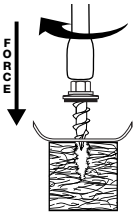
#12 TYPE 17 WoodBinder® The OSB Screw

POWDERFUL™ CORROSION DEFENSE POWDER COAT SYSTEM | KS V-NECK™ PREVENTS TWIST OFF HEX WASHER HEAD | StripLoc™ THREAD 2 POINT TECHNOLOGY | ST ARCHITECTURAL SERIES | ST GREEN | PROUDLY ASSEMBLED IN THE USA

- OSB/Replacement Applications
- Deep, forceful threads that will grip into the soft fibers.
- Color matched Powderful™ coating
- KS V-Neck technology, Hex washer head
- Strip-Loc Thread to Point technology

FOR PROPER INSTALLATION, THE USE OF IMPACT DRIVERS ARE NOT RECOMMENDED FOR POWDER COATED OR ANY WET PAINTED FASTENER
PULLOUT & PULLOVER VALUES ARE DETERMINED IN THE ST FASTENING SYSTEMS ENGINEERING LABORATORY & BASED UPON WOOD DENSITIES FOUND IN PRESENT DAY WOOD PRODUCTS.
TECHNICAL DATA PROVIDED HEREIN IS TO BE USED AS A GUIDE FOR TYPICAL STRENGTH CHARACTERISTICS ONLY.
AN APPROPRIATE FACTOR OF SAFETY MUST BE APPLIED BY THE USER TO OBTAIN ALLOWABLE LIMITS FOR DESIGN.
ALL STRENGTH VALUES SHOWN ARE ULTIMATE VALUES, EXPRESSED IN POUNDS.
DUE TO THE INCONSISTENCY OF OSB, THE #12 OSB SCREW WAS DEVELOPED TO REDUCE STRIPOUT TO ENABLE FULL PULLOUT VALUES TO BE OBTAINED.

SIZE	HEAD STYLE	CARTON QTY.	WEIGHT/M
#12 x 3/4"	HEX	2500	8.0
#12 x 1-1/2"	HEX	2500	10.1



Rescue Screw with Anti-Strip Out Technology


Residential


Backyard Sheds

TECHNICAL INFORMATION	DRILL POINT	MAJOR DIAMETER	MINOR DIAMETER	WASHER/HEAD DIAMETER	HEAD ACROSS FLATS	ULT. TENSILE STRENGTH	MIN. TORSIONAL STRENGTH	NOM. SHEAR STRENGTH
#12 TYPE 17	Sharp Point	.215/.210	.130/.135	.348/.322	.250 NOM	2450 LBS.	65 IN.-LBS.	2100 LBS.

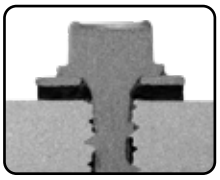
PULL OUT STRENGTH VALUE (LBS. ULT.)		MATERIAL			SUBSTRATE (1) 3/4" PENETRATION (2) 1 1/2" PENETRATION											
		HRS PRIMED ONLY			3/4" PLY		5/8" PLY		1/2" PLY		7/16" OSB		2X Y.PINE		2X SPF	
	NOM. GAUGE	16	14	12												
	THICKNESS	.060	.075	.105	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
#12 TYPE 17		N/A	N/A	N/A	380	585	453	588	297	390	198	212	438	1090	378	739

NOTES: 1-1 /2" LENGTH FULLY PENETRATES OSB AND PLYWOOD SHEETING

PULL OVER STRENGTH VALUE (LBS. ULT.) (EPDM ONLY)	DESIGNATION	MATERIAL AZ55 GALVALUME			
	NOM. GAUGE	29	26	24	22
	THICKNESS	.015	.019	.024	.032
#12 TYPE 17 (EPDM WASHER ONLY)		378	629	721	N/A

NOTES: 26 AND 29 GA. VALUES SHOWN WERE OBTAINED USING 80 KSI STEEL SHEETING.
24, 22, AND 20 GA. VALUES WERE OBTAINED USING 50 KSI MINIMUM STEEL SHEETING.

BMT DENOTES BASE METAL THICKNESS AFTER REMOVAL OF PAINT FINISH AND METALLIC PROTECTIVE COATING.


KS V-Neck
Anatomy of the KS V-neck weather tight system


Strip-Loc thread to point technology grips the fiber of OSB

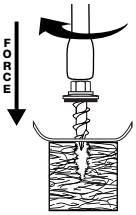
ZXL #12 T-17 WoodBinder® The OSB Screw

POWDERFUL™ CORROSION DEFENSE POWDER COAT SYSTEM | ZXL™ NO RED RUST ZAMAC DIE CAST HEAD | StripLoc™ THREAD 2 POINT TECHNOLOGY | ST ARCHITECTURAL SERIES | ST GREEN | PROUDLY ASSEMBLED IN THE USA

- OSB/Replacement Applications
- Deep, forceful threads that will grip into the soft fibers.
- Color matched Powderful™ coating
- ZXL™ is an excellent choice for GALVALUME & other long-life metal roof panels.
- Strip-Loc Thread to Point technology

FOR PROPER INSTALLATION, THE USE OF IMPACT DRIVERS ARE NOT RECOMMENDED FOR POWDER COATED OR ANY WET PAINTED FASTENER
PULLOUT & PULLOVER VALUES ARE DETERMINED IN THE ST FASTENING SYSTEMS ENGINEERING LABORATORY & BASED UPON WOOD DENSITIES FOUND IN PRESENT DAY WOOD PRODUCTS.
TECHNICAL DATA PROVIDED HEREIN IS TO BE USED AS A GUIDE FOR TYPICAL STRENGTH CHARACTERISTICS ONLY.
DUE TO THE INCONSISTENCY OF OSB, THE #12 OSB SCREW WAS DEVELOPED TO REDUCE STRIPOUT TO ENABLE FULL PULLOUT VALUES TO BE OBTAINED.

SIZE	HEAD STYLE	CARTON QTY.	WEIGHT/M
#12 x 1-1/2"	HEX	2500	10.1



Rescue Screw with Anti-Strip Out Technology

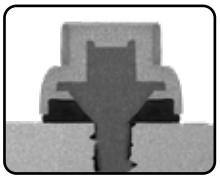

Residential

TECHNICAL INFORMATION	DRILL POINT	MAJOR DIAMETER	MINOR DIAMETER	WASHER/HEAD DIAMETER	HEAD ACROSS FLATS	ULT. TENSILE STRENGTH	MIN. TORSIONAL STRENGTH	NOM. SHEAR STRENGTH
#12 TYPE 17	Sharp Point	.215/.210	.130/.135	.500	.305/.311	1575 LBS.*	65 IN.-LBS.	2100 LBS.

PULL OUT STRENGTH VALUE (LBS. ULT.)		MATERIAL			SUBSTRATE (1) 3/4" PENETRATION (2) 1 1/2" PENETRATION											
		HRS PRIMED ONLY			3/4" PLY		5/8" PLY		1/2" PLY		5/8" OSB		7/16" OSB		2X SPF	
	NOM. GAUGE	16	14	12												
	THICKNESS	.060	.075	.105	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
#12 TYPE 17		N/A	N/A	N/A	380	585	453	588	297	390	361	441	198	212	378	739

PULL OVER STRENGTH VALUE (LBS. ULT.) (EPDM ONLY)	DESIGNATION	MATERIAL AZ55 GALVALUME			
	NOM. GAUGE	29	26	24	22
	THICKNESS	.015	.019	.024	.032
#12 TYPE 17 (EPDM WASHER ONLY)		658	927	1035	1386

NOTES: 1. *The tabulated value represents the ultimate tensile load at which the ZXL head breaks from the carbon steel fastener body.
2. 1-1/2" Length fully penetrates OSB and Plywood sheeting.
3. 26 and 29 GA values shown were obtained using 80 KSI steel sheeting. 24, 22, and 20 GA values were obtained using KSI minimum steel sheeting.


ZXL
Anatomy of the ZXL weather tight system


Strip-Loc thread to point technology grips the fiber of OSB

1. Select the proper screw gun for installing self drilling fasteners.

No**

IMPACT DRIVER

BATTERY

OR

ELECTRIC

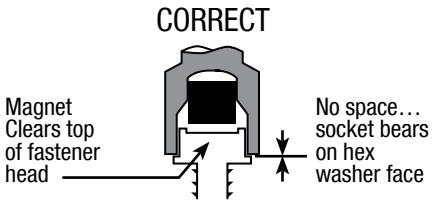
RECOMMENDED SCREW GUNS* W/ DEPTH SENSING NOSE PIECE.

	MAXX™ STEELBINDER®			HWH STEELBINDER® & KWIKSEAL® MB™ WOODBINDER®		
MANUFACTURER	MODEL	AMPERAGE	RPMS	MODEL	AMPERAGE	RPMS
MILWAUKEE	6790-20	6.5	0-2500	6790-20	6.5	0-2500
DEWALT	DW266	6.5	0-2500	DW266	6.5	0-2500
DEWALT	DCD780	N/A	0-2000	DCD780	N/A	0-2000
BOSCH	SG25MT	7.0	0-2500	SG25MT	7.0	0-2500

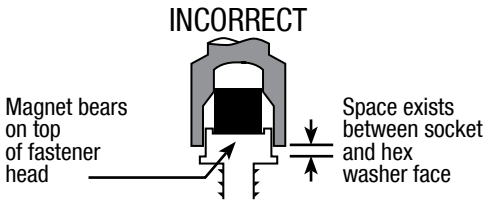
* For use in installing all self-drilling fasteners from #6 through #1/4 diameters. Tool speed as high as 2500 RPM can be used for #6 through #10 diameters in softer materials. Do not use 4000 RPM drywall guns.

**FOR PROPER APPLICATION, THE USE OF IMPACT DRIVERS ARE NOT RECOMMENDED ON ANY POWDER COATED OR PAINTED FASTENER.

2. Set the magnet in the driving socket to the proper depth. Socket must bear securely on the hex washer face of the fastener.

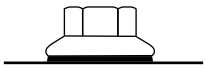
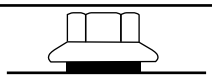
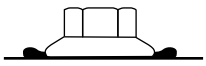
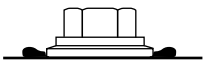


Magnet set to correct depth

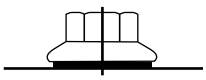
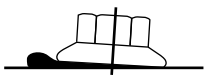
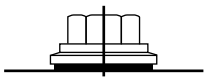
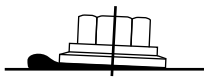


Magnet set too shallow

3. Use depth sensing nosepiece on screw gun to allow proper seating of fastener. Do not overdrive. (See illustration)

	MAXX STEELBINDER	HWH STEELBINDER & KWIKSEAL MB WOODBINDER
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.		

4. Drive fastener perpendicular to surface.

MAXX STEELBINDER		HWH STEELBINDER & KWIKSEAL MB WOODBINDER	
CORRECT	INCORRECT	CORRECT	INCORRECT
			

5. Select extension cords with the correct wire size. See table below.

RECOMMENDED MINIMUM WIRE GAUGE* FOR EXTENSION CORDS

RATED AMPERES (TOOLS)	EXTENSION CORD LENGTH					
	25'	50'	75'	100'	150'	200'
Through 5	16	16	16	16	12	12
5.1 - 8.0	16	16	16	16	10	-
8.1 - 12.0	14	14	14	10	-	-
12.1 - 15.0	12	12	10	10	-	-

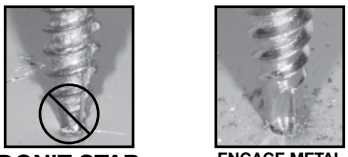
* Tool manufacturer's recommended size based upon limiting the line voltage drop to five volts at 150% of the rated amperes.

6. Do not force the fasteners. Apply only enough end pressure to allow drill point to cut efficiently.

PROPER TECHNIQUE IS KEY

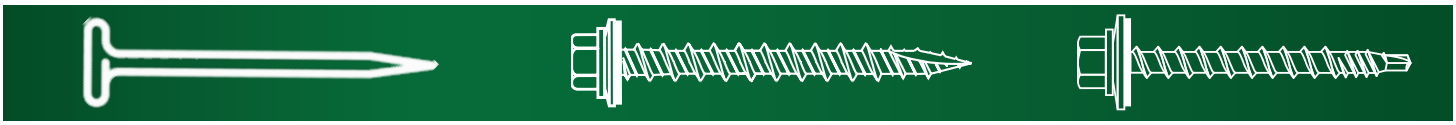
Whether using a pierce-point or self-drilling fastener, proper techniques must be followed for efficient installation and optimum fastener function. Punching or stabbing fasteners though the metal panel is not proper technique! Nails are meant to be driven. Fasteners are designed to be set without impact.

Deviation from proper technique will adversely affect the fastener's corrosion resistance, its ability to seal, and structural engineering values such as shear strength, pull-out and pull-over. Improper installation technique negates any applicable warranties.

STEP 1	**USE CORRECT TOOLS**  SOCKET BATTERY OR ELECTRIC	• The proper tool for installing self-piercing or self-drilling metal-to-wood fasteners is a corded electric screw gun or cordless battery drill, each 0-2000 RPM. They should be fitted with a depth sensing nose cone or a torque release clutch. A hex magnetic socket driver should be used that is clean of all metal shavings. A spring retainer socket may be used for non-magnetic fasteners. • **The use of an impact drill driver is strongly discouraged. The use of these drivers will damage the protective barrier coat paint system. They will invalidate published structural values due to the excessive torque applied. They can adversely affect the sealing performance of the washer & damage the metal panel.**
STEP 2	**SET PLACE DRILL** 	• Proper installation technique is important to maximize the micro-bit performance. Place the point of the fastener on the work surface & pull the trigger on the drill or screw gun. By slowly increasing the RPM, the drill point will begin the cutting process. This will eliminate any potential for screws "walking" on a panel & provide 100% installation success.
STEP 3	**LET THE DRILL DO THE WORK**  DON'T STAB ENGAGE METAL WITH MICRO-BIT	APPLY EVEN PRESSURE • At no time, should an installer try to use the fastener as a "punch" to start the drilling process. This will cause the fastener to "walk" on the metal, possibly scratching the metal panel, or flipping out of the drill driver completely. • The trigger should not be taped in the "on" position, as this may cause the fastener to rotate before it has been placed on the work surface. • Let the drill point do the work. It will consistently cut the metal, ejecting small shavings, not long metal "pigtails" as with sharp point screws.
STEP 4	**SEAT WASHER PROPERLY**  CORRECT OVERDRIVEN UNDERDRIVEN	VISUAL INSPECTION • To prevent damage to the wood substrate, causing potential strip out of the fastener, the washer should be compressed, but not overdriven. It should be rounded evenly under the flange of the HWH. Driving the fastener perpendicular to the work service will allow this to happen. If the washer is overly flat, misshapen, or cut indicates the fastener has been over driven. If there is a gap between the washer & the flange of the HWH, this indicates an under driving condition.

EVOLUTION OF FASTENERS FOR WOOD FRAME CONSTRUCTION

In the early 1900's, "pole barns" became popular in the United States. The name arose from the use of telephone poles as the primary structural member. They were less expensive than conventional construction methods at the time, & they could be erected quickly. Corrugated steel, developed in the 1800's, quickly became the cladding of choice for pole barns.



NAILS

Initially, the panels were attached to the wood substructure with nails. These nails were fitted with a lead washer. The nails were driven into the apex of the high rib of the corrugation because the lead washer did not provide good sealing qualities. The nails, being hammered into the panels were unsightly and difficult to install. Nails were eventually replaced by self-piercing fasteners.

THE MB MICRO-BIT POINT MAY GENERATE SMALL METAL SHAVINGS UPON INSTALLATION. IT IS RECOMMENDED TO CLEAN/ SWEEP THE METAL PANELS AFTER INSTALLATION TO PREVENT PREMATURE RUST SPECKS.

SELF PIERCING FASTENERS

• Self-piercing fasteners are designed with a sharp point. The screw rotation helps the sharp point pierce the metal, allowing the threads to engage the metal panel & the wood.

• A rubber & metal washer combination will create a tight seal around the hole created. This allows the fastener to be installed in the flat of the metal panel instead of the high rib, creating a stronger connection.

• Fasteners do not require an impact to the head to be installed, unlike nails. This protects the paint finishes & corrosion resistant coatings on the metal panels & fasteners.

• Fasteners are installed with an electric screw gun or battery drill. They can be painted to match any panel color creating a more aesthetic appearance. These panels have evolved with high quality paint systems & finishes, & are no longer only used on pole barns.

• The primary complaint about self-piercing fasteners is the inconsistency of the drilling process. The points may not penetrate the steel panel quickly. This leads to a slow drill or no drill situation. The introduction of the WOODBINDER® Micro-Bit point resolves this issue.

SELF-DRILLING FASTENERS (NEW TECHNOLOGY)

• The Kwikseal® MB™ Woodbinder® combines metal to metal fastener point technology with ST Fastening Systems' unique deep crested thread design for maximum holding strength in all wood substrates.

• The Micro-Bit point acts as a drill bit, consistently drilling single or multiple thicknesses of high strength steel panels. It requires less end pressure to penetrate the metal & engage the wood.

• The Micro-Bit will eliminate the metal "pigtails" commonly formed by self-piercing screws, which can embed themselves in the rubber washer, tearing the rubber. These can cause premature corrosion or a roof leak.

• The Micro-Bit creates small metal shavings that are ejected away from the fastener hole, which can easily be swept off the roof each day.