

#### HEAT CAMBER PROCEDURE

**Heating Equipment:** Heating shall be performed using large, approximately 1 inch diameter, multi-orifice (rosebud) heating torch operating at approximately 25 psi of propane and 125 psi oxygen. Heating shall be confined to the patterns described herein and shall be conducted to bring the steel within the planned pattern to a temperature between 1000 Deg F and 1150 Deg F as rapidly as possible without overheating the steel.

**Heat Measurement:** Heating measurements shall be made using temperature indicating crayons manufactured, for 1000 Deg F, 1100 Deg F, 1150 and 1200 Deg F. Heat measurements shall be made after heating flame is removed.

#### Order of Events:

1. Stringer flanges shall be supported in the no load position (web horizontal). Stringers are to be placed on steel horses. Steel horses are approximately every 8' to 10'.
2. Stringers are to be laid back to back (flange to flange). Two stringers shall be heat cambered simultaneously.
3. Triangular heating patterns shall be marked onto the webs and flanges as required, to achieve specified camber. See sketch below.
4. Maximum 20,000-psi compressive stress shall be induced. One ram shall be used to accomplish specified camber at each location. Ram shall have a calibrated pressure gauge. Once specified camber is achieved the ram is repositioned to the next location.
5. Heating shall begin at the apex of the triangle and progress to the base and across the full width of the flange. Temperature shall be brought between 1000 Deg F and 1150 Deg F as rapidly as possible. Temperature exceeding 1200 Deg F shall be cause for rejection.
6. Stringers are to be cooled in still air. Quenching with water or water and air will not be performed.
7. Cambers are checked in the unloaded position accordance with the approved shop drawing(s).

