

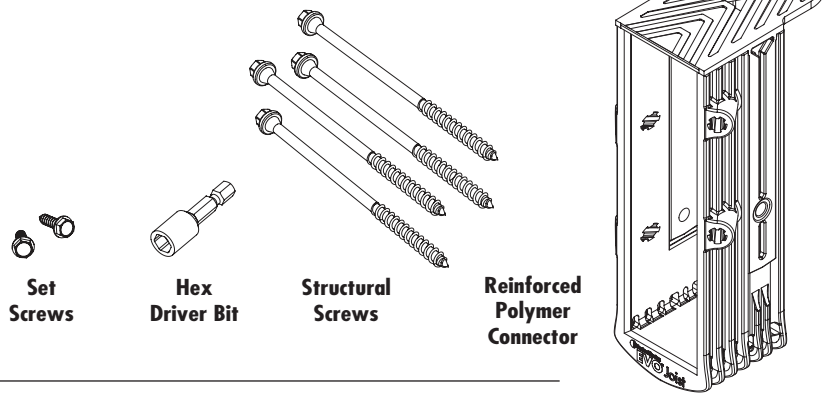
DECK JOIST TO DECK LEDGER

CONNECTION DETAILS

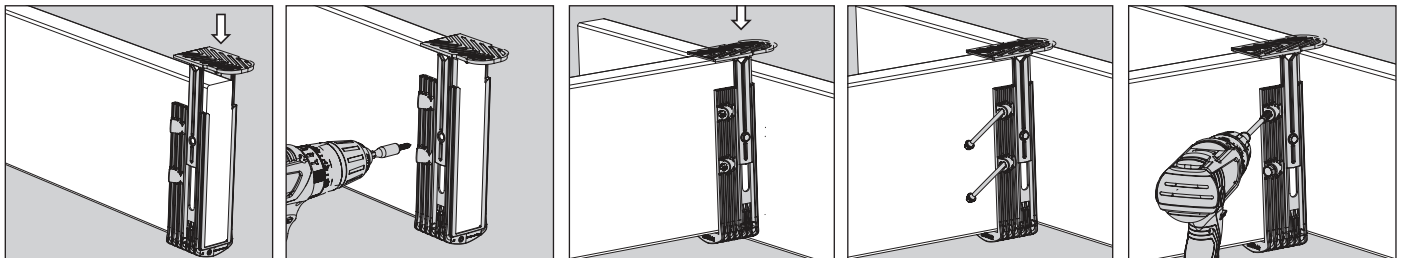
The EVO Joist Connector has been designed for attaching 2x8 and 2x10 deck joists to the deck ledger in a code compliant manner. This connector, when installed according to this technical bulletin, can be used to replace traditional connectors and meet the loads called for in International Residential Code (IRC) and International Building Code (IBC). The reinforced engineered polymer used in this connector exceeds the strength and corrosion requirements for exterior connectors including exposure to extreme environments.



The EVO system consists of: reinforced polymer connectors, carbon steel structural and set screws and a hex driver bit that fits both screw heads.



INSTALLATION PROCEDURE



- Step 1:** Cinch connector onto the end of the joist
- Step 2:** Install 2 set screws into upper flange
- Step 3:** Place Joist into position, resting on ledger
- Step 4:** Install the 4 structural screws 75% to flush
- Step 5:** Tighten screws in a star pattern to eliminate joist movement during install

Top flange may be removed after structural screws are installed with no impact on the carrying capacity of the EVO Connector.

⚠ Caution: The four structural fasteners must be installed prior to loading the deck or walking on joists. ⚠

CORROSION RESISTANCE

The fasteners in the EVO System have been tested and approved for use in treated wood (ACQ/CAB) subject to wet use under ICC-ES Criteria AC257 and found to exceed the corrosion-resistant protection offered by hot-dipped galvanized (HDG) coatings approved by code. The polymers used to manufacture the EVO connectors have also been tested and approved for long-term exposure to UV, thermal extremes and chemicals used in exterior deck environments.



Effective September 1, 2023. Reference our website to ensure that you are using the most up to date version.

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CONNECTION DESIGN

In most cases, short term “live” loads such as occupancy (people) or environmental (snow) dictate the framing and connection design. Most jurisdictions follow the minimum IRC live load of 40 pounds per square foot (psf) of deck surface. Confirm these loads with your local building department before beginning your project.

The maximum allowable deck joist spans for live loads up to 70 psf can be found in Table R507.6 of the 2021 IRC. A condensed version of this table is shown below as a guide. ***In every case, the strength of EVO Connectors exceed the loads for these joist spans and therefore meets code.***

Maximum Allowable Deck Joist Spans per Code								
Live Load (psf)	Southern Pine				D.Fir, Hem Fir, SPF			
	2x8 Joists		2x10 Joists		2x8 Joists		2x10 Joists	
	Spaced 16" oc	Spaced 12" oc	Spaced 16" oc	Spaced 12" oc	Spaced 16" oc	Spaced 12" oc	Spaced 16" oc	Spaced 12" oc
40	11'-10"	13'-1"	14'-0"	16'-2"	11'-1"	12'-6"	13'-7"	15'-8"
50	11'-0"	12'-1"	13'-9"	15'-5"	10'-7"	11'-7"	13'-3"	14'-10"
60	10'-4"	11'-5"	12'-9"	14'-7"	9'-11"	10'-11"	12'-4"	13'-11"
70	9'-10"	10'-10"	11'-11"	13'-9"	9'-5"	10'-5"	11'-6"	13'-3"

The allowable loads for EVO Connectors also meet or exceed traditional metal joist hanger loads in the same connections. A comparison of these values can be found in the table below.

Allowable Connector Loads			
Wood Species	EVO Connector	Typical 2x8 Joist Hanger	Typical 2x10 Joist Hanger
S.Pine	1560	1100	1335
D. Fir	1410	1100	1335
SPF / H.Fir	1120	945	1150

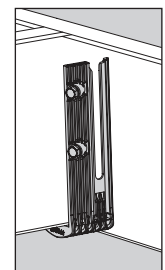
EVO Values taken from ICC-ES Report ESR-4711

Hanger values taken from ICC-ES Report ESR-2549 for LUS28 and LUS210

When fixed structures of significant weight such as hot tubs or fireplaces are being supported by the deck, a design professional should be consulted to recommend the proper framing and connections to accommodate these increased “dead” loads. The values in the above table can be used to verify compliance.

GENERAL FASTENING GUIDELINES

- The EVO connectors are designed for conventional 2x8 and 2x10 wood lumber in new construction. Not to be used with engineered wood joists or steel framing.
- Top flange may be removed after structural screws are installed with no impact on the carrying capacity of the EVO Connector. (see image to right)
- For best results, install 4 structural screws loose then tighten to complete connection.
- If bottom flange is cut or damaged, the connector must be replaced with new connector.
- Not approved for applications within 1000 feet of salt water, including saltwater pools.



CODE OFFICAL / INSPECTION

For further information supporting the use of this product, please feel free to call our Technical Support team at 800-518-3569 or email us at info@fastenmaster.com.