

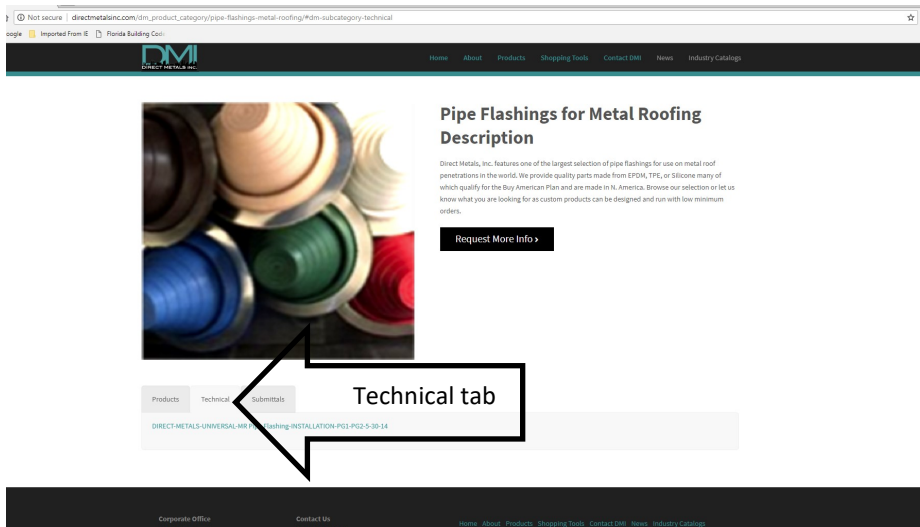


A metal roofing system is only as good as the components holding it to the roof. The installation of these components such as fasteners, pipe flashings, closures and vents need to be installed correctly for top performance to be achieved.

We at Direct Metals Inc. offer training classes and courses to our product distributors and their customers.

If you are interested in booking a company training session or to attend you next local training session please contact us at info@directmetalsinc.com or call 239-599-8527.

One the next two pages you will find some basic fastener installation guidelines. You may also find other component installation guides elsewhere www.directmetalsinc.com product selection , be sure to click on the technical tab to find install guides.



FASTENER INSTALLATION GUIDELINES

Selecting an installation tool:

Use screw guns with torque relief devices. Avoid the use of impact guns and drivers. Impact drivers may damage protective coatings, platings, washers or paint leading to premature corrosion. Always see fastener data sheet for suggested installation practices. As a rule for metal to wood carbon steel and 410 stainless steel fastener use a 2,500 rpm max screw gun. General rule for metal to metal carbon steel and 410 stainless steel fastener use 2,000 rpm max screw gun. General rule for 304, 305 and 316 stainless steel fasteners use 1,000 rpm max screw gun.



YES
Cordless or corded screw guns with depth sensing nose piece.



Proper seating of washers:

Do not overdrive. (See illustration.)

	Metal to Metal Fasteners	Metal to Wood Fasteners
CORRECT Sealing material slightly visible at edge of metal washer. Assembly is weather tight.		
UNDERDRIVEN Sealing material not compressed. Assembly loose.		
OVERDRIVEN Sealing material extruded beyond edge of washer. Washer deformed.		

Drive fastener perpendicular to surface.

Metal to Metal Fasteners		Metal to Wood Fasteners	
CORRECT	INCORRECT	CORRECT	INCORRECT

General rules and common mistakes:

- Not all stainless steel fasteners are alike or offer corrosion free performance. Please see DMI guide to stainless fasteners to see the difference between 300 series and 400 stainless steel fastener grades.
- For applications within 3000 lft of salt water, chlorine, or other corrosives use full 304 series stainless steel fasteners.
- For applications into pressure treated lumber use only full 300 series stainless fasteners such as a WoodZip SS or Bi-Metal fastener unless otherwise specified.
- Some panels or substrates may be harder than 300 series stainless steel fasteners, pre-drill of galvanized or galvalume panels must be done in order to avoid thread turn or point burn out.
- When fastening through Aluminum panels pilot holes must be drilled, cleaned and sealed prior to fastener installation. A fastener with full coating over stainless steel (WoodZIP-SS-A) will reduce the risk of dissimilar metal reactions given a moisture free and sealed installation condition.
- When fastening through Polycarbonate, Fiberglass, or PVC, pilot holes must be pre-drilled to allow for panel expansion and contraction. The diameter of the pilot hole must be larger than the fastener shank but smaller than that of the washer diameter.
- Torque fasteners to approx. 70% of torsional strength as washer allows.

Selecting a drill point for steel substrates:

Most DMI fasteners thread patterns are matched to the drill point size. It is import to select the correct drill point size for your application. If you select an undersized drill point, excessive torque can result in snapped fasteners. If you select an oversized drill point, the thread spacing on the shank may be too fine for your application the fastener may back-out or strip-out.

Drill Point	#1	#2	#3	#4	#5
For steel thickness	0.18" - .095"	.036" - .210"	.036" - .210"	.125" - .250"	.125" - .505"