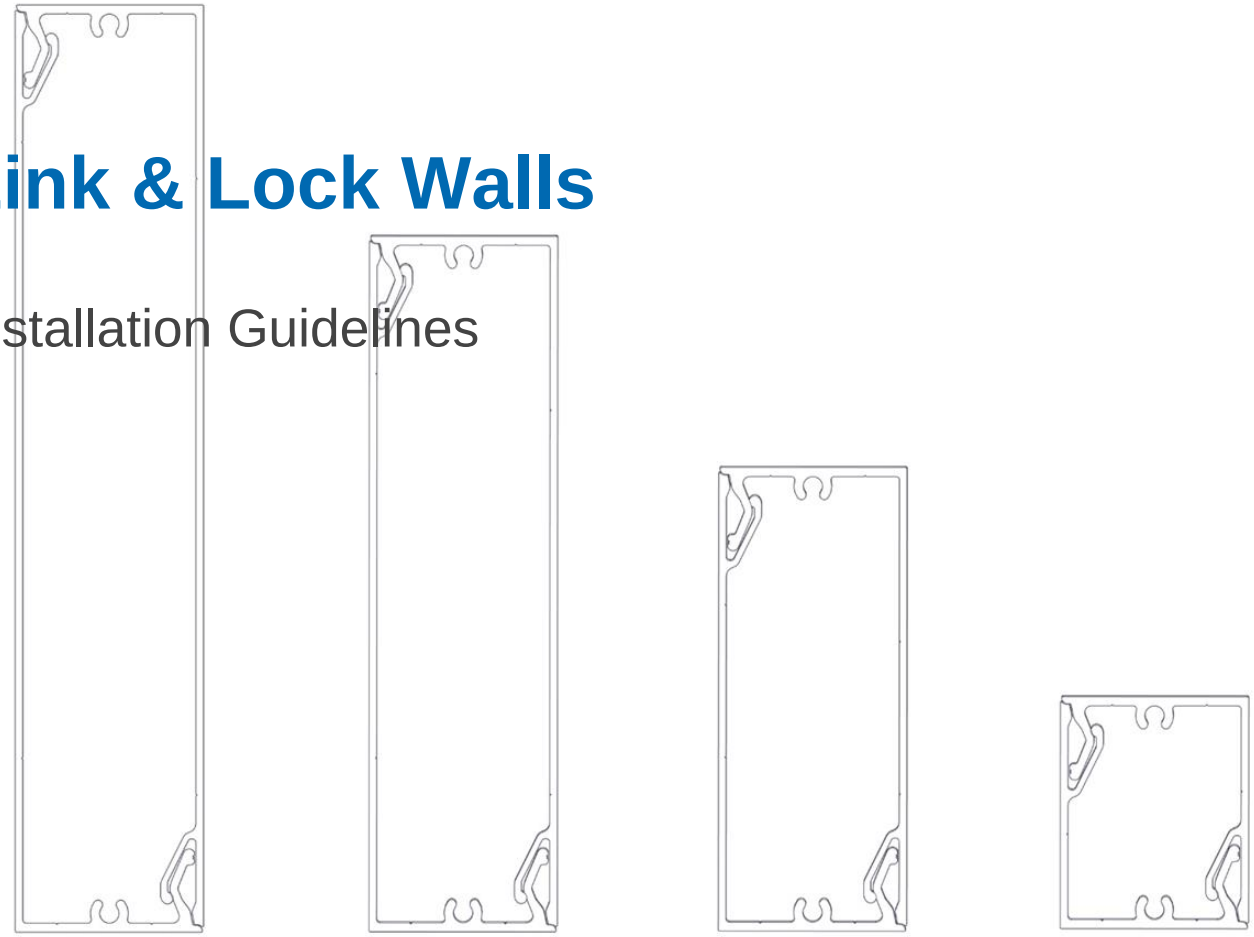
LONGBOARD®
ARCHITECTURAL PRODUCTS

Interior



Link & Lock Walls

Installation Guidelines

Table of Contents

Material Specifications

Finishes

- Longboard Products are available in a wide range of woodgrains and solid colors
- Custom solid colors are available upon request

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

Expansion & Contraction

Link & Lock components expand & contract 1/4" (6mm) over 24' (7.3m) along the length, measured over a 30℃ (54℉) temperature range. Due to this range of movement, Link & Lock Fins/Louvers/Battens should be installed with staggered butt-joints, leaving a 1/4" (6mm) min. gap, every 24' (7.3m) min.
Alternatively, staggered lap-joints are an option for a continuous appearance, 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 **Appendix for Tables 1 & 2, expansion/contraction calculations per foot/meter of material.**

Material Ordering & Delivery

• Packaging:	Link & Lock is sold by the set (pair) and in widths of 2", 4", 6", 8" End caps are sold by the box: 20 caps/bx End Mounts are sold by the box: 20 mounts/bx Stiffener is sold in 24' lengths (includes Double-sided Tape)
• Shipping:	Lead time is 3-6 business days* + shipping *(*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.
• QC:	Always inspect the delivery for damage and contact LB ASAP if there are any issues: 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.

Storage & Handling

Be sure to store the material flat, keep it dry, safe & secure and remain in unopened cartons until ready to be installed. See **Appendix for proper handling and care instructions.**

Cleaning Recommendations

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. Your Longboard products should be cleaned immediately after installation. 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.
See **Cleaning Guide for full requirements*:*** longboardproducts.com
⚠ 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.

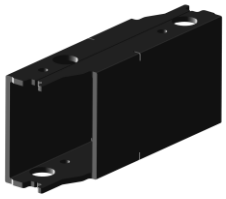
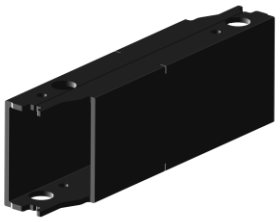
Warranty

Upon substantial completion of the project, register for warranty online here: longboardproducts.com/warranty
⚠ Registration is required for the warranty to be in effect.

Components

Components (Typical)

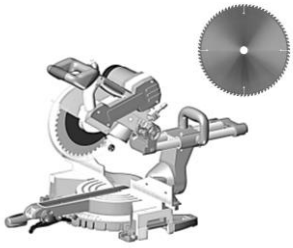
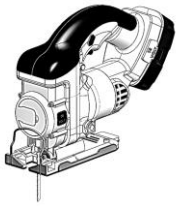
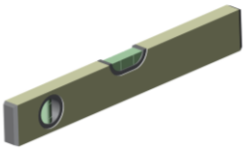
The Link & Lock system consists of two (2) matching L-shaped extrusions, snapped together to make a complete set. For all LB components go to longboardproducts.com.

 **2" Link & Lock** 2X2LL.289	 **4" Link & Lock** 2X4LL.289	 **6" Link & Lock** 2X6LL.289	 **8" Link & Lock** 2X8LL.289
 **½" Pilot Point Drill Bit** DRILLBT.05	 **Paint Pen** TUP	 **End Cap** 2LLEC.2,4,6,8	 **Mounting Clip** (Included with order for 6' O.C. attachment. Additional Clips purchased separately (48 pcs/box) LLMC
 **2" L&L End Mount** 2LLEM.2	 **4" L&L End Mount** 2LLEM.4	 **6" L&L End Mount** 2LLEM.6	 **8" L&L End Mount** 2LLEM.8
 **Double-sided Tape** LLTAPE.1296	 **Internal Stiffener** -Comes Powder Coated Black -Stiffener not available for 2" L&L LLSTIFF.289		

Tools/Cutting/Fastening

Tools

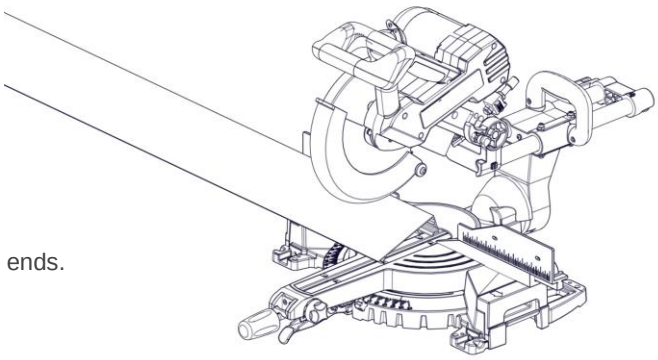
Commonly used tools for Link & Lock install.

			
Table Saw (Match blade type same as Miter Saw)	Miter Saw with Carbide Metal Blade Non-ferrous 60-80T (for cutting aluminum)	Cordless Drill with clutch	Jig Saw (for protrusions)
			
Rubber Mallet (or Hammer)	Level	Hole Saw (for lighting fixtures)	Quick Grip Bar Clamp

Cutting

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

Cut battens using a Miter Saw and Table Saw always allowing for expansion & contraction. Trim the taped/drilled ends of all stock length material by at least **1/2“ (12mm) each end** and discard.



⚠ DO NOT Install Link & Lock without trimming the ends.

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 Longboard **Mounting Clips** fastened every **6-8’ O.C. up to 12ft when using Stiffeners** with #12 sharp-point screws (for wood substrates) or self-drilling (for metal substrates). The Mounting Clips are included in the order for 6’ spacings.

Fasteners must be corrosion resistant and comply with all local building codes.

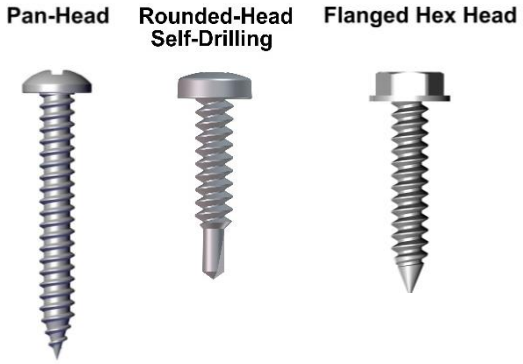
⚠ All fasteners should be suitable for exterior use and be compatible with the substrate type. **Fasteners should be anchored into a solid secure substrate.**

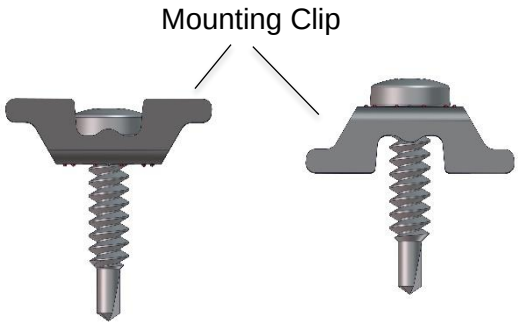
Layout and predrill the back “L” at all fastener locations.
Refer to **Preparation drilling for Install** for hole dimensions and further details.

⚠ See **Appendix for project specific fastener spacing:**
Allowable Span - Tables 3-9

Fastener types

RECOMMENDED

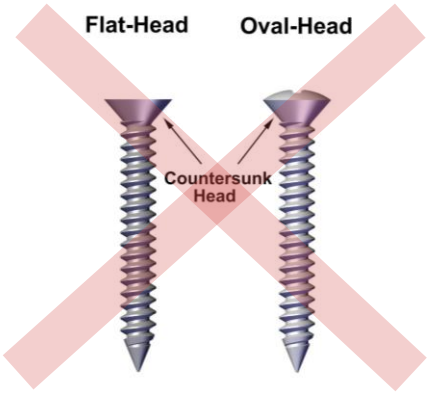




Batten (flat orientation) Fin orientation

Fastener Types for End Mounts		
End Mount	**Pan Head**	**Hex Head**
2”	#10	
4”	#12	#12
6”	#12	#12
8”	#12	#12

DO NOT USE



Framing requirements
Always consult your local building authority and follow local building code requirements.
See Typical dimensions for sizes and weights of the L&L system.

Wood Framing
- Size: 2x4 minimum
- Spacing: 16” (406mm) O.C.

Metal Framing
- Gauge: 18 ga. minimum
- Spacing: 16” (406mm) O.C.

Concrete/CMU

Wood or metal furring is recommended over concrete and CMU.

Wood Furring:
- Size: 2x2 minimum
- Type: Pressure treated lumber
- Spacing: 16” (406mm) O.C.

Metal Furring:
- Size: 18 ga. minimum
- Type: Hat channel, c-stud, or z-furring.
- Spacing: 16” (406mm) O.C.

Install techniques/tips/details

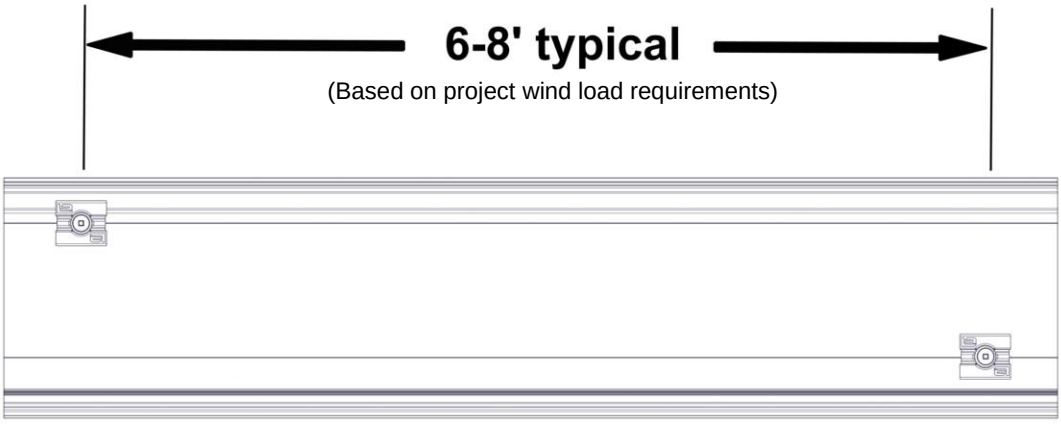
Typical dimensions

- Longboard Link & Lock system typical dimensions:

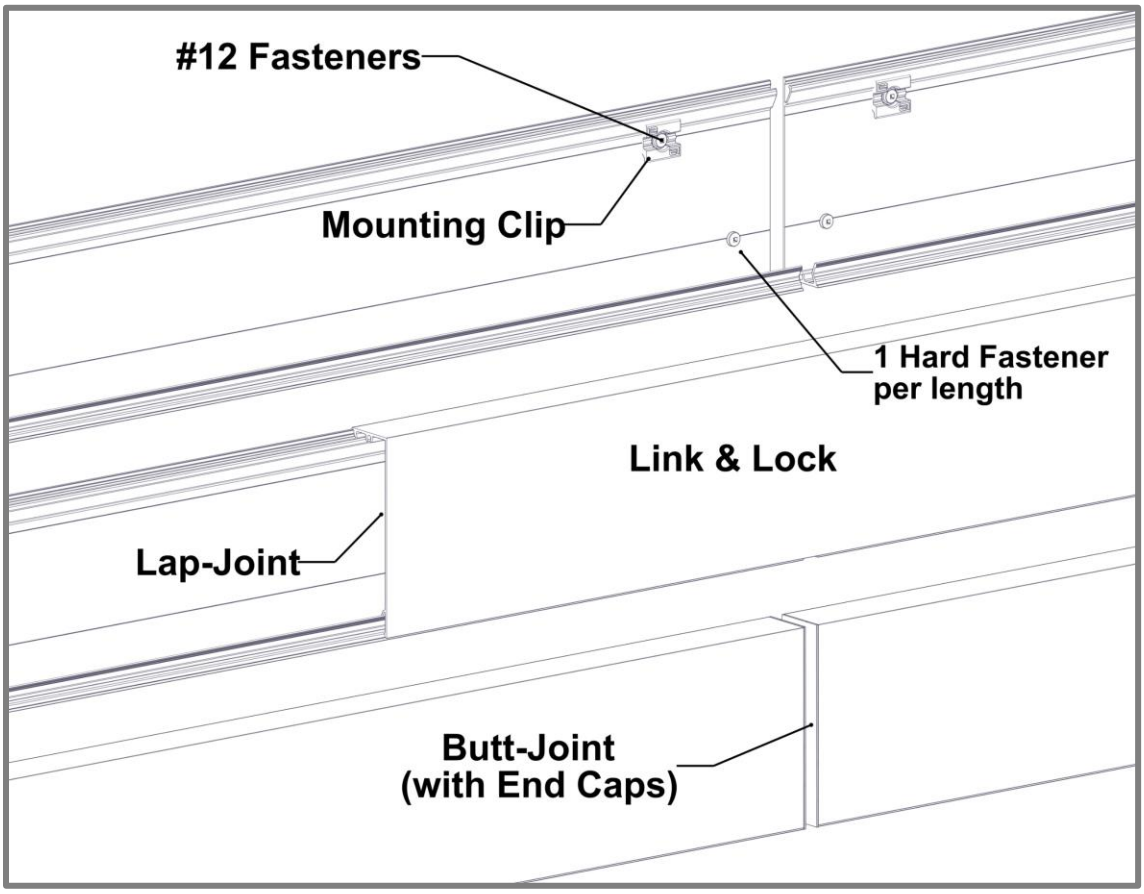
L&L	Width	Depth	Length	Weight(lbs/ft) *per set
2”	2” (50.8mm)	1 5/8” (41.3mm)	24’	0.93
4”	4” (101.6mm)	1 5/8” (41.3mm)	24’	1.3
6”	6” (152.4mm)	1 5/8” (41.3mm)	24’	1.6
8”	8” (203mm)	1 5/8” (41.3mm)	24’	1.9

- Longboard Products are not recommended for use on marine applications in direct contact with salt water.
- Link & Lock is an open-joint system which is required to be installed outboard of a weather resistant barrier, including all flashings, following code, and building requirements.

- It is good practice to leave a 1/4” (6mm) gap between every component joint or 24’ (7.3m) to allow for expansion & contraction. Consider the joints where components meet each other to dictate which component is installed first (eg: right angle butt joints, mitered joints etc.).
- Mounting Clips allow for movement of the battens, to expand & contract during thermal changes.
- Fasten Mounting Clips every 6-8’ typical (based on project wind load requirements), alternating from top to bottom for battens using die lines for guides.



- ⚠ BUTT-JOINTS. When installing butt-joints, ensure to leave a 1/4” (6mm) min. gap. every 24’ (7.3m) min. (**See Detail A)**. Fasteners should be anchored into a solid secure framing member, blocking, furring strip, or backer plate, etc.
- ⚠ LAP-JOINTS. When installing lap-joints, ensure to leave a 1/4” (6mm) min. gap. every 24’ (7.3m) min. (**See Detail A)**. Fasteners should be anchored into a solid secure framing member, blocking, furring strip, or backer plate, etc.
- If needed, use touch-up paint pens (purchased separately) to finish the ends at the butt-joint or lap-joint.
- It is good practice to hard-fasten each back “L” directly through the center, to keep the battens from migrating.
- DO NOT hard-fasten more than one (1) location per batten.



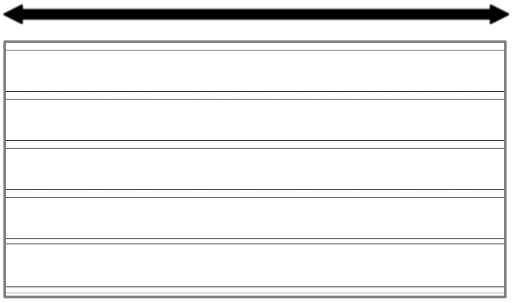
Detail A

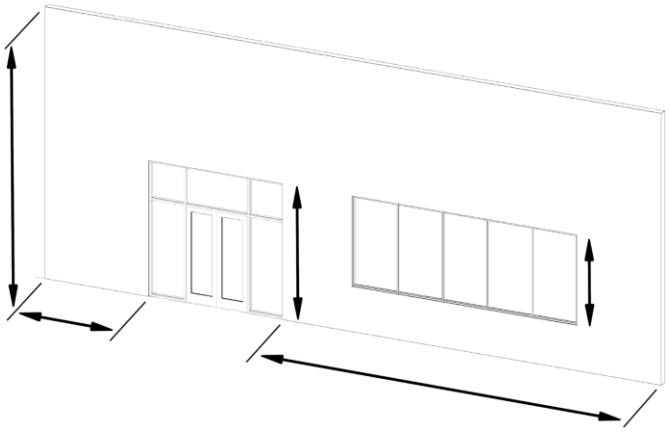
System layout and Install steps

Perimeter and field area limitations

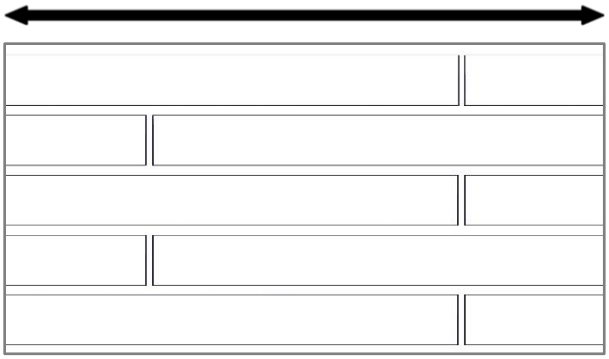
Measure and layout your wall area to consider Link & Lock alignment with fixtures, penetrations, and adjacent walls, for desired appearance. The same methodology applies for vertical installations.

Seamless runs up to 24’ length battens (no butt-joints)

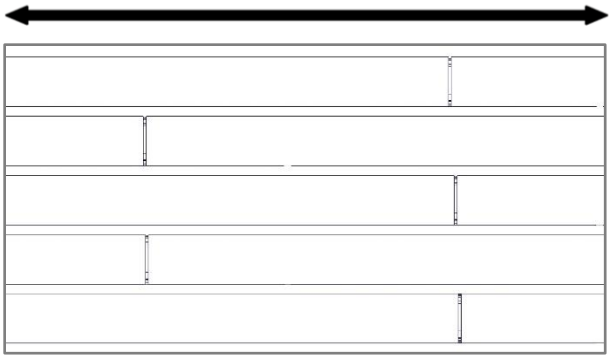




Runs with staggered butt-joints



Runs with staggered lap-joints.



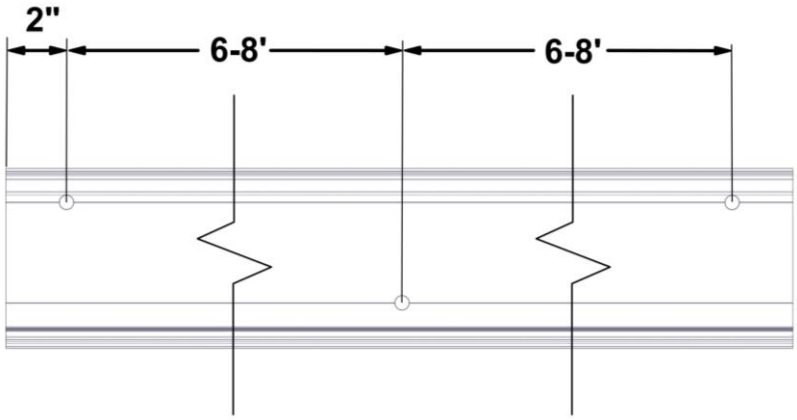
Preparation drilling for Install

To prepare Link & Lock for install layout and predrill the back “L” with 1/2" holes every 6-8’ O.C. typical, with the first hole 2” in from the end to allow space for the End Cap.
For the Batten orientation, alternate the holes from top to bottom using the Dielines for guides.
For Fin orientation, use Pilot Point Drill Bit (see below) as recommended for ease of drilling.

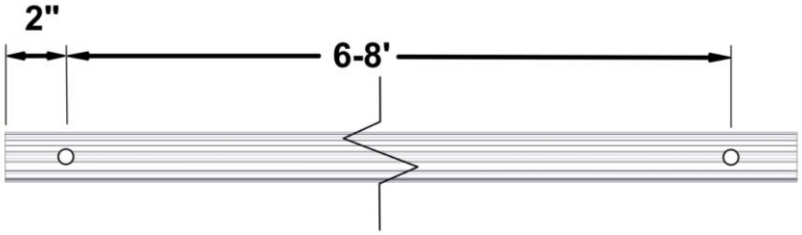
See **Appendix for project specific fastener spacing:**
Allowable Span - Tables 3-9

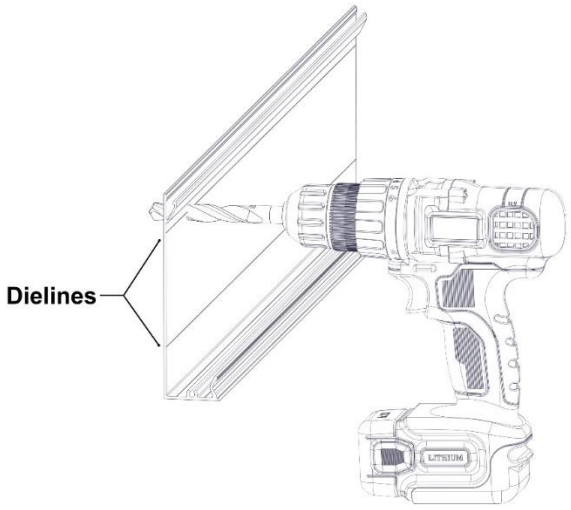
⚠ Tip: Add weep holes as good practice to allow any potential moisture to escape.

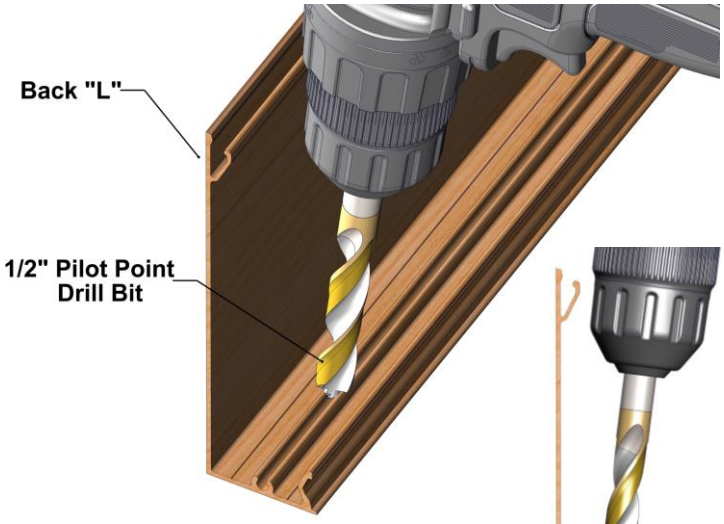
Batten orientation



Fin orientation

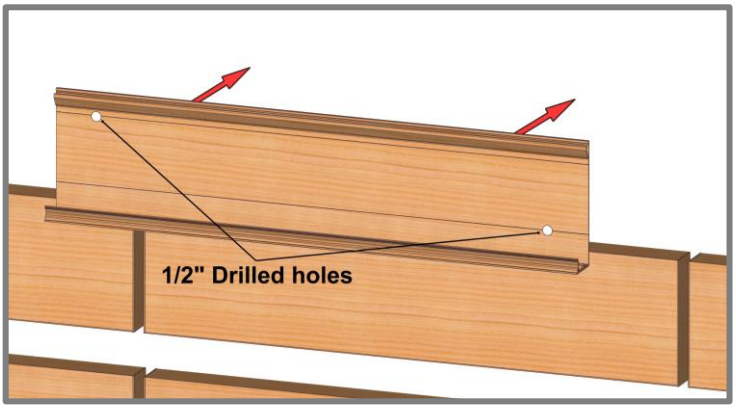






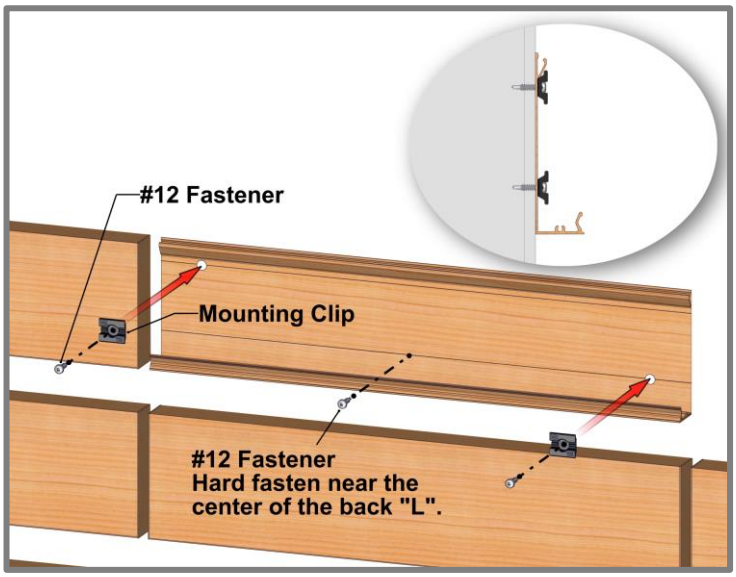
Install Batten orientation

Step 1
Place predrilled Link & Lock back “L” into position (Drilling page 11). It is good practice to check your installation every 2-3 rows for level/plumb and flat/straight, for best results.

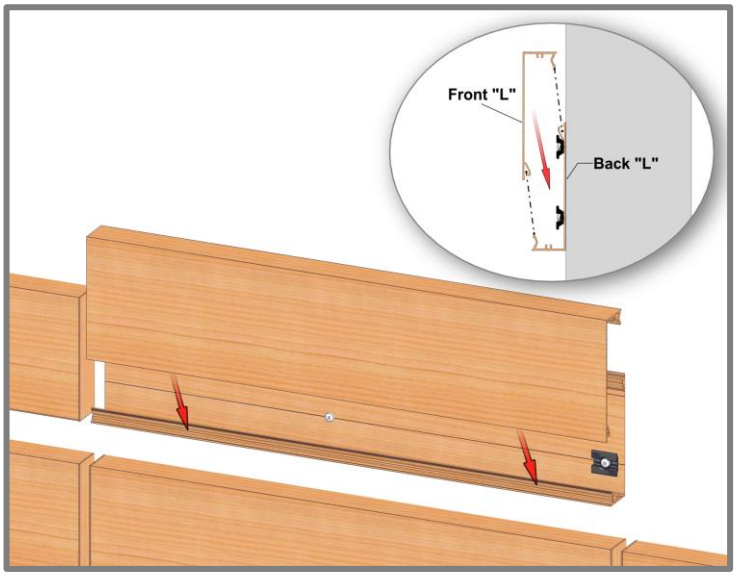


Step 2
Install back “L” using #12 Fasteners and Mounting Clips every 6-8’ O.C. typical.

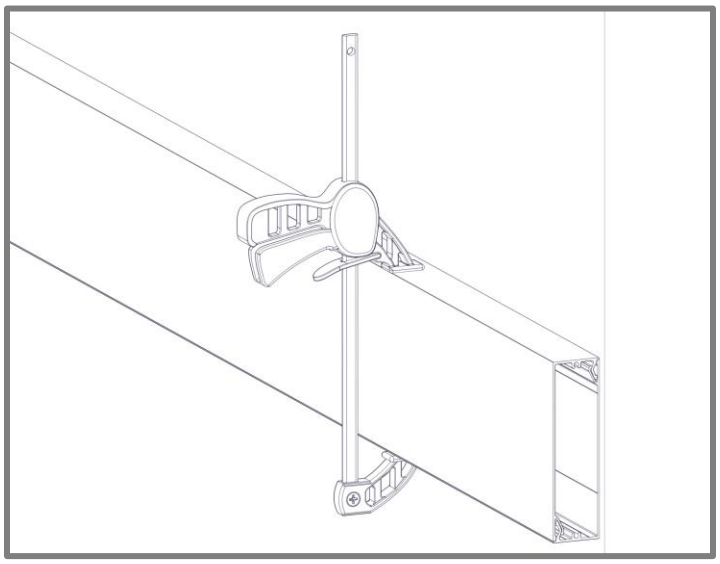
Note: Be sure to fasten in the center of the 1/2” holes to allow for movement each way. Hard fasten near the center of each length to prevent migration of the material over time.



Step 3
Install front “L” and snap it into place, aligning it with ends and joints.
If necessary, use a rubber mallet or hammer and block to protect the finish.



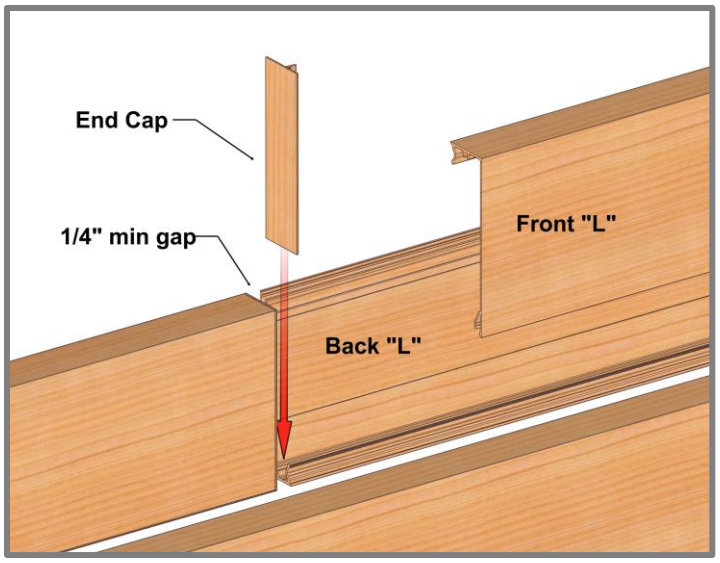
Step 3.1
Use clamps with rubber pads as common practice to securely snap the front “L” onto the back “L”.

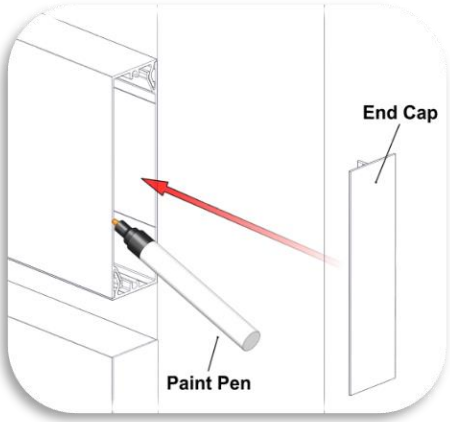


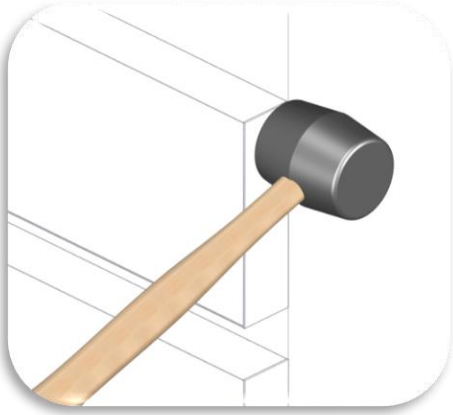
Step 4
Install End Caps, which are friction fit, by pressing them into place using the palm of your hand. If necessary, use a rubber mallet to snap them into place. See below images.
Use paint pens to coat Link & Lock cut ends that may show slightly beyond the End Caps.

Consider your application sequence of the End Caps before installing adjacent Link & Lock members, as they may limit the space needed to insert the caps. In this situation you may need to install the caps first then the front “L” as seen in the image to the right.

⚠TIP: Use shim to hold/secure cap while snapping in the front “L”.

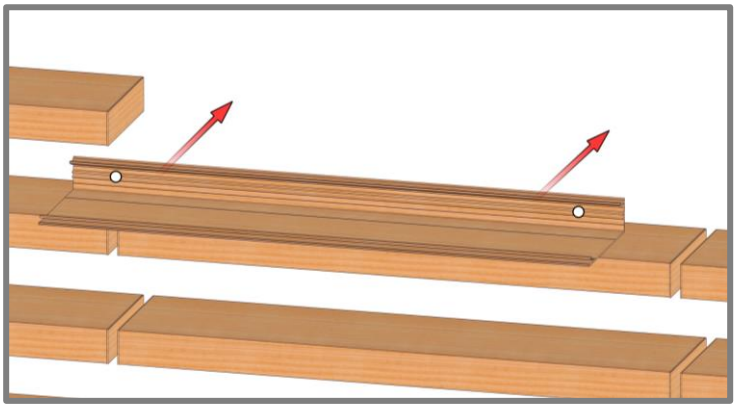






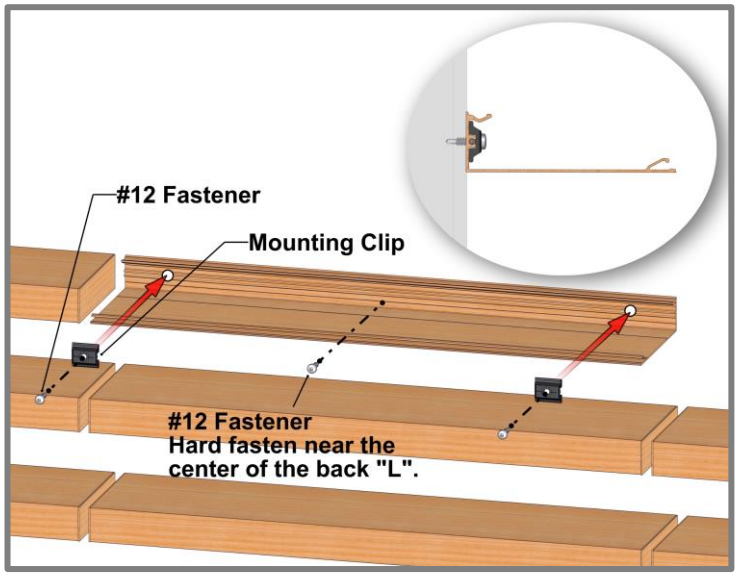
Install Fin orientation

Step 1
Place predrilled Link & Lock back “L” into position (Drilling page 11). It is good practice to check your installation every 2-3 rows for level/plumb and flat/straight, for best results.



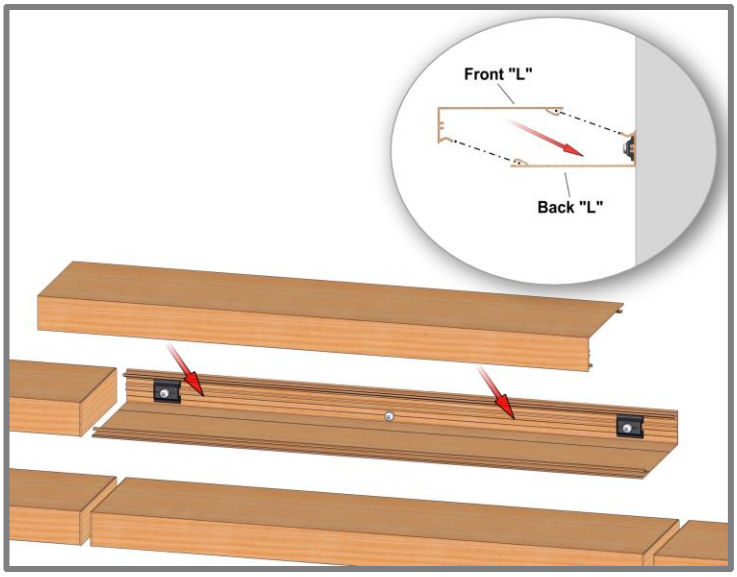
Step 2
Install back “L” using #12 Fasteners and Mounting Clips every 6-8’ O.C. typical.

Note: Be sure to fasten in the center of the 1/2" holes to allow for movement each way. Hard fasten near the center of each length to prevent migration of the material over time.



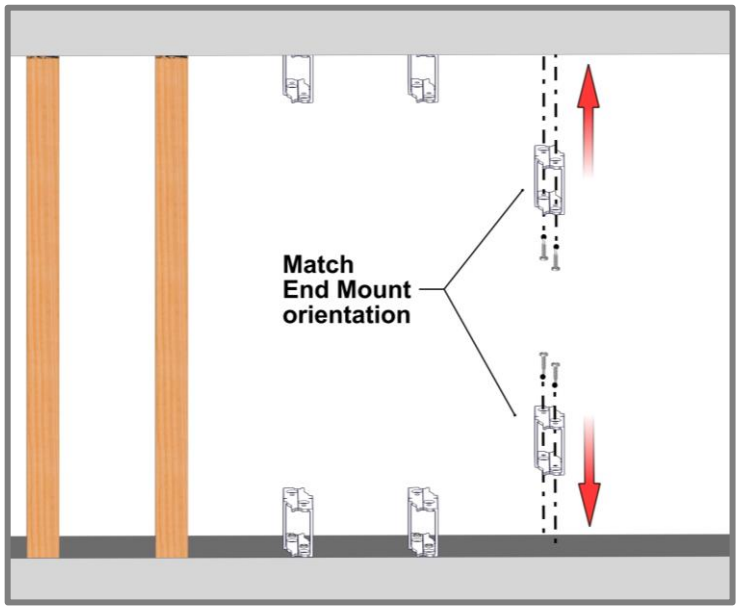
Step 3
Install front “L” and snap it into place, aligning it with ends and joints.
If necessary, use a rubber mallet or hammer and block to protect the finish.

Step 4
Refer to Page 13 for End Cap install and considerations.



Install End to End orientation

Note: Use Tables 3-9 in Appendix for Allowable Span for Wind Loading.



Step 1

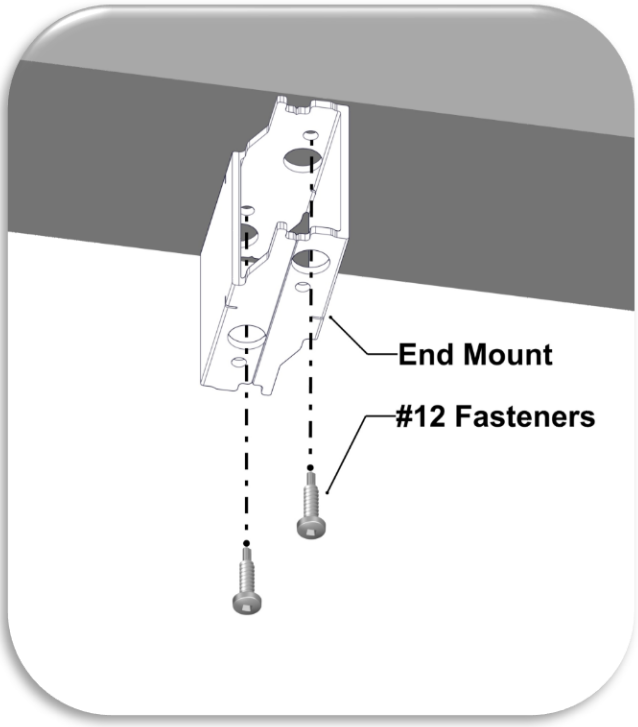
Place End Mounts into position at the top and bottom of the install. It is good practice to check your installation every 2-3 rows for level/plumb and flat/straight, for best results.

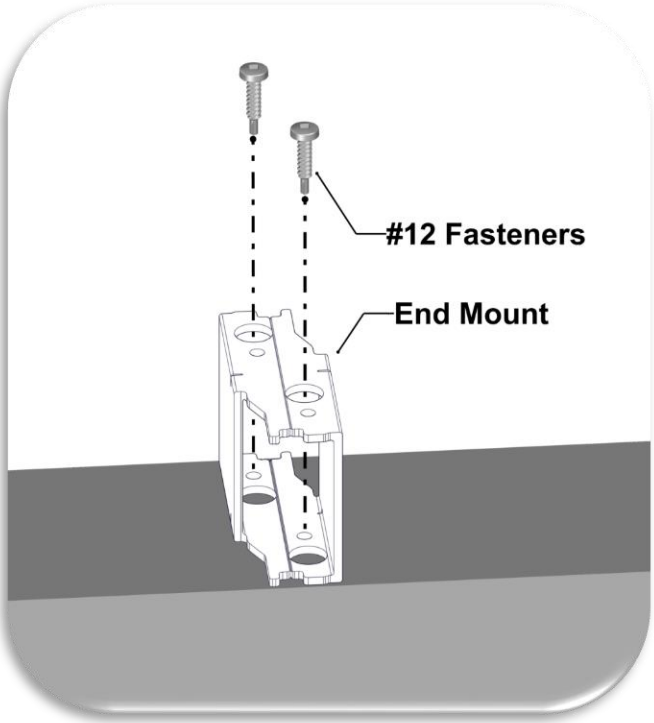
Fastener Types for End Mounts		
End Mount	**Pan Head**	**Hex Head**
2”	#10	
4”	#12	#12
6”	#12	#12
8”	#12	#12

Step 2

Install the End Mounts using #12 Fasteners (#10 for 2” End Mount). Make sure to match the orientation of the End Mounts so the Link & Lock set matches on the top and the bottom. See above for **Fastener Types for End Mounts.**

⚠ TIP: Check the position of the End Mounts once installed to allow a plumb and straight look.



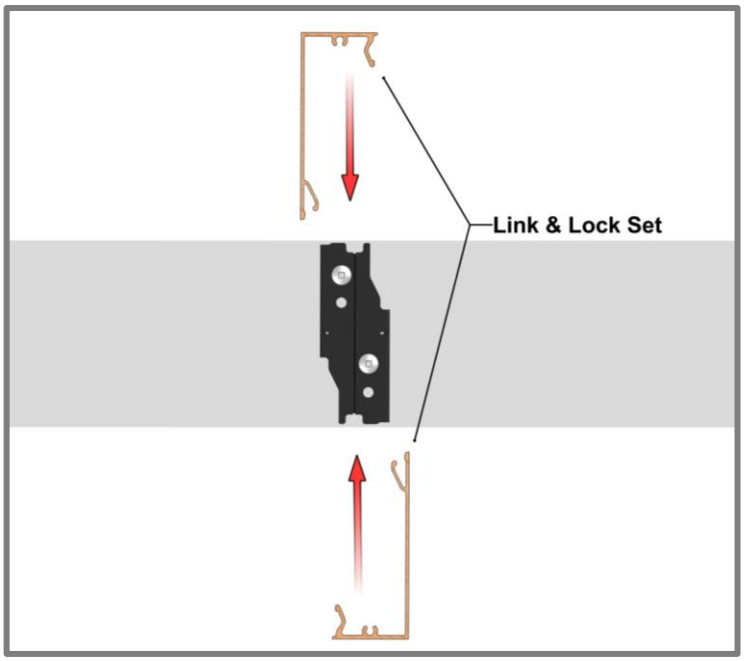


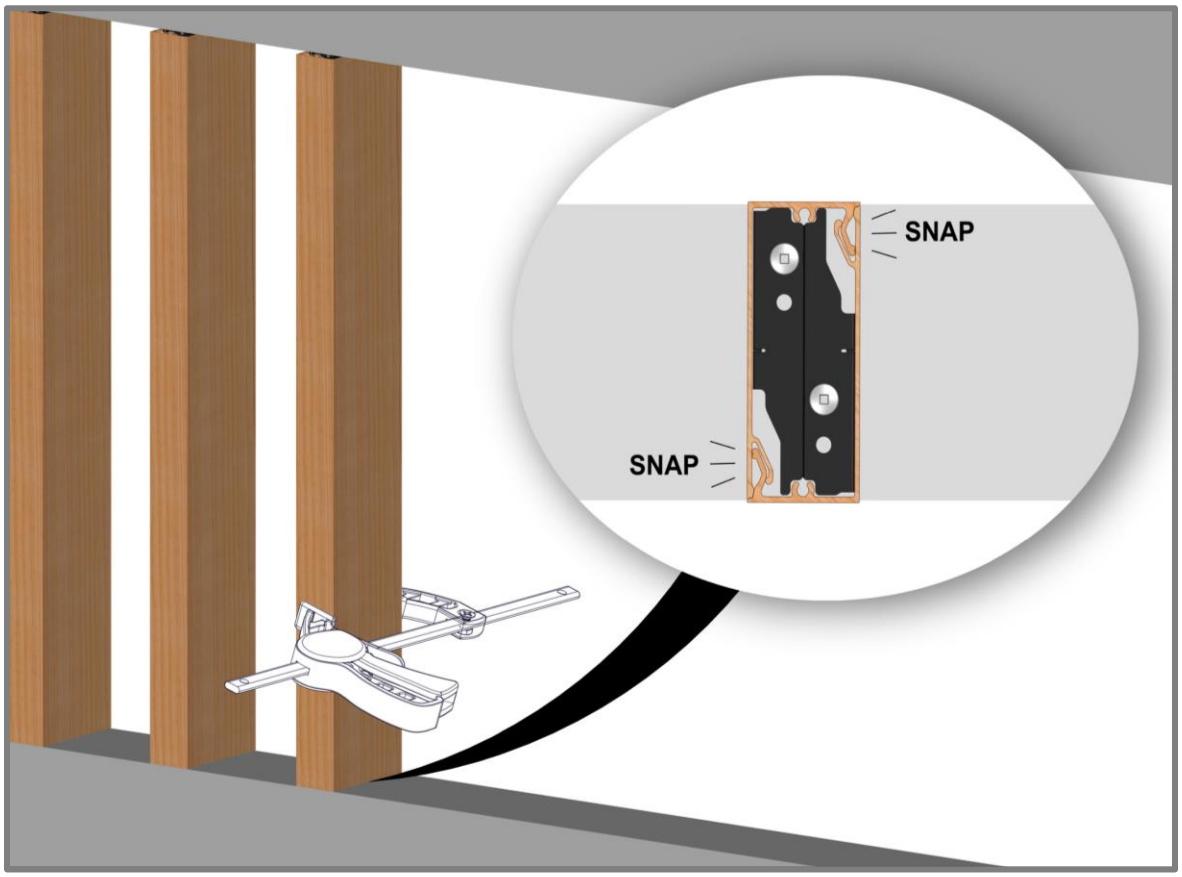
Step 3

Measure, cut and install Link & Lock Set and snap it into place onto the End Mounts. Use clamps with rubber pads as common practice to securely snap the front “L” onto the back “L”.

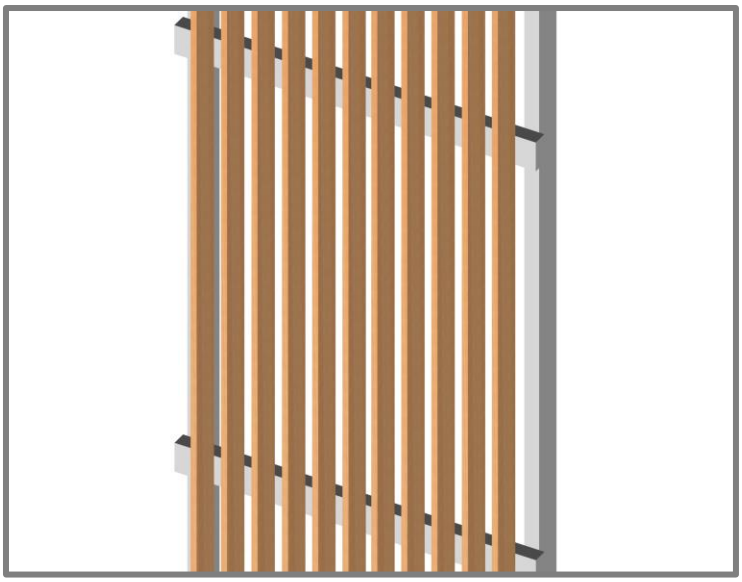
If necessary, use a rubber mallet or hammer and block to protect the finish.

⚠TIP: When measuring the Link & Lock, make sure to leave a gap (~1/4”) for expansion and building movement.





Large spans with Internal Stiffener



Requirements for large spans:

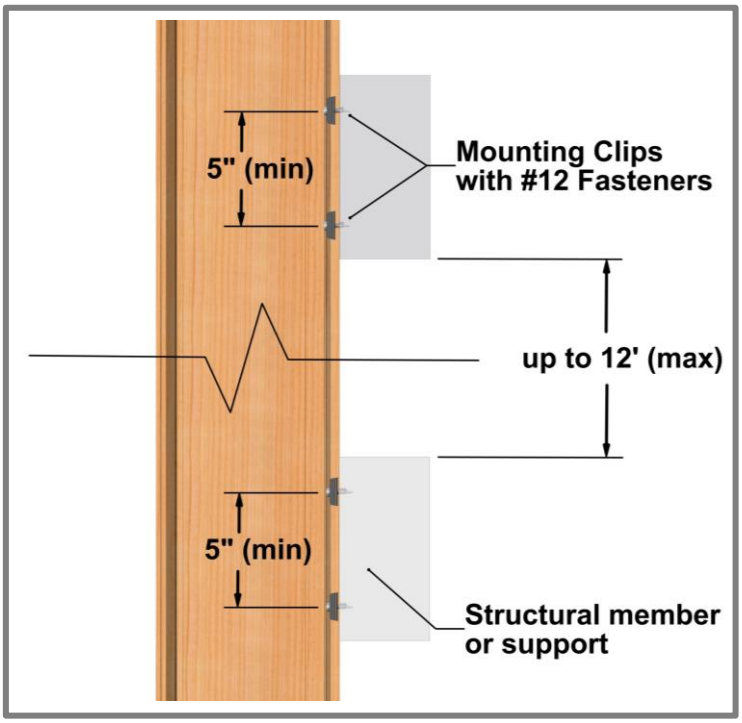
- Two Mounting Clips with #12 fasteners are used at both ends with a minimum distance apart of 5” O.C.
- An Internal Stiffener is added to reinforce the Link & Lock set for spans up to 12’ max @30psf.
- Stiffener must be one continuous member from attachment to attachment.
- Double-sided Tape is used to place the Stiffener onto the Link & Lock. The tape is placed on the center of the Stiffener and then pressed onto far end of the back “L” as shown on page 18.

See **Appendix for allowable spans for project specific wind load. Allowable Span - Tables 3-9**

Step 1
Place predrilled Link & Lock back “L” into position (Drilling page 11). It is good practice to check your installation every 2-3 rows for level/plumb and flat/straight, for best results.

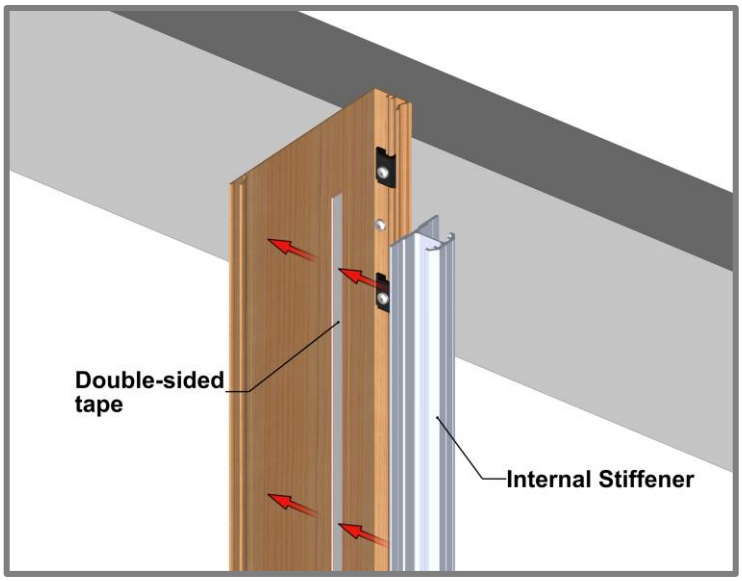
Step 2
Install back “L” using #12 Fasteners and Mounting Clips at end attachment points with a minimum distance apart of 5” O.C.

Note: Be sure to fasten in the center of the 1/2" holes to allow for movement each way. Hard fasten one end of each length to prevent migration of the material over time.



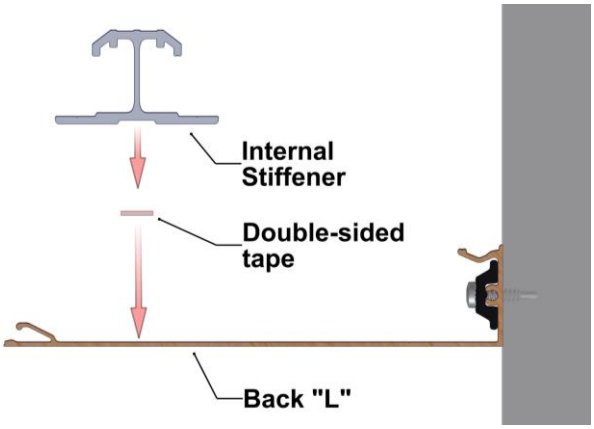
Step 3

Peel and place the Double-sided tape onto the back of the Stiffener O.C. Peel the second side and install the Stiffener as shown in the image pressing down to adhere to the tape.



Note: Install Stiffener 1” (min) from the end of the L&L to allow space for the End Cap as seen below.

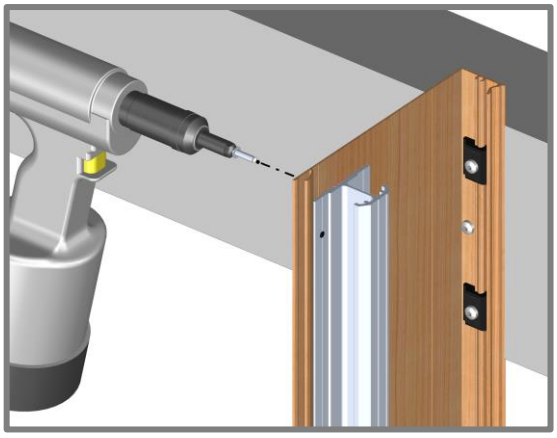
Make sure the Stiffener is located at the end of the back “L” and the tape is in the center of the stiffener.



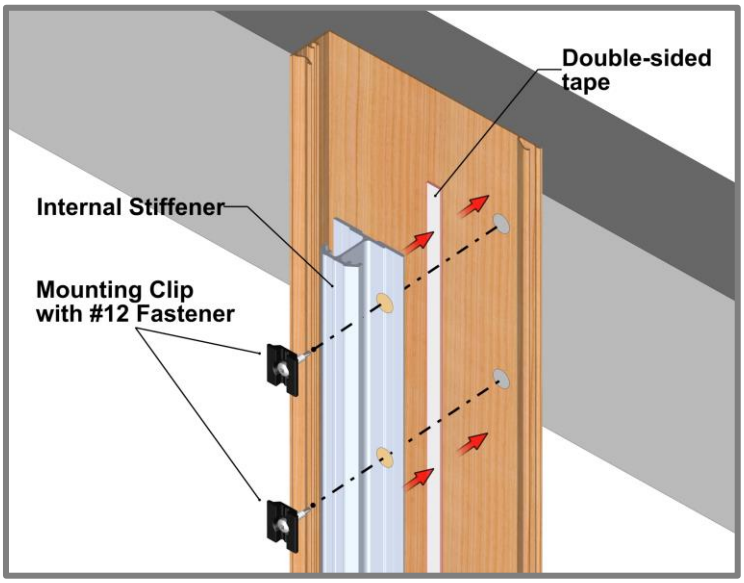
Step 4

-Fastening Stiffener in Fin orientation

Mechanically fasten the Stiffener to the back “L” using 1/8” Dome Head Rivets (Aluminum). Drill the flange of the Stiffener using a 1/8” Drill bit and fasten two Rivets at the top or one end to mitigate movement of the stiffener over time.



Step 4.1
-Fastening Stiffener Batten orientation
Mechanically fasten the Stiffener to the back “L” using the Mounting Clips and #12 Fasteners. Refer to Step 2, Page 12 for mounting.



Step 5
Refer to Step 3 & 4 on Page 12-13 for Front “L” and End Cap install and details.

Appendix

Expansion and Contraction Tables

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

TABLE 3

LONGBOARD® ARCHITECTURAL PRODUCTS

2" LINK & LOCK		PSF (FACTORED/ULITIMATE)									
		30	40	50	60	70	80	90	100	110	120
ALLOWABLE SPAN (ft)	4'	■	■	■	■	■	■	■	■	■	■
	6'	■	■	■	■	■	■	■	■	■	
	8'	■	■	■							
	10'	■									

All testing has been performed using L/180 deflection limits

TABLE 4

LONGBOARD® ARCHITECTURAL PRODUCTS

4" LINK & LOCK		PSF (FACTORED/ULITIMATE)									
		30	40	50	60	70	80	90	100	110	120
ALLOWABLE SPAN (ft)	2'	■	■	■	■	■	■	■	■	■	■
	4'	■	■	■	■	■					
	6'	■	■	■							
	8'	■									

All testing has been performed using L/180 deflection limits

TABLE 5

LONGBOARD® ARCHITECTURAL PRODUCTS

6" LINK & LOCK		PSF (FACTORED/ULITIMATE)									
		30	40	50	60	70	80	90	100	110	120
ALLOWABLE SPAN (ft)	2'	■	■	■	■	■	■	■	■	■	■
	4'	■	■	■	■	■	■	■	■	■	
	6'	■	■								

All testing has been performed using L/180 deflection limits

TABLE 6

LONGBOARD® ARCHITECTURAL PRODUCTS

8" LINK & LOCK		PSF (FACTORED/ULITIMATE)									
		30	40	50	60	70	80	90	100	110	120
ALLOWABLE SPAN (ft)	2'	■	■	■	■	■	■	■	■	■	■
	4'	■	■	■							
	6'	■									

All testing has been performed using L/180 deflection limits

TABLE 7

LONGBOARD® ARCHITECTURAL PRODUCTS

4" LINK & LOCK W. STIFFENER		PSF (FACTORED/ULITIMATE)									
		30	40	50	60	70	80	90	100	110	120
ALLOWABLE SPAN (ft)	**4'	■	■	■	■	■	■	■	■	■	■
	**6'	■	■	■	■	■	■				
	**8'	■	■	■	■						
	**10'	■	■								
	**12'	■									

All testing has been performed using L/180 deflection limits

**Using Longboard Link & Lock Internal Stiffener

TABLE 8

LONGBOARD® ARCHITECTURAL PRODUCTS

6" LINK & LOCK W. STIFFENER		PSF (FACTORED/ULITIMATE)									
		30	40	50	60	70	80	90	100	110	120
ALLOWABLE SPAN (ft)	**4'	■	■	■	■	■	■	■	■	■	■
	**6'	■	■	■	■						
	**8'	■	■								
	**10'	■									

All testing has been performed using L/180 deflection limits

**Using Longboard Link & Lock Internal Stiffener

TABLE 9

LONGBOARD® ARCHITECTURAL PRODUCTS

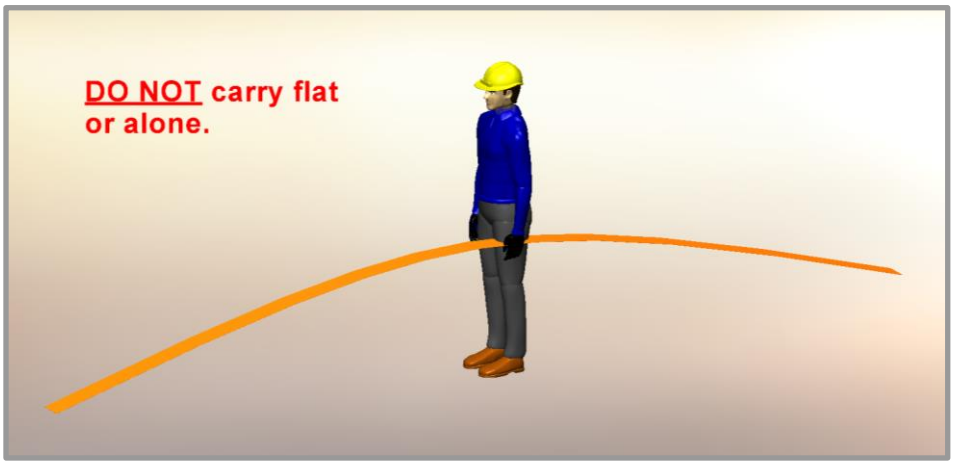
8" LINK & LOCK W. STIFFENER		PSF (FACTORED/ULITIMATE)									
		30	40	50	60	70	80	90	100	110	120
ALLOWABLE SPAN (ft)	**2'	■	■	■	■	■	■	■	■	■	■
	**4'	■	■	■	■	■	■	■	■	■	
	**6'	■	■								
	**8'	■									

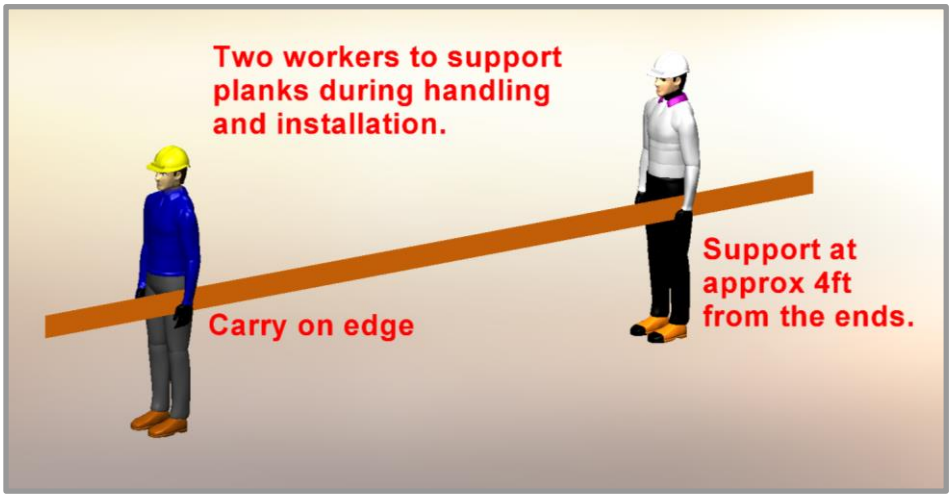
All testing has been performed using L/180 deflection limits

**Using Longboard Link & Lock Internal Stiffener

Proper Handling of Longboard Products

To help avoid injury and product damage, Longboard products require proper handling to and from storage areas during installation. When carrying or installing any products it is recommended that they be moved or carried by at least two people with each support point approximately 4ft from the ends. **Carrying products without proper support can cause excessive bending which may damage the appearance or finish of the product.** Any short cut lengths should also be carried on edge while supporting the material. See below for details.





⚠ Delivery, Storage & Handling ⚠

- Always inspect the delivery for damage and contact LB ASAP if there are any issues: info@longboardproducts.com or 1-800-604-0343 and include your PO# and any pictures if possible. Longboard is not responsible for the installation of blemished or damaged material.
- Be sure to store the material flat, keep it dry, safe & secure and remain in unopened cartons until ready to be installed.
- Always wear appropriate PPE when handling products.

Longboard
1777 Clearbrook Road
Abbotsford, BC V2T 8X8
Canada
longboardproducts.com

Every effort has been made to ensure that the information in these installation guidelines is accurate. Longboard is not responsible for printing or clerical errors.

For more information, contact client care at info@longboardproducts.com or call toll free 1-800-604-0343.