

### **Rollform Tooling build specifications**

1. Roll design and part print to be approved by the purchaser prior to ordering materials.
2. All rolls are to be made of specified material and stamped as such on the rolls. All rolls must have a stamp ring groove location not to interfere with spacers.
3. The stamp ring is to include material, customer asset number and position of roll. A number, starting with number one as the first inboard roll should designate the position of roll on the shaft.
4. Machine face alignment straight, (top to bottom, pass to pass step-off in 0.250" increments is permissible).
5. All rolls are to be designed to use material thickness flange clearance to set roll pressure.
6. Matching roll diameters must be held to within 0.0005" of each other.
7. Run-Out distortion:
  - a) Run-out on outside diameters and faces to be held to 0.001" unless specified.
  - b) All heat treat hops must be eliminated.
  - c) Roll finish must be smooth and free of tool marks (polished, not buffed).
8. All bores are to be I.D. ground to 0.0010" over the spindle size +0.0005"/-0.0000".
9. Keyways cut to +0.015/-0.000" on the width and +0.050/-0.000" on the depth.
10. Radius on all bores should be 0.125" minimum, 0.1875" maximum; 45 degree chamfers are not acceptable.
11. Flanges should have lead to within two stock thicknesses whenever possible.
12. Re-trim rolls after heat-treat.
13. Wiring of roll tooling must be done after heat treat and during final re-trim. Tolerances may vary with material thickness and part tolerance; however, our standard for most situations is +/-0.001" of the plug gage.
14. Spacers must be case hardened at a depth of 1/32 and ground. Mark each spacer for pass, top or bottom, in or out, and length. Spacer bore size must be 0.030" +/- 0.020" over shaft size. Length tolerance on spacers is to be +/-0.0005.
15. Straightener is to be made six inches long.
16. Feeler gage settings between flanges, inboard and outboard, are required on all sets of tooling, along with material thickness when the readings were taken. Material must be in roll tooling when the readings are taken.
17. All over bend passes to be noted on drawings, as well as on set-up charts.
18. Roll designs are to show an adequate number of splits to facilitate re-cut or engineering changes.
19. Roll tooling is to be keyed during tryout and pre-notch development.
20. No metric bearings, bushings or any other perishable items to be used for side rolls, cluster rolls, etc.
21. Backspacing is to be 1" plus any step off in the roll tooling unless specified by the Roll Engineer.
22. Section gages are to be made out of 01 hardened material x 3/16" thick.
23. Stamp on Roll Tooling to be in fractions or decimals for passes in between passes. No letters.
24. Shims that are used during tryout should be replaced with a permanent correction.
25. Tooling Documentation (Prints): Dimensioned prints required on all tooling made. This includes Strip Width Development, Roll Tooling, Stands, Straighteners, and any other related items.