Chapter 21: Wall Steel

Most Common Mistakes:

1. Installing siding prior to roofing.
2. Corner out of plumb before installation.
3. Eave height not matched to plans (causing panel lengths to be too long or too short).
4. Not installing base trim and top of sidewall J Channel before wall steel.
5. Failure to protect trims from jobsite damage prior to installation.
6. Failure to locate panels to match steel placement diagram on building plans.

Sidewall Steel Application

Question: Why is sidewall steel same length different than eave height? **Answer:** Eave height is the vertical measure from skirt board bottom, to roof steel intersection with sidewall column outside edge. From eave height deduct drop in slope across eave girt width as well as drop in slope across wall top J Channel width. At wall base, wall steel lower edge is 4-5/8" above skirt board bottom, which also is deducted. **See Figure 20-1**

IMPORTANT: Steel usage is designed for "NO WASTE". Included on Material Takeoff Sheet provided by Hansen Buildings is a steel breakdown list. A wall steel placement page is included in Building Plans. Pay particular attention to location of panels if building has large doors.

If possible, begin with a wall which contains no openings. This will give a feel for the work, without adding any variables. Prior to installing steel panels on any wall, plumb starting corner, in direction of wall to be sheeted. A come along may be used to bring into plumb. Both wall corners to be sheeted may be impossible to plumb (if wall is out of square). If so start with a plumb corner.

Use sheeting screws **ONLY** on one side of each high rib. Use diaphragm screws at 9" o.c. into all sidewall framing members. Sidewalls do NOT require screws on each high rib side in any circumstance. If double screws are used, there will **NOT** be enough.

Tip: To maintain straight screw lines, stack wall steel in a pile, mark screw locations (we've found a "dry erase white board" marker works well) and pre-drill steel sheets with a lesser diameter drill bit than the screws. For best results, drill no more than four sheets at a time.

Attempting to drill through large steel sheet quantities may result in damage to panels and cost money to replace! 

Carefully remove any steel shavings caused by pre-drilling, from sheeting.

NEVER SNAP CHALK LINES ON STEEL SHEETING!

Even small moisture amounts will cause chalk dust lines (as well as any black or "lead" pencil marks) to permanently damage steel surface. These marks create an "electric cell", which deteriorates finish. This will cause chalk lines or pencil marks to be "seen" for the building's life.

Start at wall edge, holding first steel sheet "overlap" even with adjacent girt centers (those "around corner" from wall being sided), or 3/4" beyond corner column. Use a level to plumb steel sheet.

EXCEPTION: At times a particular door or opening layout will cause panels on one or more walls to be shifted slightly. When this is the case, it will be noted on steel cutting sheet.

Why? Steel panels are generally laid out to minimize cutting.

The distance from corner column edge first wall steel sheet edge is to be consistent at both top and bottom. If NOT, plumb corner column before wall steel is applied.

Install sidewall steel perpendicular to base trim (plumb), holding wall steel up 1/4" from level base trim surface.

Note the "stair steps" on panel bottoms below. This is caused by sidewall sheets not being plumb. Checking each panel edge with a level can avoid this error.

Girts may sag or droop, between initial framing installation and wall sheeting. Relax, girts can be easily pushed up or down by hand, to straight, as siding is applied. Once installed siding is strong enough to hold girts permanently in place.

Endwall Steel

Cutting Steel Siding

In spite of recommendations prepared by the Building Products Technical Committee of the National Coil Coaters Association, many installers have found the best way to make accurate, straight cuts in steel roofing and siding is to use a power saw.

IF THIS METHOD IS CHOSEN, AVOID DAMAGE TO EITHER PANEL BEING CUT OR ANY OTHER NEARBY PRE-PAINTED STEEL PRODUCTS.

Refer to **Chapter 15** for precautions.

 Take time to follow an old carpenter's adage:
"measure twice and cut once".

Also, take caution to note steel lap direction of steel sheeting being cut. Lay panels to be cut *pre-painted side down* on a surface which will not scratch paint on panel.

 **Helpful Hint:** For best results, use a fine-tooth plywood blade. Many experienced installers recommend installing the blade in the ***reverse direction*** to produce smooth, clean cuts.

Prior to cutting, wear adequate eye and ear protection. Protect any exposed skin from possible damage from flying steel shavings. Make certain no bystanders are in or near cutting area.

 **Never attempt to cut more than one steel panel at same time!**

Pull blade through steel panel slowly. If power circular saw blade direction is reversed to cut steel panels, do not use same saw to cut wood. Other – although slower – methods (and recommended by steel manufacturers) for cutting steel siding or roofing panels is with specially designed electric steel cutting tools (such as "nibblers") or with tin snips.

Endwall steel is installed same as sidewall steel EXCEPT there is NO J Channel at endwall top ***unless building has an endwall overhang.***

The screw row at skirt board and at wall top will be doubled diaphragm screws, same as eave and ridge purlins on roof and across any endwall door header. **See** **Figure 21-1**

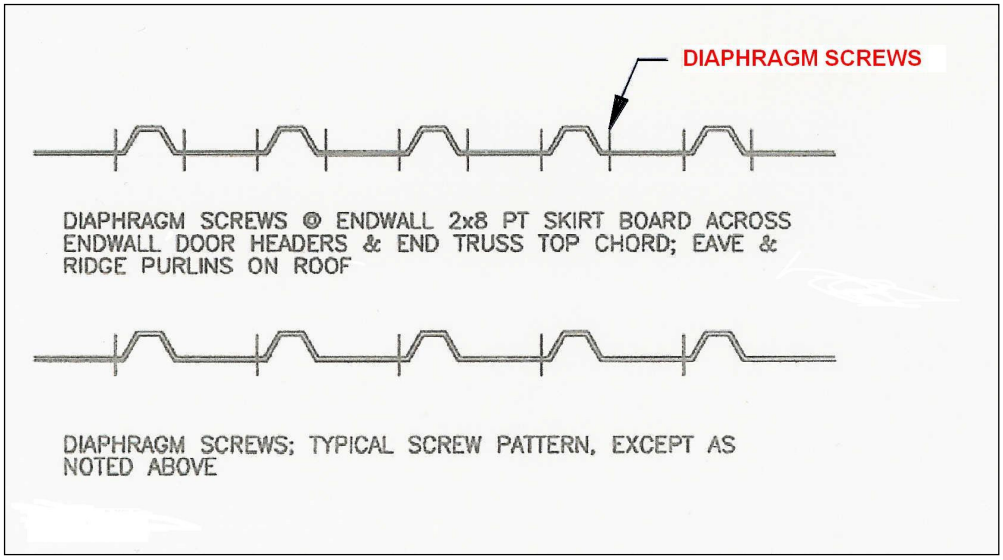
DIAPHRAGM SCREWS
DIAPHRAGM SCREWS @ ENDWALL 2x8 PT SKIRT BOARD ACROSS ENDWALL DOOR HEADERS & END TRUSS TOP CHORD; EAVE & RIDGE PURLINS ON ROOF
DIAPHRAGM SCREWS; TYPICAL SCREW PATTERN, EXCEPT AS NOTED ABOVE

Figure 21-1