

HEAT STRAIGHTENING AND SWEEP PROCEDURE

Heat straightening and sweep of rolled sections where the radius is less than 1,000 feet.

- 1) Heating V type patterns shall be marked on flange as required to obtain desired curvature. The truncated triangle shall have an included angle of approximately 15 to 30 degrees. The apex of the truncated triangle shall terminate just before the juncture of the web. The base of the truncated triangle shall not exceed 10 inches (Typically 3" to 5"). See Detail Below.
- 2) Heating shall be performed using large, approximately 1 inch diameter, multiorifice (rosebud) heating torch. Approximately 25 psi propane and 126 psi oxygen.
- 3) Heating operation shall begin at the apex of the truncated triangle and progress to the base (Do not heat the apex once heating progresses to base). Heating both inside and outside of flange surfaces concurrently is required when the flange thickness is greater than 1 1/4".
- 4) Maximum heating temperature shall be 1150 degrees F as verified with temperature indicating crayons. 1000, 1100, 1150, 1200 degrees F temperature indicating crayons shall be allied after heat is removed. Temperature exceeding 1,200 degrees F shall be cause for rejection.
- 5) Particular attention shall be placed on unwanted web distortion.
- 6) Cooling shall be performed in still dry air.
- 7) Stringer sweep shall be re-inspected, with the web in the vertical position.
- 8) Operation shall be performed in accordance with AASHTO Div 2 11.4.12.2.

Diagram below depicts typical sweep type procedure. For heat straightening the V heats are applied on the outside of the curve. It is understood that the apex of the triangles, are pointed in the opposite direction of desired movement.

