

DIVISION: 06 00 00 – WOOD, PLASTICS AND COMPOSITES
Section: 06 05 23 – Wood, Plastic, and Composite Fastenings

REPORT HOLDER:

SigmaDek™
260, 600 Crowfoot Crescent NW
Calgary, Alberta, Canada T3G 0B4
(403) 239-4448
www.sigmadek.com

REPORT SUBJECT:

LifeLong™ Ledger Assembly
Ledger and Joist Hanger Assembly for Wood Construction

1.0 SCOPE OF EVALUATION

1.1. This Research Report addresses compliance with the following Codes:

- 2009 International Building Code (IBC)
- 2009 International Residential Code (IRC)

1.2. *LifeLong™* ledger assembly has been evaluated for the following properties (see Table 1):

- Structural Performance

1.3. Referenced Standards:

- NDS - National Design Specification for Wood Construction - 2005

1.4. The *LifeLong™* ledger assembly described in this report is utilized to support wood framing members for exterior deck construction in accordance with IBC Section 2304.9.3.

2.0 STATEMENT OF COMPLIANCE

LifeLong™ ledger assembly complies with the Codes listed in Section 1.1, for the properties stated in Section 1.2 and uses stated in Section 1.4, when installed as described in this report, including the Conditions of Use stated in Section 6.

3.0 DESCRIPTION

3.1. The *LifeLong™* ledger assembly consists of a continuous ledger and joist hangers manufactured from extruded 6005-

T5 aluminum. Aluminum components are factory painted for protection from contact with wood.

3.1.1. The ledger provides a connection between the joist hangers and the supporting structure. Ledgers have a nominal wall thickness of 0.125 inch and come in lengths of up to 10 feet. See Figure 3.

3.1.2. Joist hangers provide the connection between the wood joist members and the ledger. Joist hangers may be attached to single or double wood joists. Minimum wall thickness is 0.08 inch. See Figure 4.

4.0 PERFORMANCE CHARACTERISTICS

4.1. Tabulated allowable loads determined in accordance with IBC Section 1716.1 are presented in Table 1. Values are based on allowable stress design (ASD) and include end use adjustment factors in accordance with the NDS for:

Load Duration Factor (C_D)
Wet Service Factor (C_M)
Temperature Factor (C_t) for $T \leq 125^\circ\text{F}$

4.2. Tabulated allowable loads apply to connection of wood members with a specific gravity of 0.49 or greater such as Douglas Fir Larch ($G=0.50$) and Southern Yellow Pine ($G=0.55$) and a moisture content of 19% or less at time of installation.

4.2.1. Joists may be single or double nominal 2x8 or 2x10 wood members.

4.2.2. Wood member in the supporting structural for anchorage of the *LifeLong™* Ledger shall be a minimum 2-inch nominal thickness.

5.0 INSTALLATION

Installation shall be in accordance with the manufacturer's installation instructions and this report. Where differences occur between this report and the manufacturer's installation instructions, this report shall govern.

5.1. Fasteners: See Table 1 for fastening schedule.



5.1.1. Nails shall be hot-dip galvanized common wire nails and shall comply with ASTM F 1667 with a minimum bending yield strength, $F_{yb} = 90,000$ psi.

5.1.2. Screws for Ledger-to-Hanger attachment shall be 302 Stainless Steel #10 x 3/4 inch hex washer head self-drilling, self-tapping screw.

5.2. Joist hangers shall be spaced no less than 12 inches on center with 6 inch o.c. anchorage of the aluminum ledger to the supporting structure.

6.0 CONDITIONS OF USE

The *LifeLong™* ledger assembly identified in this report are deemed to comply with the provisions of the referenced building codes subject to the following conditions:

6.1. Lateral load design values given in Table 1 are limited to the joist and ledger connection to the face of the supporting structure. Additional design and construction are required for anchorage of lateral loads to the primary framing in accordance with R502.2.2 & R502.2.2.3 of the IRC and, 1604.8.3 of the IBC.

6.2. Components used with fire-retardant-treated wood are outside the scope of this report.

6.3. Ledger and joist hangers must be installed in accordance with this report, the applicable building code and SigmaDek's installation instructions. Where differences occur between this report and the manufacturer's installation instructions, this report shall govern.

6.4. Design of connections shall be by a qualified engineer in accordance with the referenced codes. Where required by the building official, engineering calculations shall verify that the anchorage complies with the building code for the type of framing and condition of the supporting construction.

6.5. All products shall be manufactured under an approved quality control system with inspections by Intertek.

7.0 SUPPORTING EVIDENCE

7.1. Manufacturer's drawings and installation instructions.

7.2. Reports of testing in accordance with ASTM D 1761 (Re: IBC Section 1716.1)

7.3. Reports of testing in accordance with ICC-ES AC13, Acceptance Criteria for Joist Hangers and Similar Devices, approved February 2017.

7.4. Engineering analysis of the product in accordance with the National Design Specification for Wood Construction and Supplement, American Forest & Paper Association (ANSI/AF&PA NDS-2005) signed and sealed by a professional engineer.

7.5. Documentation of an Intertek approved quality control system for the manufacturing of products recognized in this report.

8.0 IDENTIFICATION

Each component of the *LifeLong™* ledger assembly produced in accordance with this report shall be identified by the following information:

8.1. An imprint of the name and/or trademark of manufacturer;

8.2. A label with the Intertek Code Compliance Research Report mark and number (CCRR-0181).

9.0 CODE COMPLIANCE RESEARCH REPORT USE

9.1. Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

9.2. Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

9.3. Reference to the <https://bpdirectory.intertek.com> is recommended to ascertain the current version and status of this report.

**Table 1 – Allowable Loads For LifeLong™ Ledger / Hanger Assembly**

Fastening		Allowable Loads (lbs)					
		Hanger Spacing	Wind Uplift $C_D = 1.6$	Vertical (Downward)			Lateral ¹ $C_D = 1.6$
Ledger	Hanger			Live Load $C_D = 1.0$	Snow Load $C_D = 1.15$	Const. Load $C_D = 1.25$	
1/4" x 2.5" LedgerLOK® Staggered 6" o.c.	(6) 10d x 1.25" (Single)	12"	462	308	355	385	638
	(6) 10d x 3" (Double)	16"	462	410	472	513	744 / Single 834 / Double

Note 1: Lateral loads given in Table 1 are longitudinal with the joist member.

This Code Compliance Research Report ("Report") is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Report. Only the Client is authorized to permit copying or distribution of this Report and then only in its entirety, and the Client shall not use the Report in a misleading manner. Client further agrees and understands that reliance upon the Report is limited to the representations made therein. The Report is not an endorsement or recommendation for use of the subject and/or product described herein. This Report is not the Intertek Listing Report covering the subject product and utilized for Intertek Certification and this Report does not represent authorization for the use of any Intertek certification marks. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

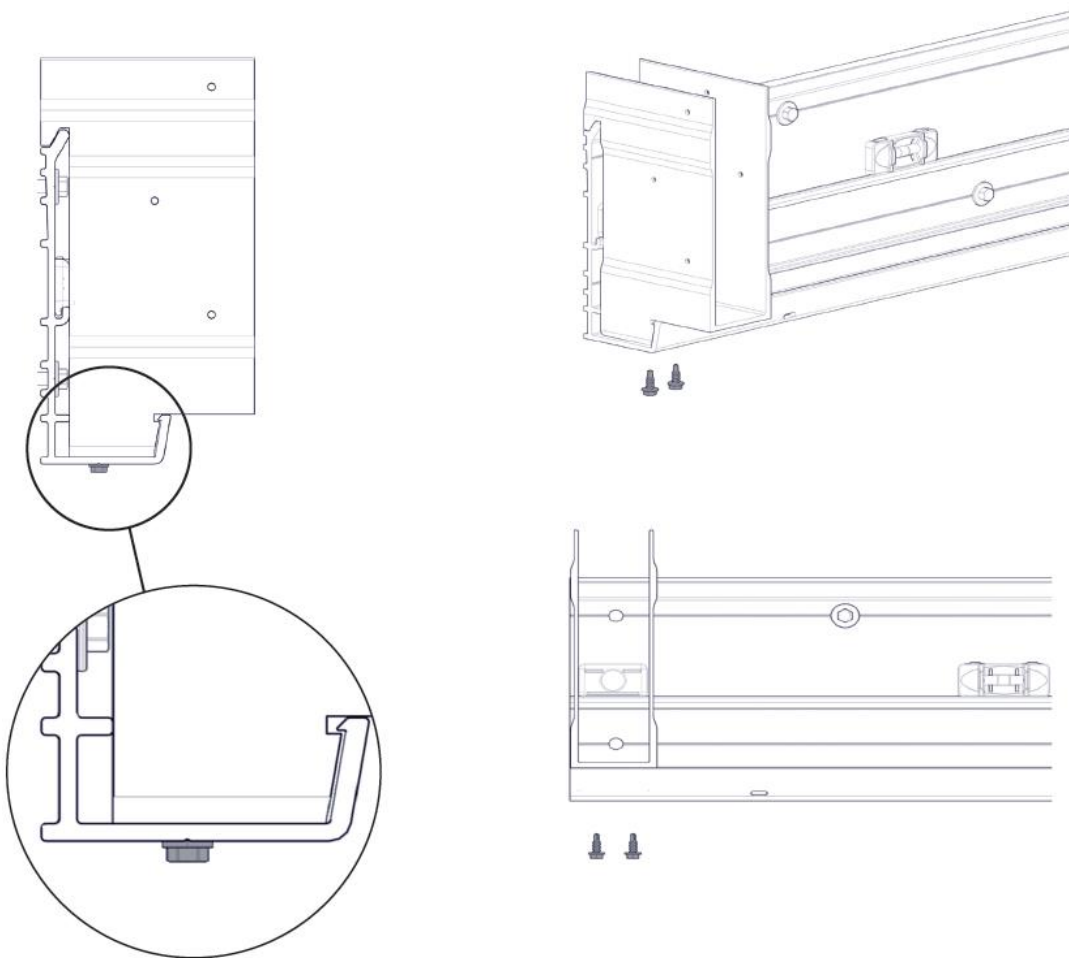


Figure 1 – LifeLong™ Ledger Board Installation

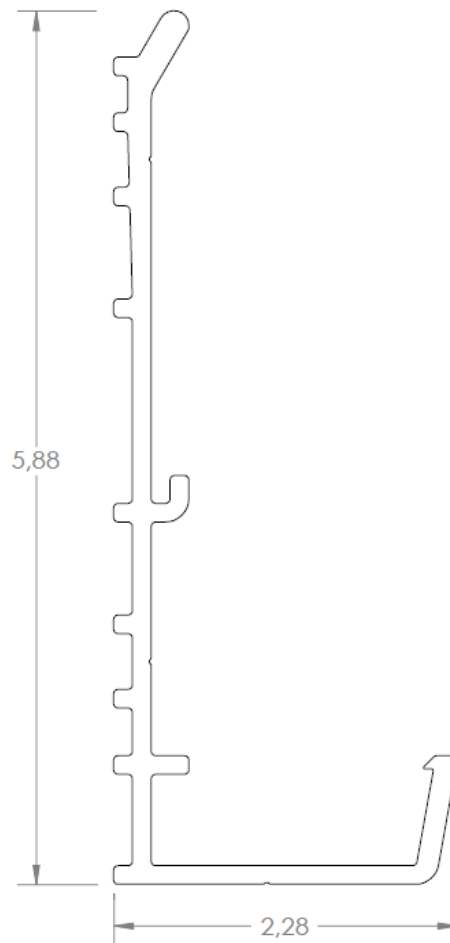
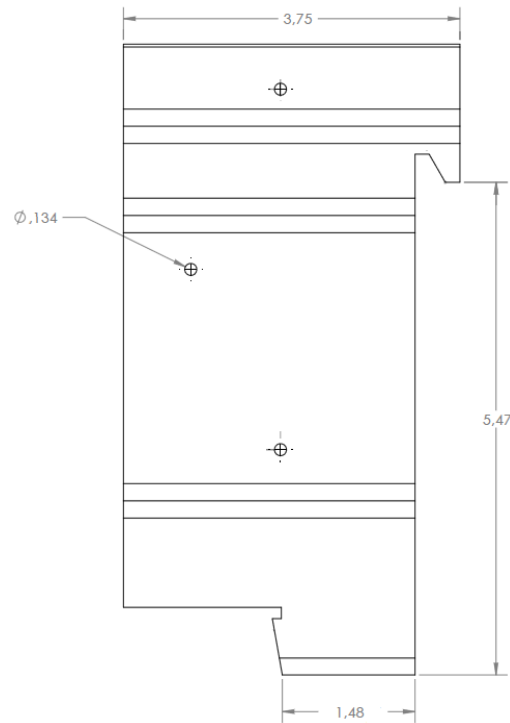
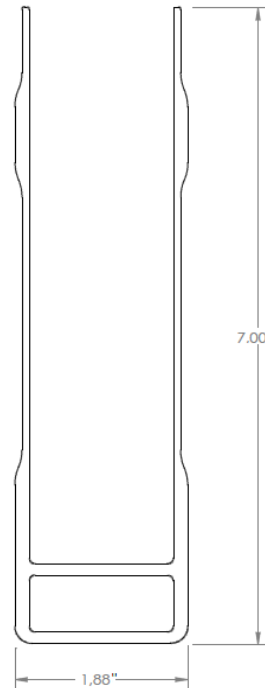


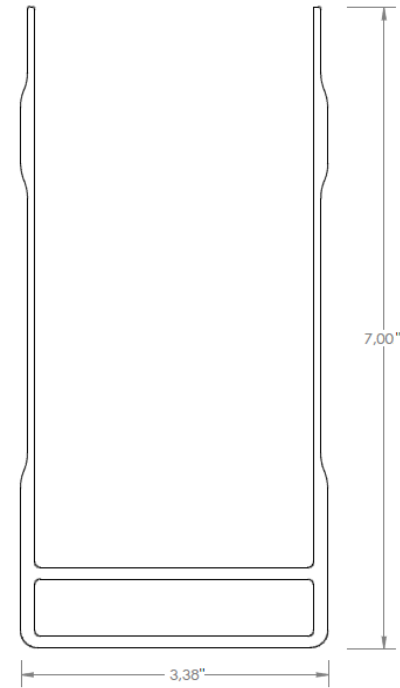
Figure 2 – *LifeLong™* Ledger Board



Side View



Single Joist Hanger Profile



Double Joist Hanger Profile

Figure 3 – LifeLong™ Joist Hangers