



## SIP No. 2021

**Subject:** SIP Fasteners

**Date:** November 2007

R-Control Wood Screws and R-Control Metal Fasteners are available from your R-Control SIP supplier for attachment of R-Control SIPs to wood or metal substrates. These screws were developed to provide an engineered fastener to meet the needs of R-Control SIP installation.

Please find attached engineering properties for the R-Control Wood Screw, Metal Fastener, and Light Duty Metal Fastener. The properties include withdrawal, shear, pull through, and tensile strength.

The values provided for the R-Control Screws and Fasteners are maximum values. As determined by the project architect/engineer, appropriate safety factors should be used in design.

### **Wood Screw**

R-Control Wood Screws are used to attach R-Control SIPs to wood structural members and substrates.

### **Metal Fastener**

R-Control Metal Fasteners are used to attach R-Control SIPs to metal structural members and substrates. R-Control Heavy Duty Metal Fasteners can self drill into 3/16" steel without pilot hole predrilling. Installation is direct and fast - no wood nailers needed. This eliminates the need for wood nailers that would otherwise be required for the wood screw in metal building components. This results in time savings for the contractor and material savings for the building owner.

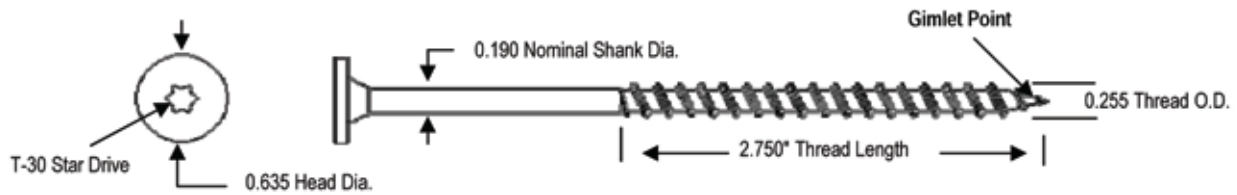
The metal fastener should be driven with a low rpm (<1500 rpm) high torque drill. Firm but not excessive pressure should be applied. This allows the drill point to engage the surface of the metal and drill through. Excessive pressure and/or rpm will dull the drill point and render the fastener ineffective.

### **Metal Fastener - Light Duty**

R-Control also supplies a Light Duty Metal Fastener.

R-Control Light Duty Metal Fasteners are used to attach R-Control SIPs to light duty (up to 18 gauge) metal substrates.

## R-Control Wood Screws



Withdrawal	lbs./in. penetration	wood specific gravity
R-Control Wood Screw	1429	0.67
	1173	0.55
	1067	0.50
	981	0.46
	917	0.43
	768	0.36
	661	0.31

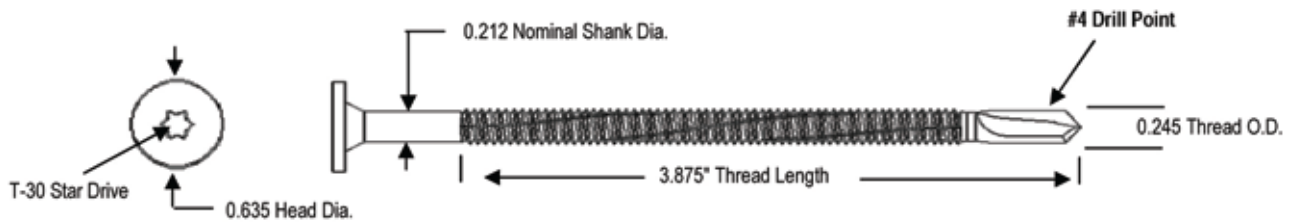
Shear	lbs.	wood specific gravity
R-Control Wood Screw / R-Control SIP assembly	790	0.64
	780	0.45
	720	0.38
R-Control Wood Screw	2900	

Pull Through	lbs.
R-Control Wood Screw / R-Control SIP assembly	630
R-Control Wood Screw / 7/16" OSB	545

Tensile Strength	lbs.
R-Control Wood Screw	3380

The values provided for the R-Control Screw Fastener are maximum values. As determined by the project architect/engineer, appropriate safety factors should be used in design.

## R-Control Metal Fasteners



Withdrawal	lbs.	Steel
R-Control Metal Fastener	770	16 ga.
	1130	13 ga.
	1690	12 ga.
	3100	3/16"
	4500	1/4"

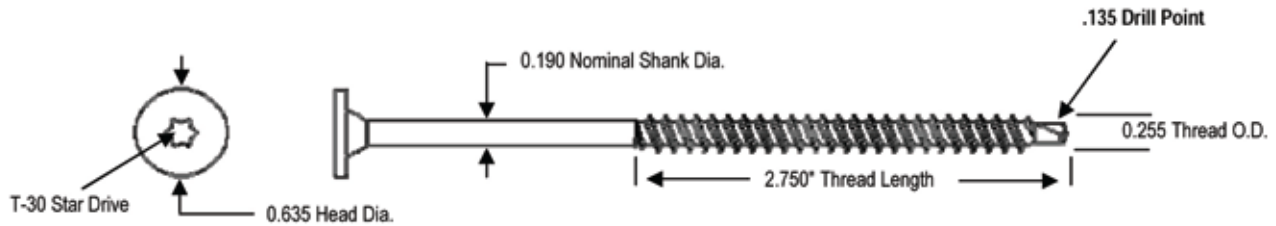
Shear	lbs.
R-Control Metal Fastener / R-Control SIP assembly	790
R-Control Metal Fastener	3400

Pull Through	lbs.
R-Control Metal Fastener / R-Control SIP assembly	630
R-Control Metal Fastener / 7/16" OSB	545

Tensile Strength	lbs.
R-Control Metal Fastener	6000

The values provided for the R-Control Metal Fastener are maximum values. As determined by the project architect/engineer, appropriate safety factors should be used in design.

## R-Control Light Duty Fasteners



Withdrawal	lbs.	Steel
R-Control Light Duty Metal Fastener	510	22 ga.
	645	20 ga.
	920	18 ga.

Shear	lbs.
R-Control Light Duty Metal Fastener	2900

Pull Through	lbs.
R-Control Light Duty Metal Fastener / R-Control SIP assembly	630
R-Control Light Duty Metal Fastener / 7/16" OSB	545

Tensile Strength	lbs.
R-Control Light Duty Metal Fastener	3380

The values provided for the R-Control Screw Fastener are maximum values. As determined by the project architect/engineer, appropriate safety factors should be used in design.



R-Control SIPs are made exclusively with Foam-Control EPS. R-Control SIPs and Foam-Control EPS are manufactured by AFM Corporation licensees.

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