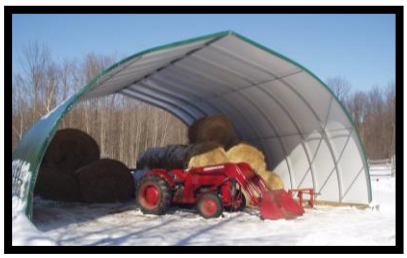
# **Ends** - *Considerations*

There are as many ways of framing an end wall as there are customers, making it virtually impossible to come up with a detailed set of assembly instructions for each case. Other than a few basic principles to keep in mind, what does the job for you is the best way.

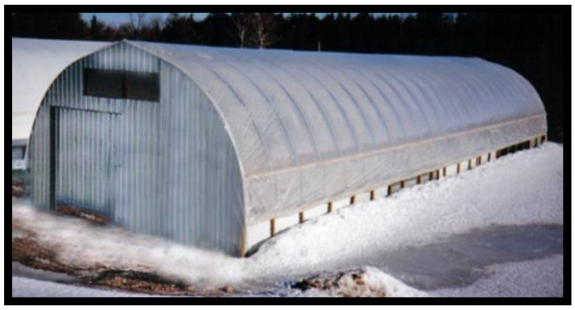
**The basic choices for ends:**

1. **CLOSED OR OPEN END** – The combination of some uses and structure shapes make open end(s) desirable since the entire end would be a door-way and a rectangular frame door is not big enough.

**A WORD OF CAUTION - Extreme caution must be exercised if the intention is one end permanently closed and the other open. If the open end is facing the prevailing wind, you are setting yourself up for problems if there is no capacity for incoming air to escape.**



2. **WOOD OR STEEL FRAMING** – for most people, wood is easier to work with and less costly. The down side is that it doesn't last as long as steel. Generally **the larger the building the larger the framing**. The larger the framing, the further it can be spaced. **Framing must also be sized to the weight it will carry** (i.e. fans, doors).



3. **COVERING TYPE** – in our packages the end covering is usually the same as the roof, either clear *plastic*, white *plastic* or woven *tarp*. These are very inexpensive but not as durable, especially when there is a lot of handling. We can also supply Lexan or Dyneglass where appearance, long life and light transmission are important. Plywood or sheet metal can be installed where appearance, long life and non-light transmission are important.

4. **CLOSED ENDS OR DOORS** – requirements are usually determined by accessibility requirements. Inside hinged or sliding doors are not restricted by snow on the ground but do require inside space to move. Sliding doors on the outside can extend past the building but are harder to seal. Roll-up tarp doors are low cost for the size opening they provide but are usually a little higher maintenance and can not be sealed easily. (see separate page-Doors)

5. **OPENING REQUIREMENTS FOR FORCED OR NATURAL VENTILATION** (if required) need to be considered BEFORE starting to close an end. Fans and louvres will also limit your choices of doors.

*PLEASE NOTE: Any italicized words in this document are words that are listed in the glossary.*

# End Walls Covering & Framing

**"frame" in this segment refers to whatever material you are using for the end, NOT to the structure itself**

- For **soft cover** end walls OR if the desired effect is to have the framing flush to the face of the *hoop*, refer to "A" (below) for the framing and the "D" for the covering.
- For **hard cover** end walls, refer to "A" for door posts (if required) "B" for the vertical framing, "C" for the horizontal framing and "E" for covering.

If the two centre frames will be door posts, the INSIDE measurement for hinged doors is ½" GREATER than the door frame and for sliding doors it is 2" LESS than the door frame.
The vertical frames MUST be attached to a sill which is anchored or they require their own *anchor posts*.

- A. Stand the wood or steel framing member in its desired location against the INSIDE of the *hoop*. From the OUTSIDE, mark the frame along the TOP and BOTTOM of the *hoop*. Along the top line cut the frame off so that now the top is the same angle as the *hoop* at that point. On the lower line only cut 1" deep and then cut vertically. This creates a notch matching the angle of the *hoop*. Drill and bolt horizontally. Repeat as often as is required for each end.

- B. Stand the frame in its desired location against the INSIDE of the *hoop* and place a mark along the TOP of the *hoop* from the OUTSIDE. By cutting off along the line the top of the vertical will be angled the same as the *hoop*. Drill and bolt horizontally. Repeat as often as required.
- C. Horizontal frames are spaced appropriate to the cover strength. The outside end is angle cut to the angle of the *hoop* and is secured with a modified "L" bracket. Where the horizontal crosses the vertical, you drill through and bolt or attach a *pipe strap* from the inside. Where the inside end of the horizontal meets the doorstop, the doorstop can be notched or the two can be secured to each other with an "L" bracket.
- D. **If your end wall cover is *plastic*, the *wirelock* track MUST be installed on the top side of the end *hoops* BEFORE you can proceed**. The soft cover needs to be attached temporarily to the base of the end wall at both corners and both door posts (or in the centre when there is no door). This will likely need to be adjusted later**. It is important to have the cover extend 6" past each side of the building**. Pull the cover over the end *hoop* and have it **pulled in such a way to eliminate wrinkles**. If your end wall cover is *plastic*, install just enough of some *wire inserts* to hold it in place. If you have wood framing, you can secure the excess cover, temporarily with pieces of wood strapping.

  If your end wall is ***tarp*, the *wirelock* track MUST NOT be on the end *hoops*** If your end wall cover is *tarp*, install the *wirelock channel* now on top of the *tarp*, starting at the base and working up and over the *ridge* to the other base. **For additional tips to installing *channel* or *insert* check the Roof Covering page. DO NOT cut window and door openings until the end is full secured. Cut an "X" across the opening to create flaps that can be wrapped around the framing.**
- E. Hard cover end material is almost always attached vertically to the horizontal frames. **Do not go into the ground with the cover as it will either absorb moisture or be affected by frost related heaving.** Corrugated sheeting must be overlapped one bubble. The top end of the covering needs to be sealed with silicone, excess roof cover or a curved flashing which would be sandwiched between the *hoop* and the *wirelock channel*.

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