



Panel, Cable and Tube Systems

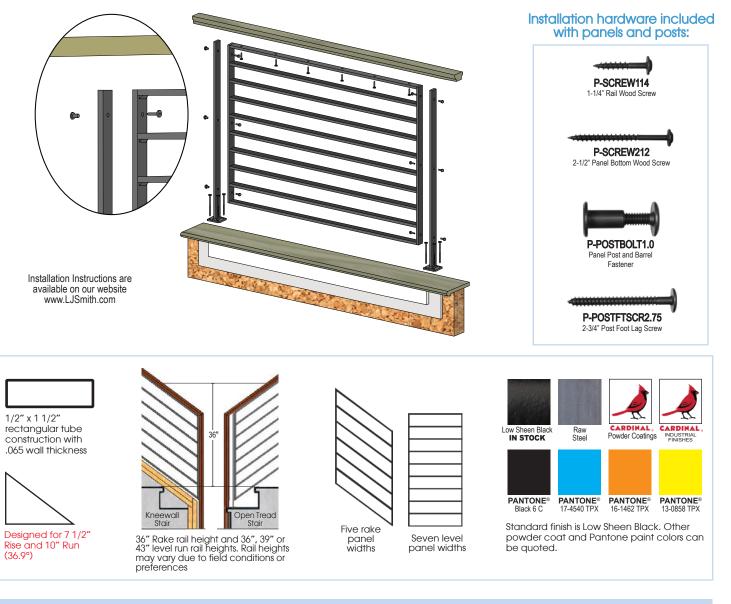


A NOVO Building Products Company

Panel System

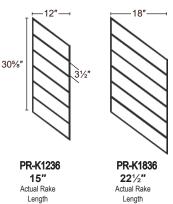
This collection consists of preassembled panels resulting in a very simplified installation process for open tread stairs, kneewall stairs and level run applications. This system is for interior use only.

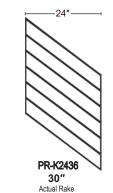
Our Linear Panels can be pre-built to fit and only need a few screw holes drilled for installation. No glue needed, no sanding, no drilling of baluster holes, no marking and cutting to fit.



Every rake and level panel is predrilled on the top rung and comes with screws for attachment to the handrail. Screws are also included for the bottom of each panel.

Kneewall Stair Panels

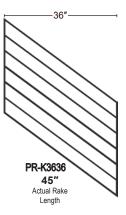




Length

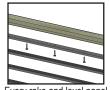


30'

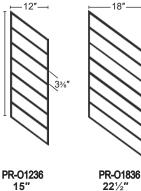




Open Tread Stair Panels



Every rake and level panel is predrilled on the top rung and comes with screws for attachment to the handrail. Screws are also included for the bottom of each panel.

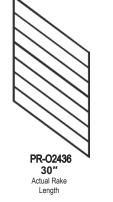


34½"

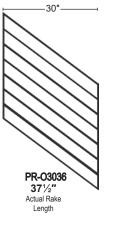
22½" Actual Rake Length

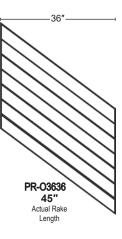
Actual Rake

Length

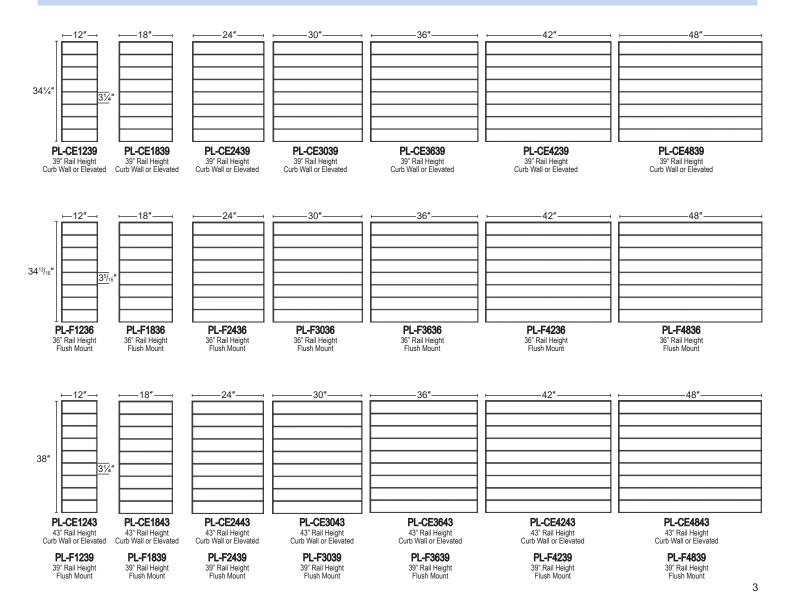


24"

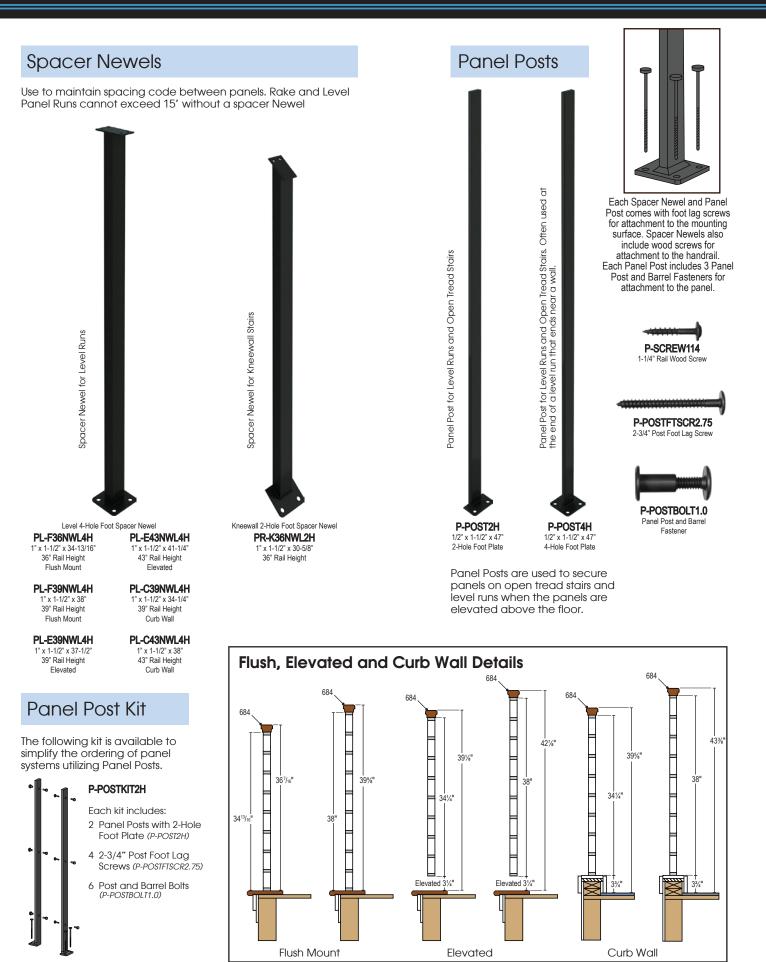




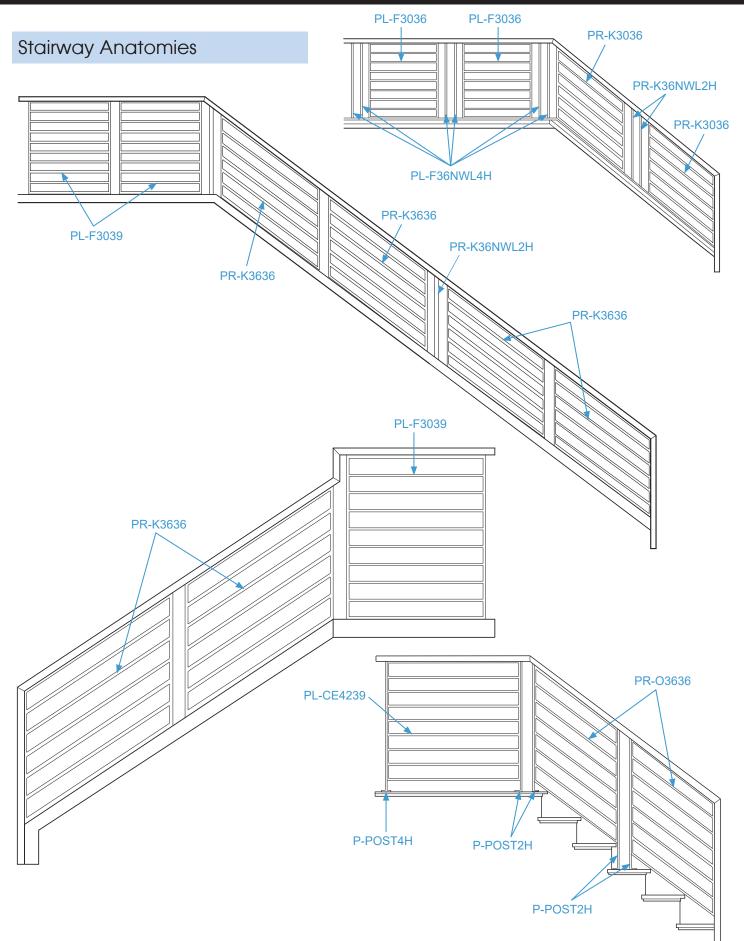
Level Run Panels



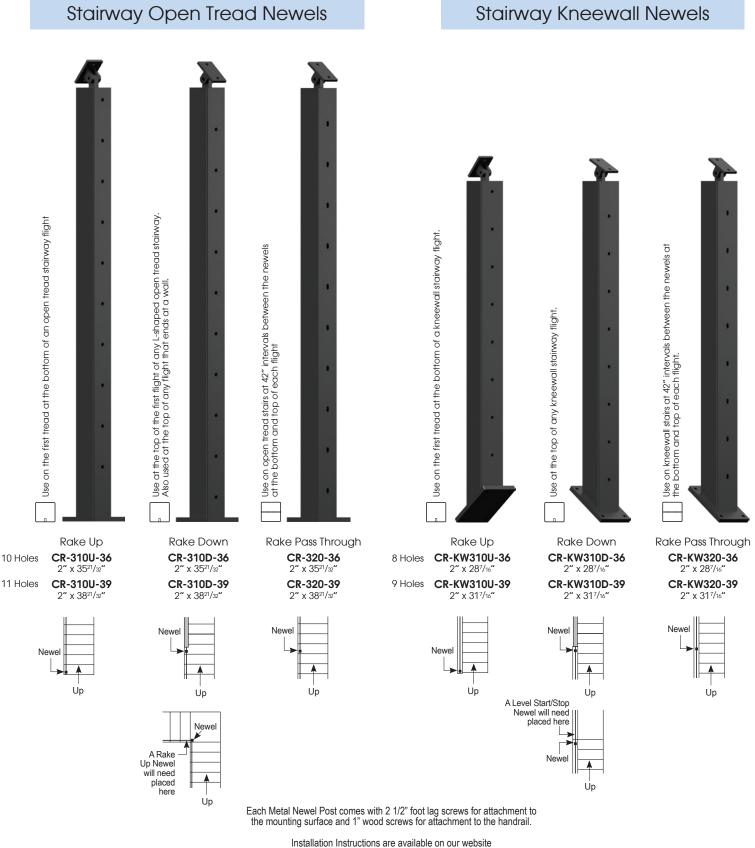
Panel System







Metal Newels for Cable System

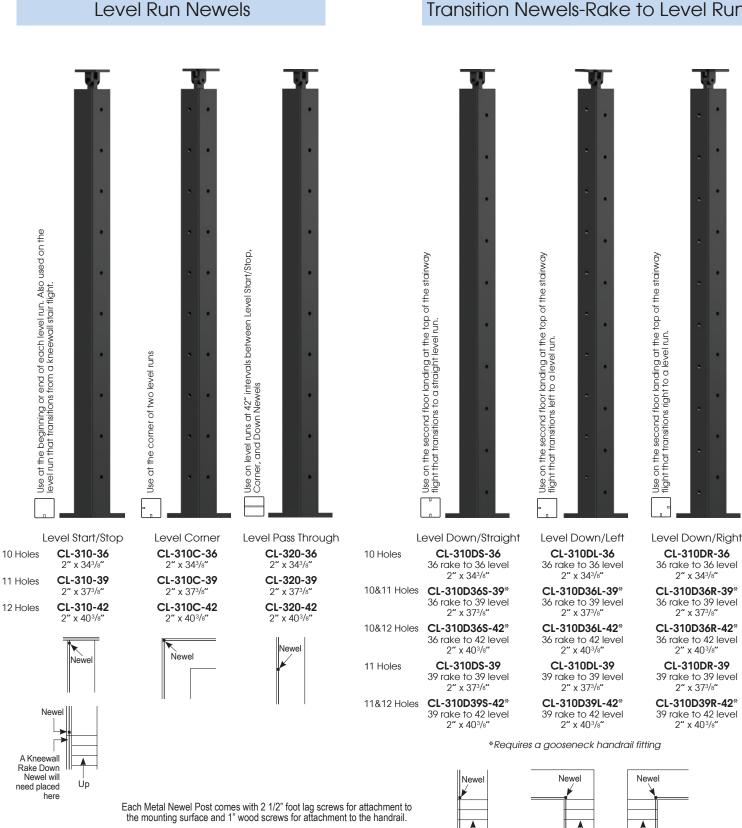


nstructions are available on or www.LJSmith.com

See page 14 for cable, cable fittings and cable accessories. This system is for interior or exterior use.

IMPORTANT: Our Metal Newels and Cable System is designd for stairways with 7-1/2" rise and 10" run (approx. 36.9°)





Installation Instructions are available on our website www.LJSmith.com

See page 14 for cable, cable fittings and cable accessories. This system is for interior or exterior use. IMPORTANT: Our Metal Newels and Cable System is designd for stairways with 7-1/2" rise and 10" run (approx. 36.9°)

Up

Up

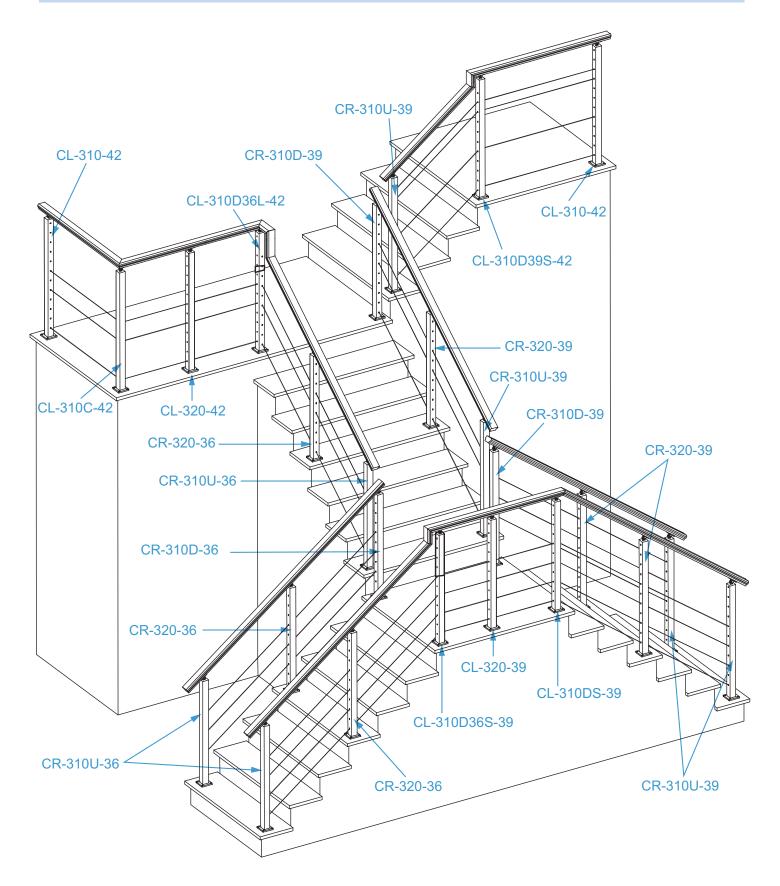
Up

Transition Newels-Rake to Level Run

7

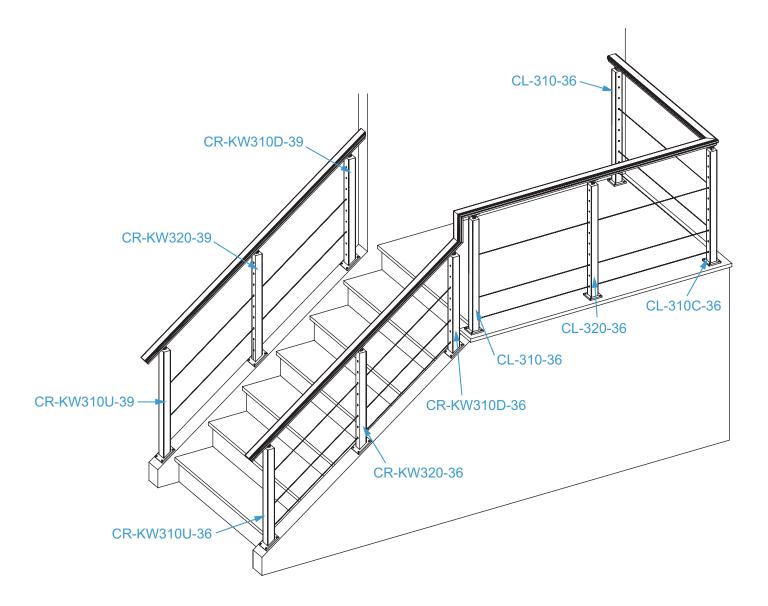
Metal Newels & Cable System

Open Tread Stairway Anatomy





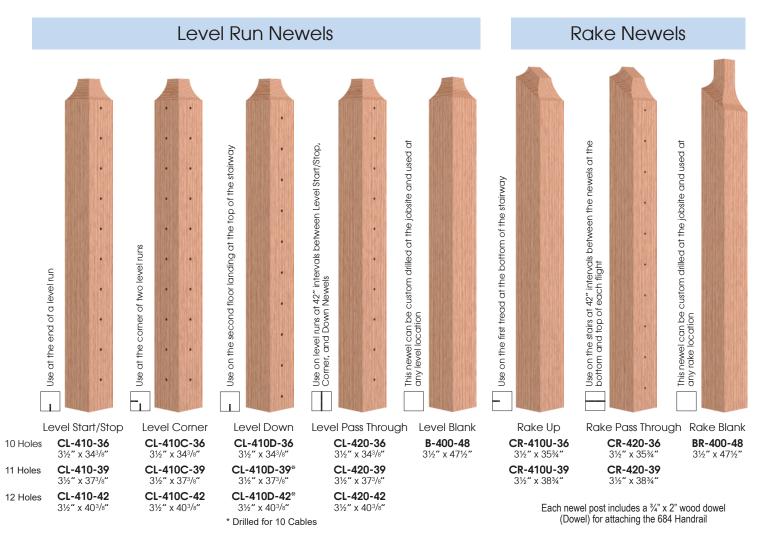
Kneewall Stairway Anatomy



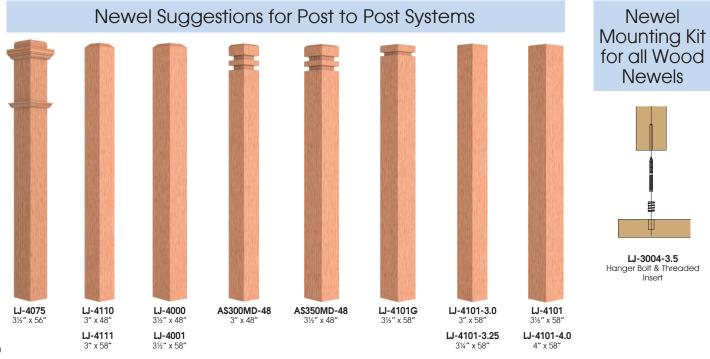
Linear Cable System Features & Benefits

- Marine Grade 316 Stainless Steel Cable and Fittings for lasting beauty and very low maintenance
- Swageless Cable Fittings eliminate the need for expensive equipment
- Unique Linear designed newels sized and drilled for simplified installation
- Modern and code compliant handrail profile for a clean, refined look
- Box or Square Nose Treads create a modern designed stairway

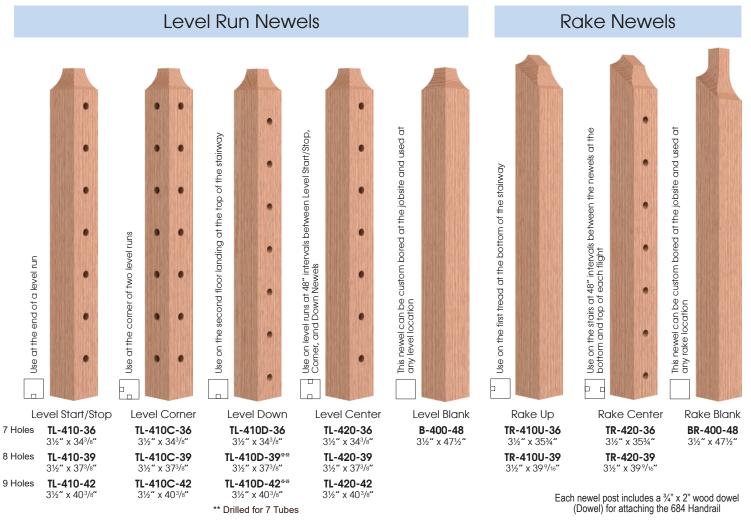
Wood Newels for Cable System



See page 14 for cable, cable fittings and cable accessories. All wood newels are for interior use only. IMPORTANT: Our Wood Newels above and Cable System is designd for stairways with 7-1/2" rise and 10" run (approx. 36.9°)



Wood Newels for Tube System



Installation Instructions are available on our website at www.LJSmith.com. This system is for interior use only. IMPORTANT: Our Wood Newels above and Tube System is designd for stairways with 7-1/2" rise and 10" run (approx. 36.9°)

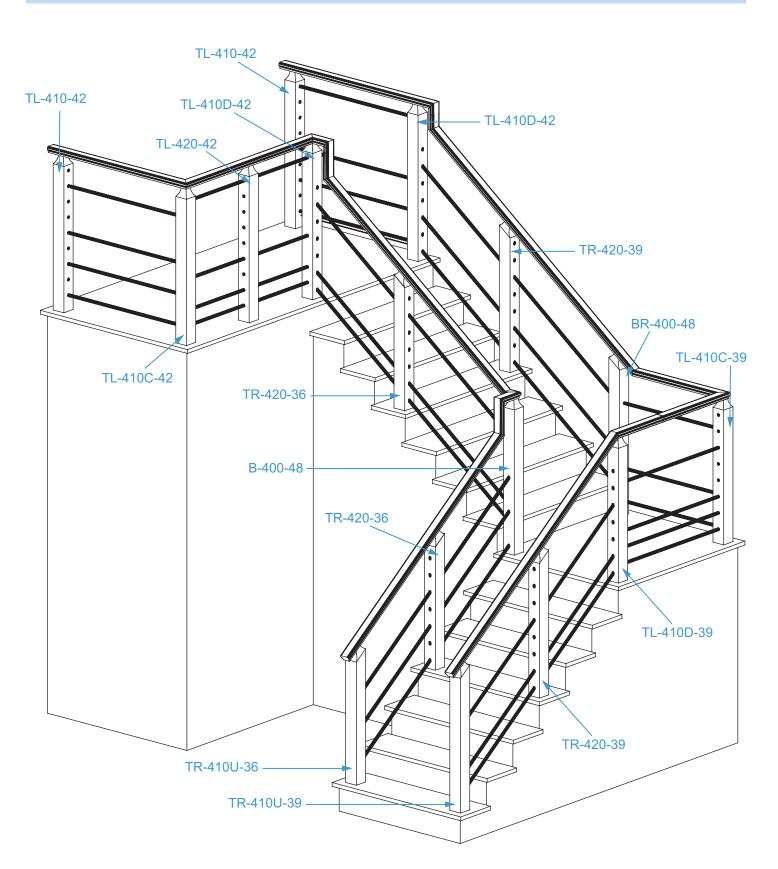


Wood Newels & Cable System

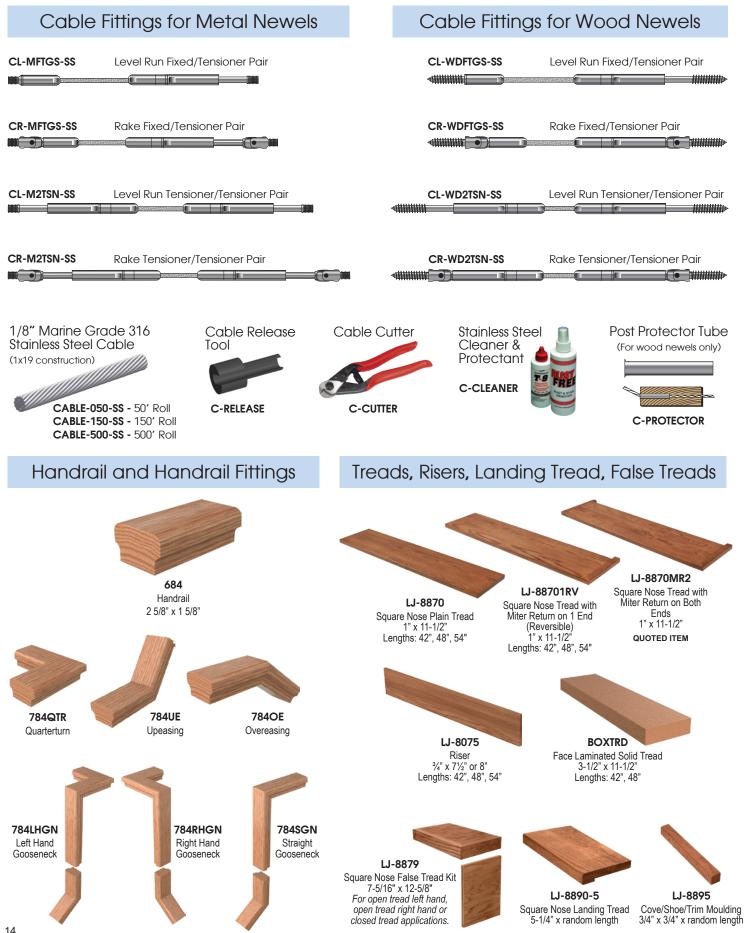
Stairway Anatomy CL-410-42 CL-410-42 CL-410D-42 CL-410D-42 CL-420-42 CR-420-39 BR-400-48 CL-410C-39 CL-410C-42 CR-420-36 B-400-48 · CR-420-36 CL-410D-39 CR-420-39 CR-410U-36 CR-410U-39

Wood Newels & Tube System





Cable, Handrail, Treads



Ordering Guidelines-Metal Panel System



The following guidelines are designed to provide an accurate and complete list of components necessary to complete your panel railing system. This checklist and our Linear Collection Metal Panel Systems brochure will provide the flexibility to comply with most building codes as they relate to handrail height and infill spacing requirements. The following guidelines are designed for stairways with 7 1/2" rise and 10" run (approx 36.9"), a rake handrail height of 36" and level handrail heights between 36" and 43" (depending on handrail used, curb wall height, amount panels are elevated, etc.). All metal panel lengths are plan view measurements. This system is for interior use only. **Consult your local building code official before purchasing and installing this system**.

Item		Guidelines		Qty.
1	TREADS	Select one tread for each step. If false treads are utilized, select one or two kits per tread depending on application.		
2	RISERS	Select one riser for each step and select one more riser per each flight.		+
3	LANDING TREAD	Select sufficient lineal footage of LJ-8890-5 for the entire balcony and width of stairs at each landing. Custom landing tread can also be guoted and ordered.		
4	COVE MOULD	Applicable for level runs and stairs with risers. Select sufficient lineal footage of LJ-8895 cove moulding to go under all tread nosing (including miter returns) and under all landing tread. Cove moulding is not needed under false treads.		
5	RAKE PANELS	Open Tread Stairways: Select the appropriate sizes and quantity of open tread stair panels to fill the plan view layout of the open tread stairway rake. Spaces between panels can be no more than 4". Be sure to take into consideration the 1/2" thickness of each Panel Post and 1" thickness of each Spacer Newel (see 7 & 8 below) when calculating the spacing. Select from the following rake panels: (sizes indicated are plan view widths) PR-01236 (12"), PR-01836 (18"), PR-02436 (24"), PR-03036 (30"), PR-03636 (36") Kneewall Stairways: Select the appropriate sizes and quantity of kneewall stair panels to fill the plan view layout of the kneewall stairway rake. Spaces between panels can be no more than 4". Be sure to take into consideration the 1" thickness of each Spacer Newel if used (see 8 below) when calculating the spacing. Select from the following rake panels: (sizes indicated are plan view widths) PR-K1236 (12"), PR-K1836 (36")		
	LEVEL RUN PANELS	Elevated Panels: Select the appropriate sizes and quantity of panels to fill the plan view layout of each level run. Spaces between panels can be no more than 4". Be sure to take into consideration the 1/2" thickness of each Panel Post and 1" thickness of each Spacer Newel (see 7 & 8 below) when calculating the spacing. Select from the following level panels for a 39" level rail height: PL-CE1239 (12"), PL-CE1839 (18"), PL-CE2439 (24"), PL-CE3039 (30"), PL-CE3639 (36"), PL-CE1243 (12"), PL-CE1843 (48"), PL-CE3043 (30"), PL-CE3643 (36"), PL-CE4243 (48")		
6		Curb Wall Panels: Select the appropriate sizes and quantity of panels to fill the plan view layout of each level run. Spaces between panels can be no more than 4". Be sure to take into consideration the 1" thickness of each Spacer Newel if used (see 8 below) when calculating the spacing. Select from the following level panels for a 39" level rail height: PL-CE1239 (12"), PL-CE1839 (18"), PL-CE2439 (24"), PL-CE3039 (30"), PL-CE3639 (36"), PL-CE4239 (42"), PL-CE4839 (48"). Select from the following level panels for a 43" level rail height: PL-CE1243 (12"), PL-CE1843 (18"), PL-CE2443 (24"), PL-CE3043 (36"), PL-CE4243 (42"), PL-CE1843 (18"), PL-CE2443 (24"), PL-CE3043 (30"), PL-CE3643 (36"), PL-CE4243 (42"), PL-CE4843 (48")		
		Flush Mount Panels: Select the appropriate sizes and quantity of panels to fill the plan view layout of each level run. Spaces between panels can be no more than 4". Be sure to take into consideration the 1" thickness of each Spacer Newel if used (see 8 below) when calculating the spacing. Select from the following level panels for a 36" level rail height: PL-F1236 (12"), PL-F1836 (18"), PL-F2436 (24"), PL-F3036 (30"), PL-F3636 (36"), PL-F4236 (42"), PL-F4836 (48"). Select from the following level panels for a 39" level rail height: PL-F1239 (12"), PL-F1239 (12"), PL-F1239 (24"), PL-F3036 (42"), PL-F4239 (24"), PL-F3039 (30"), PL-F3039 (36"), PL-F239 (24"), PL-F239 (24"), PL-F3039 (30"), PL-F3039 (36"), PL-F4239 (42"), PL-F4839 (48").		
7	PANEL POSTS	Panel Posts are used on open tread stainways and elevated panel level runs. Select 2 Panel Posts with 2-Hole Foot Plate (P-POST2H) per panel. The Panel Post with 4-Hole Foot Plate (P-POST4H) is often used at the end of a level run that ends near a wall.		
		NOTE: A Panel Post kit (P-POSTKIT2H) is available that includes: 2 Panel Posts with 2-Hole Foot Plate (P-POST2H), 4 Post Foot Lag Screws (P-POSTFTSCR2.75) and 6 Post and Barrel Bolts (P-POSTBOLT1.0).		
	SPACER NEWELS	Spacer newels must be used in any space between panels that is over 4" to comply with building codes. Also, rake and level runs cannot exceed 15' without a spacer newel.		
		Kneewall Stairways: Select the necessary quantity of Kneewall Spacer Newels (PR-K36NWL2H).		
8		Level Run Elevated Panels: Select the necessary quantity of Level Spacer Newels. For a 39" level rail height: PL-E39NWL4H. For a 43" level rail height: PL-E43NWL4H		
		Level Run Curb Wall Panels: Select the necessary quantity of Level Spacer Newels. For a 39" level rail height: PL-C43NWL4H		
		Level Run Flush Mount Panels: Select the necessary quantity of Level Spacer Newels. For a 36" level rail height: PL-F36NWL4H. For a 39" level rail height: PL-F39NWL4H		
9	HARDWARE	Every rake and level panel comes with screws for attachment to the handrail. Screws are also included for the bottom of each panel (use for level flush mount, level curb wall mount and kneewall stair applications only). Spacer newels and panel posts include post foot lag screws. Spacer newels also include screws for attachment to the handrail. Each panel post includes 3 panel post and barrel fasteners. The panel post kit includes 6 panel post and barrel fasteners and 4 post foot lag screws. Each of these hardware items are also available separately, if needed. See pages 2 & 4.		
10	HANDRAIL	Select 684 handrail at a rate of 13" per each tread and include enough for all level runs and walls (if wall rail is required). Handrail is available in 8', 10', 12', 14', & 16' lengths.		
11	HANDRAIL GOOSENECK FITTINGS	A gooseneck handrail fitting must be used for the following rake to level run transitions: 36" rake to 39" level; 36" rake to 42" level; 39" rake to 42" level. Select the appropriate gooseneck fitting: 784LHGN (Left Hand Gooseneck), 784RHGN (Right Hand Gooseneck), 784SGN (Straight Gooseneck)		
12	HANDRAIL FITTINGS (Miscellaneous Components)	Select the necessary Overeasing, Upeasing and Level Quarterturns as needed for changes in elevation and/or direction of the handrail. If continuous handrail is needed to transition from the rake, around a wall, and continue up the stair as wall rail, select two Level Quarterturns. Select from these fittings: 784OE (Overeasing), 784UE (Upeasing), 784QTR (Level Quarterturn)		

Ordering Guidelines - Metal Newels & LJ. Smith Cable System

The following guidelines are designed to provide an accurate and complete list of components necessary to complete your metal newel post and cable railing system. This checklist and our Linear Collection brochure will provide the flexibility to comply with most building codes as they relate to handrail height and infill spacing requirements. The following guidelines are designed for stairways with 7 1/2" rise and 10" run (approx 36.9°), a rake handrail height of 34".38" and a level handrail height of 36", 39" or 42". These guidelines also follow our recommendation of installing a newel at every corner or change in direction making each straight run having separate cable with a fixed cable fitting on one end and a tensioner cable fitting on the other end into the newel posts. Tensioner cable fittings should be used on both ends of <u>any</u> cable run that is 25' to 50' long. <u>Wood</u> components are for interior use only. Cable, cable fittings and metal newels are for interior or exterior use. **Consult your local building code official before purchasing and installing this system**.

Part # Otv.

		Guidelines	Part #	Qty.
1	TREADS	Select one tread for each step. If false treads are utilized, select one or two kits per tread depending on application. (Interior stairs only)		
2	RISERS	Select one riser for each step and select one more riser per each flight. (Interior stairs only)		
3	LANDING TREAD	Select sufficient lineal footage of LJ-8890-5 landing tread for the entire balcony and width of stairs at each landing. Custom landing tread can also be quoted and ordered. (Interior stairs only)		
4	COVE MOULD	Applicable for level runs and stairs with risers. Select sufficient lineal footage of LJ-8895 cove moulding to go under all tread nosing (including miter returns) and under all landing tread. Cove moulding is not needed under false treads. (Interior stairs only)		
5	RAKE UP NEWEL	Open Tread Stairways: For stairs with a 34 [*] -36" rake rail height, select the CR-310U-36 at the bottom of the stair flight. For 36"-38" rake rail height, select the CR-310U-39. If the stairway is open on both sides, two of these newels will be needed. See the Linear Metal Newel Applications chart at the bottom of this page for further information.		
		Kneewall Stairways: For stairs with a 34"-36" rake rail height, select the CR-KW310U-36 at the bottom of the stair flight. For 36"-38" rake rail height, select the CR-KW310U-39. If the stairway is open on both sides, two of these newels will be needed. See the Linear Metal Newel Applications chart at the bottom of this page for further information.		
6	RAKE PASS THROUGH NEWEL	Open Tread Stairways: The distance between the rake newels should not exceed 42". Use in the middle of a rake run of handrail to keep the spacing between the newel posts at 42" or less. For stairs with a 34"-36" rake rail height, select the CR-320-36. For 36"-38" rake rail height, select the CR-320-39.		
		Kneewall Stairways: The distance between the rake newels should not exceed 42". Use in the middle of a rake run of handrail to keep the spacing between the newel posts at 42" or less. For stairs with a 34"-36" rake rail height, select the CR-KW320-36. For 36"-38" rake rail height, select the CR-KW320-39.		
7	RAKE DOWN NEWEL	Open Tread Stairways: Use this newel at the top of any open tread stair flight that ends at a wall. For stairs with a 34"-36" rake rail height, select the CR-310D-36. For stairs with a 36"-38" rake rail height, select the CR-310D-39.		
		Kneewall Stairways: Use this newel at the top of any kneewall stair flight. For stairs with a 34"-36" rake rail height, select the CR- KW310D-36. For stairs with a 36"-38" rake rail height, select the CR-KW310D-39.		
	LEVEL DOWN NEWEL	Open Tread Stairways Only: There are three different types of Level Down Newels for use at the top of open tread stairways at the second floor landing. Based on the application details below, please select the appropriate second floor landing newel(s).		
		Transition from stair rake and continues straight to a level run: For 34"-36" rake rail height transitioning to 36" level rail height select the CL-310DS-36. For 34"-36" rake rail height transitioning to 39" level rail height select the CL-310D36S-39. For 34"-36" rake rail height transitioning to 42" level rail height select the CL-310D36S-42. For 36"-38" rake rail height transitioning to 39" level rail height select the CL-310DS-39. For 36"-38" rake rail height transitioning to 42" level rail height select the CL-310D39S-42.		
8		Transition from stair rake and turns left to a level run: For 34"-36" rake rail height transitioning to 36" level rail height select the CL-310DL-36. For 34"-36" rake rail height transitioning to 39" level rail height select the CL-310D36L-39. For 34"-36" rake rail height transitioning to 42" level rail height select the CL-310D36L-42. For 36"-38" rake rail height transitioning to 39" level rail height select the CL-310DL-39. For 36"-38" rake rail height transitioning to 42" level rail height select the CL-310D39L-42.		
		Transition from stair rake and turns right to a level run: For 34"-36" rake rail height transitioning to 36" level rail height select the CL-310DR-36. For 34"-36" rake rail height transitioning to 39" level rail height select the CL-310D36R-39. For 34"-36" rake rail height transitioning to 42" level rail height select the CL-310DR-39. For 36"-38" rake rail height transitioning to 42" level rail height select the CL-310D36R-39. For 36"-38" rake rail height transitioning to 42" level rail height select the CL-310DR-39. For 36"-38" rake rail height transitioning to 42" level rail height select the CL-310DR-39. For 36"-38" rake rail height transitioning to 42" level rail height select the CL-310DR-39. For 36"-38" rake rail height transitioning to 42" level rail height select the CL-310DR-39. For 36"-38" rake rail height transitioning to 42" level rail height select the CL-310DR-39. For 36"-38" rake rail height transitioning to 42" level rail height select the CL-310DR-39. For 36"-38" rake rail height transitioning to 42" level rail height select the CL-310DR-39. For 36"-38" rake rail height transitioning to 42" level rail height select the CL-310DR-39. For 36"-38" rake rail height transitioning to 42" level rail height select the CL-310DR-39. For 36"-38" rake rail height transitioning to 42" level rail height select the CL-310DR-39. For 36"-38" rake rail height transitioning to 42" level rail height select the CL-310DR-39. For 36"-38" rake rail height transitioning to 45" level rail height select the CL-310DR-39. For 36"-38" rake rail height transitioning to 45" level rail height transitioning to 45" level rail height select the CL-310DR-39. For 36"-38" rake rail height transitioning to 45" level rail height select the CL-310DR-39. For 36"-38" rake rail height select the CL-310DR-39. For 36" rake rail		
9	LEVEL CORNER NEWEL	For 36" level rail height, select the CL-310C-36 for the newel at the corner of two level runs. For 39" level rail height, select the CL- 310C-39. For 42" level rail height, select the CL-310C-42.		
10	LEVEL START/STOP NEWEL	Cable fittings may be installed directly into the wall at the end of a level run, or they can be installed into a newel post at the end of the run that is placed next to the wall. If ending a level run with a newel post, select the CL-310-36 for 38" level rail height. Select the CL-310-39 for 39" level rail height. Select the CL-310-42 for 42" level rail height. These newels are also used to start the level run that transitions from the top of a <u>kneewall</u> stair flight.		
11	LEVEL PASS THROUGH NEWEL	The distance between the level run newels should not exceed 42". Use the Level Pass Through Newel at 42" intervals in the middle of a level run. For 36" level rail height, select the CL-320-36. For 39" level rail height, select the CL-320-39. For 42" level rail height, select the CL-320-42.		
12	RAKE FIXED/TENSIONER	Each rake cable run requires a CR-MFTGS-SS (Rake Fixed/Tensioner Pair), Calculate the total number of rake cable fitting pairs needed based on the Rake Up Newel(s) selected in #4 above. Be sure to include enough cable fitting pairs for each flight. Do not include Rake Pass Through Newels (CR-320) when calculating cable fitting sets required since the cable will simply "pass through" this newel. Open Tread Stairways: CR-310U-36 requires 10 pairs; CR-310U-39 requires 11 pairs		
	(CR-MFTGS-SS)	Kneewall Stairways: CR-KW310U-36 requires 8 pairs; CR-KW310U-39 requires 9 pairs		
		For any cable run of 25' to 50' long, tensioner cable fittings should be used on both ends of the cable to achieve the desired tensioning on both directions of cable. Item CR-M2TSN-SS contains 2 Rake Tensioners.		
13	LEVEL RUN FIXED/ TENSIONER CABLE FITTINGS PAIR (CL-MFTGS-SS)	Each level cable run requires a CL-MFTGS-SS (Level Fixed/Tensioner Pair). Calculate the level cable fitting pairs needed by taking the number of straight level runs times the number of pairs required for the selected newels. CL-310-36 requires 10 pairs; CL-310-39 requires 11 pairs; CL-410-42 requires 12 pairs. Do not include Level Pass Through Newels (CL-320) when calculating cable fitting sets required since the cable will simply "pass through" this newel.		
		For any cable run of 25' to 50' long, tensioner cable fittings should be used on both ends of the cable to achieve the desired tensioning on both directions of cable. Item CL-M2TSN-SS contains 2 Level Run Tensioners.		
14	1/8" CABLE	Calculate enough cable to run between every Fixed/Tensioner Cable Fitting Pair as well as between every Tensioner/Tensioner Cable Fitting Pair. Cable runs should be no longer than 50'. Cable is available in 50' (CABLE-050-SS), 150' (CABLE-150-SS) and 500' (CABLE-500-SS) spools.		
15	HANDRAIL	Select 684 handrail at a rate of 13" per each tread and include enough for all level runs and walls (if wall rail is required). Handrail is available in 8', 10', 12', 14', & 16' lengths. (Interior stairs only, however exterior 684 can be quoted)		
16	HANDRAIL GOOSENECK FITTINGS	A gooseneck handrail fitting must be used for the following rake to level run transitions: 36" rake to 39" level; 36" rake to 42" level; 36" rake to 45" rak		
17	HANDRAIL FITTINGS (Miscellaneous Components)	Select the necessary Overeasing, Upeasing and Level Quarterturns as needed for changes in elevation and/or direction of the handrail. If continuous handrail is needed to transition from the rake, around a wall, and continue up the stair as wall rail, select two Level Quarterturns. Select from these fittings: 7840E (Overeasing), 784UE (Upeasing), 784QTR (Level Quarterturn) (Interior stairs only, however exterior handrail fittings can be quoted)		
	ACCESSORIES	Select a Cable Release Tool (C-RELEASE), Cable Cutters (C-CUTTER), Stainless Steel Cleaner & Protectant (C-CLEANER).		

Linear Metal Newel Applications

Item

Use this newel as the starting newel on the first tread at the bottom of an open tread stairway flight.		
Use this newel on open tread stairs at 42" intervals between the newels at the bottom and top of each flight.		
Use this newel at the top of the first flight of any L-shaped open tread stairway. Also used at the top of any flight that ends at a wall.		
Use this newel as the starting newel on the first tread at the bottom of a kneewall stairway flight.		
Use this newel on kneewall stairs at 42" intervals between the newels at the bottom and top of each flight.		
Use this newel at the top of any kneewall stairway flight.		
Use this newel at the beginning or end of each level run. Also used on the level run that transitions from a kneewall stair flight.		
Use this newel on level runs midway between the Level Start/Stop, Level Corner and Level Down Newels at 42" intervals.		
Use this newel at the corner of two level runs.		
Use this newel on the second floor landing at the top of the stairway flight that transitions to a straight level run.		
Use this newel on the second floor landing at the top of the stairway flight that transitions left to a level run.		
Use this newel on the second floor landing at the top of the stairway flight that transitions right to a level run.		

Ordering Guidelines- Wood Newels & Cable/Tube

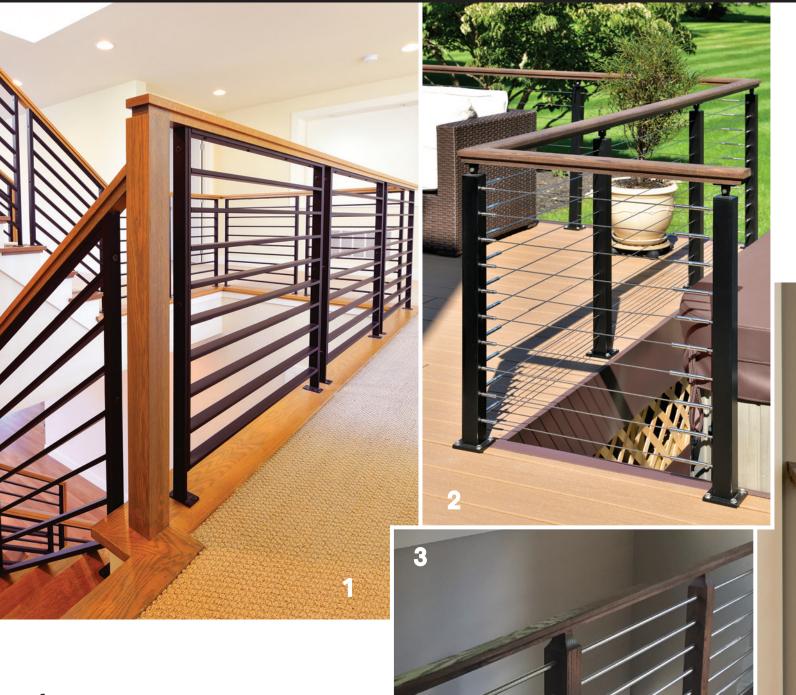
The following guidelines are designed to provide an accurate and complete list of components necessary to complete your wood newel post and cable or tube railing system. This checklist and our Linear Collection brochure will provide the flexibility to comply with most building codes as they relate to handrail height and infill spacing requirements. The following guidelines are designed for stairways with 7 1/2" rise and 10" run (approx 36.9°), a rake handrail height of 34"-38" and a level handrail height of 36", 39" or 42". These guidelines also follow our recommendation of installing a newel at every corner or change in direction making each straight run separate cable with a fixed cable fitting on one end and a tensioner cable fitting on the other end into the newel posts. However, you can run cable through two Pass Through Newels (positioned at 45° from one another) with Post Protector Tubes to turn a corner, but tensioner cable fittings must be used on both ends of the cable to achieve the desired tensioning on both directions of cable. Tensioner cable fittings should also be used on both ends of any cable run that is 25' to 50' long. These systems are for interior use only. **Consult your local building code official before purchasing and installing this system**.

Item Guidelines Part #				
1	TREADS	Select one tread for each step. If false treads are utilized, select one or two kits per tread depending on application.		Qty
2	RISERS	Select one riser for each step and select one more riser per each flight.		
3	LANDING TREAD	Select sufficient lineal footage of LJ-8890-5 for the entire balcony and width of stairs at each landing. Custom landing tread can also be quoted and ordered.		
4	COVE MOULD	Applicable for level runs and stairs with risers. Select sufficient lineal footage of LJ-8895 cove moulding to go under all tread nosing (including miter returns) and under all landing tread. Cove moulding is not needed under false treads.		
5	RAKE UP NEWEL	CABLE SYSTEM: For stairs with a 34"-36" rake rail height, select the CR-410U-36 at the bottom of the stairway at the first floor. For 36"- 38" rake rail height, select the CR-410U-39. If the stairway is open on both sides, two of these newels will be needed. See the Wood Linear Newel Applications chart at the bottom of this page for further information. TUBE SYSTEM : For stairs with a 34"-36" rake rail height, select the TR-410U-36 at the bottom of the stairway at the first floor. For 36"-38" rake rail height, select the TR-410U-39. If the stairway is open on both sides, two of these newels will be needed. See the Wood Linear Newel Applications chart at the bottom of this page for further information.		
	RAKE PASS THROUGH NEWEL (Cable)	CABLE SYSTEM: The distance between the rake newels should not exceed 42". Use in the middle of a rake run of handrail to keep the spacing between the newel posts at 42" or less. For stairs with a 34"-36" rake rail height, select the CR-420-36. For 36"-38" rake rail height,		
6	RAKE CENTER NEWEL (Tube)	select the CR-420-39. TUBE SYSTEM: The distance between the rake newels should not exceed 48". Use in the middle of a rake run of handrail to keep the spacing between the newel posts at 48" or less. For stairs with a 34"-36" rake rail height, select the TR-420-36. For 36"-38" rake rail height, select the TR-420-39.		
7	LEVEL DOWN NEWEL	CCABLE SYSTEM: For 36" level rail height, select the CL-410D-36 for the newel on the second floor landing at the top of the stairway flight. For 39" level rail height, select the CL-410D-39. For 42" level rail height, select the CL-410D-42. TUBE SYSTEM: For 36" level rail height, select the TL-410D-36 for the newel on the second floor landing at the top of the stairway flight. For 39" level rail height, select the TL-410D-39. For 42" level rail height, select the TL-410D-42.		
8	LEVEL CORNER NEWEL	CABLE SYSTEM: For 36" level rail height, select the CL-410C-36 for the newel at the corner of two level runs. For 39" level rail height, select the CL-410C-42. TUBE SYSTEM: For 36" level rail height, select the TL-410C-36 for the newel at the corner of two level runs. For 39" level rail height, select the TL-410C-39. For 42" level rail height, select the TL-410C-42.		
9	LEVEL START/STOP NEWEL	CABLE SYSTEM: Cable fittings may be installed directly into the wall at the end of a level run, or they can be installed into a newel post at the end of the run that is placed next to the wall. If ending a level run with a newel post, select the CL-410-36 for 36" level rail height. Select the CL-410-39 for 39" level rail height. Select the CL-410-42 for 42" level rail height. TUBE SYSTEM: Tube should be installed into a newel post at the end of the level run that is placed next to the wall. Select the TL-410-36 for 36" level rail height. Select the TL-410-39 for 39" level rail height. Select the TL-410-42 for 42" level rail height.		
10	LEVEL PASS THROUGH NEWEL (Cable)	CABLE SYSTEM: The distance between the level run newels should not exceed 42". Use the Level Pass Through Newel at 42" intervals in the middle of a level run. For 36" level rail height, select the CL-420-36. For 38" level rail height, select the CL-420-39. For 42" level rail height, select the CL-420-42.		1
10	LEVEL CENTER NEWEL (Tube)	TUBE SYSTEM: The distance between the level run newels should not exceed 48". Use the Center Newel at 48" intervals in the middle of a long level run. For 36" level rail height, select the TL-420-36. For 39" level rail height, select the TL-420-39. For 42" level rail height, select the TL-420-42.		
11	BLANK NEWEL	Blank newels are used when the location of the drilled holes needs to be different from the predrilled holes in our standard Linear Collection newels. Use the B-400-48 at the corner of an intermediate landing and at any level position. Use the BR-400-48 at any rake location.		
12	NEWEL MOUNTING KIT	Select one LJ-3004-3.5 newel mounting kit for each newel post.		1
13	RAKE FIXED/TENSIONER CABLE FITTINGS PAIR (CR-WDFTGS-SS)	CABLE SYSTEM: To ensure performance of our system, a stabilizing member such as our 3/4" tube or 11/4" S4S wood is required between all newel posts at the top pre-drilled position. Each rake cable run requires a CR-WDETGS-SS (Rake Fixed/Tensioner Pair). Calculate the total number of rake cable fitting pairs needed based on the cable system Rake Up Newel(s) selected in #5 above. CR-410U-36 requires 9 pairs when installing a stabilizing member at the top position (10 pairs without stabilizing member); CR-410U-39 requires 10 pairs when installing a stabilizing member at the top position (11 pairs without stabilizing member). Be sure to include enough cable fitting pairs for each flight. Do not include Rake Pass Through Newels (CR-420) when calculating cable fitting sets required since the cable will simply "pass through" this newel. Any cable run of 25' to 50', or if the cable runs through Pass Through Newels to make a <u>change in direction or elevation</u> , tensioner cable fitting should be used on both ends of the cable to achieve the desired tensioning on both directions of cable. Item CR-WD2TSN-SS contains 2 Rake Tensioners.		
14	LEVEL RUN FIXED/ TENSIONER CABLE FITTINGS PAIR (CL-WDFTGS-SS)	CABLE SYSTEM: To ensure performance of our system, a stabilizing member such as our 3/4" tube or 11/4" S4S wood is required between all newel posts at the top pre-drilled position. Each level cable run requires a CL-WDFTGS-SS (Level Fixed/Tensioner Pair). Calculate the level cable fitting pairs needed by taking the number of straight level runs times the number of pairs required for the selected cable system level newels. CL-410-36 requires 9 pairs when installing a stabilizing member at the top position (11 pairs without stabilizing member). CL-410-39 requires 10 pairs when installing a stabilizing member at the top position (11 pairs without stabilizing member). CL-410-42 requires 11 pairs when installing a stabilizing member at the top position (11 pairs without stabilizing member). CD not include Level Pass Through Newels (CL-420) when calculating cable fitting pass through Newels (CL-420) when calculating cable fitting pass Through Newels to make a change in direction or elevation, tensioner cable fitting should be used on both ends of the cable to achieve the desired tensioning on both directions of cable. Item CL-WD2TSN-SS		
15	POST PROTECTOR TUBE	CABLE SYSTEM: Select a C-PROTECTOR (Post Protector Tube) for every instance where the cable enters or exits a Level Pass Through Newel at an angle. Post Protector Tubes keep the cable from biting into the wood.		
16	1/8" CABLE	CABLE SYSTEM: Calculate enough cable to run between every Fixed/Tensioner Cable Fitting Pair as well as between every Tensioner/ Tensioner Cable Fitting Pair. Calcle runs should be no longer than 50'. Cable is available in 50' (CABLE-050-SS), 150' (CABLE-150-SS) and 500' (CABLE-500-SS) spools.		1
17	3/4" TUBE	CABLE SYSTEM: If using 3/4" Tube as a stabilizing member between newels in a cable system, select enough tube to run between each newel. TUBE SYSTEM: Select enough tube to run between every tube system newel selected. TR/TL-410/420-36 requires 7 tubes; TR/TL-410/420-39 requires 8 tubes; TL-410/420-42 requires 9 tubes. Tube is available in 5' (TUBE-005-SS) or 20' (TUBE-020-SS) lengths.		
18	HANDRAIL	Select 684 handrail at a rate of 13" per each tread and include enough for all level runs and walls (if wall rail is required). Handrail is available in 8', 10', 12', 14', & 16' lengths.		
19	HANDRAIL GOOSENECK FITTINGS	A gooseneck handrail fitting must be used for the following rake to level run transitions: 36" rake to 39" level; 36" rake to 42" level; 39" rake to 42" level. Select the appropriate gooseneck fitting: 784LHGN (Left Hand Gooseneck), 784RHGN (Right Hand Gooseneck), 784SGN (Straight Gooseneck)		
20	HANDRAIL FITTINGS (Miscellaneous Components)	Select the necessary Overeasing, Upeasing and Level Quarterturns as needed for changes in elevation and/or direction of the handrail. If continuous handrail is needed to transition from the rake, around a wall, and continue up the stair as wall rail, select two Level Quarterturns. Select from these fittings: 784OE (Overeasing), 784UE (Upeasing), 784QTR (Level Quarterturn)		
21	ACCESSORIES	CABLE SYSTEM: Select a Cable Release Tool (C-RELEASE). Cable Cutters (C-CUTTER), Stainless Steel Cleaner & Protectant (C-CLEANER). TUBE SYSTEM: Select Stainless Steel Cleaner & Protectant (C-CLEANER), and select one of these adhesives: Epoxy and Nozzle (Li-3701 & LI-3703), Non-Sag Adhesive (6100E-10AD). Environmentally Friendly Adhesive (EGEXTREME-10AD)		

Linear Wood Newel Applications

Rake Up Newel (Cable: CR-410U) (Tube: TR-410U)	Use this newel as the starting newel on the first tread at the bottom of the stairway
Rake Pass Through/Center Newel (Cable: CR-420) (Tube: TR-420)	Use this newel on the stairs at 42"(cable)/48"(tube) intervals between the newels at the bottom and top of each flight
Level Start/Stop Newel (Cable: CL-410) (Tube: TL-410)	Use this newel at the beginning or end of each level run
Level Corner Newel (Cable: CL-410C) (Tube: TL-410C)	Use this newel at the corner of two level runs
Level Down Newel (Cable: CL-410D) (Tube: TL-410D)	Use this newel on the second floor landing at the top of the stairway flight
Level Pass Through/Center Newel (Cable: CL-420) (Tube: TL-420)	Use this newel on level runs midway between the Level Start/Stop, Corner and Down Newels at 42"(cable)/48"(tube) intervals
Blank Newel (Cable & Tube: B-400-48)	This newel is not pre-drilled and can be custom drilled at the jobsite and used at any level location
Rake Blank Newel (Cable & Tube: BR-400-48)	This newel is not pre-drilled and can be custom drilled at the jobsite and used at any rake location

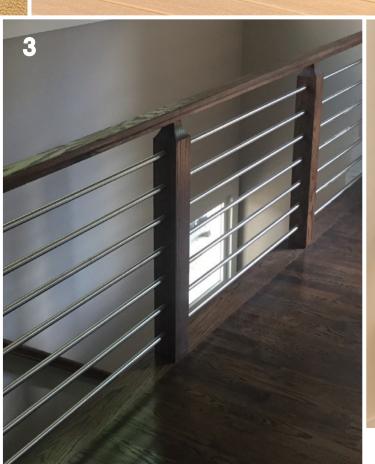
Photo Portfolio



1 Open Tread Stair Panels, Level Run Panels, P-POSTKIT2H Panel Post Kits and Custom Handrail

2 Linear CABLE-SS Stainless Steel Cable, CL-MFTGS-SS Stainless Steel Level Run Cable Fittings, CL-310-36, CL-310C-36 and CL-320-36 Linear Metal Newel Posts and exterior rail supplied by others

3 Linear TUBE-SS Stainless Steel Tube, TL-420-36 Level Center Newel Posts and 684 Handrail





4 Kneewall Stair Panels, Level Run Panels, LJ-4101G Newel Posts and Custom Handrail

5 Linear CABLE-SS Stainless Steel Cable, CL-WDFTGS-SS Level Run and CR-WDFTGS-SS Rake Stainless Steel Cable Fittings, 684 Handrail, Custom Site-built Box Newel

6 Linear TUBE-58-008-LSB Low Sheen Black Tube, LJ-4000 Newel Posts and 684 Handrail







Consult your local building code official before purchasing and installing any of these systems. Please contact your L.J. Smith dealer or representative if you have any questions about our Linear Collection products.

Panel System

Power Drill Miter Saw Hack Saw Square or Phillips Screw Tip 5/32" Hex Driver or Allen Wrench 1/8", 3/16", 1/4", 3/8" Twist Bits

Cable & Metal Cabl

Cable & Wood Newels System*

Power Drill 1/8" Cable Cutter Two 3/8" Open End Wrenches 3/16" Allen Wrench 9/16" Wrench 5/16" Twist Bit 5/8" x 3" Flare Spade Bit Cable Release Tool

Tube & Wood Newels System

Power Drill 9/16" Wrench 5/16" Twist Bit 5/8" x 3" Flare Spade Bit

*The tension on the cables will need periodic adjustment by using two 3/8" open end wrenches as described in the installation instructions.



GREEN BAY, WI

Newels System*

Two 3/8" Open End Wrenches

3/16", 5/32" Allen Wrenches 1/8", 1/4" Twist Bits #2 Phillips Drill Tip or Phillips

Power Drill

1/8" Cable Cutter

Screwdriver

Cable Release Tool

1/2" Box End Wrench

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WOODSTOCK, IL

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