

**PLAN**

1. **Measure** the staircase, walkway or landing where you will be installing **Lumenrail®**.
2. **Prepare a simple sketch of your Railing.** The materials needed include **Cap Rail; Neoprene Insert Filler; Light Mounting Clip; Light Backing Pad; Epoxy Adhesive; Handrail Bracket Assembly; Sleeves; Transition Sleeves; LED Light Stick; Driver; Fasteners;** and either **Wall Returns, Rail Ends or End Caps.** Verify lengths of all internal hardware components to determine the correct **LED Light Stick** length.

You may also submit your drawings to **Wagner** for a complete material quote – [info@mailwagner.com](mailto:info@mailwagner.com).

3. **Determine the length of the Cap Rail** and be sure to allow for **Wall Returns, Rail Ends or End Caps.** These will require subtracting from the overall length.
4. **Determine where the electrical wire needs to feed the Railing.**
5. **Create a detailed parts list** consisting of all parts and quantities required. Space the **Wall Mount Brackets** equally throughout the length of the **Rail.** Recommended spacing for the **Wall Mount Brackets** is 4 to 5 feet. For stair applications, it is desirable to transition the **Handrail** past the last stair with a horizontal **Rail** 6 to 12 inches. Some local codes require this extension to be 12 inches. Contact your local authorities to confirm requirements.
6. **Place your order** by contacting **Wagner** or online at [www.shopwagner.com](http://www.shopwagner.com). Note that due to numerous substrate applications, our **Wall Mount Brackets** do not include mounting screws. Your application will require additional hardware available at your local hardware store or industrial supplier.

**PREPARATION**

1. **Determine the required height of your Railing.** Most codes require **Handrail** to be between 34 and 38 inches in height. **Guardrail** height is generally 42 inches. Confirm these requirements with your local code authorities.
2. **Mark the location of your Railing** installation with a pencil.
3. **Mark the location of the Wall Mount Brackets** with a pencil.
4. **Use screws to fasten the Wall Mount Bracket Mounting Plate** to a **Stud,** blocking or use an appropriate fastener as determined by your particular mounting condition (i.e., hollow wall Fasteners or masonry anchors).
5. **Carefully read the instructions for the Epoxy Adhesive** prior to installation. **Wagner** recommends applying the **Adhesive** to the inside diameter of the pipe or **Cap Rail,** rather than the **Internal Sleeve.** This will help prevent the **Adhesive** from being forced out of the **Rail** at the seam.
6. **Confirm proper Railing installation locations** for jobs with more than one **Railing** by verifying initial measurements with **Railing** dimensions

**INSTALLATION**

1. Leave as much of protective wrapping on the **Lumenrail®** components as possible during the following process.
2. Mark the **Railing** slope and height, and **Wall Mount Bracket** location.
3. Loosely fasten the **Wall Mount Brackets** to the wall. Whether the **Brackets** are fastened to a **Stud,** blocking or drywall, it must be determined if a wireway needs to be drilled through

the substrate. The wireway will be located in either the center of a **Wall Mount Bracket** or in the **Rail End.**

4. Place the **Cap Rail** on the **Wall Mount Expansion Brackets** and adjust the **Brackets** for the proper angle. Before you securely tighten the **Brackets** to the wall, verify the fit of joints and seams using the **Internal Sleeves** and **Transition Sleeves.**
5. Dry assemble the **Railing** with **Internal Sleeves** and **Transition Sleeves** to verify fit:
  - a. For **Transition Sleeves,** apply **Adhesive** and insert the **Sleeve** into the smaller of the two inside diameter **Rails** first.
  - b. For **Internal Sleeves,** apply **Adhesive** to the inside of the **Cap Rail** and insert the **Sleeve** halfway into the **Cap Rail.** After the **Sleeve** is inserted, apply **Adhesive** to the opposite **Rail** interior and join the two components. Immediately wipe excess **Adhesive** from the joint. Place a rag under the joint to catch any excess **Adhesive** that might drip from the joint. **Wagner** recommends tying together the sections joined with strap clamps while waiting for the **Epoxy Adhesive** to prevent any slippage or gaps prior to the **Adhesive** setting.
6. Securely tighten the **Cap Rail** to the **Brackets** by screwing in the set screws on the expansion **Handrail Bracket Assembly.**
7. Use the **Transition Sleeves** to secure **Wall Returns** or **Rail Ends** to the **Cap Rail.** See 5.a above for application.
8. Once the installation is complete, remove any protective wrap or film from the **Railing.**
9. Maintain the rich finish of your **Rail** with **Lido Luster Metal Polish.**



**PLAN**

1. **Measure** the staircase, walkway or landing where you will be installing **Lumenrail®**.
2. **Make a simple sketch of your Railing.** The materials needed include **Cap Rail; Insert Filler; Light Mount Brackets; Light Backing Pad; Epoxy Adhesive; Post Mount Bracket; Internal Sleeves; Transition Sleeves;** and **LED Light Sticks.** Verify lengths of all internal hardware components to determine the correct **LED Light Stick** length.  
You may also submit your drawings to **Wagner** for a complete material quote – [info@mailwagner.com](mailto:info@mailwagner.com).
3. **Determine the length of the Cap Rail** and be sure to allow for **End Posts.** These will require subtracting from the overall length.
4. **Determine where the electrical wire needs to feed the Railing.**
5. **Determine how the Posts will be mounted** – surface mounted with a welded on **Flange Base/Snap-On Cover** assembly, or embedded below the surface. Note that the embedded installation requires a longer **Post** to meet code **Railing** height requirements.
6. **Create a detailed parts list** consisting of all parts and quantities required. When calculating quantities of **Posts** needed, place a **Post** 6 inches from the end cap or elbow, and no greater than 6 inches from a splice. Then space equally throughout the length of the **Rail.** Remember, **Cap Rail** is available in lengths up to 18 feet. It's recommended that **Posts** are spaced 4 to 5 feet apart. For stair applications, it is desirable to transition the **Handrail** past the last stair with a horizontal **Rail** 6 to 12 inches. Some local codes require this extension to be 12 inches. Contact your local authorities to confirm requirements.
7. **Place your order** by contacting **Wagner** or online at [www.shopwagner.com](http://www.shopwagner.com). Note that due to numerous substrate applications, our surface mounting **Flanges** do not include mounting screws. Your application will require additional hardware available from your local hardware store or industrial supplier.

**PREPARATION**

1. **Determine the required height of your Railing.** Most codes require **Handrail** to be between 34 and 38 inches in height. **Guardrail** height is generally 42 inches. Confirm these requirements with your local code authorities.
2. Mark the location of your **Post** installation with a pencil.
3. **Carefully read the instructions for the Epoxy Adhesive** prior to installation. **Wagner** recommends applying the **Adhesive** to the inside diameter of the pipe or **Cap Rail**, rather than the **Internal Sleeve.** This will help prevent the **Adhesive** from being forced out of the **Rail** at the seam.
4. **Confirm proper Railing installation locations** for jobs with more than one **Railing** by verifying initial measurements with **Railing** dimensions.

**INSTALLATION**

1. Leave as much of protective wrapping on the **Lumenrail®** components as possible during the following process.
2. **For Embedded Posts:**
  - a. If power is fed from the **Driver** through the **Post**, feed the wire through the **Post** top assembly, **Flange Cover** and **Post**, and make all necessary electrical connections.

- b. Once you have the correct **Railing** height determined, position the **Posts** and begin to plumb and level using shims if necessary.
  - c. Backfill the hole with **Grout – Rockite** or **Kwixset** – and create a slight mound of **Grout** around the **Post** to allow water to drain from the **Post.**
  - d. When the **Rockite** is set, slide the **Flange Cover** down the **Post** and use **Adhesive** to secure the **Cover** to the substrate.
  - e. If the **Post** top is a mechanical connection, attach the **Post** top assembly to the top of the **Post** using **Epoxy Adhesive** and/or a set screw.
  - f. If the **Post** top is a welded connection, disregard the mechanical portion of this assembly. Also, if the **Post** top is welded, slide the **Flange Cover** up the **Post** prior to setting the **Post** in place.
3. **For Surface Mounted Posts:**
    - a. Fasten the **Posts** by loosely attaching the **Post Flange Bases** to the substrate with one screw.
    - b. If power is fed from the **Driver** through this **Post**, feed the wire through the **Post** top assembly, **Flange Cover** and **Post**, and make all necessary electrical connections.
    - c. Install the remaining **Flange Base** screws and plumb and level the **Posts** using shims, if necessary.
    - d. Securely tighten all screws.
    - e. For asphalt applications, **Wagner** recommends core drilling a hole and then follow the instructions for **Embedded Posts.**
  4. Place the **Cap Rail** on the **Post** top assembly and adjust all of the **Post** tops for the proper angle.
  5. Dry assemble the **Railing** with **Internal Sleeves** and **Transition Sleeves** to verify fit.
    - a. For **Transition Sleeves**, apply **Adhesive** and insert the **Sleeve** into the smaller of the two inside diameters **Rails** first.
    - b. For **Internal Sleeves**, apply **Adhesive** to the inside of the **Cap Rail** and insert the **Sleeve** halfway into the **Cap Rail.** After the **Sleeve** is inserted, apply **Adhesive** to the opposite **Rail** interior and join the two components. Immediately wipe excess **Adhesive** from the joint. Place a rag under the joint to catch any excess **Adhesive** that might drip from the joint. **Wagner** recommends use a strap clamp to pull together the two sections joined with **Epoxy Adhesive** to prevent any slippage or gaps prior to the **Adhesive** setting.
  6. Securely tighten the **Cap Rail** to the **Post** top assembly by screwing in the set screws on the **Post** top assembly.
  7. Use the **Transition Sleeves** to secure **Rail Ends** to the **Cap Rail.** See 5.a above for application.
  8. Once the installation is complete, remove any protective wrap or film from the **Railing.**
  9. Maintain the rich finish of your **Rail** with **Lido Lustre Metal Polish.**