needs to be braced and is often referred to as an anchor hanger. It has the same construction as an intermediate hanger, except that the bottom horizontal crossmember is 2" (51 mm) longer on each side. From this extended crossmember, bracing members are attached. The bracing can be an adjustable brace or made from angle iron.

In some instances, hangers are not supported from the bridge, but instead "standing" on top of I-beams. For such instances, the support rods are shorter and instead extended downwards for attachment to an I-beam.

