

USER MANUAL

OrgaRail® Illuminated Handrail Round, Square & Rectangle



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PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLATION & LEAVE A COPY FOR THE END USER/ MAINTANANCE ENGINEER FOR FUTURE REFERENCE.



Warning

This product comes with a 5 year warranty.

Warranty void if:

1. The installation guide has not been consulted (installation mistake).
2. The installation is not done by a certified installer.
3. Local rules and guidelines are not respected.
4. The invoice cannot be shown and/or has been altered.
5. Damage is caused by negligence, abnormal use or improper handling, use, maintenance and/or cleaning of the product.

This product is intended for professional use only! This product must be installed by a qualified and certified installer according to local rules and guidelines. Organic Lighting Systems, Inc. cannot be held liable for (consequential) damage and/or injuries due to unintended use and/or installation errors.

Product Information

The OrgaLED® LED strip (IP40) is a high quality, flexible LED strip with a unique co-extrusion technology. Designed for an endless range of indoor and outdoor applications.

** For use in wet environments, use mirror welded connectors or IP68 waterproof kits.*

Technical Specifications

| | |
|-----------------------------|--------------------------------------|
| Handrail & Mount Materials: | AISI 316 |
| Internal Profile Material: | Aluminium 6060-T6 |
| Power Supply: | 24 V DC |
| Water resistance LED strip: | IP40, IP67 upon request |
| Accessories: | Several accessories (See Datasheets) |

Required Tools & Products

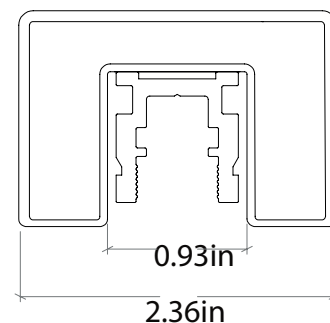
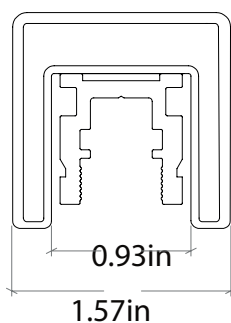
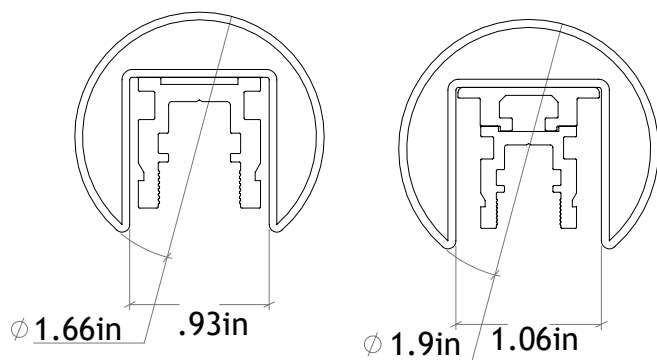
Depending on the project, standard tools and metal working tools should be present at the location. Make sure the following tools and products are present:

Metal saw
Grinding tool
Metric Allen key 3, 4 and 5
Torx 20 screwdriver
Screwdriver
Stripping tool
Anaerobic adhesive suitable for stainless steel
Degreaser
Welding equipment (when performing welding on site)
OrgaLED® Roller
OrgaLED® Pliers.

Product Dimensions

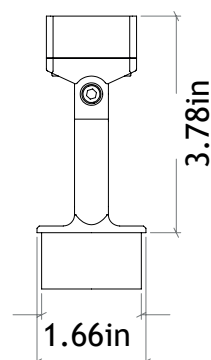
User Manual | OrgaRail® Illuminated Handrail

1.6" Round, 1.9" Round, Square & Rectangle Cross Dimensions:



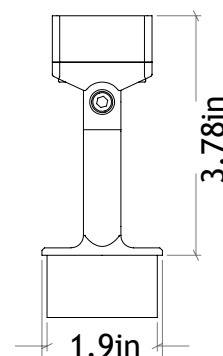
Post Mounting

- 1.6" Round
- Square
- Rectangle



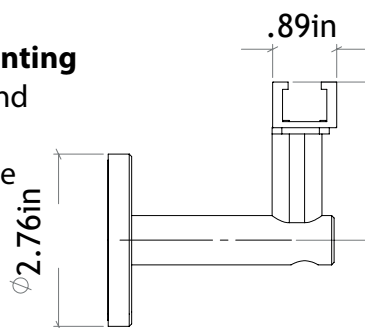
Post Mounting

- 1.9" Round



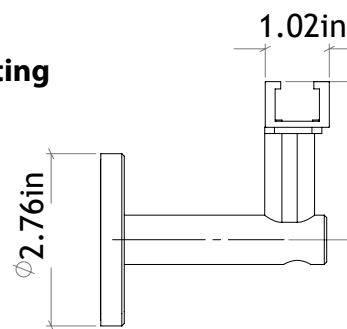
Wall Mounting

- 1.6" Round
- Square
- Rectangle



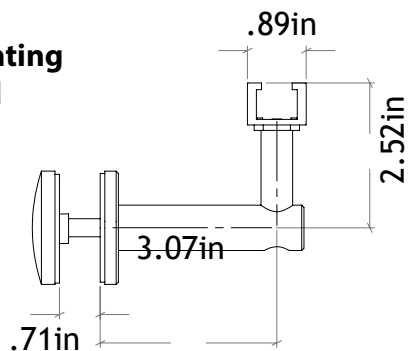
Wall Mounting

- 1.9" Round



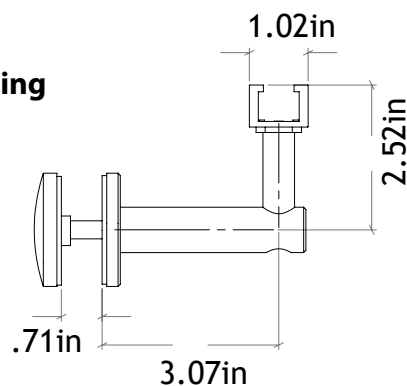
Glass Mounting

- 1.6" Round
- Square
- Rectangle



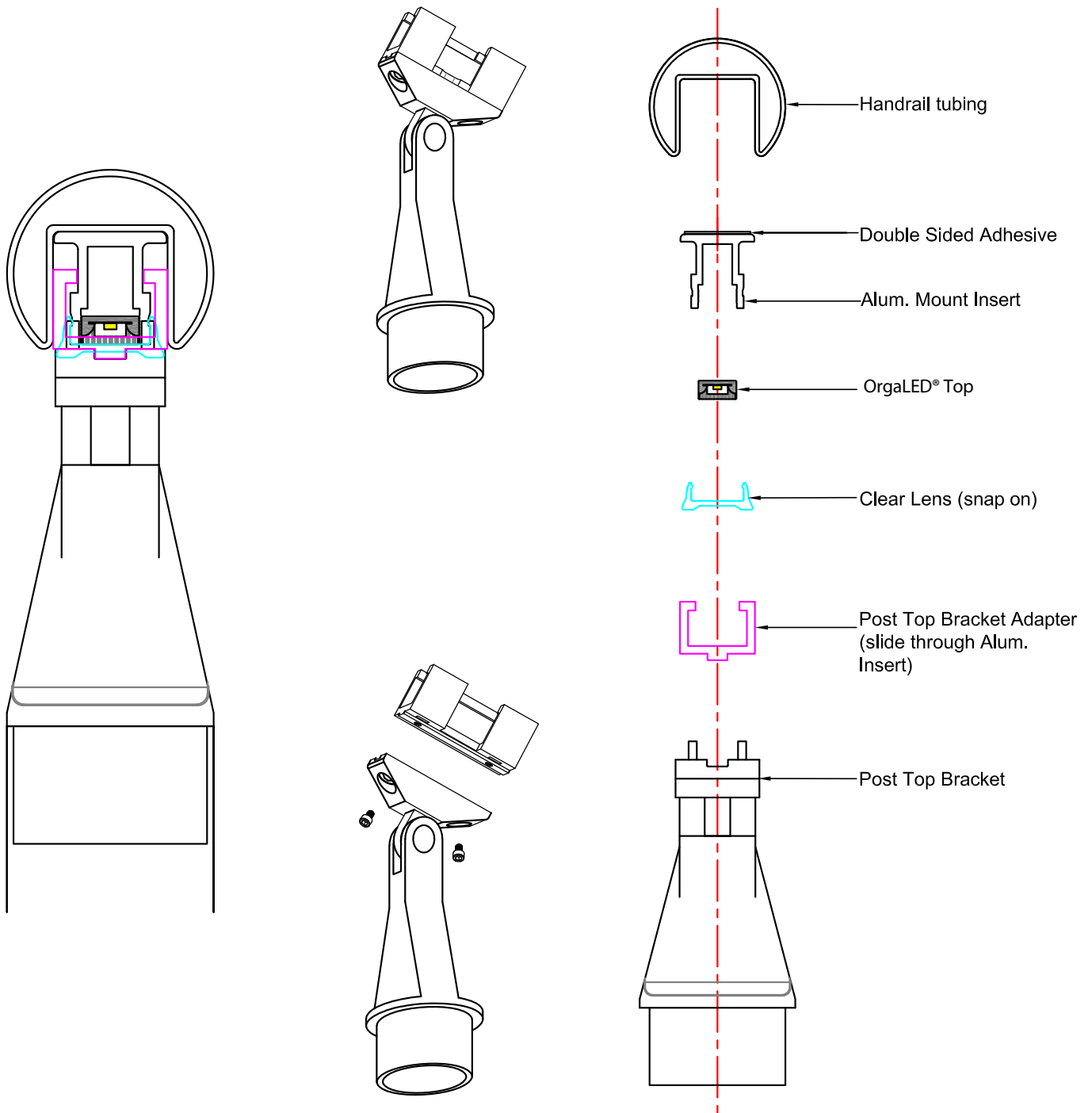
Glass Mounting

- 1.9" Round



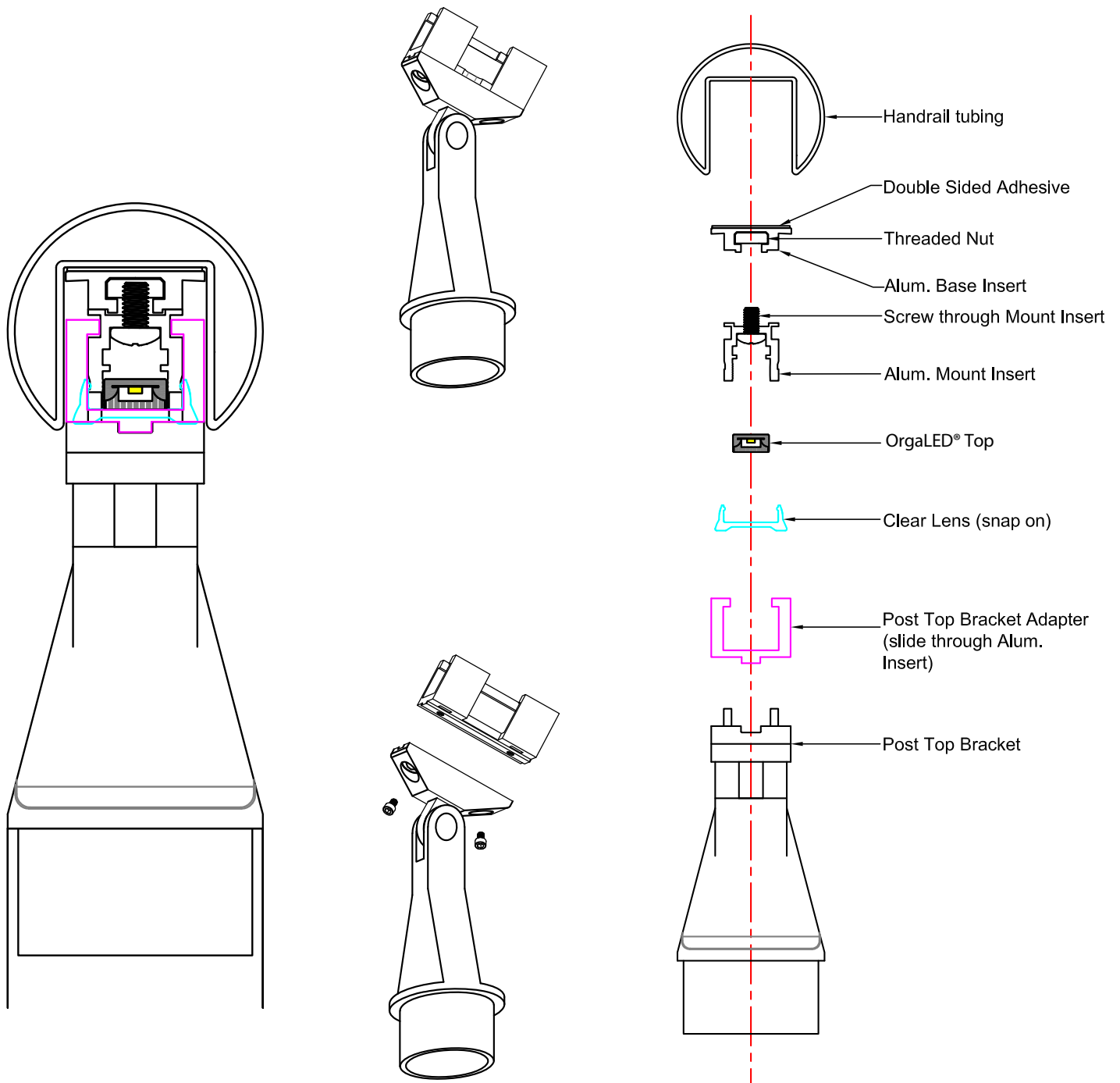
Post Mount - 1.6" Round Handrail

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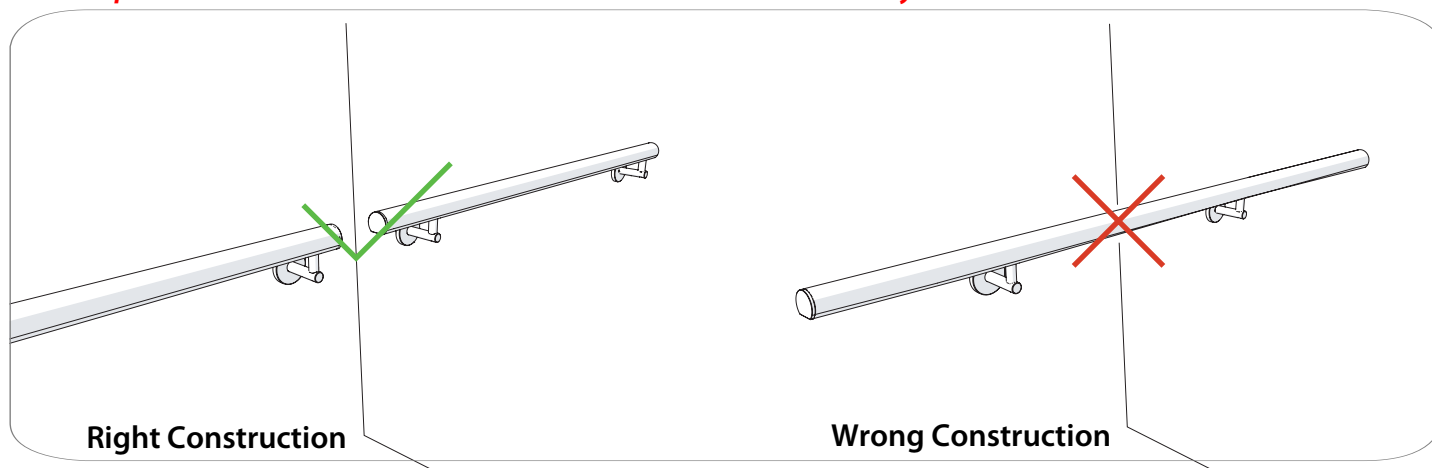
Post Mount - 1.9" Round Handrail

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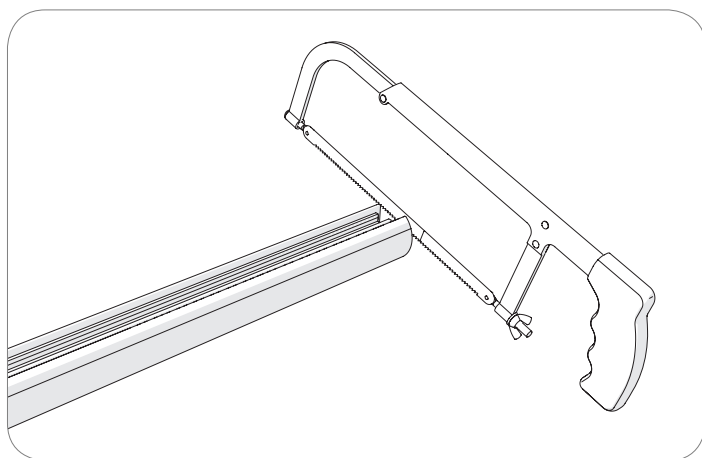


Installation

This chapter is described in the correct installation order: We advise you to follow this order.



During the installation of long lengths, take into account the expansion joints of the constructions, buildings or surface on which or against the OrgaRail® Handrail is mounted. Determine whether there are expansion joints in the wall or floor. The handrail needs to end at an expansion joint, to prevent any pressure on the OrgaLED® LED strip and possible damage.



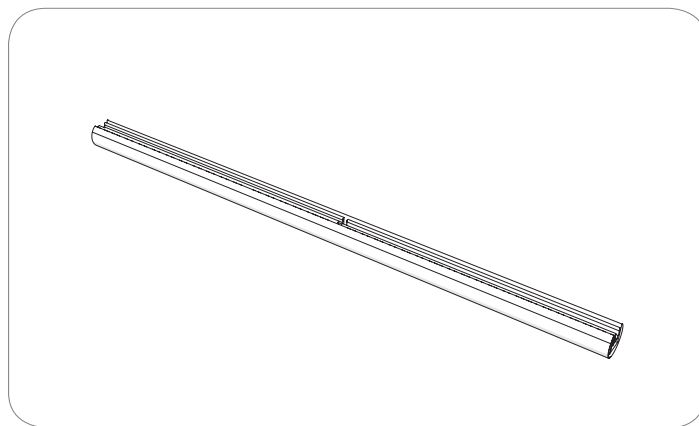
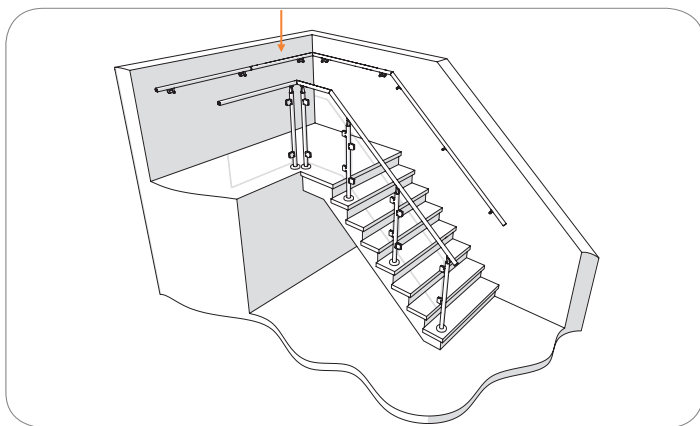
Cut the stainless steel handrail in the correct length

* Correct positions power supplies:

| | |
|----------------|-------------------------|
| Deco: | Connector every 65.6ft |
| Power: | Connector every 32.81ft |
| High Power: | Connector every 32.81ft |
| Photon 1200: | Connector every 29.53ft |
| Tunable White: | Connector every 29.53ft |
| RGB 160: | Connector every 32.81ft |
| RGB 240: | Connector every 16.4ft |

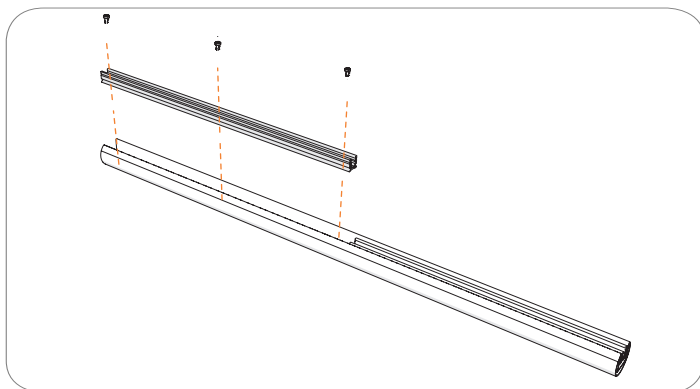
Installation 3 or More Handrails

Connecting 3 or more Handrails? Then you have to intermediate handrails. In case you don't need to connect intermediate handrails you can skip this installation pages. Go to page 8.

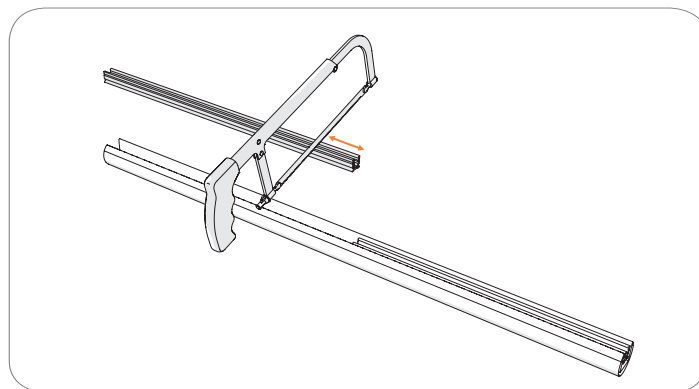


To be able to place the mounts in the profile, you need to make space in the intermediate handrail.

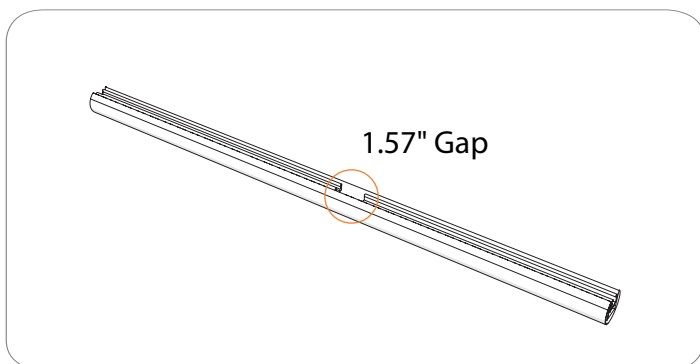
⚠ Because the aluminum profile is missing in this 1.57" gap, it is not possible anymore to place a wall or post mount here.



Disassemble one of the aluminum mounting profiles. To do this, unscrew all hex screws of the aluminum mounting profile and remove it.



Cut a 1.57in (+/- 0.04in) piece off the disassembled aluminum profile. This space is critical to create space to place the sliding Post Top Bracket Adapter into the rail. (see pages 4 & 5 for parts ID)

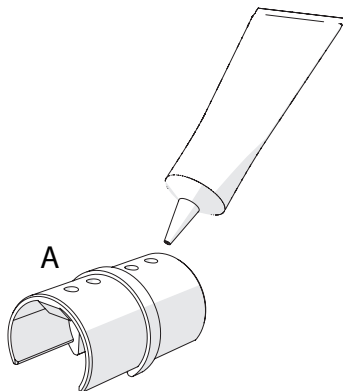


Place the aluminum mounting profile back in its original position and fasten with the hex screws. Leaving a gap to fit the sliding Post Top Bracket Adapter.

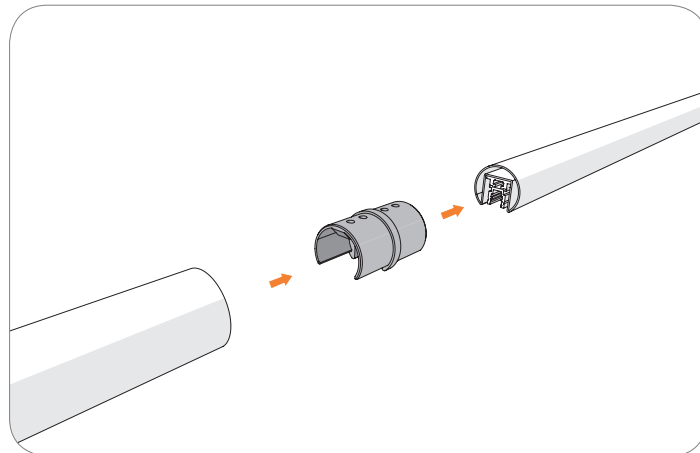
Interconnecting Handrails

The Handrails can be connected in two ways, by gluing or by welding.

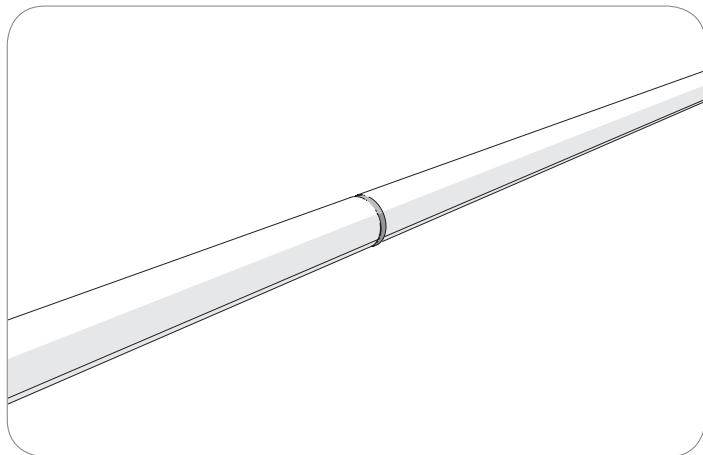
Gluing



Degrease the contact surfaces (A). Apply the glue on the contact surface (A) of the coupler.



Place the coupler in the stainless steel handrail, which you would like to extend.



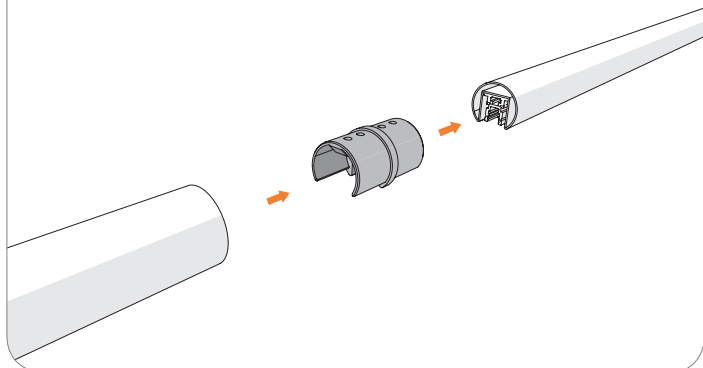
Slide the second handrail on the other side of the coupler.

Are there expansion joints present?

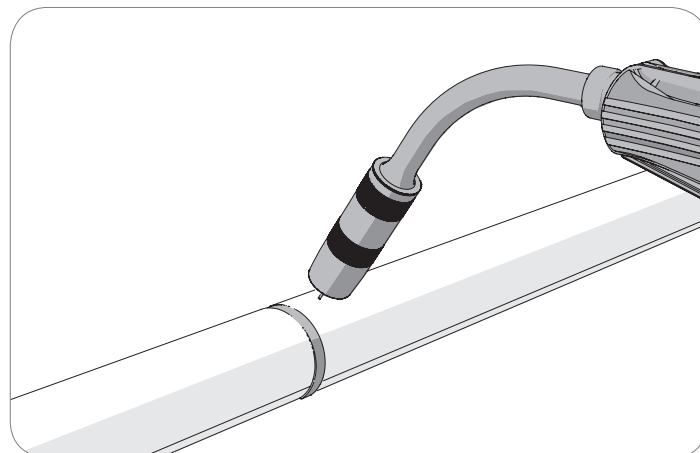
| | |
|------------|----------------------|
| Yes | Go to page 9 |
| No | Go to page 10 |

Use this step also after welding the coupler.

Welding



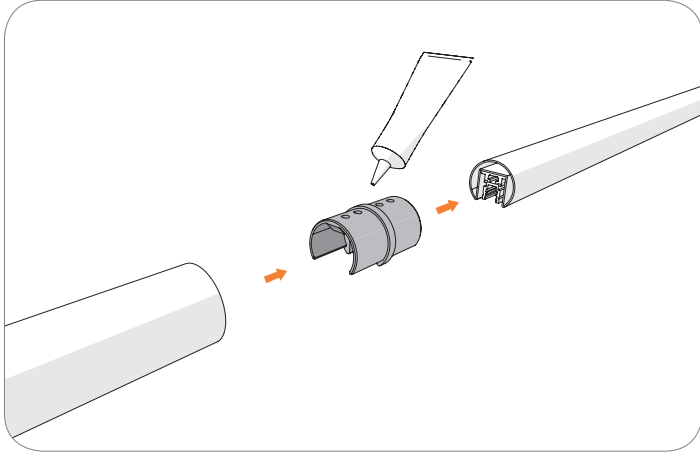
Place the aluminum mounting profile back on its original position and fasten with the hex screws. (1.57in)



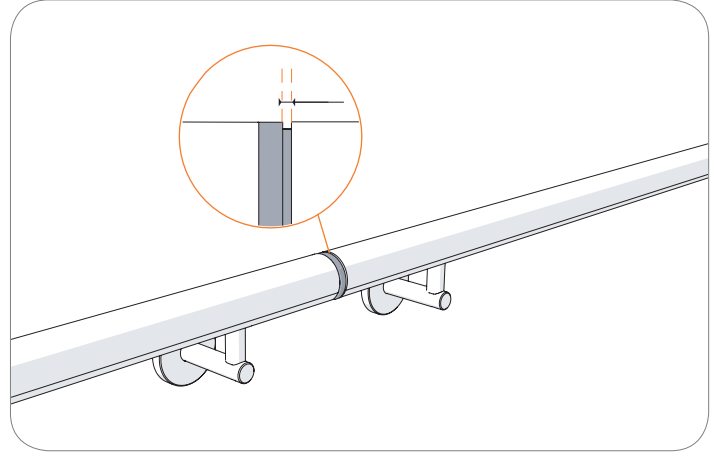
Slide the second handrail on the other side of the coupler. Weld the parts together.

Expansion Joint

To prevent possible pressure and damage on the OrgaLED® LED strip, the handrail and LED Strip needs to end at an expansion joint. The handrail can end with a **coupler** (step 1 and 2) or with **end caps** (step 3). For more information about placing/interrupting the LED strip, see page 12.

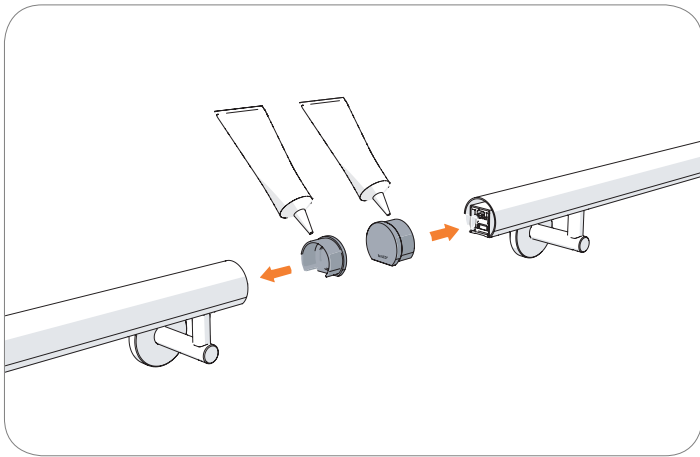


Apply the glue on one side of the coupler. Place the coupler between the two handrails.



Make sure there is enough space between the handrail and the coupler, to deal with possible expansion and contraction of the architecture due to temperature changes.

⚠ Warning: In the case of need for an expansion joint The OrgaLED® LED strip should end, and start a new strip.



Place the end caps at the ends of the handrails.

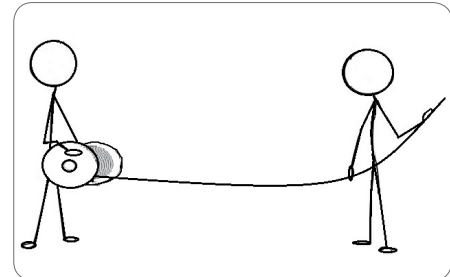
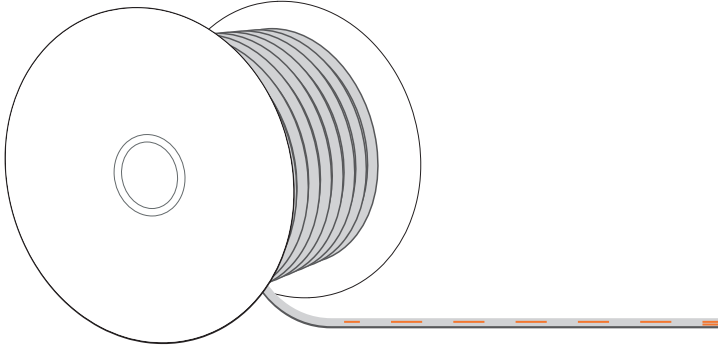
⚠ Temperature influences

In case of large temperature fluctuations, expansion and contraction of the LED strip and covers should be taken into account. The expansion and contraction of the PVC extrusion in the longitudinal direction of at least .2in at a length of up to 59.06in. Provide a clearance of .1in on both sides so this can be absorbed.

OrgaLED® Cutting Instructions

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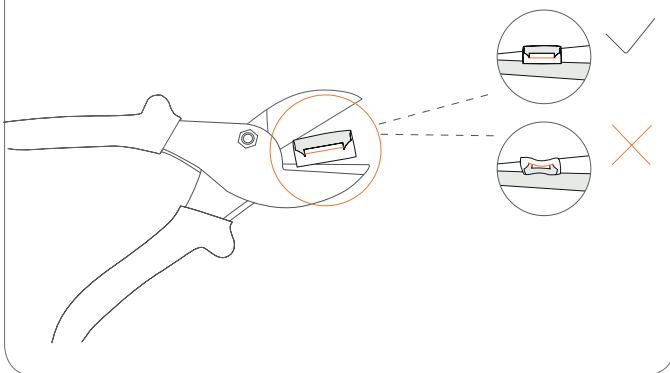
1



⚠ 10ft lengths require a second person's assistance.

⚠ The LED strip has to be unreeled on a horizontal surface at the time of installation. Do not unreele the spool of LED strip before installation. Lengths over 10ft should be installed with the help of a second person to support the strip to ensure that the connector is not stressed.

2

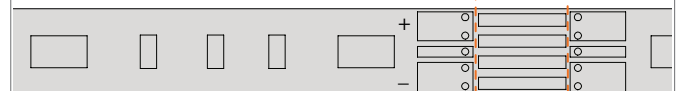


Place the OrgaLED® LED strip on the base of the cutting tool. Not doing so may result in a deformed LED strip.

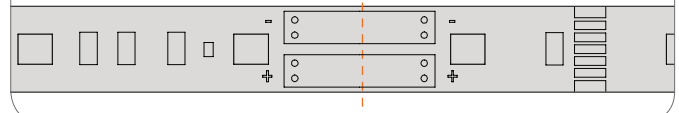
3a

OrgaLED® Deco, Power

White

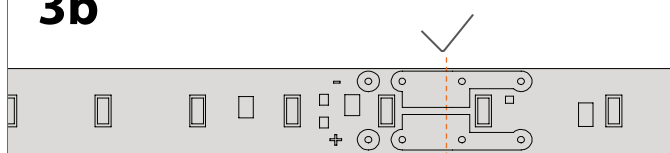


Color

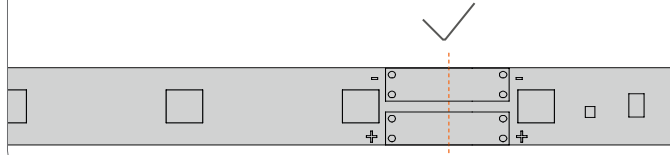


3b

OrgaLED® High Power

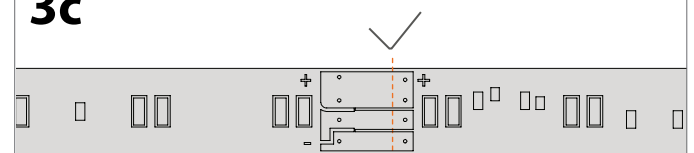


OrgaLED® Photon

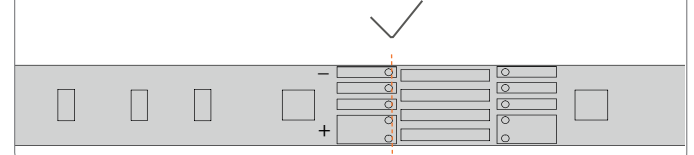


3c

OrgaLED® Tunable White

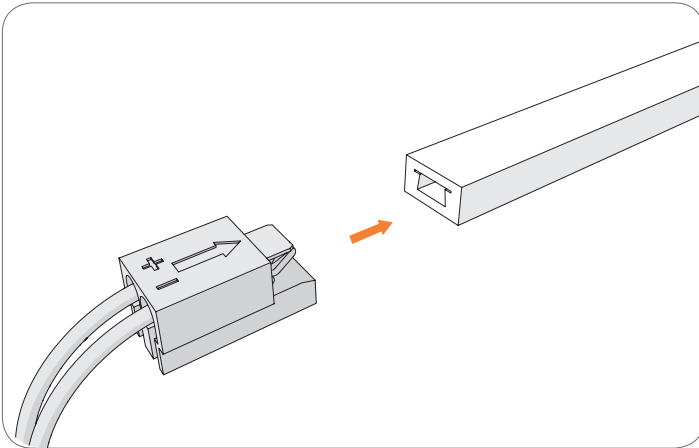


OrgaLED® RGB



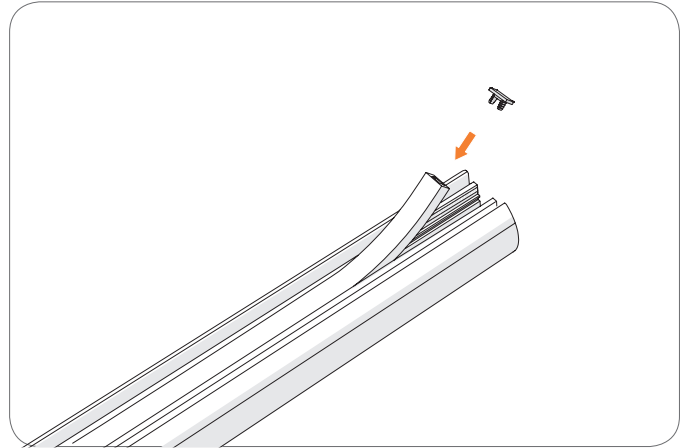
⚠ Dispose of the unnecessary material through waste recycling of electrical and electronic equipment.

Indoor Assembly (IP40)

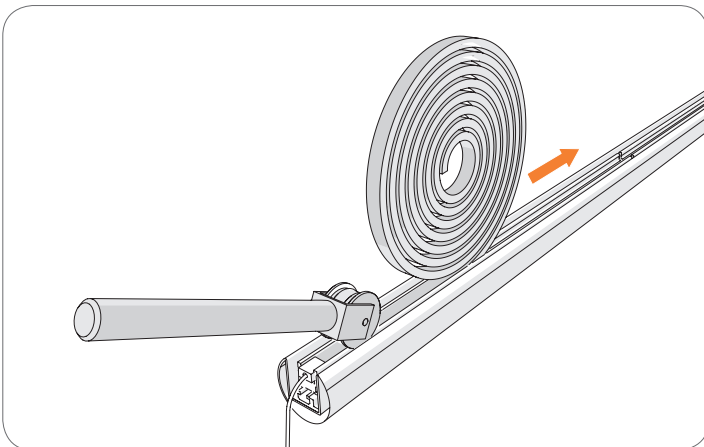


Gently insert the connector in the hollow chamber of the OrgaLED® Top LED strip.

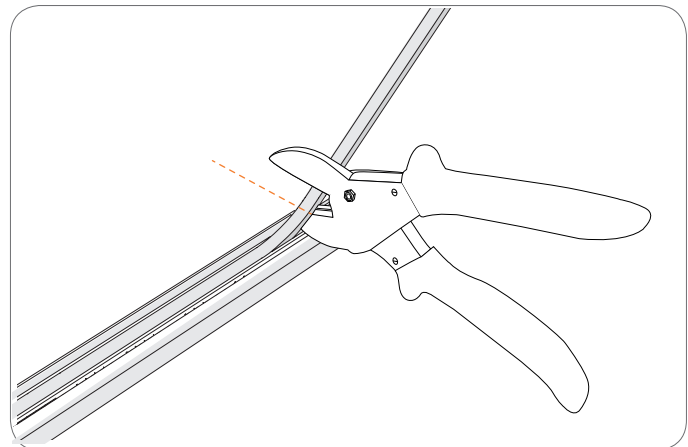
⚠ The arrow on the connector needs to be placed in the same direction as the arrow on the OrgaLED® LED strip.



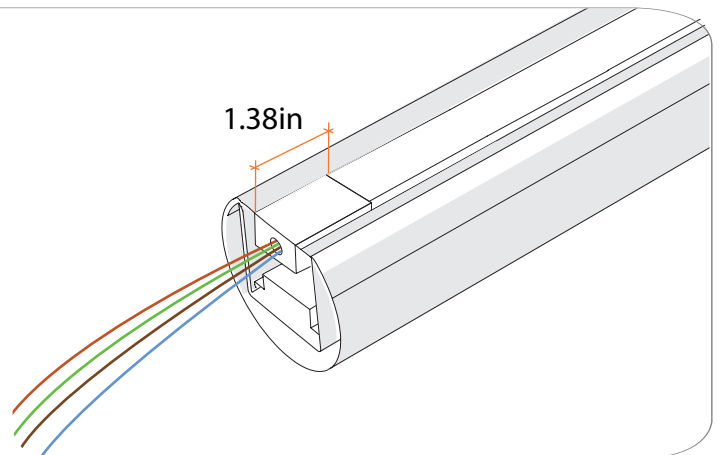
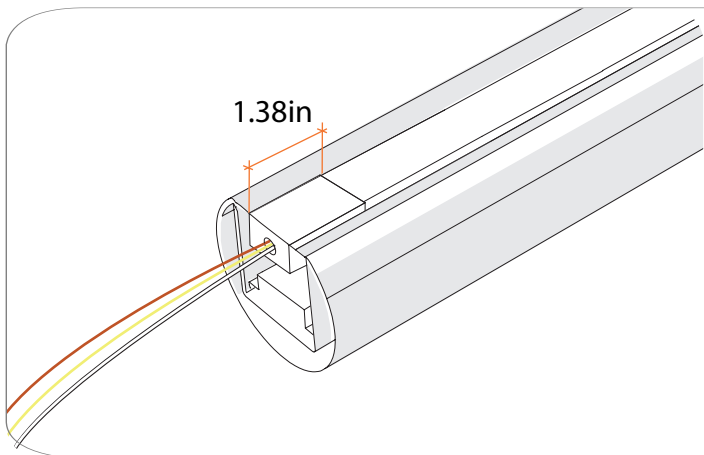
Place the end caps in the ends of the handrails and push the last part of the LED strip in the aluminum mounting profile.



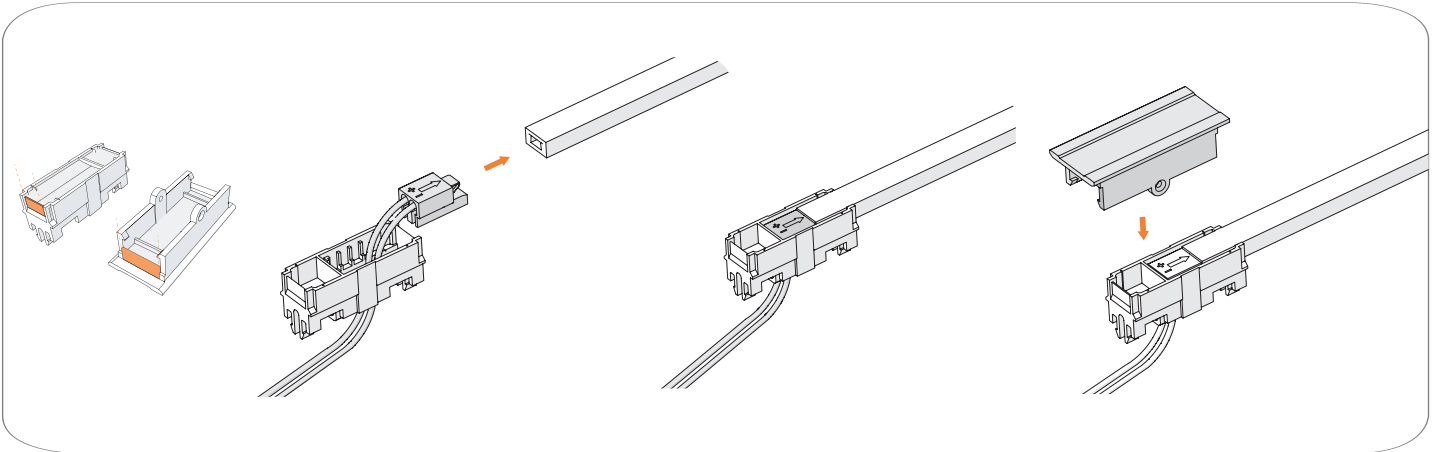
Gently push the OrgaLED® Top LED strip into the aluminum profile. Start from the position where you placed the connector.



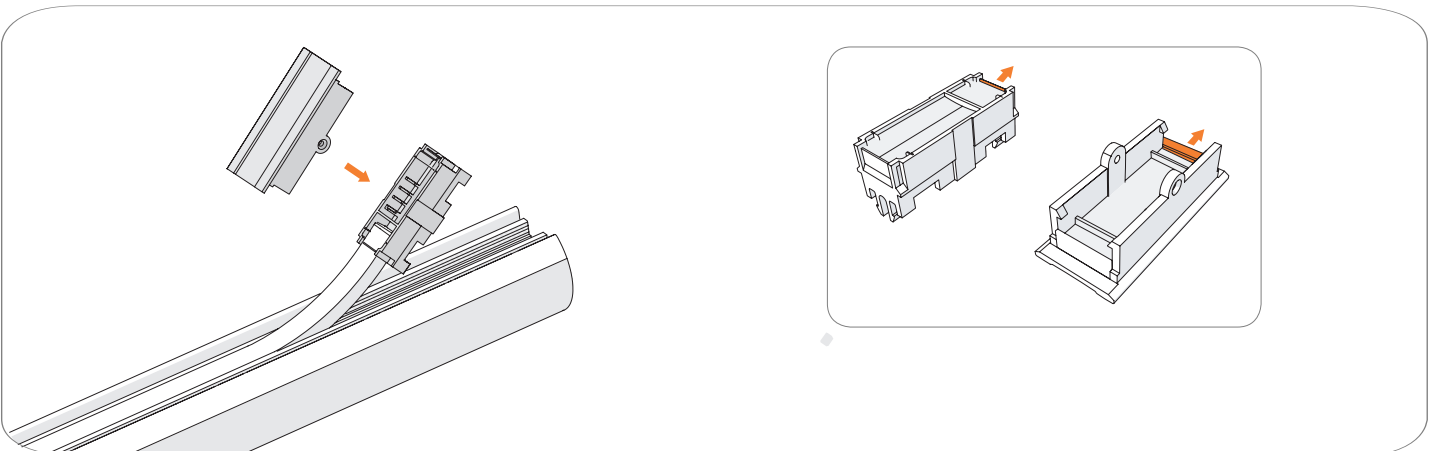
Cut the OrgaLED® Top LED strip. Place the End Cap at the end of the LED strip.



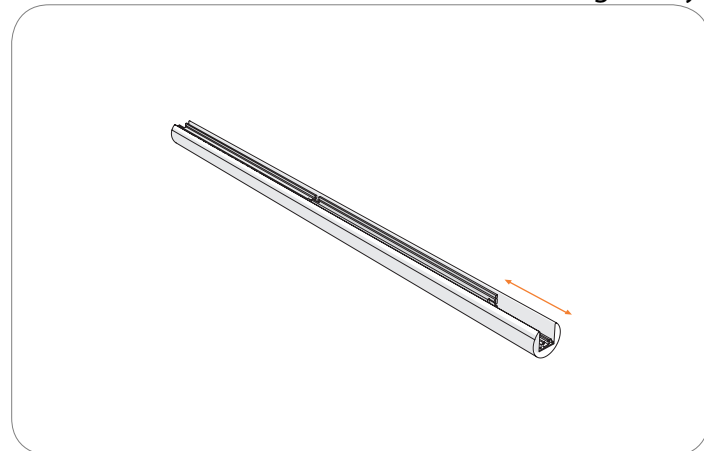
Remove 1.38in from the aluminum profile to provide space for the connector in the Handrail. Next, strip the cables up to the connector.

Outdoor Assembly (IP65) - 1.9" Handrail ONLY

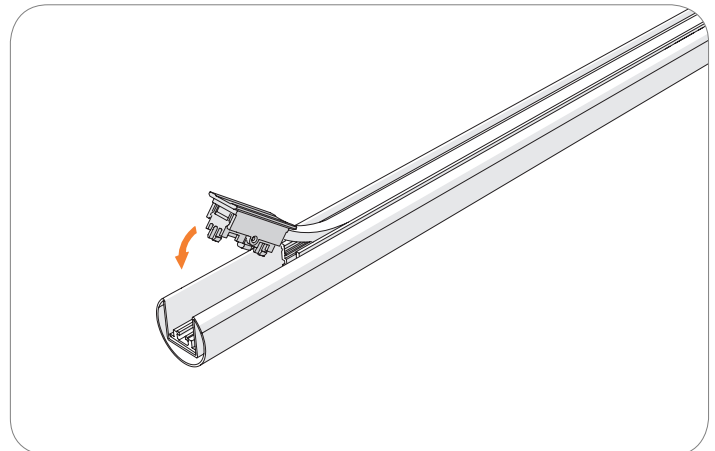
Connection: Remove the dams from the bottom and top of the IP65 Connector set. Use a sharp knife and cut the sides. Gently insert the first IP65 Connector in the hollow chamber of the OrgaLED® LED strip. The arrow on the connector needs to be placed in the same direction as the arrow on the OrgaLED® LED strip. Place the Connector and the OrgaLED® LED strip in the IP65 Housing, push the cap of the IP65 housing until you hear a 'click'.



End Cap: Remove the dams from the bottom and top of the IP65 Connector set. Use a sharp knife and cut the sides. Push the cover on the IP65 housing until you hear a 'click'.



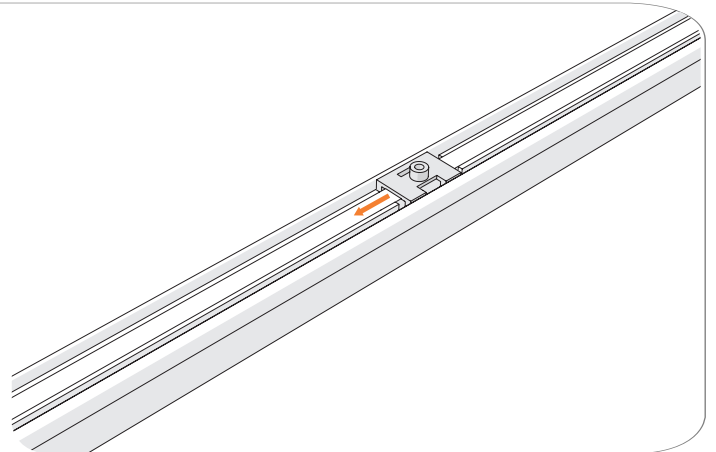
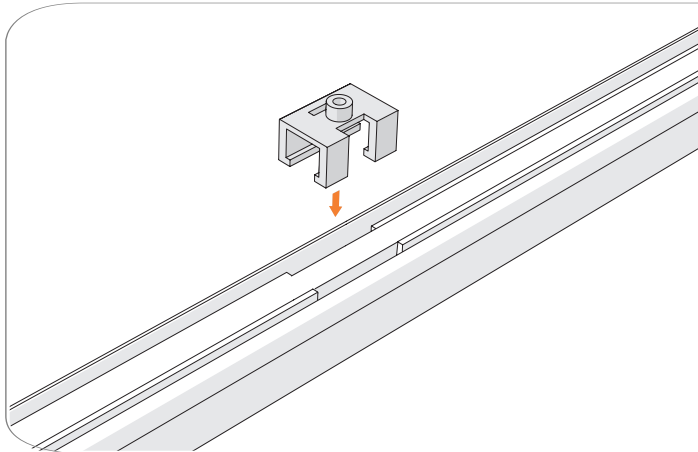
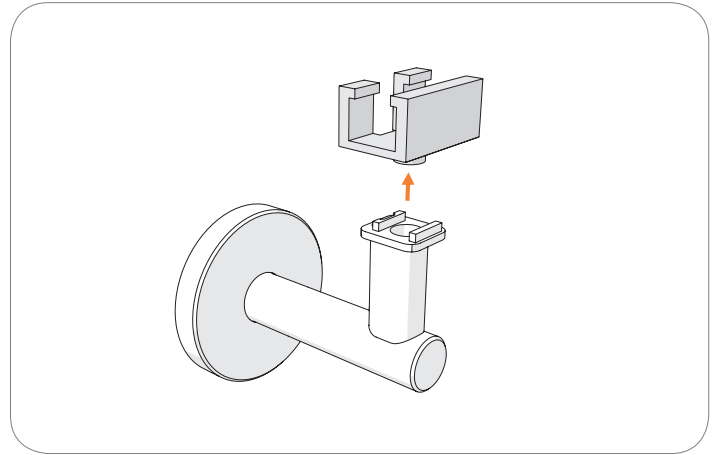
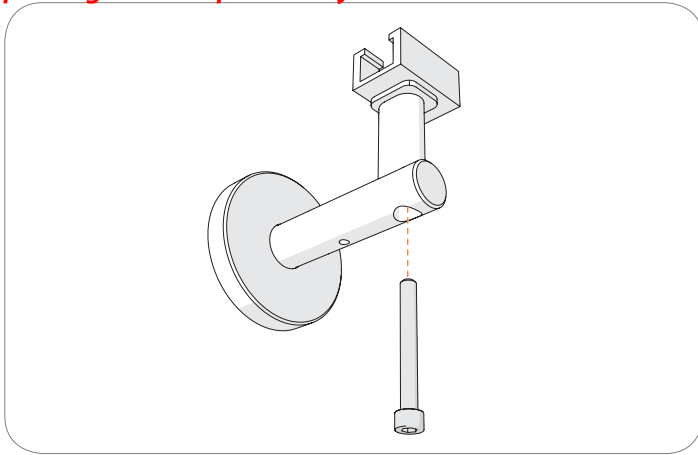
Put the aluminum mounting profile back in position and tighten the hex screws. You have now created some space to install the IP65 housing.



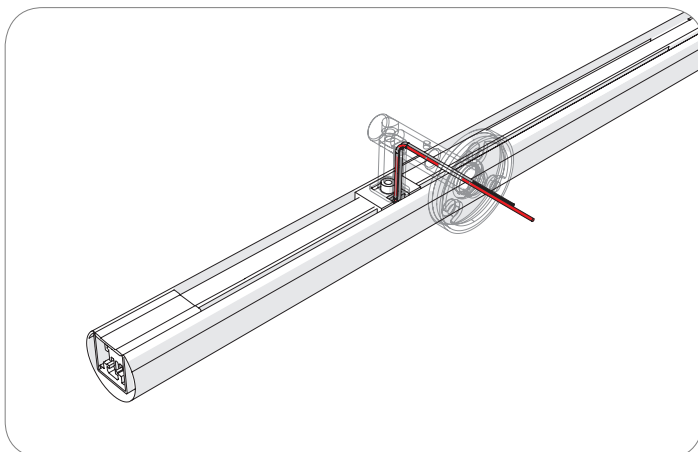
Push the IP65 housing on the aluminum basic profile until you hear a 'click'. The OrgaRail® Handrail is now IP65.

Wall Mount

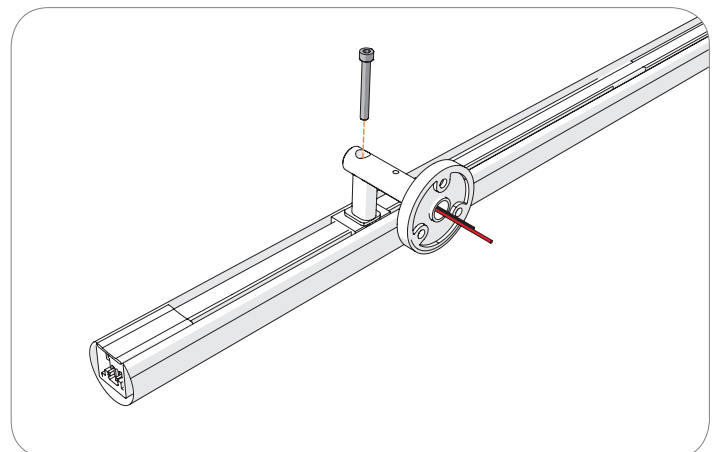
This chapter explains how to insert the wall mounts and post adapters in the handrail. **We recommend placing one adapter every 4-5ft.**



Place the clamp on the aluminum profile and slide the adapter to the desired position
Is the adapter the transit to your power supply? Yes = 1 or No = 2



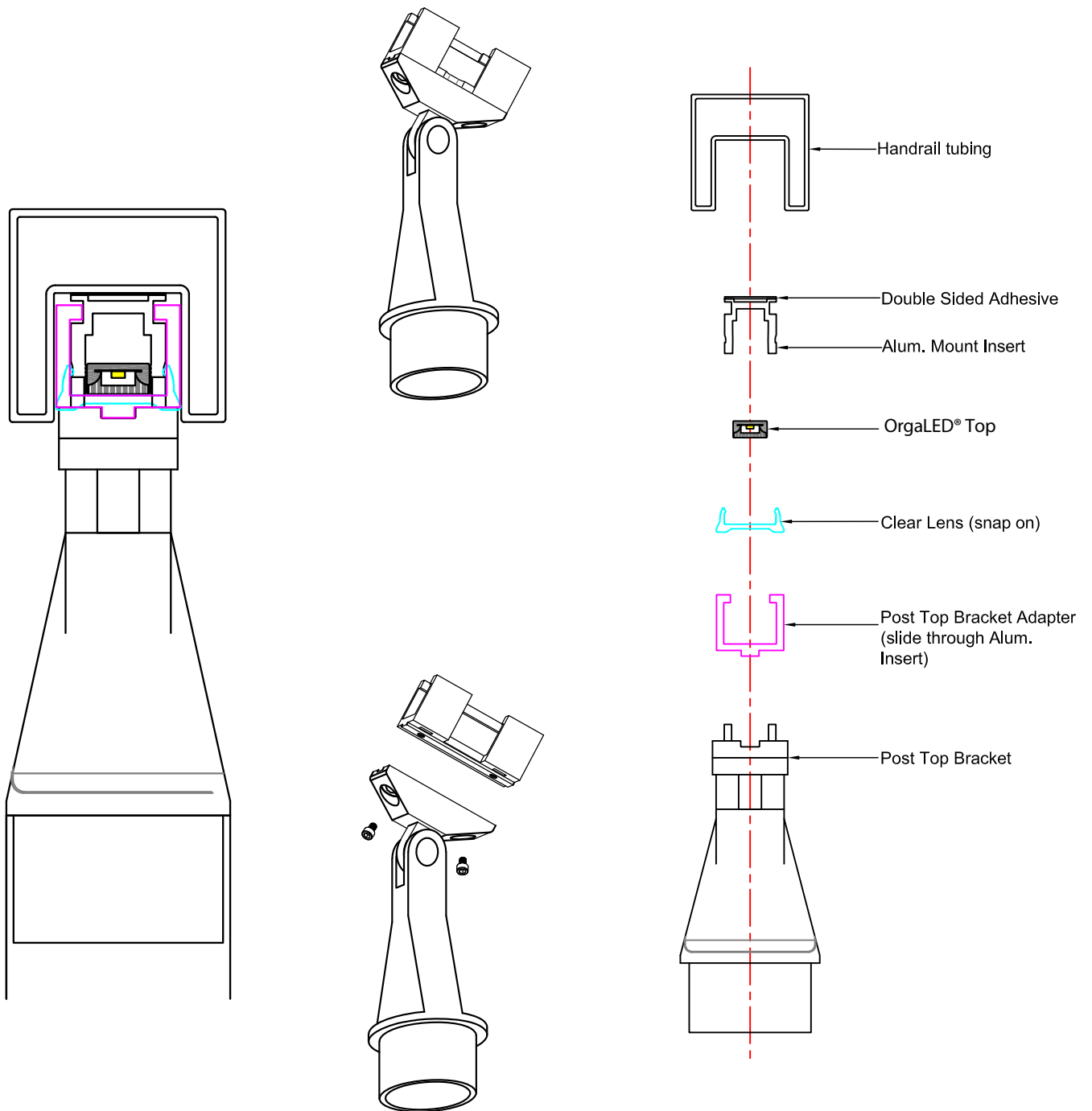
1 | Pull the wires through the clip first and then through the axes of the stainless steel handrail carrier. 24 V DC



2 | Turn the hex bolt clockwise, using a Metric Allen Key No. 5 to fix the wall mounts to the aluminum profile. Connect the cable to the connection from the wall. 24 V DC

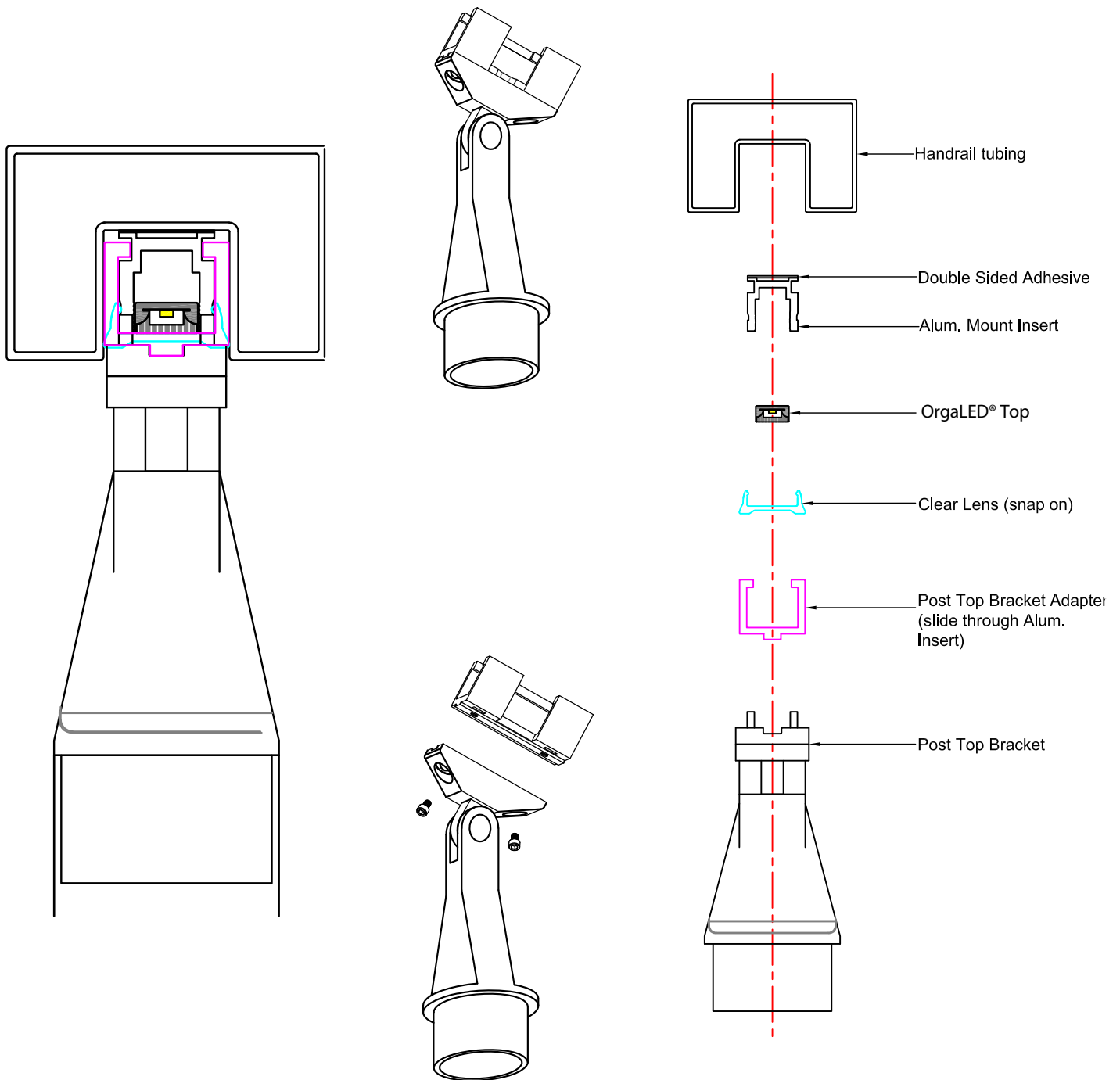
Post Mount - Square Handrail

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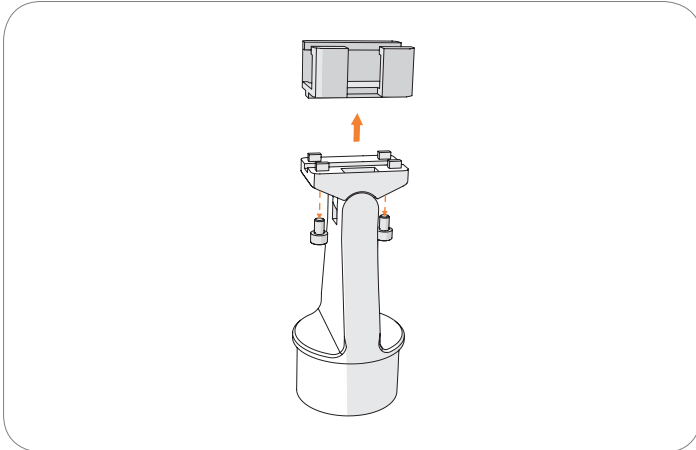


Post Mount - Rectangle Handrail

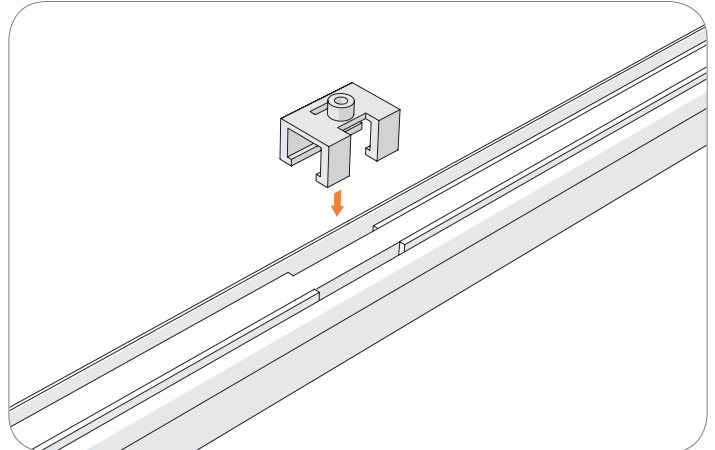
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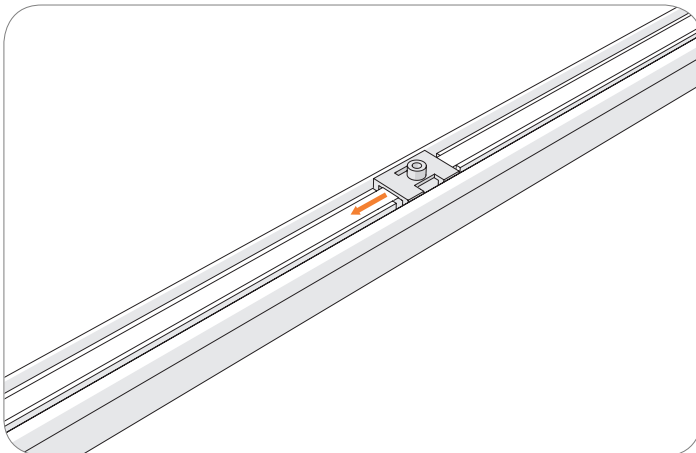
Post Mount



Remove the clamp from the post adapter.



Slide the clamp of the post adapter over the aluminum mounting profile of the handrail.

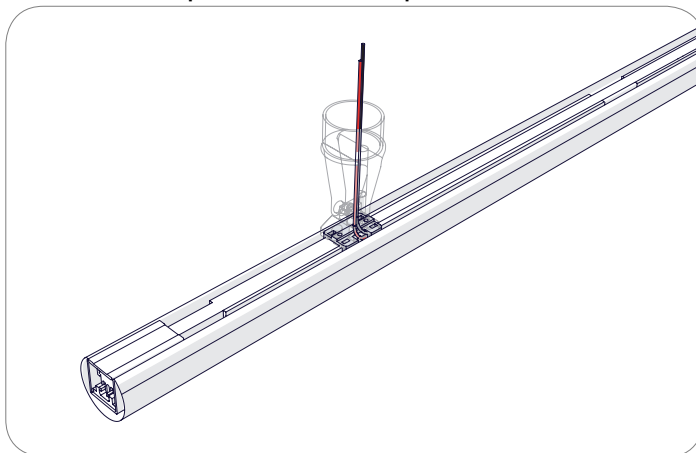


Slide the clamp to the desired position.

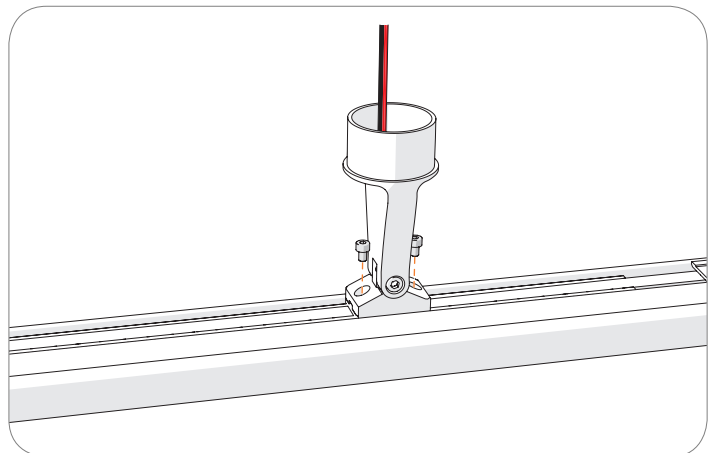
Is the post adapter a transit to your power supply?

Yes [Go to step 1](#)

No [Go to step 2](#)



1 | Pull the cables through the clamp first and then through the post adapter.

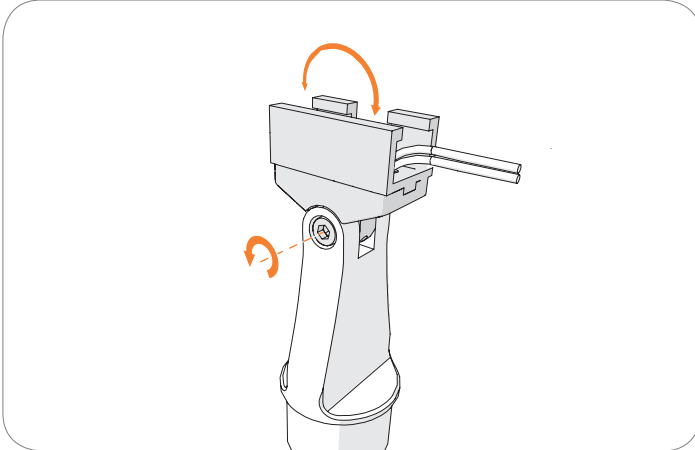


2 | Fix the post adapter onto the clamp. To tighten the clamp, turn the hex bolts in the post adapter clockwise using a Metric Allen Key No.5.

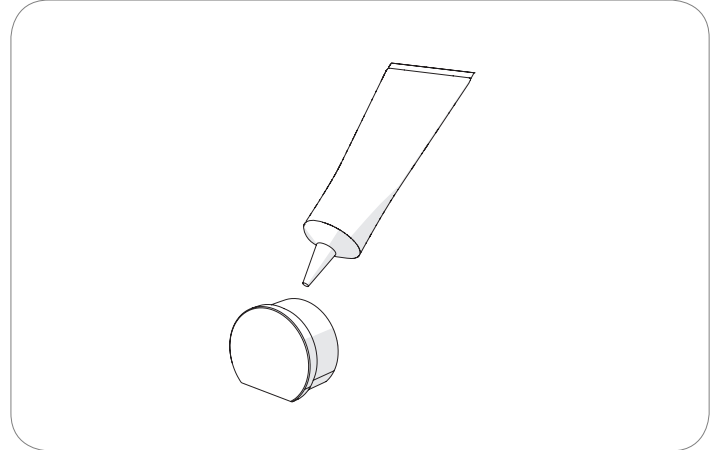


The clamp can twist up to 55° to one side. Verify if the angle post adapter can reach the correct angle prior to fixing it.

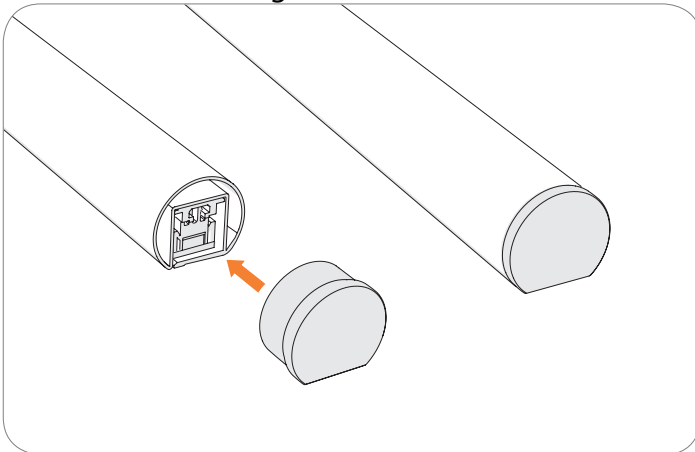
Post Mount



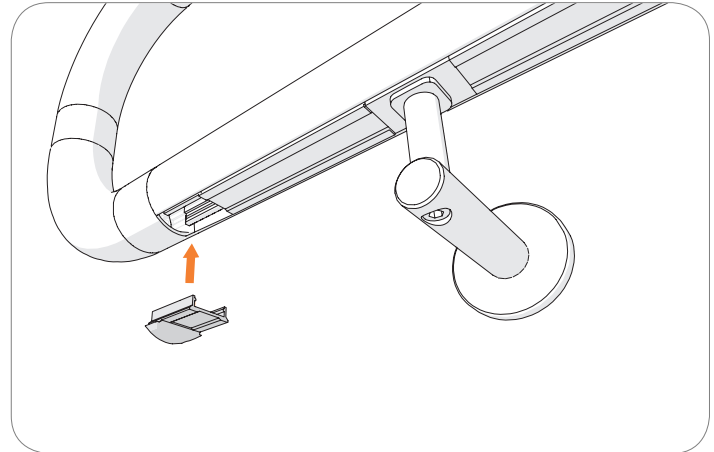
If the handrail is tilted, rotate the support of the OrgaRail® Handrail. Turn the hex bolt counterclockwise. Rotate the clamp and tighten the hex bolt clockwise again.



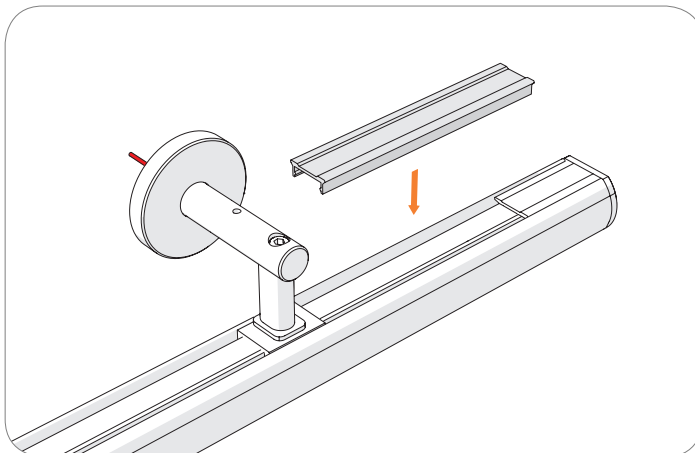
Degrease the end cap before applying glue on the contact surface.



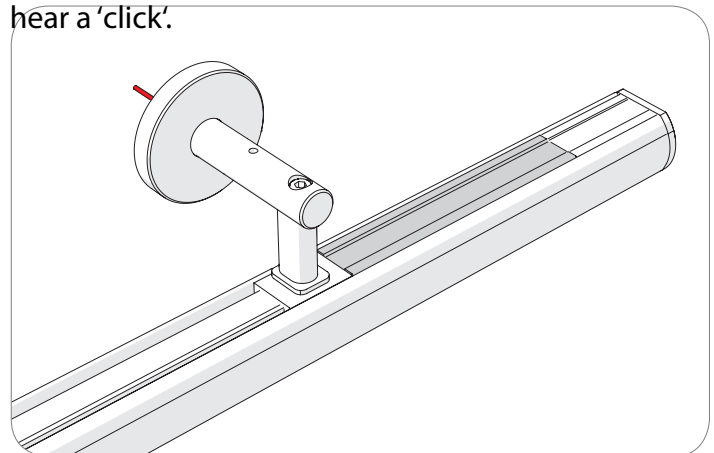
Insert the end cap into the end of the handrail.



When the OrgaRail® Handrail merges into a round tube, you can finish it with the plastic transition profile. Press the transition profile on the aluminum profile. You will hear a 'click'.



Secure the OrgaLED® LED strip by using the cover. Close the open spaces between wall mounts with a cover. Cut the covers to the right size and push them over the aluminum mounting profile.



Product Specifications

User Manual | OrgaRail® Illuminated Handrail

OrgaLED® Top Deco LED strips

| Color | V DC | W/ft | lm/ft | Max. Length |
|-------|------|------|-------|-------------|
| 2400K | 24 | .33 | 27 | 65.6' |
| 2700K | 24 | .33 | 32 | 65.6' |
| 3000K | 24 | .33 | 31 | 65.6' |
| 4000K | 24 | .33 | 34 | 65.6' |
| 6500K | 24 | .67 | 34 | 65.6' |
| Red | 24 | 1.3 | 16 | 65.6' |
| Green | 24 | .7 | 41 | 65.6' |
| Blue | 24 | .5 | 8 | 65.6' |
| Amber | 24 | 1.4 | 12 | 65.6' |

OrgaLED® Top Photon 1200 Strips

| Color | V DC | W/ft | lm/ft | Max. Length |
|-------|------|------|-------|-------------|
| 2000K | 24 | 3.2 | 247 | 29.5' |
| 2400K | 24 | 3.2 | 292 | 29.5' |
| 2700K | 24 | 2.7 | 303 | 29.5' |
| 3000K | 24 | 2.7 | 311 | 29.5' |
| 4000K | 24 | 2.4 | 307 | 29.5' |
| 6500K | 24 | 2.4 | 305 | 29.5' |

OrgaLED® Top Tunable White 1200 Strips

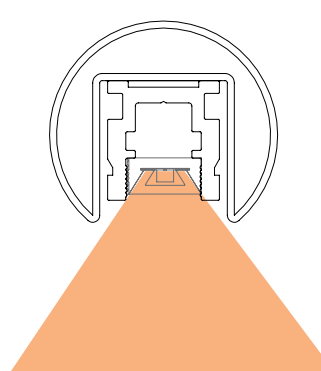
| Color | V DC | W/ft | lm/ft | Max. Length |
|-------------|------|------|-------|-------------|
| 2700K/6500K | 24 | 3.2 | 255 | 29.5' |

OrgaLED® Top Power LED strips

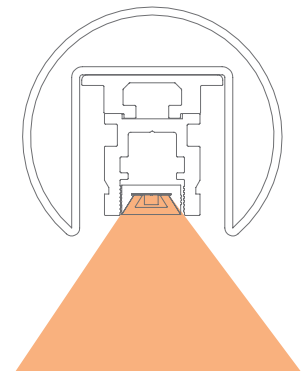
| Color | V DC | W/ft | lm/ft | Max. Length |
|-------|------|------|-------|-------------|
| 2400K | 24 | 1.3 | 116 | 32.8' |
| 2700K | 24 | 1.4 | 126 | 32.8' |
| 3000K | 24 | 1.3 | 116 | 32.8' |
| 4000K | 24 | 1.2 | 125 | 32.8' |
| 6500K | 24 | 1.2 | 129 | 32.8' |
| Red | 24 | 2.5 | 31 | 32.8' |
| Green | 24 | 1.5 | 46 | 32.8' |
| Blue | 24 | 2.2 | 20 | 32.8' |
| Amber | 24 | 2.5 | 28 | 32.8' |

OrgaLED® Top RGB 160/240 LED Strips

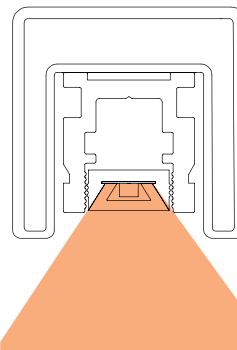
| Color | V DC | W/ft | lm/ft | Max. Length |
|---------|------|------|-------|-------------|
| RGB 160 | 24 | 1.46 | 42 | 32.8' |
| RGB 240 | 24 | 2.26 | 71.65 | 16.5' |



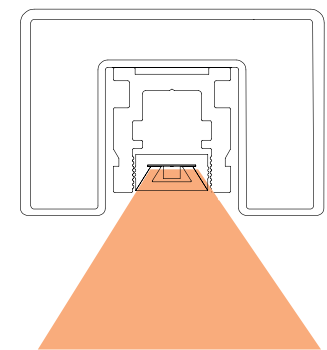
1.6" OD Handrail



1.9" OD Handrail



Square Handrail



Rectangle Handrail

OrgaLED® Top High Power Strips

| Color | V DC | W/ft | lm/ft | Max. Length |
|-------|------|------|-------|-------------|
| 2400K | 24 | 2.7 | 190 | 32.8' |
| 2700K | 24 | 2.7 | 214 | 32.8' |
| 3000K | 24 | 2.5 | 188 | 32.8' |
| 4000K | 24 | 2.6 | 216 | 32.8' |
| 6500K | 24 | 2.6 | 211 | 32.8' |

Product Specifications

OrgaLED® Side Deco LED strips

| Color | V DC | W/ft | lm/ft | Max. Length |
|-------|------|------|-------|-------------|
| 2400K | 24 | .33 | 24 | 65.6' |
| 2700K | 24 | .33 | 25 | 65.6' |
| 3000K | 24 | .33 | 24 | 65.6' |
| 4000K | 24 | .33 | 28 | 65.6' |
| 6500K | 24 | .67 | 28 | 65.6' |
| Red | 24 | 1.3 | 11.59 | 65.6' |
| Green | 24 | .7 | 28.35 | 65.6' |
| Blue | 24 | .5 | 3.69 | 65.6' |
| Amber | 24 | 1.4 | 9.14 | 65.6' |

OrgaLED® Side Power LED strips

| Color | V DC | W/ft | lm/ft | Max. Length |
|-------|------|------|-------|-------------|
| 2400K | 24 | 1.3 | 96 | 32.8' |
| 2700K | 24 | 1.4 | 97 | 32.8' |
| 3000K | 24 | 1.3 | 88 | 32.8' |
| 4000K | 24 | 1.2 | 98 | 32.8' |
| 6500K | 24 | 1.2 | 90 | 32.8' |
| Red | 24 | 2.5 | 32 | 32.8' |
| Green | 24 | 1.5 | 41.2 | 32.8' |
| Blue | 24 | 2.2 | 12.5 | 32.8' |
| Amber | 24 | 2.5 | 23.5 | 32.8' |

OrgaLED® Side High Power Strips

| Color | V DC | W/ft | lm/ft | Max. Length |
|-------|------|------|-------|-------------|
| 2400K | 24 | 2.7 | 152 | 32.8' |
| 2700K | 24 | 2.7 | 166 | 32.8' |
| 3000K | 24 | 2.5 | 154 | 32.8' |
| 4000K | 24 | 2.6 | 170 | 32.8' |
| 6500K | 24 | 2.6 | 170 | 32.8' |

OrgaLED® Side Photon 1200 Strips

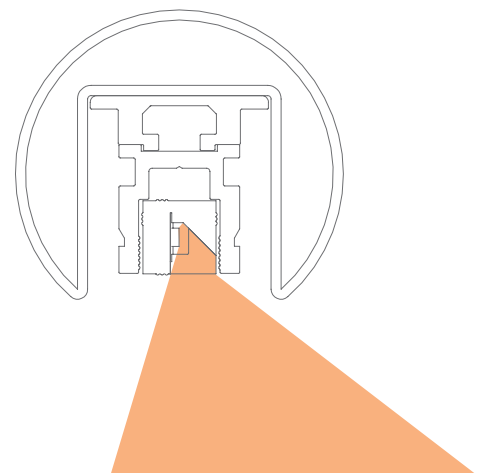
| Color | V DC | W/ft | lm/ft | Max. Length |
|-------|------|------|-------|-------------|
| 2000K | 24 | 3.2 | 212 | 29.5' |
| 2400K | 24 | 3.2 | 243 | 29.5' |
| 2700K | 24 | 2.7 | 252 | 29.5' |
| 3000K | 24 | 2.7 | 254 | 29.5' |
| 4000K | 24 | 2.4 | 253 | 29.5' |
| 6500K | 24 | 2.4 | 253 | 29.5' |

OrgaLED® SideTunable White 1200 Strips

| Color | V DC | W/ft | lm/ft | Max. Length |
|-------------|------|------|-------|-------------|
| 2700K/6500K | 24 | 3.2 | 207.6 | 29.5' |

OrgaLED® Side RGB 160/240 LED Strips

| Color | V DC | W/ft | lm/ft | Max. Length |
|---------|------|------|-------|-------------|
| RGB 160 | 24 | 1.46 | 29.5 | 32.8' |
| RGB 240 | 24 | 2.26 | 51.2 | 16.5' |



1.9" OD Handrail

General

Read the instructions and safety precautions before installation, usage and storage of the products to secure safety of the user and reliability of the product. Hand over the instructions to the end-user and/or those responsible for installation, maintenance and usage.

- Organic Lighting Systems, Inc. cannot be held responsible for improper handling, product installation, usage or storage.

Handling

- Handle with care.
- The product may not be modified or converted otherwise than prescribed.
- Products are transported in proper packaging. Products should remain packed until installation.

Installation

- Attention: The power has to be switched off the main power supply or the connection before installation. Not doing so may damage the product.
- Use a suitable LED power supply/driver: 24 V DC constant voltage. Do not drive the product on other voltages than described in their datasheet/products specifications.
- Installation has to be done by a certified professional with knowledge of electrical circuits or a specialised maintenance person known with valid directives.
- General and local construction, safety- and installation regulations should be respected.
- Use only supplied parts, accessories and required tools as prescribed in the installation manual to guarantee a safe installation and use of the product.
- Products may solely be installed in the areas according to their prescribed IP-rating, IK-rating, temperature range and chemical resistances.
- Do not fasten anything on the product, same applies for hanging.
- Do not install the product in the following cases:
 - Damage is visible on the product or its cables.
 - The inside of the product is moistened or dirty.
 - The product or its cables have been modified. It could lead to an electrical shock or a short circuit may occur.
- Children may not play unsupervised with electrical products as they cannot judge the dangers in dealing with electrical circuits correctly.

Operation and Use

Solely use the product when its working correctly. If not, switch the power off immediately and advise an electrical specialist in the following case.

- Damage is visible on the product.
- The product does not function.
- Smoke or steam rises from the product.
- Crackling sounds are noticeable.
- The product is overheating.
- Repairs on the installation may only be performed by qualified electricians. Product repairs may solely be done by Organic Lighting Systems, Inc.



















Cleaning and Maintenance

- Attention: Disconnect the power before maintenance and cleaning.
- Dust and dirt accumulated over time should be removed from the light-emitting surface to assure optimal functioning of the product.
- Paints, solvents and corrosive cleaning chemicals may not contact and thus affect the product.

Environment and Waste

- Exterior decorative lighting should only be used after sunset.
- This product may not be treated as household waste. Dispose of the material through the waste recycling of electrical and electronic equipment.

Symbols

-  UL is a world leader in product safety testing and certification. UL sets standards and tests products to make sure they meet standards.
-  The ETL Listed mark indicates that your product has been tested by Intertek and found in compliance with accepted UL standards.
-  Electro Static Discharge (ESD) sensitive device, apply standard ESD precautions when handling the product.
-  Manufacturer's declaration that the product meets the applicable EC directives.
-  Suitable for mounting on all surfaces and suitable to cover with insulating material.
-  Restriction of Hazardous Substances (RoHS): product complies with the RoHS directive and each homogeneous material does not exceed the limits for the materials mentioned under the RoHS directive (Pb, Hg, Cd, Cr6+, PBB and PBDE).
-  This product can be both IP40 and IP68 depending on the configuration and application. See the documentation for the exact IP rating.
-  Bending of the LED strip is possible with a radius of ≥ 1.2 inches in the specified direction.
-  Electrical appliance class III: this product is designed to be supplied from an extra-low voltage (≤ 60.0 V DC or ≤ 42.4 V AC).
-  System guarantee of 5 years when the complete system consist of OrgaLED® products with the 5 year system warranty logo.
-  Product is resistant against ultraviolet (UV) light or sunlight. Non-UV resistant products can degrade or discolor fast when exposed to UV.
-  Product can be cleaned with normal cleaning agents as specified in the datasheet under 'chemical compliances.'
-  This product can be stored and used below 32 degrees Fahrenheit. Verify the minimum storage and operation temperature in the datasheet for the lowest temperature allowed.
-  This product can be applied in seawater and its environment. Elements in seawater will have no harmful effect on the product. For chemical specifications see datasheet. Verify the IP rating for proper use.
-  This product can be applied inside swimming pool environments. Elements in the air will have no harmful effect on the product. For chemical specifications of these elements see datasheet. Verify the IP rating for proper use.
-  This product is available on request and can be submerged n swimming pools and their environments. Disinfectants will have no harmful effect on product. For chemical specifications of these elements see datasheet. Verify the IP rating for proper use.
-  The CRI value of this product is 80 or higher.
-  The binning tolerance of this product is 2 MacAdam.

Disclaimer

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