

## SUPPORT SPAN CALCULATIONS AND CONDUIT DEFLECTION TABLES

The excellent rigidity and flexural strength of United Fiberglass conduit allows the conduit system designer to increase the support spans, reducing by half or more the number of hanger supports required, thereby significantly reducing material and labor costs.

United Fiberglass has developed span deflection charts on the following pages to guide you through the design process. To determine optimum span, first select the chart that corresponds with the conduit size desired. Next select the weight of the cable being installed from the vertical axis.

Now follow the line corresponding to the 5/8" deflection curve until it intersects with the horizontal support span line. 5/8" midspan deflection is the most commonly used.

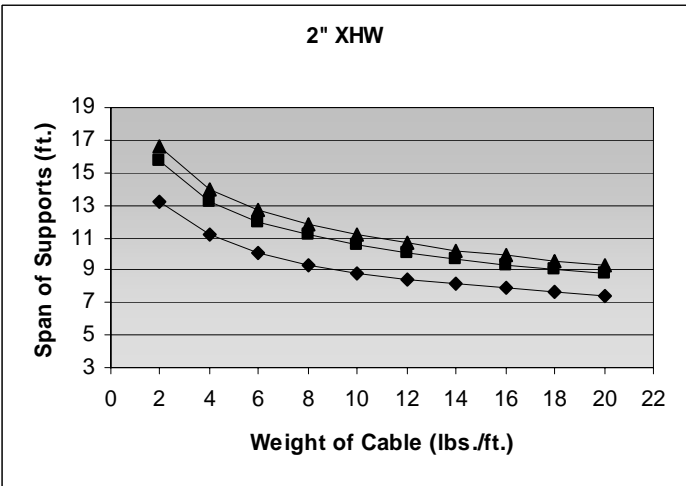
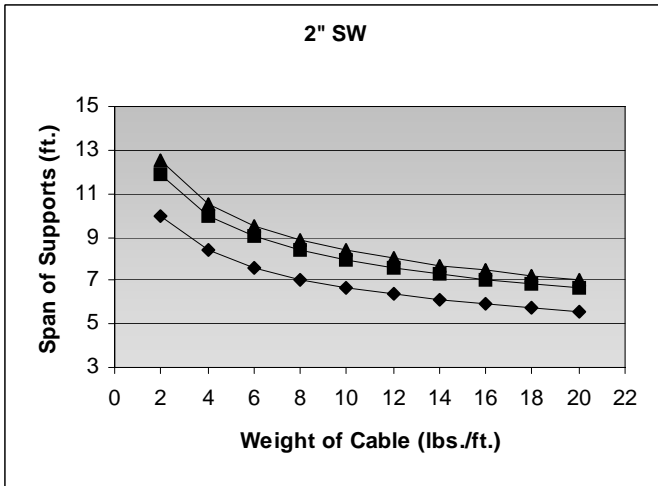
Should the conduit bank be subject to additional stresses such as ice loading and high winds, the spans should be shortened. United Fiberglass has built several safety factors into these calculations to account for long term creep and conduit stress. These tables also take into account deflections which occur when a fitting or expansion joint are placed at or near midspan.

Should the nature of the installation require spanning further than what is calculated in these charts, please consult United Fiberglass for design assistance.

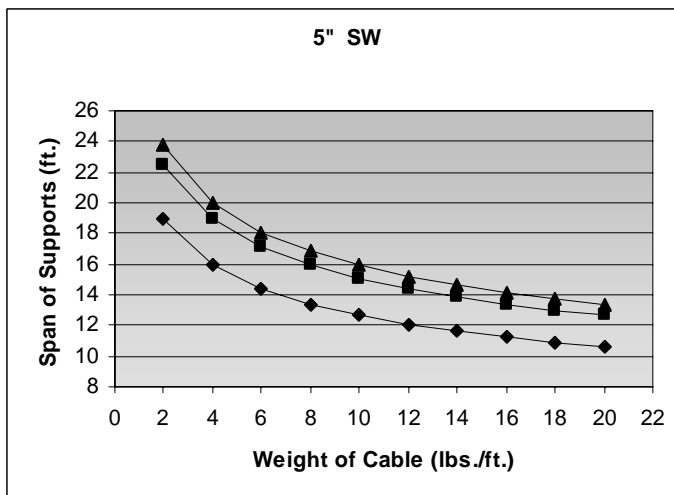
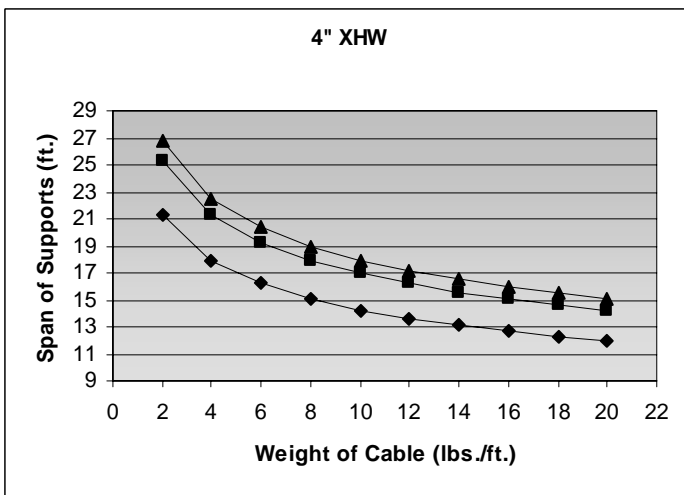
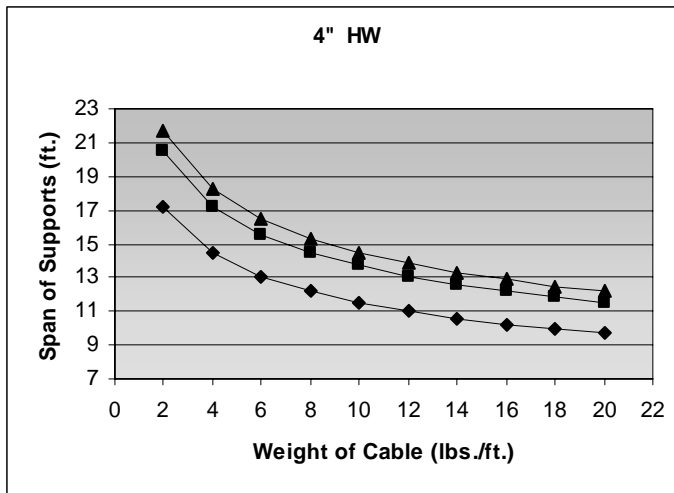
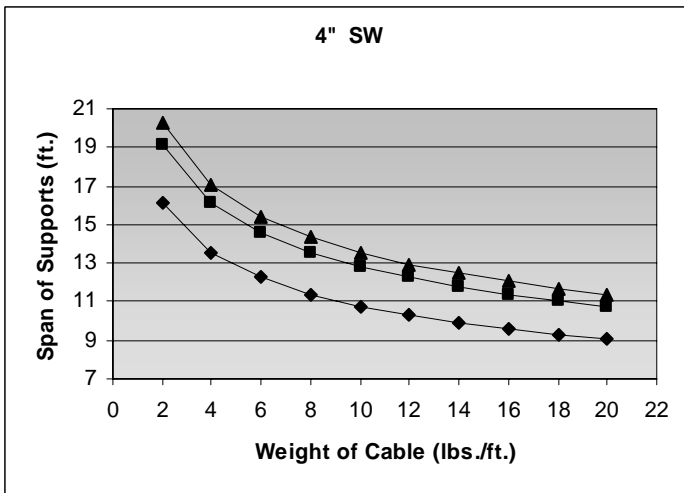
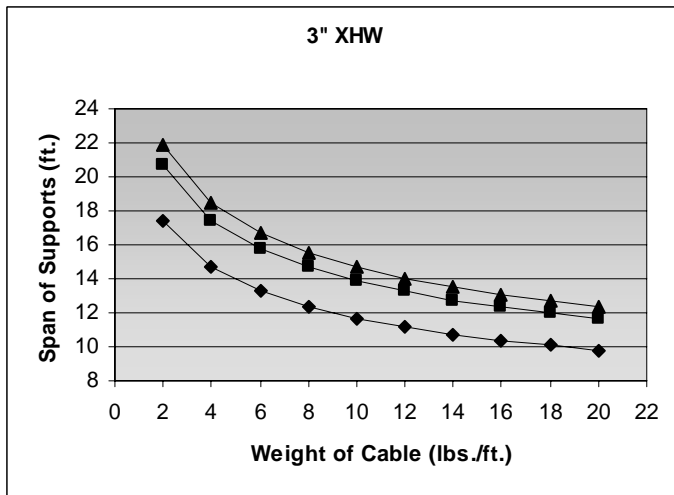
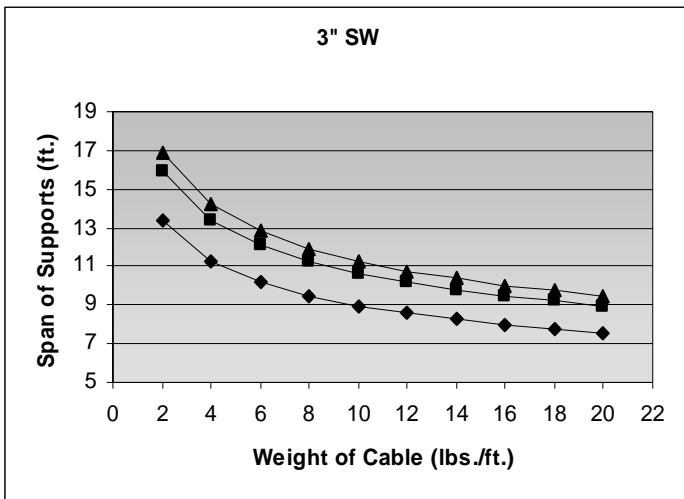
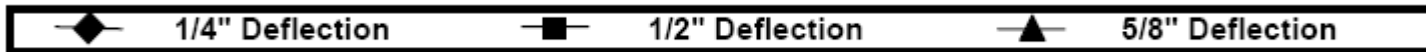
The formula for deflection is:

$$D = \frac{131 * W * L^4}{E(OD^4 - ID^4)}$$

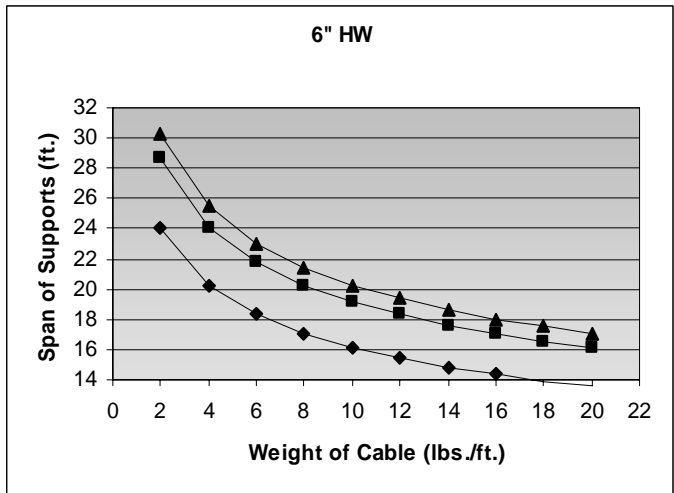
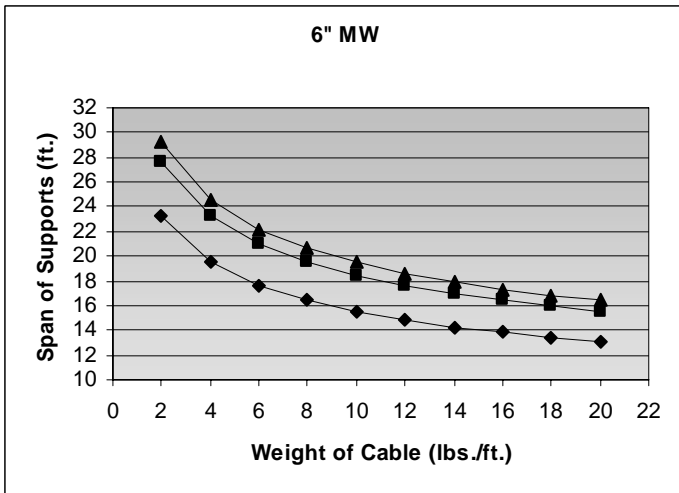
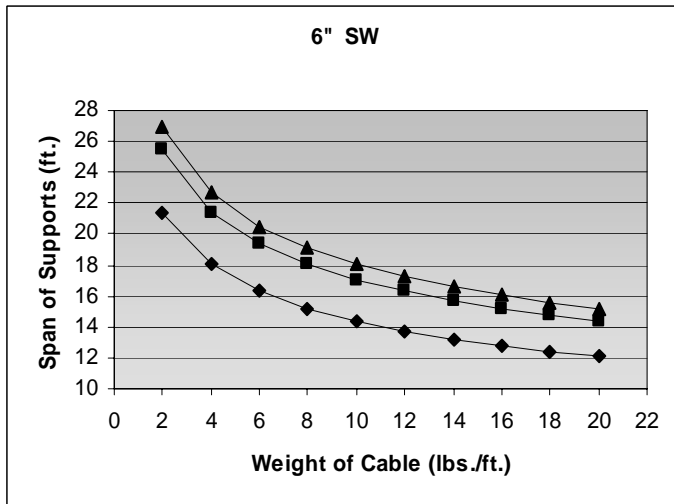
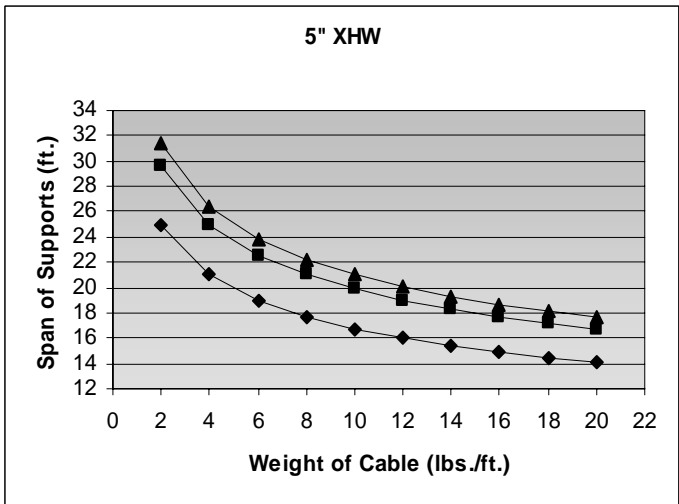
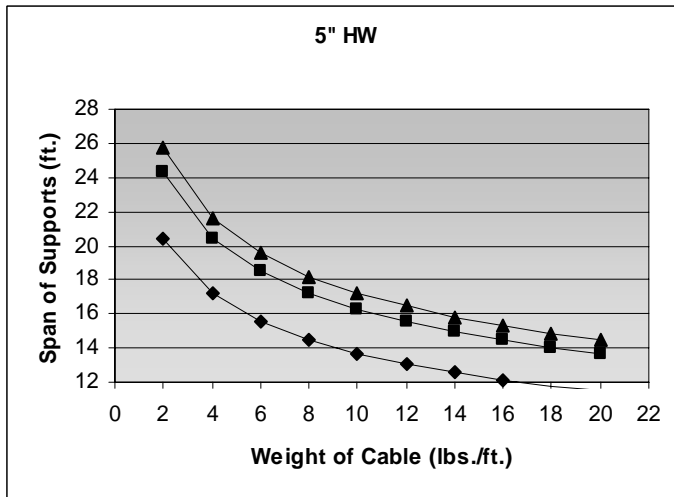
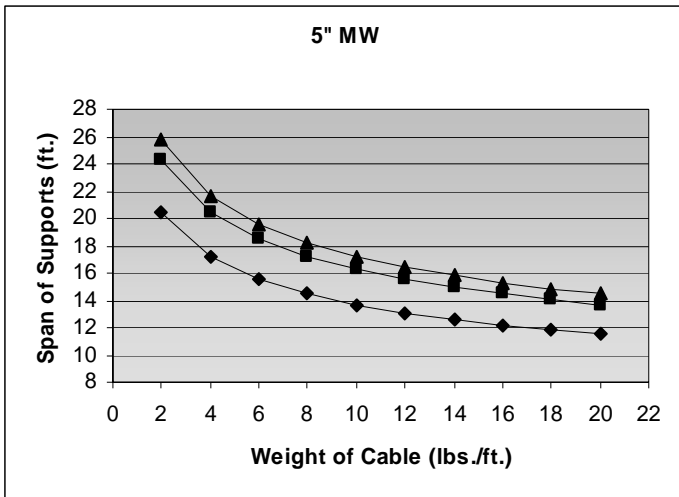
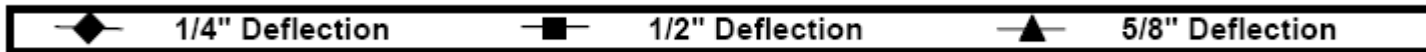
D = Midspan Deflection (in.)      OD = Outside Diameter of Conduit  
 ID = Inside Diameter of Conduit      E = Modulus of Elasticity (psi), which is 1,475,000 for fiberglass conduit  
 L = Distance between hangers (ft.)      W = Total weight of cable and conduit (lbs./ft.)



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