Atkore Unistrut

UNISTRUT®
BEAM LOAD CALCULATION GUIDE

GUIDE FOR CALCULATING BEAM LOADS FOR UNISTRUT CHANNEL

Loads in the Beam Load Tables for UNISTRUT metal framing channel are given as a total uniform load (W) in pounds. For the more familiar uniform load (w) in pounds per foot or pounds per inch, divide the table load by the span.

Loads under the column headings of "Span/180", "Span/240" and "Span/360" are provided for installations in which deflection (sag) of the loaded UNISTRUT channel must be limited. These ratios are standard engineering practice and, when applicable, are usually given by the Professional Engineer of Record or the Project Specifications. Actual deflection from these preset ratios equals the span (inches or feet) divided by the number 180, 240 or 360. When designing to one of these deflection limits, the allowed uniform load is generally less than the values under the column heading "Maximum Allowed Uniform Load". For further information or assistance on this issue, please contact us.

All 5 notes below the beam load tables must be followed to obtain the final usable load on the channel. Failure to do so produces the wrong working load. These notes require adjustments to the Maximum Allowed Uniform Load for:

- Pierced Channel (if applicable)
- Unbraced Length
- Channel Weight
- Midspan Point Loads (if applicable)

Use the following 5 steps to accurately determine the allowed working load of UNISTRUT channel:

1. **STEP #1:** Determine Maximum Allowed Uniform Load from Load Table
2. **STEP #2:** Multiply the Applicable Pierced Hole Factor (only if using a Beam Load Table for the solid channel)
   - 0.95 for "KO
   - 0.90 for "HS" & "H3"
   - 0.85 for "T", "SL" & "WT"
   - 0.70 for "DS"
3. **STEP #3:** Multiply by the Unbraced Length Factor
4. **STEP #4:** Subtract the Channel Weight
5. **STEP #5:** Multiply by 50% for Midspan Loading (if applicable)

The result after step #4 is the net allowed total uniform load in pounds. The result after step #5 is the allowed midspan point load.