**CABLE SYSTEM**

Level Run Fixed/Tensioner Pair  
**CL-WDFTGS-SS**

Rake Fixed/Tensioner Pair  
**CR-WDFTGS-SS**

Level Run Tensioner/Tensioner Pair  
**CL-WD2TSN-SS**

Rake Tensioner/Tensioner Pair  
**CR-WD2TSN-SS**

**1/8” Marine Grade 316 Stainless Steel Cable**
*(1x19 construction)*

- **CABLE-050-SS** - 50' Roll
- **CABLE-150-SS** - 150' Roll
- **CABLE-500-SS** - 500' Roll

**Post Protector Tube**

**Cable Release Tool**

**Cable Cutter**

**Stainless Steel Cleaner & Protectant**

**CABLE SYSTEM WOOD NEWEL POSTS**

**Level Run Newel Posts**

- **Level Start/Stop**
  - **CL-410-36** 3½” x 34¼”
  - **CL-410C-36** 3½” x 34½”
  - **CL-410D-36** 3½” x 34½”
- **Level Corner**
  - **CL-410C-39** 3½” x 37¾”
  - **CL-410D-39** 3½” x 37¾”
  - **CL-410D-39** 3½” x 37¾”
- **Level Down**
  - **CL-410C-42** 3½” x 40¼”
  - **CL-410D-42** 3½” x 40¼”
  - **CL-410D-42** 3½” x 40¼”
- **Level Pass Through**
  - **CL-420-36** 3½” x 34¼”
  - **CL-420-39** 3½” x 37¾”
  - **CL-420-42** 3½” x 40¼”

**Rake Newel Posts**

- **Rake Up**
  - **CR-410U-36** 3½” x 35¼”
  - **CR-410U-39** 3½” x 38¼”
  - **CR-410U-39** 3½” x 38¼”
- **Rake Pass Through**
  - **CR-420-36** 3½” x 35¼”
  - **CR-420-39** 3½” x 38¼”
  - **CR-420-39** 3½” x 38¼”
- **Blank**
  - **B-400-48** 3½” x 47½”

Each newel post includes a ¾” x 2” wood dowel (Dowel) for attaching the 684 Handrail.

* Drilled for 10 Cables
TUBE SYSTEM

3/4” Hollow 304 Grade Stainless Steel Tube

TUBE SYSTEM WOOD NEWEL POSTS

** TUBE-005-SS - 5’ Length
TUBE-020-SS - 20’ Length

**LI-3701 Contractor Epoxy Adhesive

**LI-3703 Adhesive Mixing Nozzle

Additional Adhesives available in our Full Line Catalog

Epoxy Adhesive

TUBE SYSTEM WOOD NEWEL POSTS

Level Run Newel Posts

- Level Start/Stop
  - TL-410-36 3½” x 34⅞”
  - TL-410C-36 3¼” x 37⅝”
  - TL-410D-36 3¾” x 39 9/16”
  - TL-410D-39** 3½” x 39 5/16”
  - TL-410D-42** 3¾” x 40⅜”

- Level Corner
  - TL-410C-36 3¼” x 37⅝”
  - TL-410D-39** 3⅜” x 37⅝”
  - TL-410D-42** 3¾” x 40⅜”

- Level Down
  - TL-410-36 3½” x 34⅞”
  - TL-410D-36 3¾” x 39 9/16”
  - TL-410D-39** 3½” x 39 5/16”
  - TL-410D-42** 3¾” x 40⅜”

- Level Center
  - TL-420-36 3½” x 34⅞”
  - TL-420-39 3¾” x 39 9/16”
  - TL-420-42 3¾” x 40⅜”

- Rake Up
  - TR-410U-36 3½” x 35⅞”
  - TR-410U-39 3³/8” x 39 9/16”
  - TR-410U-42 3⅞” x 40⅜”

- Rake Center
  - TR-420-36 3½” x 35⅞”
  - TR-420-39 3³/8” x 39 9/16”
  - TR-420-42 3⅞” x 40⅜”

- Blank
  - B-400-48 3½” x 47⅞”

Each newel post includes a ¾” x 2” wood dowel (Dowel) for attaching the 684 Handrail

HANDRAIL AND FITTINGS

- 2 5/8” x 1 5/8” 684
- Quarterturn 784QTR
- Upeasing 784UE
- Overeasing 784OE
- Left Hand Gooseneck 784LHGN
- Right Hand Gooseneck 784RHGN
- Straight Gooseneck 784SGN
**NEWEL MOUNTING KIT**

- Hanger Bolt & Threaded Insert
  - LJ-3004-3.5

**BOX TREADS**

- Face Laminated 3½” x 11½” Solid Treads
  - BOXTRD42 - 42”
  - BOXTRD48 - 48”

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**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
- Brushed 3/4” 304 Stainless Steel Tube for a sleek and clean stairway appearance
- Unique Linear designed newels sized and drilled for simplified installation
- Modern and code compliant handrail profile for a clean, refined look
- Minimal SKU’s for easy selection and ordering
- Choose from Red Oak and Hard Maple standard species (others may be quoted)
- Box Treads create a modern and open designed stairway

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**TOOLS LIST**

**CABLE INFILL**

- 3/16” Allen Wrench or Hex Bit Socket
- Two 3/8” Open End Wrenches
- 1/8” Cable Cutter

**TUBE INFILL**

- Power Drill
- Tape Measure
- 3/4” Forstner Bit
- Hack Saw or Metal Cutting Chop Saw
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 36.8°), a rake handrail height of 34"-36" 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 a 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.

**Consult your local building code official before purchasing and installing this system.**

### Item | Guidelines | Part # | Qty.
---|---|---|---
1 | BOX TREADS | Select one tread for each step. |
2 | LANDING TREAD | Select sufficient lineal footage of LJ-8090-5 for the entire balcony and width of stairs at each landing. Custom landing tread can also be quoted and ordered. |
3 | COVE Mould | Select sufficient lineal footage of LJ-8096 to go under all landing tread. |
4 | RAKE UP NEWEL | CABLE SYSTEM: For stairs with a 34°-36° rake height, select the CR-410U-36 at the bottom of the stairway at the first floor. For 36°-38° rake height, select the CR-410Q-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. |
5 | RAKE CENTER NEWEL | (Cable: CR-410) (Tube: TL-410) Use this newel at the beginning of each level run. For 36°-38° rake height, select the CR-420-36. For 36°-38° rake height, select the CR-420-39. |
6 | LEVEL DOWN NEWEL | CABLE SYSTEM: For 36° level rail height, select the CL-4100-36 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. |
7 | LEVEL CORNER NEWEL | (Cable: CL-410) (Tube: TL-410) Use this newel at the corner of two level runs. For 39° level rail height, select the CL-410C-39. For 42° level rail height, select the CL-410C-42. |
8 | LEVEL START/STOP NEWEL | CABLE 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. |
9 | LEVEL CENTER NEWEL | (Cable: CL-410) (Tube: TL-410) Use this newel as the starting newel on the first tread at the bottom of the stairway. For 36° level rail height, select the TL-410D-36. For 39° level rail height, select the TL-410D-39. For 42° level rail height, select the TL-410D-42. |
10 | BLANK NEWEL | Use at the corner of an intermediate landing and at any level position requiring holes for the cable or tube to be positioned different from our standard Linear Collection Newels. |
11 | NEWEL MOUNTING KIT | Select one LJ-3004-3.5 newel mounting kit for each newel post. |
12 | RAKE FIXED/TENSIONER CABLE FITTINGS PAIR (CR-WDFTGS-SS) | To ensure performance of our system, a stabilizing member such as our 3/4" tube or 1¼" 4S4 wood is required between all newel posts for the entire pre-drilled position. Each rake cable run requires a CR-WDFTGS-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 above. CR-410U-36 requires 9 pairs when installing a stabilizing member at the top position (10 pairs without stabilizing member); CR-410Q-39 requires 10 pairs when installing a stabilizing member at the top position (11 pairs without stabilizing member); CL-410U-36 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 pairs required since the cable will simply “pass through” this newel. |
13 | LEVEL RUN FIXED/ TENSIONER CABLE FITTINGS PAIR (CL-WDFTGS-SS) | To ensure performance of our system, a stabilizing member such as our 3/4" tube or 1¼" 4S4 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 run cables that will fit into the newel post and the interval of the stabilizing member. 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. |
14 | 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. |
15 | 1¼" 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. 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. |
16 | 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. |
17 | HANDRAIL | Select 684 handrail at a rate of 1′ per each tread and include enough for all level runs and rails (if wall rail is required). Handrail is available in 6′, 10′, 12′, 14′ and 16′ lengths. |
18 | HANDRAIL GOOSENECK FITTINGS | A gooseneck handrail fitting must be used for the following rake to level transitions: 36" rake to 39" level; 36" rake to 42" level; 39" rake to 42" level. Select the appropriate gooseneck fitting: 784HLGN (Left Hand GooseNeck), 784HRGN (Right Hand GooseNeck), 7845GN (Straight GooseNeck). |
19 | HANDRAIL FITTINGS (Miscellaneous Components) | Select the necessary Overaasen, Upeasing and Level Quarterturns as needed for changes in elevation and/or direction of the handrail. If the stairway is open on both sides, it is needed to go from the rake, around a wall, and continue up to the stair as wall rail, select two Level Quarterturns. Select from these fittings: 784OE (Overaasen), 784UE (Upeasing), 784QTR (Level Quarterturn). |

**Linear Wood Newel Applications**

- **Rake Up Newel** (Cable: CR-410U) (Tube: TR-410U)
- **Rake Pass Through/Center Newel** (Cable: CR-420) (Tube: TR-420)
- **Level Start/Stop Newel** (Cable: CL-410) (Tube: TL-410)
- **Level Corner Newel** (Cable: CL-410C) (Tube: TL-410C)
- **Level Down Newel** (Cable: CL-410D) (Tube: TL-410D)
- **Level Pass Through/Center Newel** (Cable: CR-420) (Tube: TR-420)
- **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.
Consult your local building code official before purchasing and installing this system. Due to the nature of wood, the tension on the cables will need periodic adjustment by using two 3/8” open end wrenches as described in the installation instructions. Please contact your L.J. Smith dealer or representative if you have any questions about our Linear Collection products.