



# SABERDRIVE PLATINUM™

## TECHNICAL BULLETIN

### Construction Lags & Ledger Board Screws

SaberDrive Platinum Construction Lags and Ledger Board Screws are designed to attach the deck ledger to the band joist of a building in accordance with IRC Section R507.9<sup>1</sup> and IBC Section 1604.8.3. Note that where a band joist is not used, as in some truss installations, an engineered design is required. **Tables 1-3** provide the spacing required to provide performance at least equivalent to the ½" lag screws found in the IRC and IBC<sup>2</sup> and in accordance with generally accepted engineering practice.

**Tables 1-3** provide screw spacing for materials found in IRC Section R507.9, as well as a wider range of materials commonly used for rim joists. Screw spacing values are provided for four loading conditions.

When installed in accordance with the spacing requirements of **Tables 1-3**, the listed SaberDrive Platinum Construction Lags and Ledger Board Screws provide equivalent performance to IRC Table R507.9.1.3(1).

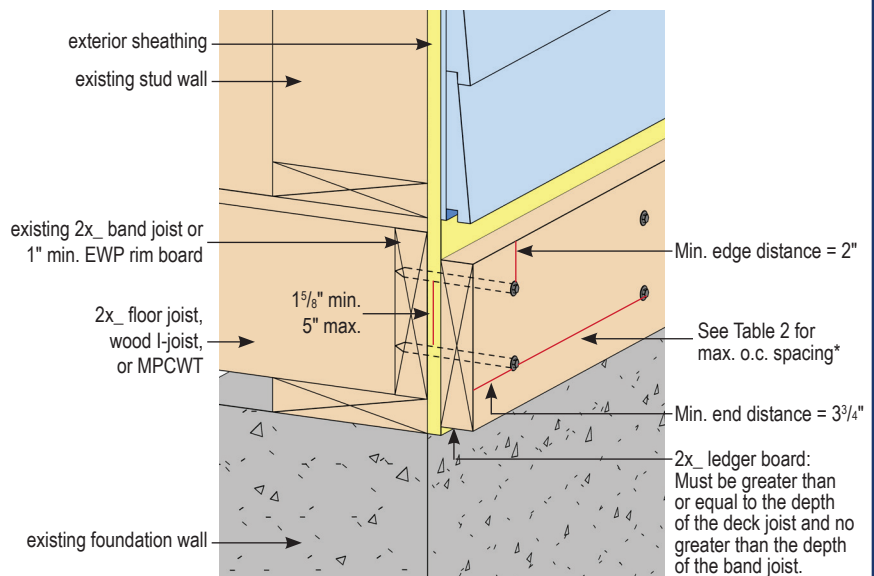
Unless otherwise noted, adjustment of the design stresses for duration of load shall be in accordance with the applicable code. In addition, an alternate loading condition (i.e., deck snow load = 60 psf, deck dead load = 10 psf) required by some jurisdictions is shown.

<sup>1</sup>2015 IRC Section R507.2

<sup>2</sup>See IRC Table R507.9.1.3(1) in accordance with IBC Section 104.11, IBC Section 1604.8.3, IRC Section R104.11, and IRC Section R507.9.

### Deck Ledger to Band Joist Installation Procedure

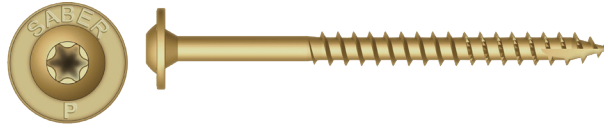
- Choose a fastener of sufficient length so that the threads fully engage the rim material and the fastener tip extends beyond the back face of the rim material when fully seated against the installed ledger board.
- Drive the fastener through the ledger and exterior sheathing. Continue into the rim joist until the head is drawn firm and the topside of the head is flush to the surface of the ledger board. Do not overdrive.
- Lead holes are not required but may be used where lumber is prone to splitting using the provisions in the NDS Chapter 12.
- Stagger the fasteners from the top to the bottom along the length of the ledger while maintaining the required edge and end distances as shown in Figure 1, which provides a detail of a deck connection with 3/8" Diameter Ledger Board Screws.



**FIGURE 1.** Deck Connection with 3/8" Diameter Ledger Board Screws

\*See Table 1 for 5/16" Diameter Construction Lag Screws and Table 3 for 3/8" and 5/16" Diameter Ledger Structural Screws





**TABLE 1.** 5/16" Diameter Construction Lag Screws

Loading Conditions (psf)	2x Nominal Ledger Species	Rim Joist Material	Maximum On-center Spacing of 5/16" Diameter Structural Screws						
			Maximum Deck Joist Spans						
			Up to 6'	Up to 8'	Up to 10'	Up to 12'	Up to 14'	Up to 16'	Up to 18'
LL + DL	DF/SP	Sawn Lumber	16"	12"	9"	8"	7"	6"	5"
		SCL							
40 + 10	HF/SPF	Sawn Lumber	15"	11"	9"	7"	6"	5"	5"
		SCL							
LL + DL	DF/SP	Sawn Lumber	15"	11"	9"	7"	6"	5"	5"
		SCL							
50 + 10	HF/SPF	Sawn Lumber	14"	11"	8"	7"	6"	5"	4"
		SCL							
LL + DL	DF/SP	Sawn Lumber	13"	10"	8"	6"	5"	5"	4"
		SCL							
60 + 10	HF/SPF	Sawn Lumber	12"	9"	7"	6"	5"	4"	4"
		SCL							
LL + DL	DF/SP	Sawn Lumber	11"	8"	7"	5"	5"	4"	3"
		SCL							
70 + 10	HF/SPF	Sawn Lumber	11"	8"	6"	5"	4"	4"	3"
		SCL							

SI: 1 in = 25.4 mm, 1 psf = 0.0479 kN/m<sup>2</sup>

1. Based on load duration, Cd, of 1.15 for snow loading conditions. Spacing may be adjusted by the applicable load duration as specified in the NDS.
2. Fasteners are required to have full thread penetration into the main member. Excess fastener length extending beyond the main member is not reflected in the table above.
3. Solid sawn rim joists shall be HF/SPF or SP/DF species (Specific gravity of 0.42 and 0.50, respectively).
4. Fastener spacing is based on applied to calculated lateral Z values in accordance with the NDS.
5. Fasteners shall be staggered from the top to the bottom along the length of the ledger while maintaining the required edge and end distances.
6. A maximum 1/2" structural sheathing may be installed between the ledger and the band joist.
7. Minimum ledger board requirements: 1.5" thickness and 7.25" depth
8. Minimum rim board requirements: Specific gravity of 0.42; Sawn lumber rim 1.5" thick and 7.25" depth; SCL rim 1.0" thick and 7.25" depth





**TABLE 2.** 3/8" Diameter Hex Head Construction Lag Screws & 3/8" Diameter Ledger Board Screws

Loading Conditions (psf)	2x Nominal Ledger Species	Rim Joist Material	Maximum On-center Spacing of 3/8" Diameter Hex Head Construction Lag Screws & 3/8" Diameter Ledger Board Screws						
			Maximum Deck Joist Spans						
			Up to 6'	Up to 8'	Up to 10'	Up to 12'	Up to 14'	Up to 16'	Up to 18'
LL + DL	DF/SP	Sawn Lumber	12"	9"	7"	6"	5"	4"	4"
		SCL							
40 + 10	HF/SPF	Sawn Lumber	12"	9"	7"	6"	5"	4"	4"
		SCL							
LL + DL	DF/SP	Sawn Lumber	12"	9"	7"	6"	5"	4"	4"
		SCL							
50 + 10	HF/SPF	Sawn Lumber	11"	8"	6"	5"	4"	4"	3"
		SCL							
LL + DL	DF/SP	Sawn Lumber	10"	7"	6"	5"	4"	3"	3"
		SCL							
60 + 10	HF/SPF	Sawn Lumber	9"	7"	5"	4"	4"	3"	3"
		SCL							
LL + DL	DF/SP	Sawn Lumber	9"	6"	5"	4"	3"	3"	3"
		SCL							
70 + 10	HF/SPF	Sawn Lumber	8"	6"	5"	4"	3"	3"	2"
		SCL							

SI: 1 in = 25.4 mm, 1 psf = 0.0479 kN/m<sup>2</sup>

1. Based on load duration, Cd, of 1.15 for snow loading conditions. Spacing may be adjusted by the applicable load duration as specified in the NDS.
2. Fasteners are required to have full thread penetration into the main member. Excess fastener length extending beyond the main member is not reflected in the table above.
3. Solid sawn rim joists shall be HF/SPF or SP/DF species (Specific gravity of 0.42 and 0.50, respectively).
4. Fastener spacing is based on applied to calculated lateral Z values in accordance with the NDS.
5. Fasteners shall be staggered from the top to the bottom along the length of the ledger while maintaining the required edge and end distances.
6. A maximum 1/2" structural sheathing may be installed between the ledger and the band joist.
7. Minimum ledger board requirements: 1.5" thickness and 7.25" depth
8. Minimum rim board requirements: Specific gravity of 0.42; Sawn lumber rim 1.5" thick and 7.25" depth; SCL rim 1.0" thick and 7.25" depth





**TABLE 3.** 5/16" Diameter & 3/8" Diameter Ledger Structural Screws

Loading Conditions (psf)	2x Nominal Ledger Species	Rim Joist Material	Maximum On-center Spacing of 5/16" & 3/8" Diameter Structural Screws													
			Maximum Deck Joist Spans													
			Up to 6'		Up to 8'		Up to 10'		Up to 12'		Up to 14'		Up to 16'		Up to 18'	
			5/16" Screw	3/8" Screw	5/16" Screw	3/8" Screw	5/16" Screw	3/8" Screw	5/16" Screw	3/8" Screw	5/16" Screw	3/8" Screw	5/16" Screw	3/8" Screw	5/16" Screw	3/8" Screw
LL + DL	DF/SP	Sawn Lumber	20"	14"	15"	8"	12"	8"	10"	7"	8"	6"	7"	5"	6"	4"
		SCL														
40 + 10	HF/SPF	Sawn Lumber	18"	14"	13"	8"	10"	8"	9"	7"	7"	6"	6"	5"	6"	4"
		SCL														
LL + DL	DF/SP	Sawn Lumber	19"	13"	14"	8"	11"	8"	9"	6"	8"	5"	7"	5"	6"	4"
		SCL														
50 + 10	HF/SPF	Sawn Lumber	17"	13"	12"	8"	10"	8"	8"	6"	7"	5"	6"	5"	5"	4"
		SCL														
LL + DL	DF/SP	Sawn Lumber	17"	11"	12"	6"	10"	6"	8"	5"	7"	4"	6"	4"	5"	3"
		SCL														
60 + 10	HF/SPF	Sawn Lumber	14"	11"	11"	6"	8"	6"	7"	5"	6"	4"	5"	4"	4"	3"
		SCL														
LL + DL	DF/SP	Sawn Lumber	14"	10"	11"	6"	8"	6"	7"	5"	6"	4"	5"	3"	4"	3"
		SCL														
70 + 10	HF/SPF	Sawn Lumber	12"	10"	9"	6"	7"	6"	6"	5"	5"	4"	4"	3"	4"	3"
		SCL														

SI: 1 in = 25.4 mm, 1 psf = 0.0479 kN/m<sup>2</sup>

1. Based on load duration, Cd, of 1.15 for snow loading conditions. Spacing may be adjusted by the applicable load duration as specified in the NDS.
2. Fasteners are required to have full thread penetration into the main member. Excess fastener length extending beyond the main member is not reflected in the table above.
3. Solid sawn rim joists shall be HF/SPF or SP/DF species (Specific gravity of 0.42 and 0.50, respectively).
4. Fastener spacing is based on applied to calculated lateral Z values in accordance with the NDS.
5. Fasteners shall be staggered from the top to the bottom along the length of the ledger while maintaining the required edge and end distances.
6. A maximum 1/2" structural sheathing may be installed between the ledger and the band joist.
7. Minimum ledger board requirements: 1.5" thickness and 7.25" depth
8. Minimum rim board requirements: Specific gravity of 0.42; Sawn lumber rim 1.5" thick and 7.25" depth; SCL rim 1.0" thick and 7.25" depth

