The large peak and heel gussets cause secondary bending in the chord members. The gusset plates used in nail-glued trusses form rigid connections between the structural members.

**Design and Performance Data on 2' x 4' King-Post Trusses**

**Design Data**
- Spans of 18'-0" to 24'-8"
- Slopes of 3/12
- Recommended Design Load (Dead Load) 50 psf, (Live Load) 35 psf,
- Deflection at design load 0.38", (mid-span), 0.39", (dead load), 0.82", (live load)
- Ceiling (dead load) 0.29", (mid-span), 0.29", (dead load), 0.42", (live load)
- Ceiling (mid-span) 1.00", (dead load), 1.38", (live load)
- Ceiling (live load) 2.00", (dead load), 2.70", (live load)
- Test load at failure 142 lb.

**Performance Data on 24'-8" Test**
- Maximum allowable deflection 0.82" (1/360 span)
- Test load at failure 142 lb.
- Maximum allowable deflection 0.82" (1/360 span)
- Deflections at design load 0.38", (mid-span), 0.39", (dead load), 0.82", (live load)
- Ceiling (dead load) 0.29", (mid-span), 0.29", (dead load), 0.42", (live load)
- Ceiling (mid-span) 1.00", (dead load), 1.38", (live load)
- Ceiling (live load) 2.00", (dead load), 2.70", (live load)
- Test load at failure 142 lb.

**Materials and Nail-Gluing Fabrication**

KING-POST NAIL-GLUED ROOF TRUSSES USING 2" x 4" MEMBERS—2' ON CENTER, 18'-0" TO 24'-8" SPANS

2' ON CENTER, 18'-0" TO 24'-8" SPANS

2/12 SLOPE 3/12 SLOPE 4/12 SLOPE