

Interior **Panelboard Walls Installation Guidelines**

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Material Specifications

Finishes

- Longboard Products are available in a wide range of woodgrains and solid colors
- Custom solid colors are available upon request
- Longboard woodgrains have a repeat pattern, shipped in sets mated back-to-back in each box.
 Install these as they come out of the box, as an A&B pattern (need to assess onsite), staggering each plank approx. 1-2' (305-610mm) from the previous plank to achieve a random pattern aesthetic.
- Longboard Products are not recommended for use on marine applications in direct contact with salt water.

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. Longboard Cladding is to be installed outboard of a weather resistant barrier, including all flashings, following code, and building requirements.

Expansion & Contraction

Planks & components expand & contract 1/4" (6mm) over 24' (7.3m) in all directions, measured over a 30°C (54°F) temperature range. Due to this range of movement, the following expansion components should be installed parallel and perpendicular every:

Horizontal Install

 24' (7.3m) max^{1 2} Perpendicular to Planks: Traditional U-Reveal Set Parallel to Planks (at each floor elevation): Compression Joint

Vertical Install

• 24' (7.3m) max² Parallel and/or Perpendicular to Planks: Traditional U-Reveal Set, J-Tracks back-to-back

¹Note: 40' (12.2m) max if using staggered butt-joints. ²Note: Through-wall flashing (where required) at every floor elevation.

Other options (Perpendicular to Planks only)

• 12' (3.7m) -Craftsman U-Reveal Set

When using expansion components, each plank must terminate into a minimum of one (1) component to allow for expansion & contraction.

See: Appendix for tables of expansion/contraction calculations per foot/meter of material.

Material Ordering & Delivery

•	Packaging:	Planks are sold in box quantities: 6" Smooth: 96 SQ FT/Box (8/24's) w. 90pcs Quick-Screen Clips included Components are sold individually by the 12' (3.7m) length.
•	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: <u>info@longboardproducts.com</u> 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.

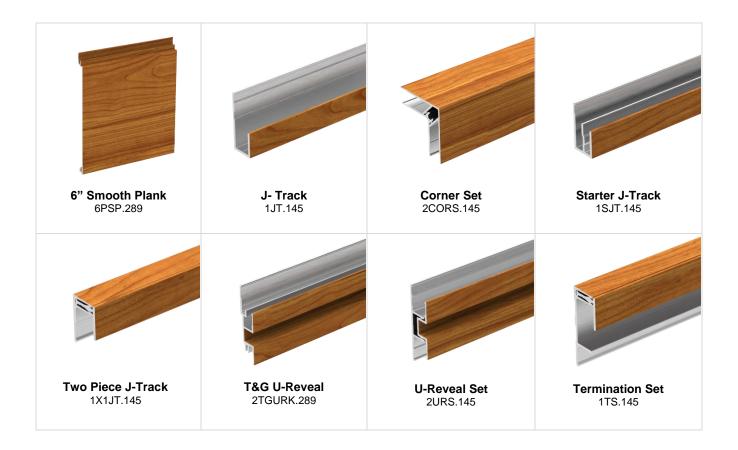
Always follow the product instructions for dilution. Cleaning the surface with a cleanser that is not diluted may result in damage to the coating.

Warranty

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

Components (Typical)

The Panelboard system consists of many components used in conjunction with each other to create a panelized look. For all LB components go to <u>longboardproducts.com</u>.



Tools

Commonly used tools for Panelboard install.

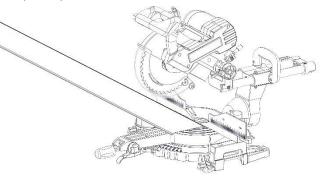
Table Saw with Carbide Metal Blade Non-ferrous 60- 80T (for cutting aluminum)	Miter Saw with Carbide Metal Blade Non-ferrous 60- 80T (for cutting aluminum)	Cordless Drill with clutch	Jig Saw (for protrusions)
	0		*Length, thread and point to suit substrate
Rubber Mallet (or Hammer)	Level	Hole Saw (for lighting fixtures)	#8 Pan Head Screws

Cutting

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

Cut planks 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.





Fastening

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 framing member, blocking or furring strip. For vertical applications when the framing member is not available, install diagonal furring strips to securely fasten planks.

Perimeter components should be hard fastened every **16**" **(406mm) O.C.** directly through the flange using #8 pan-head screws (supplied by others). These components should be fastened within **8**" **(203mm)** of the end for secure fastening.

Planks & starter components are secured using Longboard Quick-Screen Clips fastened to the substrate every 32" (813mm) O.C. using #8 pan-head screws (supplied by others). The Quick-Screen Clips are included in the order for 32" (813mm) spacings.

▲ See Appendix for project specific fastener specs:

Quick Screen Clip - Wind Load Tables 3 & 4

RECOMMENDED CORRECT Pan-Head **Truss-Head** Fastener Quick Screen Clip Smooth Plank Substrate *Length, thread and point to suit substrate **DO NOT USE INCORRECT** Flat-Head **Oval-Head** Fastener Quick Screen Clip Countersunk (bent) Head Smooth Plank Substrate

Fastener types

Framing requirements

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

Wood Framing

- Size: 2x4 minimum
- Spacing: 16" (406mm) O.C. (see Appendix Table 3 & 4 for reference)

Metal Framing

- Gauge: 20 ga. minimum (see Appendix Table 3 & 4 for reference)
- Spacing: 16" (406mm) O.C. (see Appendix Table 3 & 4 for reference)

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: 20 ga. minimum (see Appendix Table 3 & 4 for reference)
- Type: Hat channel, c-stud, or z-furring.
- Spacing: 16" (406mm) O.C.

•

Perimeter and field area limitations

Longboard system typical dimensions:

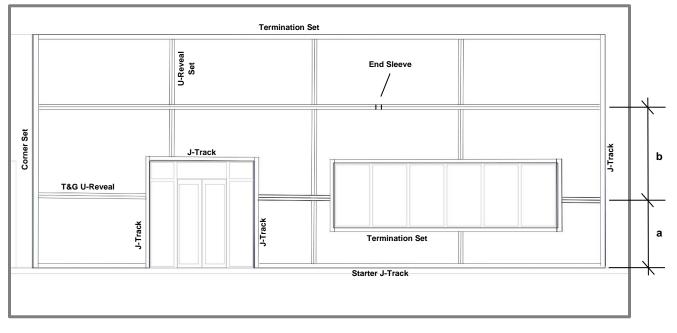
Planks width

Measure and layout your wall area to consider plank & component alignment with fixtures, penetrations, and adjacent walls, for desired appearance. Apply the same methodology for horizontal planks and vertical planks.

- 6" (152mm)

Planks depth - 1/2" (12mm) - 9/16" (15mm) Planks and components total depth

Component layout

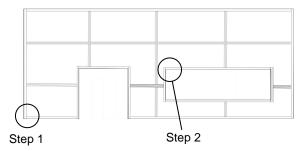


Measurement considerations:

1 1/2" (38mm) T&G U-Reveal (up to 24' length panels)
(a) Start to Panel - Measuring from outer edge of the Starter J-Track to the center of the 1 1/2" U-
Reveal, add 5/8" (16mm) to the dimension of the Plank area. = 6"(X) + 5/8" to ϕ
(b) Panel to Panel - Measuring from center to center of the 1 1/2" U-Reveal, add 1" (25mm) to the
dimension of the Plank area. = $6''(X) + 1''$ to ¢
3/4" (19mm) T&G U-Reveal (up to 12' length panels)
(a) Start to Panel - Measuring from outer edge of the Starter J-Track to the center of the 3/4" U-
Reveal,
add 1/4" (6mm) to the dimension of the Plank area. = 6"(X) + 1/4" to ϕ
(b) Panel to Panel - Measuring from center to center of the 3/4" U-Reveal, add 3/8" (10mm) to the dimension of the Plank area. = 6"(X) + 3/8" to ¢

Corner Set 2	", Outside Corner 1", Inside Corner 3/4"
Location:	Inside & outside corners of the installation area.
Details:	Corner Set 2" recommended for vertical cladding installs.
J-Track 5/8"	Two Piece J-Track (5/8, 7/8", 1 3/8")
Location:	Perpendicular to Planks (eg: sides of windows and doors), along gable end walls, other angled conditions, window/door headers and other penetrations.
Details:	Notch the flange at the ends where they meet corner components.
Starter J-Tra	ck 5/8", Starter Strip
Location:	Where starting with a full width Plank, typically along the bottom of the installation for horizontal Planks.
Details:	Alternatively, Starter Strip can be used back-to-back for vertical installs at the center of each cladding area for equal width ends.

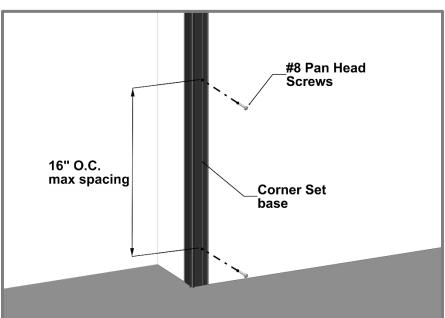
U-Reveal Set (3	//4", 1 1/2")
Location:	Perpendicular to Planks, used to set panelized widths.
Details:	Two-piece component (cap & base).
T&G U-Reveal ((3/4", 1 1/2")
Location:	Parallel to Planks, used to set panelized widths.
Details:	Single-piece component, use End Sleeve (included) every 24' max. (24' Stock lengths)
Termination Se	t (5/8", 7/8", 1 3/8")
Location:	Parallel to Planks along top of the installation area, underside of windows (horizontal cladding only), sides of windows/doors (vertical cladding only) and other penetrations.
Details:	Install base only to start and cap after planks are installed.

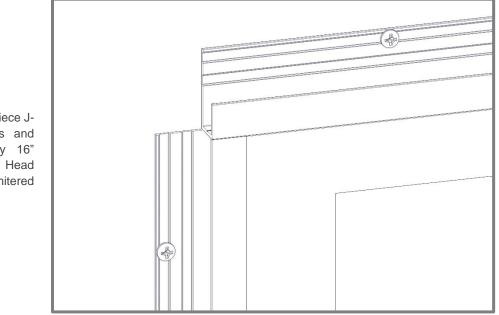


Step 1 - Corners

Install inside and outside corner bases, fastening every 16" O.C. with #8 Pan Head Screws. Corners typically extend from top to bottom of the area of application.

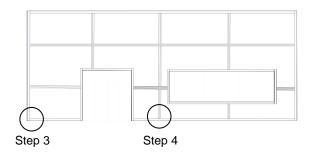
▲ Check that components are level or plumb and flat or straight, for best results.





Step 2 - J-Track

Install J-Track or Two-Piece J-Track around windows and doors, fastening every 16" O.C. with #8 Pan Head Screws. Trims can be mitered for a clean corner look.

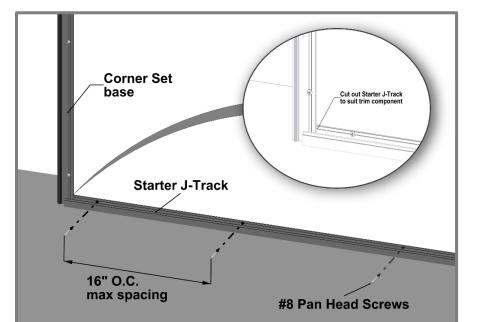


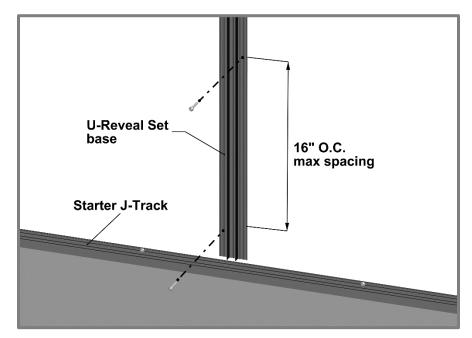
Step 3 - Starter J-Track

Install Starter J-Track or Starter Strip along the bottom of the wall(s), fastening every 16" O.C. with #8 Pan Head Screws.

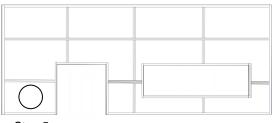
Notch the Starter J-Track to suit the trim component.

▲ Use J-Track and Back-to-Back Starter for vertical plank installations. (Not Shown)





Step 4 - U-Reveal

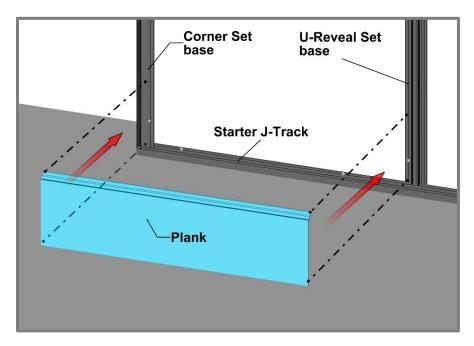
Install U-Reveal Set (base only) at the desired panelized length, fastening every 16" O.C. with #8 Pan Head Screws. 

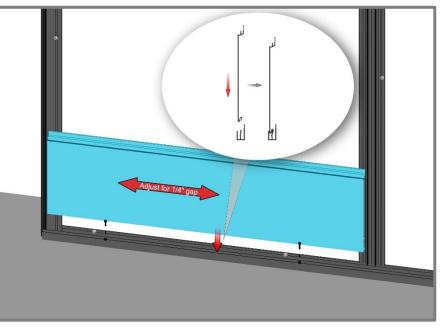
Step 5

Step 5 - Planks

Place the planks into the groove of the Starter J-Track, engaging the tongue.

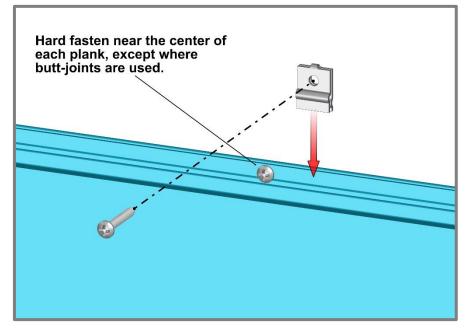
It is good practice to check your installation every 2-3 rows for level or plumb and flat or straight, for best results.



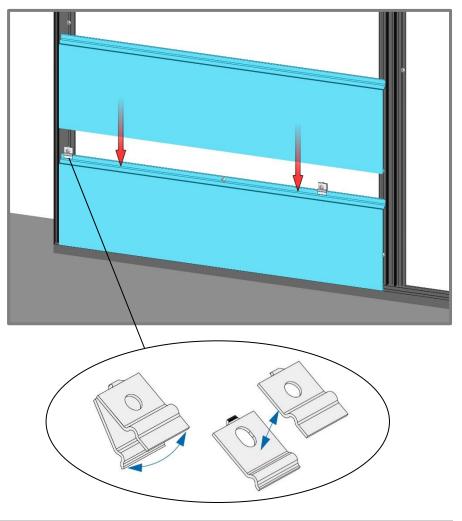


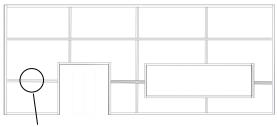
Ensure there is sufficient room for expansion and contraction of each Plank, also confirming component caps will cover.

Install Quick Screen Clips every 32" (813mm) O.C. max spacing. Hard fasten only one point near the center of each plank or fasten at the buttjoints where butt-joints are used. Shim Quick-Screen Clips where needed to correct any substrate inconsistencies.



Where anchoring the planks securely can only be achieved over component flanges; split the Quick Screen Clip and use one piece on the front. This will maintain each Planks ability to expand and contract.





Step 6

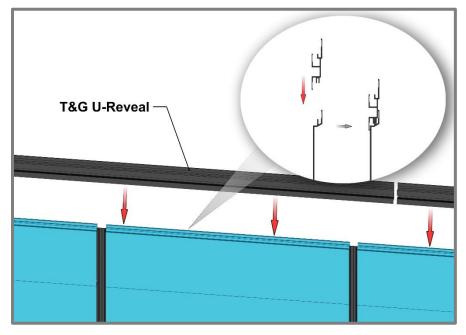
Step 6 - T&G U-Reveal

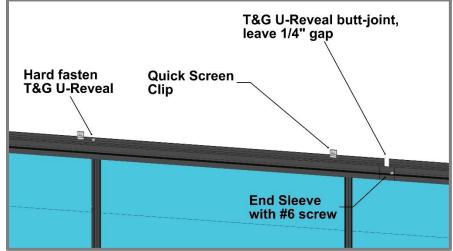
Install T&G U-Reveal at the Panelized width locking it into the tongue of the Planks.

▲ Do Not use fasteners or Quick-Screen Clips on Planks which engage with the groove side of the T&G U-Reveal.

Fasten T&G U-Reveal with Quick Screen Clips and fasteners every 32" O.C. Hard fasten near the center of each T&G U-Reveal length. Where using multiple lengths of T&G U-Reveal, leave a 1/4" gap between butt-joints for thermal movement.

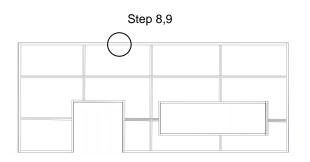
- Where using the Craftsman T&G U-Reveal (3/4"), install the included Craftsman End Sleeve to cover the ¼" buttjoints. Use a small amount of structural silicone on a single side of the End Sleeve, leaving the opposite side dry and free to expand and contract.
- Where using the Traditional T&G U-Reveal (1-1/2"), install the included Traditional End Sleeve to cover the opposite side, free to expand and contract.

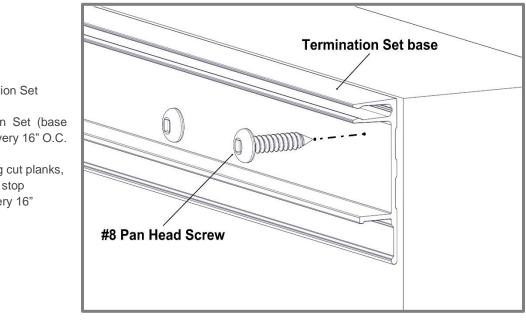


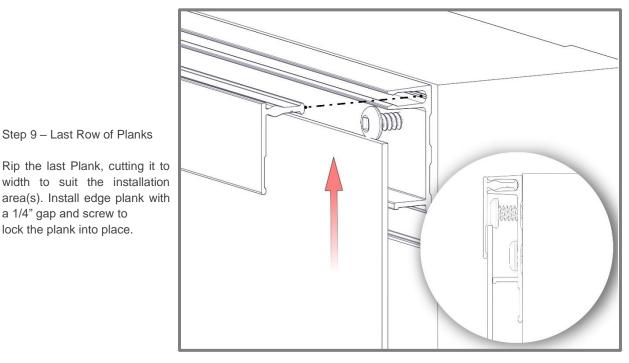


Step 7 – Next sections

Repeat install steps 4-6. Install Compression Joints at floor elevations or anywhere else required by local building authority.







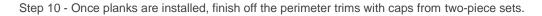
Step 8 – Termination Set

Install Termination Set (base only), fastening every 16" O.C.

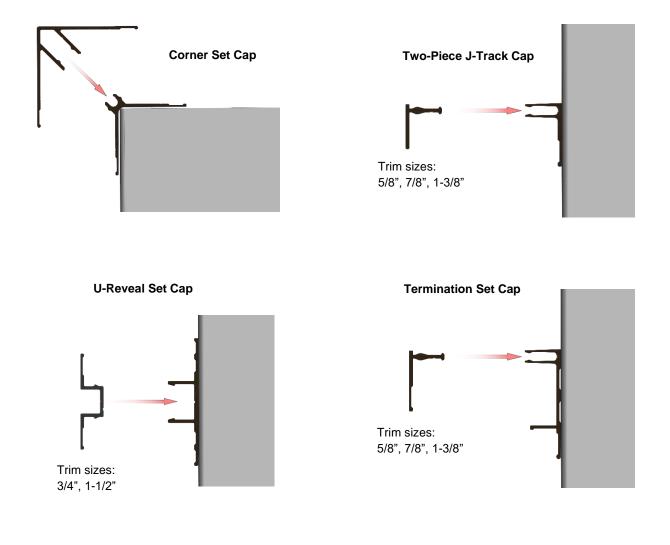
Where terminating cut planks, provide a positive stop approximately every 16" (406mm).

Panelboard Cladding Installation Guide P_IG_RA_V13

a 1/4" gap and screw to lock the plank into place.



Component Ca	ps
Location:	Installed onto the base of the two-piece sets.
Details:	If required, use a rubber mallet or hammer and block to protect the finish during this
	process.

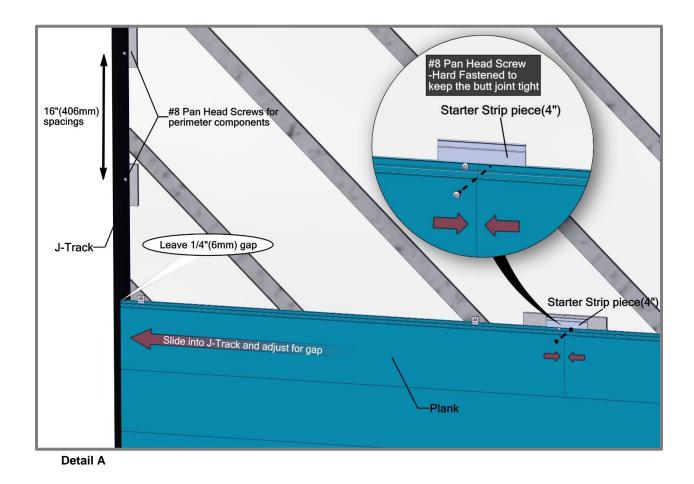


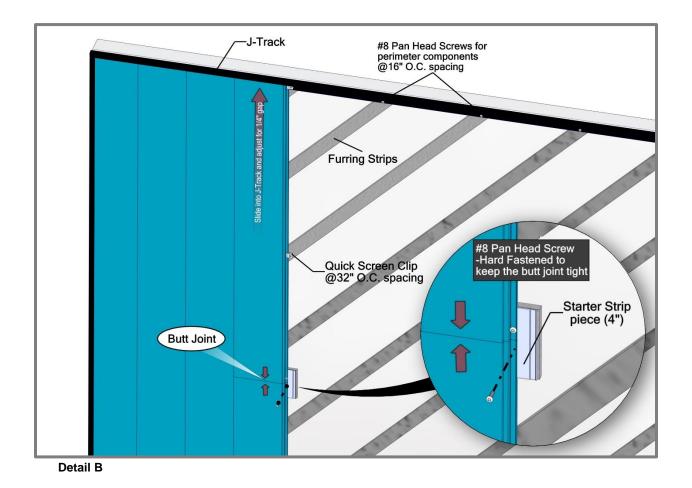
Details

Butt-Joints

- A When installing staggered butt-joints, hard-fasten the two planks at the butt-joint to ensure joints do not open up (See Detail A & B. 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 of the two (2) planks at the butt- joint.
- DO NOT install more than one (1) butt-joint between two components
- DO NOT hard-fasten a plank to a component trim, as this will restrict its ability to expand & contract into the component.
- If no butt joints along the length, it is good practice to hard-fasten each plank directly through the flange near the center, to keep the planks from migrating.
- DO NOT hard-fasten more than one (1) location per plank.
- Fasten only:

Situation	Location
No butt-joints:	-Center of planks
Butt-joints:	-At the joints

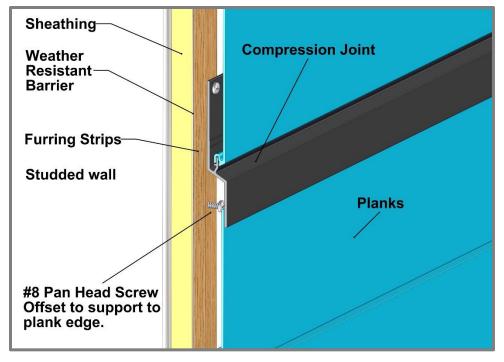




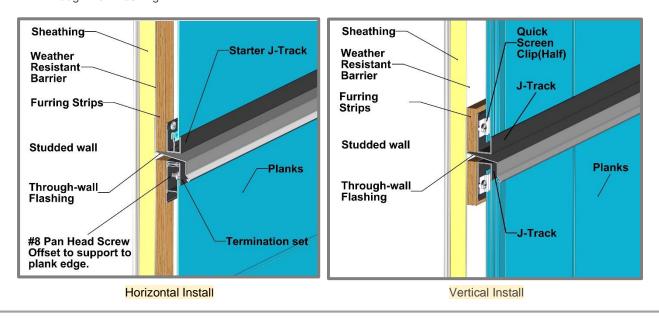
Panelboard Cladding Installation Guide P_IG_RA_V13

Floor elevation

Compression Joint



Floor elevation	
Туре:	Compression Joint, Termination set/Starter J-Track, J-Track back-to-back.
Location:	Typically, at every floor elevation and where through-wall flashing is required.
Details:	Note the orientation of planks for through-wall flashing install.



Through-wall Flashing

Appendix

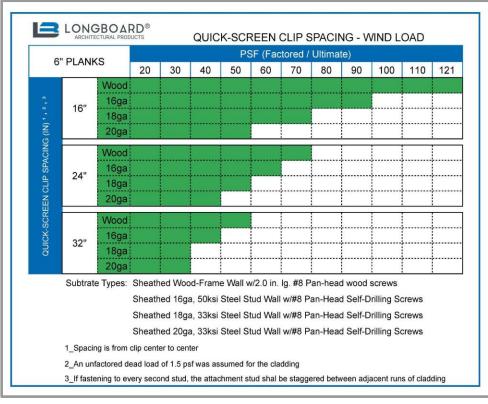
Expansion and Contraction Tables

BL	E 1 - IN	IPERIAL			AVERA	GE TEMPE			CUTTING	& INSTALL	ATION		
		°C	-50	-40	-30	-20	-10	0	10	20	30	40	50
		°F	-58	-40	-22	-4	14	32	50	68	86	104	122
	°C	°F	-		•	EXPAN	ISION OR C	ONTRACT	ION (INCH/	FOOT)			
CONSTRUCTION TEMP.	-50	-58	0.000	-0.003	-0.005	-0.008	-0.011	-0.014	-0.016	-0.019	-0.022	-0.024	-0.027
z	-40	-40	0.003	0.000	-0.003	-0.005	-0.008	-0.011	-0.014	-0.016	-0.019	-0.022	-0.024
2	-30	-22	0.005	0.003	0.000	-0.003	-0.005	-0.008	-0.011	-0.014	-0.016	-0.019	-0.022
Ş	-20	-4	0.008	0.005	0.003	0.000	-0.003	-0.005	-0.008	-0.011	-0.014	-0.016	-0.019
2	-10	14	0.011	0.008	0.005	0.003	0.000	-0.003	-0.005	-0.008	-0.011	-0.014	-0.016
5	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
2	20	68	0.019	0.016	0.014	0.011	0.008	0.005	0.003	0.000	-0.003	-0.005	-0.008
ININ/MAA FUSI	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
=	1000					0.040	0.014	0.014	0.044	0.000	0.005	0.000	0.000
	50	122	0.027	0.024	0.022	0.019	0.016	0.014	0.011	0.008	0.005	0.003	0.000
	50 E 2 - M	ETRIC			AVERA	GE TEMPE	RATURE A	T TIME OF	CUTTING	& INSTALL	ATION		
	intellitios.	ETRIC °C	-50	-40	AVERA	GE TEMPE	RATURE A	T TIME OF	CUTTING	& INSTALL 20	ATION 30	40	50
	intellitios.	ETRIC			AVERA	GE TEMPE	RATURE A	T TIME OF	CUTTING	& INSTALL	ATION		
3L	intellitios.	ETRIC °C	-50	-40	AVERA	GE TEMPE -20 -4	RATURE A -10 14	T TIME OF 0 32	CUTTING	& INSTALL 20 68	ATION 30	40	50
BL	E 2 - M	ETRIC °C °F -58	-50 -58 0.000	-40 -40	AVERA -30 -22 -0.460	GE TEMPE -20 -4	RATURE A -10 14	T TIME OF 0 32	CUTTING 10 50	& INSTALL 20 68 1ETER) -1.610	ATION 30	40 104 -2.070	50 122 -2.300
BL	E 2 - M °C	ETRIC °C °F °F	-50 -58	-40 -40 -0.230 0.000	AVERA -30 -22	GE TEMPE -20 -4 EXPAN -0.690 -0.460	RATURE A -10 14 ISION OR C	T TIME OF 0 32 ONTRACTI	CUTTING 10 50 ON (MM/N -1.380 -1.150	& INSTALL 20 68 1ETER)	ATION 30 86 -1.840 -1.610	40 104	50 122 -2.300
BL	E 2 - M [°] C -50 -40 -30	ETRIC °C °F -58 -40 -22	-50 -58 0.000 0.230 0.460	-40 -40 -0.230 0.000 0.230	AVERA -30 -22 -0.460 -0.230 0.000	GE TEMPE -20 -4 EXPAN -0.690	RATURE A -10 14 ISION OR C -0.920 -0.690 -0.460	T TIME OF 0 32 ONTRACT -1.150 -0.920 -0.690	CUTTING 10 50 ON (MM/N -1.380	& INSTALL 20 68 IETER) -1.610 -1.380 -1.150	ATION 30 86 -1.840 -1.610 -1.380	40 104 -2.070 -1.840 -1.610	50 122 -2.300 -2.070 -1.840
BL	€ 2 - M °C -50 -40 -30 -20	ETRIC °C °F °F -58 -40	-50 -58 0.000 0.230 0.460 0.690	-40 -40 -0.230 0.000 0.230 0.460	AVERA -30 -22 -0.460 -0.230 0.000 0.230	GE TEMPE -20 -4 EXPAN -0.690 -0.460 -0.230 0.000	RATURE A -10 14 ISION OR C -0.920 -0.690 -0.460 -0.230	T TIME OF 0 32 0NTRACT -1.150 -0.920 -0.690 -0.460	CUTTING 10 50 ON (MM/N -1.380 -1.150 -0.920 -0.690	& INSTALL 20 68 1ETER) -1.610 -1.380 -1.150 -0.920	ATION 30 86 -1.840 -1.610 -1.380 -1.150	40 104 -2.070 -1.840 -1.610 -1.380	50 122 -2.300 -2.070 -1.840 -1.610
3L	€ 2 - M °C -50 -40 -30 -20 -10	ETRIC °C °F -58 -40 -22 -4 14	-50 -58 0.000 0.230 0.460 0.690 0.920	-40 -40 -0.230 0.000 0.230 0.460 0.690	AVERA -30 -22 -0.460 -0.230 0.000 0.230 0.460	GE TEMPE -20 -4 EXPAN -0.690 -0.460 -0.230 0.000 0.230	RATURE A -10 14 SION OR C -0.920 -0.690 -0.460 -0.230 0.000	T TIME OF 0 32 0NTRACT -1.150 -0.920 -0.690 -0.460 -0.230	CUTTING 10 50 ON (MM/N -1.380 -1.150 -0.920 -0.690 -0.460	& INSTALL 20 68 IETER) -1.610 -1.380 -1.150	ATION 30 86 -1.840 -1.610 -1.380 -1.150 -0.920	40 104 -2.070 -1.840 -1.610 -1.380 -1.150	50 122 -2.300 -2.070 -1.840 -1.610
3L	€ 2 - M • C -50 -40 -30 -20 -10 0	ETRIC °C °F -58 -40 -22 -4 14 32	-50 -58 0.000 0.230 0.460 0.690 0.920 1.150	-40 -40 -0.230 0.000 0.230 0.460 0.690 0.920	AVERA -30 -22 -0.460 -0.230 0.000 0.230 0.460 0.690	GE TEMPE -20 -4 EXPAN -0.690 -0.460 -0.230 0.000 0.230 0.460	RATURE A -10 14 SION OR C -0.920 -0.690 -0.460 -0.230 0.000 0.230	T TIME OF 0 32 0NTRACTI -1.150 -0.920 -0.690 -0.460 -0.230 0.000	CUTTING 10 50 ON (MM/N -1.380 -1.150 -0.920 -0.690 -0.460 -0.230	& INSTALL 20 68 (ETER) -1.610 -1.380 -1.150 -0.920 -0.690 -0.460	ATION 30 86 -1.840 -1.610 -1.380 -1.150 -0.920 -0.690	40 104 -2.070 -1.840 -1.610 -1.380 -1.150 -0.920	50 122 -2.300 -2.070 -1.840 -1.610 -1.380 -1.150
3L	° C -50 -40 -30 -20 -10 0 10	ETRIC °C °F -58 -40 -22 -4 14 32 50	-50 -58 0.000 0.230 0.460 0.690 0.920 1.150 1.380	-40 -40 -0.230 0.000 0.230 0.460 0.690 0.920 1.150	AVERA -30 -22 -0.460 -0.230 0.000 0.230 0.460 0.690 0.920	GE TEMPE -20 -4 EXPAN -0.690 -0.460 -0.230 0.000 0.230 0.460 0.690	RATURE A -10 14 SION OR C -0.920 -0.690 -0.460 -0.230 0.000 0.230 0.460	T TIME OF 0 32 0NTRACT -1.150 -0.920 -0.690 -0.460 -0.230 0.000 0.230	CUTTING 10 50 ON (MM/N -1.380 -1.150 -0.920 -0.690 -0.460 -0.230 0.000	& INSTALL 20 68 (ETER) -1.610 -1.380 -1.150 -0.920 -0.690 -0.460 -0.230	ATION 30 86 -1.840 -1.610 -1.380 -1.150 -0.920 -0.690 -0.460	40 104 -2.070 -1.840 -1.610 -1.380 -1.150 -0.920 -0.690	50 122 -2.300 -2.070 -1.840 -1.610 -1.380 -1.150 -0.920
3L	€ 2 - M • C -50 -40 -30 -20 -10 0 10 20	ETRIC °C °F -58 -40 -22 -4 14 32 50 68	-50 -58 0.000 0.230 0.460 0.690 0.920 1.150 1.380 1.610	-40 -40 -0.230 0.000 0.230 0.460 0.690 0.920 1.150 1.380	AVERA -30 -22 -0.460 -0.230 0.000 0.230 0.460 0.690 0.920 1.150	GE TEMPE -20 -4 EXPAN -0.690 -0.460 -0.230 0.000 0.230 0.460 0.690 0.920	RATURE A -10 14 SION OR C -0.920 -0.690 -0.460 -0.230 0.000 0.230 0.460 0.690	T TIME OF 0 32 ONTRACT -1.150 -0.920 -0.690 -0.460 -0.230 0.000 0.230 0.460	CUTTING 10 50 ON (MM/N -1.380 -1.150 -0.920 -0.690 -0.460 -0.230 0.000 0.230	& INSTALL 20 68 (ETER) -1.610 -1.380 -1.150 -0.920 -0.690 -0.460 -0.230 0.000	ATION 30 86 -1.840 -1.610 -1.380 -1.150 -0.920 -0.690 -0.460 -0.230	40 104 -2.070 -1.840 -1.610 -1.380 -1.150 -0.920 -0.690 -0.460	50 122 -2.300 -2.070 -1.840 -1.610 -1.380 -1.150 -0.920 -0.690
3L	° C -50 -40 -30 -20 -10 0 10 20 30	ETRIC °C °F -58 -40 -22 -4 14 32 50 68 86 86	-50 -58 0.000 0.230 0.460 0.690 0.920 1.150 1.380 1.610 1.840	-40 -40 -0.230 0.000 0.230 0.460 0.690 0.920 1.150 1.380 1.610	AVERA -30 -22 -0.460 -0.230 0.000 0.230 0.460 0.690 0.920 1.150 1.380	GE TEMPE -20 -4 EXPAN -0.690 -0.460 -0.230 0.230 0.230 0.460 0.690 0.920 1.150	RATURE A -10 14 SION OR C -0.920 -0.690 -0.460 -0.230 0.000 0.230 0.460 0.690 0.920	T TIME OF 0 32 0NTRACT -1.150 -0.920 -0.690 -0.460 -0.230 0.000 0.230 0.460 0.690	CUTTING 10 50 ON (MM/N -1.380 -1.150 -0.920 -0.690 -0.460 -0.230 0.000 0.230 0.460	& INSTALL 20 68 IETER) -1.610 -1.380 -1.150 -0.920 -0.690 -0.460 -0.230 0.000 0.230	ATION 30 86 -1.840 -1.610 -1.380 -1.150 -0.920 -0.690 -0.460 -0.230 0.000	40 104 -2.070 -1.840 -1.610 -1.380 -1.150 -0.920 -0.690 -0.460 -0.230	50 122 -2.300 -2.070 -1.840 -1.610 -1.380 -1.150 -0.920 -0.690 -0.460
	€ 2 - M • C -50 -40 -30 -20 -10 0 10 20	ETRIC °C °F -58 -40 -22 -4 14 32 50 68	-50 -58 0.000 0.230 0.460 0.690 0.920 1.150 1.380 1.610	-40 -40 -0.230 0.000 0.230 0.460 0.690 0.920 1.150 1.380	AVERA -30 -22 -0.460 -0.230 0.000 0.230 0.460 0.690 0.920 1.150	GE TEMPE -20 -4 EXPAN -0.690 -0.460 -0.230 0.000 0.230 0.460 0.690 0.920	RATURE A -10 14 SION OR C -0.920 -0.690 -0.460 -0.230 0.000 0.230 0.460 0.690	T TIME OF 0 32 ONTRACT -1.150 -0.920 -0.690 -0.460 -0.230 0.000 0.230 0.460	CUTTING 10 50 ON (MM/N -1.380 -1.150 -0.920 -0.690 -0.460 -0.230 0.000 0.230	& INSTALL 20 68 (ETER) -1.610 -1.380 -1.150 -0.920 -0.690 -0.460 -0.230 0.000	ATION 30 86 -1.840 -1.610 -1.380 -1.150 -0.920 -0.690 -0.460 -0.230	40 104 -2.070 -1.840 -1.610 -1.380 -1.150 -0.920 -0.690 -0.460	

TABLE 3

					QUIU			10	SPACIN	1			
4"	PLANK	s						100	Ultima				14
_			20	30	40	50	60	70	80	90	100	110	12
		Wood											
-	16"	16ga											
	10	18ga											
		20ga											
		Wood	-			_							
		16ga											
	24"	18ga										<u> </u>	
												<u> </u>	
		20ga										1	
3		Wood											
	32"	16ga											
2 3	32	18ga											
		20ga											
	Subtrat	e Types:	Sheath	ed Woo	d-Fram	e Wall v	/2.0 in.	lg. #8 P	an-head	boow b	screws		
			Sheath	ed 16ga	a, 50ksi	Steel St	tud Wall	w/#8 P	an-Head	d Self-D	rilling S	crews	
					a, 33ksi						-		
					a, 33ksi								
	Cassia					oleci ol		Wino I	annica		ining 0	010113	
	_Spacin	g is from c	ap cente	r to cent	er								

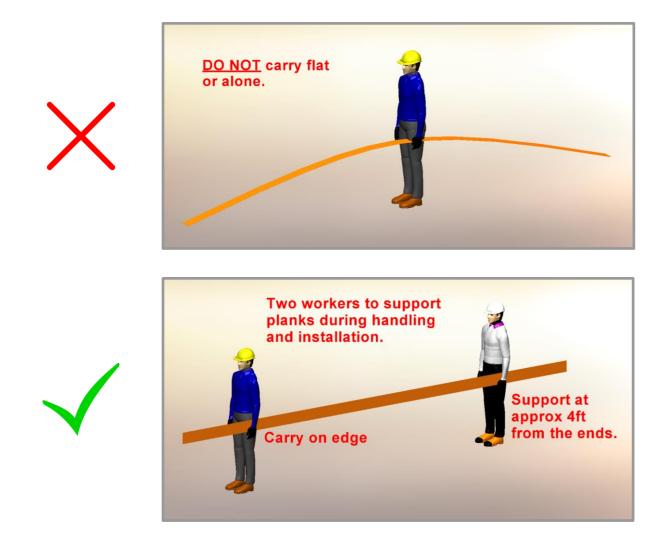
TABLE 4



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.



A Delivery, Storage & Handling

- Always inspect the delivery for damage and contact LB ASAP if there are any issues: <u>info@longboardproducts.com</u> 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.

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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.