

Suggestions on Erecting an Arch Building

- 1) Shipments from Dueck's Laminated Rafters will come strapped in packages with two piles of rafters in each package. Rafters that are thicker than 9" will be strapped in single piles. The inside pile of rafters will be stamped **LEFT** on the inside of the rafter, and the outside rafters will be stamped **RIGHT** on the outside of the rafter. Rafters packages will arrive on the semi cradled with the ends in the air. When rafters are picked up with the forklift, be sure to center the forks, end to end to pick them up.
- 2) When laying the rafters on the ground, place them in the same cradled position as they come on the truck. Lay some cross pieces on the ground to elevated the package off of the ground. Once you have the rafters on the ground and at the location of where you want the building to stand, slowly flip them over. Try to cushion the impact of the rafters when they are being flipped.
- 3) Lay out the rafters on a flat even surface with the **LEFT** and **RIGHT** rafters sorted on separate piles. Rafters will also be labeled **TOP** and **BOTTOM**. Make sure the **TOP** (peak) of the rafters are placed together. Spread the **BOTTOM** (plate) end of the rafter to the right width of the span. 40' width means the outside measurement of the **RIGHT** rafter to the outside of the **LEFT** rafter. Every complete span should have one **RIGHT** rafter and one **LEFT** rafter. Keep all **RIGHTs** on the same side of the building, and all **LEFTs** on the other side of the building. Do not mix the rafters up because your tin will not cover up the differing heights of the rafters.
- 4) Rafters will be cut to the right angle prior to being shipped. Place the **TOP** (peak) end of the rafters together, ensuring a good tight fit, and attach them together with a $\frac{3}{4}$ " sheet of fir plywood (gusset). The gusset should be cut to the pattern of the peak of the rafter. A half sheet of plywood can be used on each side of the joint. Use $2 \frac{3}{8}$ " air nails or phosphate coated nails to attach the plywood to the rafter. If you are closing in the inside walls of the building with plywood or drywall you will want to use a collar tie to allow for ventilation. Place the collar tie 2'- 3' below the peak to allow proper ventilation. Refer to the rafter specs chart to determine what width and length of collar tie to use. Once the **LEFTs** and **RIGHTs** are attached, stack the complete span rafters on a separate pile.
- 5) For the bottom plate on your footing or slab use green treated lumber in order to avoid moisture damage in the future. Use the same width of green treated material as thickness of rafters. Rafter width can be found in the specs sheet. Place your green treated material around the outside perimeter of the building. There should still be a 40' width from outside to outside of the green treated plate. Plate should also measure 110' length from front to end. For the end wall use a 2 x 6 green treated plate for all closed areas of the end wall.

- 6) Mark the plate material every 24" o.c. and attach a joist hanger to the plate material using 1 ½" joist hanger nails. A 2 x 6 rafter should use a 2 x 6 joist hanger. You are now ready to start raising the completed span rafters into place.
- 7) Your first rafter you will want to brace properly as to avoid it falling over. Tie a long rope around the gable end rafter at the peak and tie the rope to an anchor on the ground. Do this on both sides of the gable rafter to secure the rafter from falling over either way.
- 8) You are now ready for the second span making sure the **LEFTs** and **RIGHTs** are on the same side continuously. Once 4 spans have been erected start bracing them with strapping or plywood. Be sure to attach sheathing or strapping on both sides of the building at the same time.
- 9) When all spans have been erected, start studding your end walls with 2 x 6 spruce.