



**LONGBOARD®**  
INSPIRING FACADES

# LINK & LOCK FINS/LOUVERS

## INSTALLATION GUIDELINES



## 1.0. GENERAL

### 1.1. Product Description

Longboard® Link & Lock Fins/Louvers is an extruded aluminum open joint system, designed to be installed horizontally or vertically on a wall, shading structure or other substrate used to support the fins/louvers. Available in standard lengths of 24' (7.3m) and dimensions of 1-5/8" (41mm) wide X 4" (101.6mm), 6" (152.4mm) & 8" (203mm) standoff depths. End Caps with a matching finish are used to close off the ends where needed. Longboard Link & Lock Fins/Louvers can be installed directly to a structure or outboard of a UV barrier or building envelope & wall finish.

### 1.2. Installation Considerations

Depth of system (measured from substrate to finished face):

4" (101.6mm), 6" (152.4mm) or 8" (203.2mm)

Width:

1-5/8" (41mm)

*(See Appendix to access profile drawings)*

Longboard Products are not recommended for use on marine applications in direct contact with salt water.

### 1.3. Cutting

△ Always be sure to wear appropriate PPE: eye & hearing protection.

Use standard wood-cutting tools such as a miter saw with a carbide blade (60-80 tooth) for non-ferrous metals (aluminum).

Trim the taped/punched ends of all stock length material by 1/2" (12mm) each end and discard (see 1.5.).

### 1.4. Fastening

Longboard Link & Lock consists of two (2) matching L-shaped extrusions, snapped together to make a complete set. The back "L" is mechanically fastened to the substrate, using #12 (preferred) or #10 (min.) sharp-point (for wood substrates) or self-drilling (for metal substrates) zinc-plated or other corrosion resistant screws (not included) every 6' (1.83m) o.c. (max.).

Fastener types such as Pan Head, Hex Head or Truss Head are recommended.

△ All fasteners should be suitable for exterior use and be compatible with the substrate type.

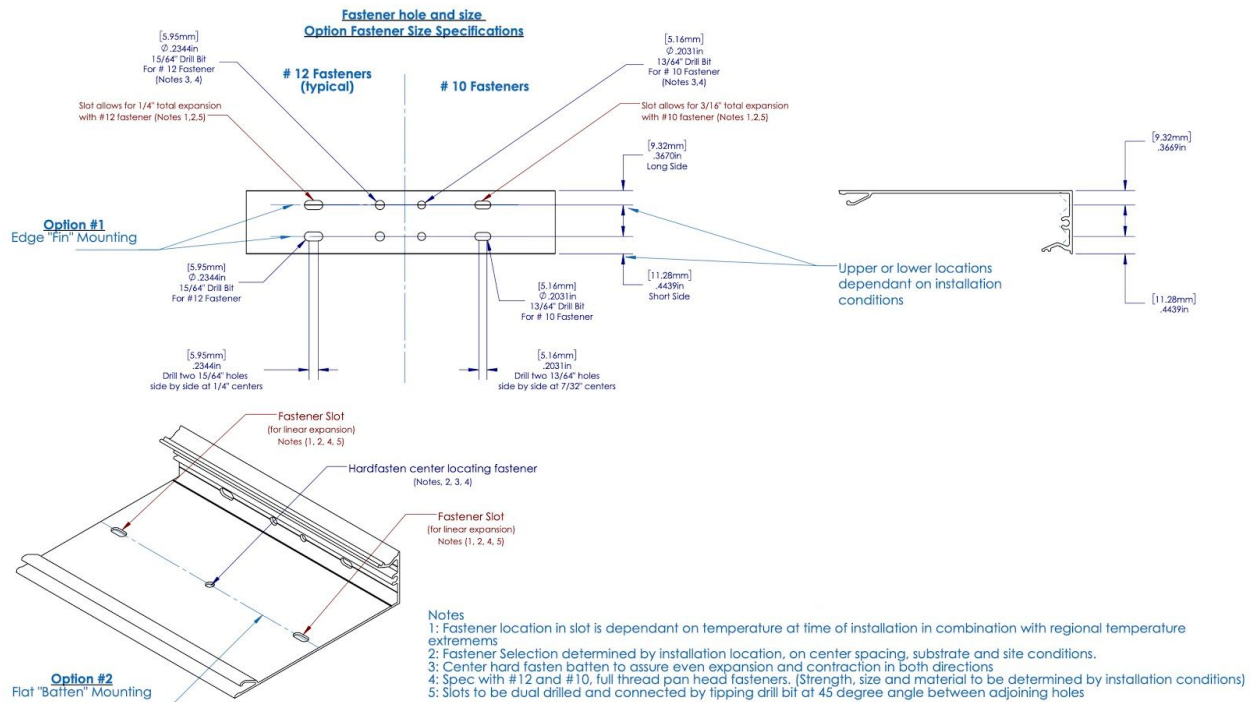
Layout and predrill\* the back "L" at all fastener locations: a single hole at or near the center length of each section & double drilled/slotted holes at each location either side of center.

Refer to the fastener installation guide diagram for hole dimensions and details.

*\*See table 1 & 2 to calculate the thermal movement for your project, to ensure adequate allowances have been made.*

Where installing directly over the surface of other metal claddings, be sure to oversize drill holes through the other material at each L&L fastener location to allow for independent thermal movement of the two materials. Always attach the L&L Fins/Louvers back to the solid secure substrate.

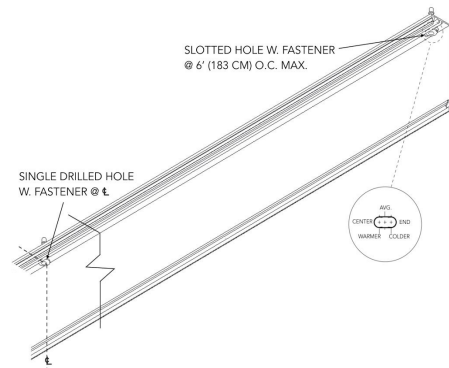
## Link & Lock - Fastener Installation Guide



△ Fasten the center location at the single drilled hole to prevent migration of the material over time. Fasten at the slotted locations to allow for expansion & contraction at each side of center. At the time of installation, consider the current temperature as it relates to the expected annual high and low range, to place the fasteners at the slotted holes at either the:

- + center of the slot (at average annual)
- + toward end of plank (colder than average annual)
- + toward center of plank (warmer than average annual)

Example: winter typically experiences lows of -20°C (-4°F), summer typically experiences highs of +30°C (86°F) and it is +5°C (41°F) at the time of installation: Place fasteners at the center of the slotted holes.





Ensure all fasteners are anchored into solid-secure framing, blocking or furring strips etc. Snap the second “L” onto the first using a rubber mallet/hammer & block to protect the finish, then press end-caps in place at each end. Consider your application sequence of end caps before installing adjacent Link & Lock members, as they may limit the space needed to insert caps. All pieces are friction fit: If preferred, place a single small pea-sized spot of a structural grade silicone (not included) inside the connecting surface to prevent slippage (front “L”) or ease of removal (end caps).

#### 1.4.1. Expansion & Contraction

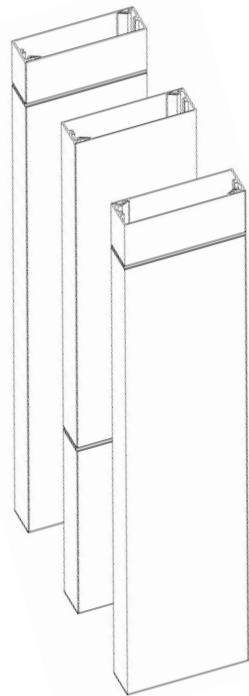
In most climate zones, Link & Lock Fins/Louvers will expand & contract 1/4” (6mm) over 24’ (7.3m) measured over a 30°C (54°F) temperature range\*.

*\*See table 1 & 2 to calculate the thermal movement for your project.*

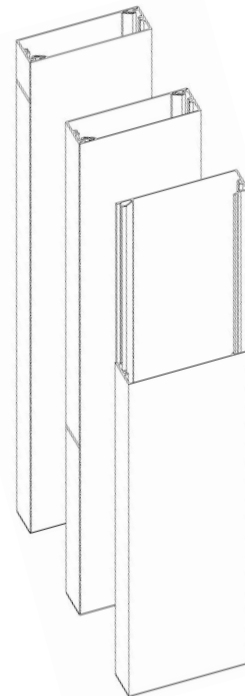
Fins/Louvers should be installed with staggered butt-joints, leaving a 1/4” (6mm)(min.) gap between the ends of each set, every 24’ (7.3m) or less (see Detail A). Alternatively, staggered lap-joints are an option for a continuous appearance (see Detail B) however 1/4” (6mm) gaps should be left at each joint to allow for thermal movement. Be sure to lap joints by 2’ (610mm) minimum over the back “L”.

See **3. System Installation** for layout details and table 1 & 2 for expansion & contraction calculations per foot/meter of material.

Detail A: BUTT-JOINTS



Detail B: LAP JOINTS





**TABLE 1 & 2: MATERIAL THERMAL MOVEMENT RELATING TO AMBIENT TEMPERATURE**

**TABLE 1 - IMPERIAL**

AVERAGE TEMPERATURE AT TIME OF CUTTING & INSTALLATION													
°C		-50	-40	-30	-20	-10	0	10	20	30	40	50	
°F		-58	-40	-22	-4	14	32	50	68	86	104	122	
MIN/MAX POST CONSTRUCTION TEMP.	°C	°F	EXPANSION OR CONTRACTION (INCH/FOOT)										
	-50	-58	0.000	-0.003	-0.005	-0.008	-0.011	-0.014	-0.016	-0.019	-0.022	-0.024	-0.027
	-40	-40	0.003	0.000	-0.003	-0.005	-0.008	-0.011	-0.014	-0.016	-0.019	-0.022	-0.024
	-30	-22	0.005	0.003	0.000	-0.003	-0.005	-0.008	-0.011	-0.014	-0.016	-0.019	-0.022
	-20	-4	0.008	0.005	0.003	0.000	-0.003	-0.005	-0.008	-0.011	-0.014	-0.016	-0.019
	-10	14	0.011	0.008	0.005	0.003	0.000	-0.003	-0.005	-0.008	-0.011	-0.014	-0.016
	0	32	0.014	0.011	0.008	0.005	0.003	0.000	-0.003	-0.005	-0.008	-0.011	-0.014
	10	50	0.016	0.014	0.011	0.008	0.005	0.003	0.000	-0.003	-0.005	-0.008	-0.011
	20	68	0.019	0.016	0.014	0.011	0.008	0.005	0.003	0.000	-0.003	-0.005	-0.008
	30	86	0.022	0.019	0.016	0.014	0.011	0.008	0.005	0.003	0.000	-0.003	-0.005
40	104	0.024	0.022	0.019	0.016	0.014	0.011	0.008	0.005	0.003	0.000	-0.003	
50	122	0.027	0.024	0.022	0.019	0.016	0.014	0.011	0.008	0.005	0.003	0.000	

**TABLE 2 - METRIC**

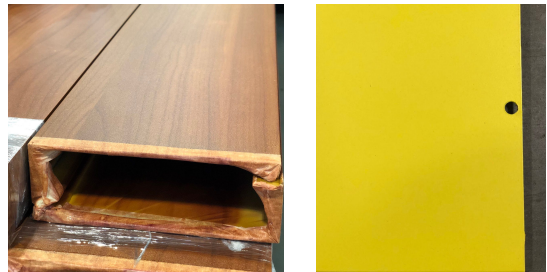
AVERAGE TEMPERATURE AT TIME OF CUTTING & INSTALLATION													
°C		-50	-40	-30	-20	-10	0	10	20	30	40	50	
°F		-58	-40	-22	-4	14	32	50	68	86	104	122	
MIN/MAX POST CONSTRUCTION TEMP.	°C	°F	EXPANSION OR CONTRACTION (MM/METER)										
	-50	-58	0.000	-0.230	-0.460	-0.690	-0.920	-1.150	-1.380	-1.610	-1.840	-2.070	-2.300
	-40	-40	0.230	0.000	-0.230	-0.460	-0.690	-0.920	-1.150	-1.380	-1.610	-1.840	-2.070
	-30	-22	0.460	0.230	0.000	-0.230	-0.460	-0.690	-0.920	-1.150	-1.380	-1.610	-1.840
	-20	-4	0.690	0.460	0.230	0.000	-0.230	-0.460	-0.690	-0.920	-1.150	-1.380	-1.610
	-10	14	0.920	0.690	0.460	0.230	0.000	-0.230	-0.460	-0.690	-0.920	-1.150	-1.380
	0	32	1.150	0.920	0.690	0.460	0.230	0.000	-0.230	-0.460	-0.690	-0.920	-1.150
	10	50	1.380	1.150	0.920	0.690	0.460	0.230	0.000	-0.230	-0.460	-0.690	-0.920
	20	68	1.610	1.380	1.150	0.920	0.690	0.460	0.230	0.000	-0.230	-0.460	-0.690
	30	86	1.840	1.610	1.380	1.150	0.920	0.690	0.460	0.230	0.000	-0.230	-0.460
40	104	2.070	1.840	1.610	1.380	1.150	0.920	0.690	0.460	0.230	0.000	-0.230	
50	122	2.300	2.070	1.840	1.610	1.380	1.150	0.920	0.690	0.460	0.230	0.000	

### 1.5. Surface Finish

The Longboard Link & Lock Fins/Louvers system is available in a range of Woodgrain, Solid & Specialty Finishes with custom\* solid colors available upon request. *\*Additional lead times apply.*

Longboard Woodgrains have a repeat pattern, shipped in sets. Install these as they come out of the box, as an A&B pattern staggering each set approx. 1-2' (305-610mm) from the previous set to achieve a random pattern aesthetic.

All Longboard Products are produced 1" (25mm) oversized, as one end is hole-punched (all finishes) and both ends have 1/2" (12mm) of masking tape (woodgrains only) which must be cut off for best results.



### 1.6. Material Ordering & Delivery

Link & Lock Fins/Louvers are sold by the 24' (7.3m) set (pair), End Caps are sold by the box: 20 caps/bx.

Lead time is 3-4 weeks\* (*\*subject to change*), delivered on 24' (7.3m) long skids weighing up to 2000 lbs. A mechanical lift with forks is required on site to receive the order.

⚠ Always inspect the delivery for damage and contact LB ASAP if there are any issues: [info@longboardproducts.com](mailto:info@longboardproducts.com) or 1-800-604-0343 and include your PO# and any pictures if possible. Mark the delivery receipt as "damaged" and accept the delivery as-is. Longboard is not responsible for the installation of blemished or damaged material.

### 1.7. Storage & Handling

Be sure to store the material flat, keep it dry, safe & secure and remain in unopened cartons until ready to be installed. Ensure proper care when handling, to avoid damage on site.

## **2.0. FRAMING REQUIREMENTS**

### **2.1. General**

Always consult the local building authority and follow local building code requirements.

### **2.2. Load Capacity**

The Longboard Link & Lock Fins/Louvers system weighs approx. 1.3 up to 1.9 lbs/LF\*.

*\*see profile drawings for individual item weights.*

#### **2.3.1. Wood-Framing**

Traditional stud wall framed at 16" (406mm) o.c. with or without solid secure blocking running perpendicular to the Link & Lock Fins/Louvers orientation (for vertical Fins/Louvers applications), exterior wall sheathing, weather resistive barrier (wrb), wall finish or UV barrier. If furring strips are used, it is recommended to install at 16" (406mm) o.c. for material support and fasten at 5'4" (1.63m) o.c.

#### **2.3.2. Metal Framing**

16ga. (minimum) galvanized steel framing at 16" (406mm) O.C., exterior wall sheathing, wrb, wall finish or UV barrier. If furring strips are used, it is recommended to install at 16" (406mm) o.c. for material support and fasten at 5'4" (1.63m) o.c.

#### **2.3.3. CMU/Concrete**

Wrb, wood or metal furring strips (see 2.3.1. and 2.3.2. for standard requirements) or direct to CMU/Concrete\*.

*\*where installed directly to raw cmu/concrete; provide a separation layer such as bitumen paint or impregnated paper, to prevent direct contact between the Fins/Louvers and cmu/concrete. Use concrete anchors (provided by others) of an appropriate size to support the loading at each fastener.*

#### **2.3.4. Posts & Other Structures**

Solid, secure structure of material designed to support loading (see 2.2.), spaced at 6' (1.83m) o.c. max.



### 3.0. SYSTEM INSTALLATION

#### 3.1. Layout

Measure and layout your fins/louvers to consider alignment with fixtures, openings and adjacent walls, for desired appearance.

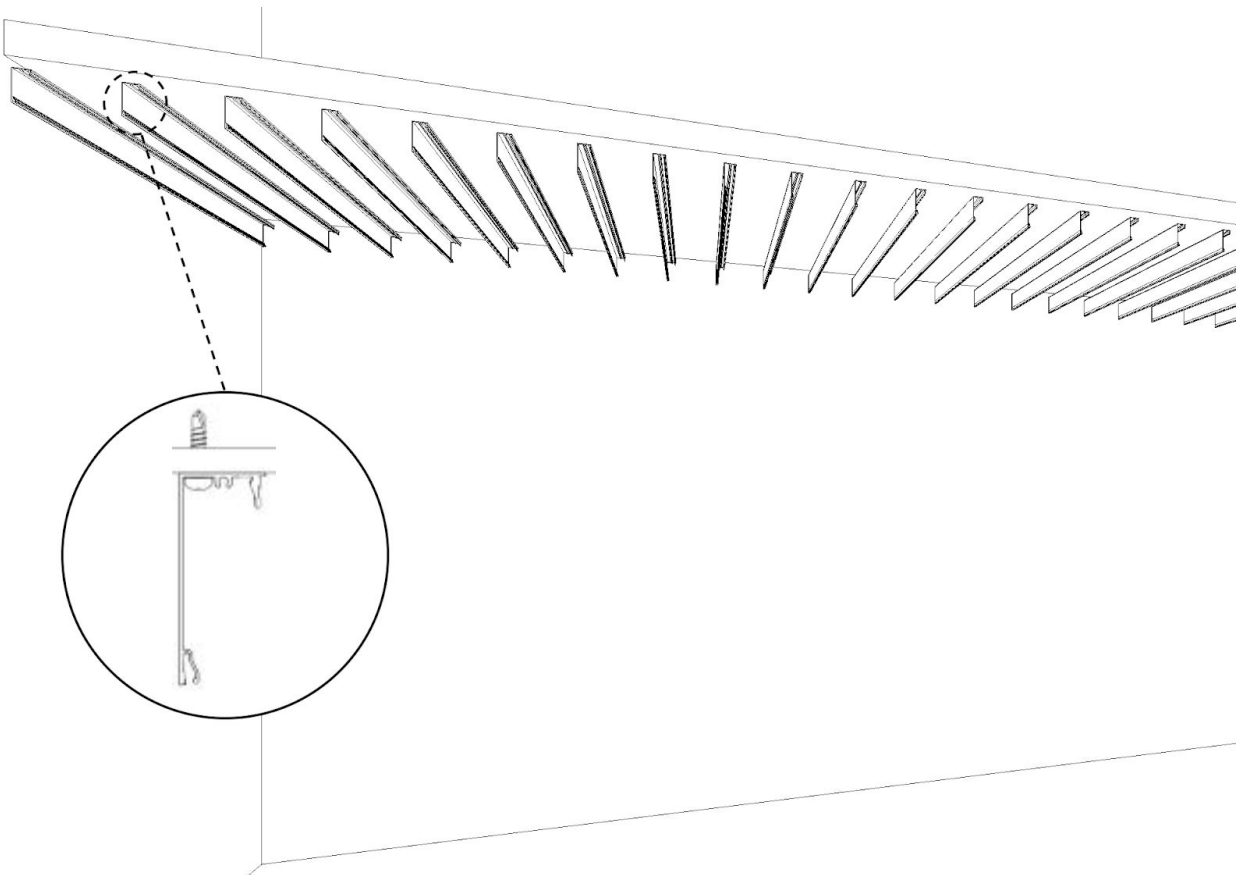
#### 3.2. Installation

Fins/Louvers should be installed with staggered butt-joints in applications with longer lengths, leaving a 1/4" (6mm)(minimum) gap between each member to allow for expansion & contraction. See 1.4.1.Expansion & Contraction.

##### 3.2.①. BACK "L"

Install the back "L" (see 1.4. Fastening). Install end caps (see: 3.4.③.) where access will be restricted upon installation.

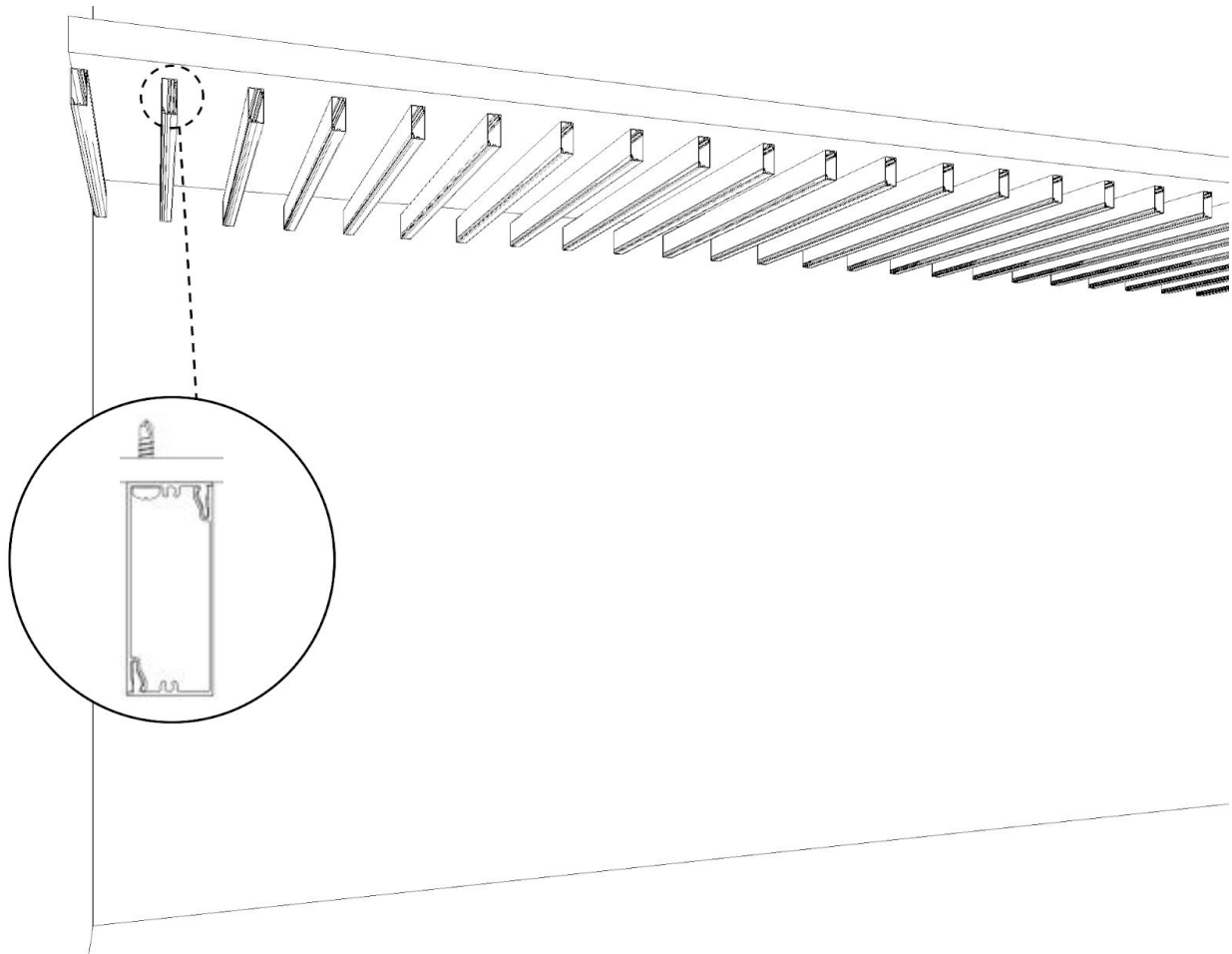
**TIP!** It is good practice to check your installation every 2-3 rows for alignment and flat/straight, for best results.



### 3.2.②. FRONT "L"

Install the front "L" onto the base "L" (see 1.4.1. Expansion & Contraction) using a rubber mallet/hammer & block to protect the finish.

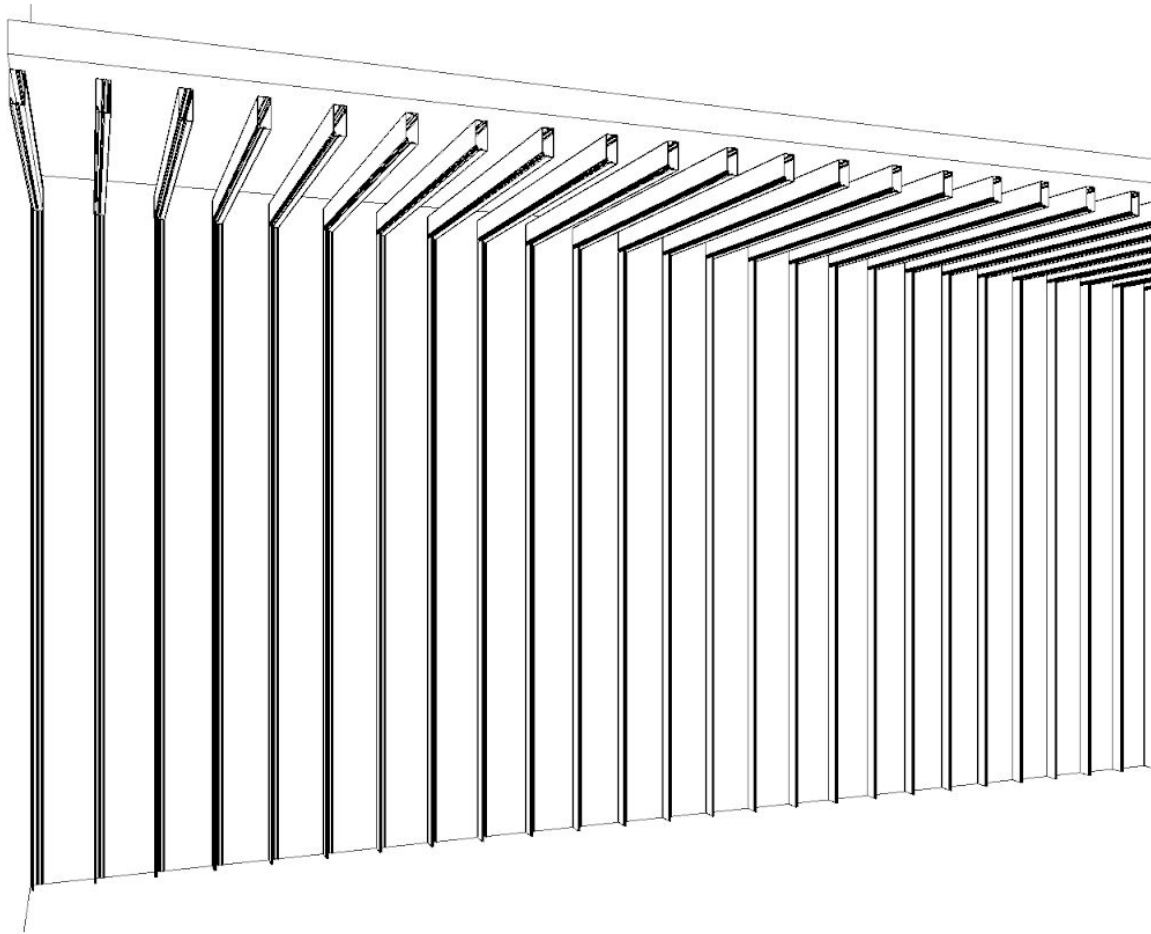
Consider your application sequence of end caps before installing adjacent Link & Lock members, as they may limit the space needed to insert caps. All pieces are friction fit: If preferred, place a single small pea-sized spot of a structural grade silicone (not included) inside the connecting surface to prevent slippage (front "L") or ease of removal (end caps).



### 3.3.①. BACK "L"

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**TIP!** It is good practice to check your installation every 2-3 rows for alignment and flat/straight, for best results.

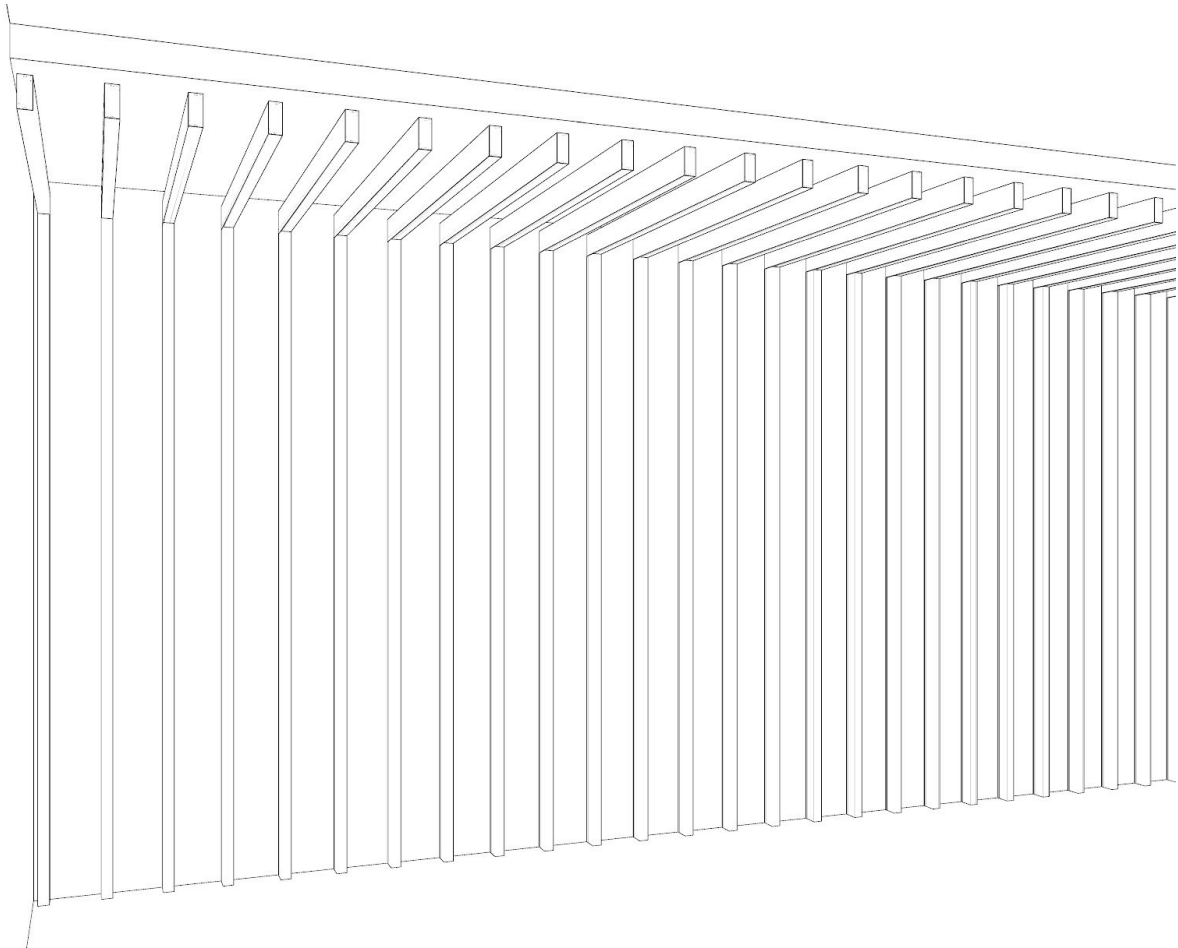




### 3.3.②. FRONT "L"

Install the front "L" onto the base "L" (see 1.4.1. Expansion & Contraction) using a rubber mallet/hammer & block to protect the finish.

Consider your application sequence of end caps before installing adjacent Link & Lock members, as they may limit the space needed to insert caps. All pieces are friction fit: If preferred, place a single small pea-sized spot of a structural grade silicone (not included) inside the connecting surface to prevent slippage (front "L") or ease of removal (end caps).



### 3.4.③. END CAPS

Upon completion of installed area(s), install any and all end caps at open ends.



## 4.0. Cleaning Recommendations

*\*see Cleaning Guide for full requirements*

[longboardproducts.com](http://longboardproducts.com)

While Longboard finishes require zero maintenance, we do recommend periodic cleaning to keep the product looking its best. Our finish is tested to withstand corrosion, fading and normal wear, however, neglect and rough conditions could have negative effects on the surface finish. These effects will not negate the structural performance of the product, but prolonged exposure to these conditions may result in permanent markings or surface damage.

Cleaning should be done in mild weather, and never in direct sunlight. Always complete a test patch on an inconspicuous area to ensure your detergent is suitable for the surface.

Your Longboard products should be cleaned immediately after installation. This is to remove any construction soils such as oils or dust. How to complete this initial cleaning depends on the level of dirt and the nature of the soil. See the cleaning guide for our suggestions based on soil level. Basic methods use a combination of moderate water pressure, soft sponge/brush and a mild detergent.

⚠ NEVER use aggressive acid or alkaline cleaners on Longboard finishes. Do not use cleaners containing Trisodium Phosphate, Phosphoric Acid, Hydrochloric Acid, Hydrofluoric Acid, Fluorides or any other compound that is known to react with metal.

Always follow the product instructions for dilution. Cleaning the surface with a cleanser that is not diluted may result in damage to the coating.













## 5.0. WARRANTY

Upon substantial completion of the project, register for warranty online here:

[longboardproducts.com/warranty](http://longboardproducts.com/warranty)

⚠ Registration is required for the warranty to be in effect.

# APPENDIX

INSTRUCTION STEP #	IMAGE	DESCRIPTION	TYPICAL USE	SECTION DETAIL (scan or click)
① ②		4" LINK & LOCK, 24' (7.3m) LENGTHS, WOODGRAIN, SOLID, SPECIALTY, CUSTOM SOLID	FIN/LOUVER	
① ②		6" LINK & LOCK, 24' (7.3m) LENGTHS, WOODGRAIN, SOLID, SPECIALTY, CUSTOM SOLID	FIN/LOUVER	
① ②		8" LINK & LOCK, 24' (7.3m) LENGTHS, WOODGRAIN, SOLID, SPECIALTY, CUSTOM SOLID	FIN/LOUVER	
③		4" END CAP, WOODGRAIN, SOLID, SPECIALTY, CUSTOM SOLID	FINISHED CAP AT ENDS OF EACH FIN/LOUVER	
③		6" END CAP, WOODGRAIN, SOLID, SPECIALTY, CUSTOM SOLID	FINISHED CAP AT ENDS OF EACH FIN/LOUVER	
③		8" END CAP, WOODGRAIN, SOLID, SPECIALTY, CUSTOM SOLID	FINISHED CAP AT ENDS OF EACH FIN/LOUVER	

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