CORPORATE OFFICE | P.O. BOX 1148 SHREVEPORT, LA 71163-1148 | (318)747-8000 | FAX (318)747-8029

TECHNICAL BULLETIN

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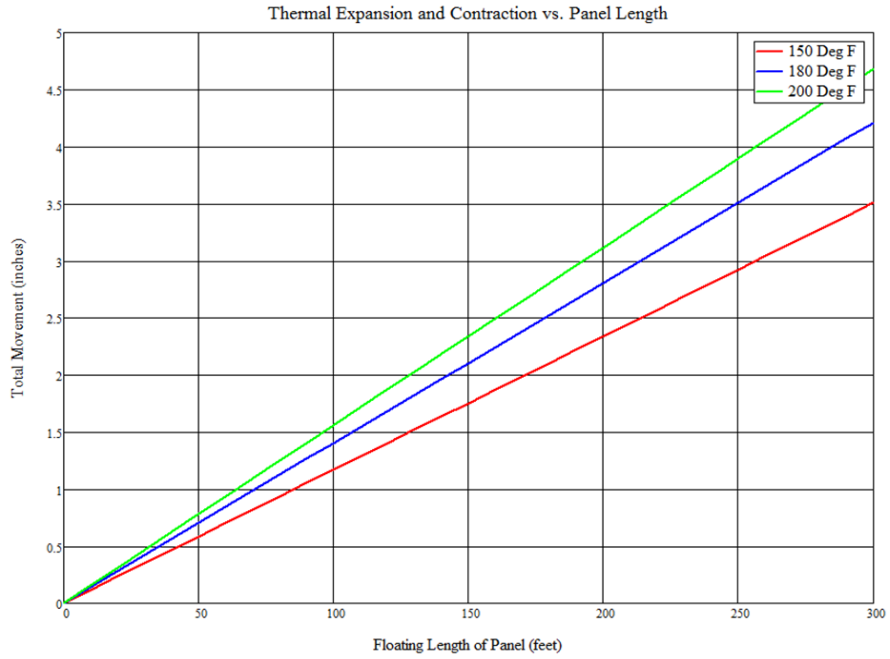
Thermal Expansion and Contraction of Steel Roof Panels



General Notes & Directions for Use:

1. There is no national standard for temperature change, consult with the authority having jurisdiction for your project for the specific temperature change criteria.
2. This graph assumes that roof panels are installed at moderate panel temperatures. Corresponding movement values are for total movement – approximately half will result in expansion, approximately half will result in contraction.
3. The length used to calculate movement should be the entire length from the panel point of fixity to the floating edge, regardless of panel length or end laps.
4. The graph above is valid for steel panels only. Contact McElroy Metal for thermal movement of additional metals.

Example:

You are designing a roof with an eave to ridge distance (on slope) of 130', consisting of three 43'-4" long panels with floating end laps. The authority having jurisdiction specifies a minimum temperature change of 150 °F. Using the graph above, the corresponding total movement for 130' floating panel length at 150 °F is approximately 1.5". The designer should ensure that all trims and panel clips can accommodate 1.5" of movement – approximately 0.75" in contraction, and approximately 0.75" in expansion.