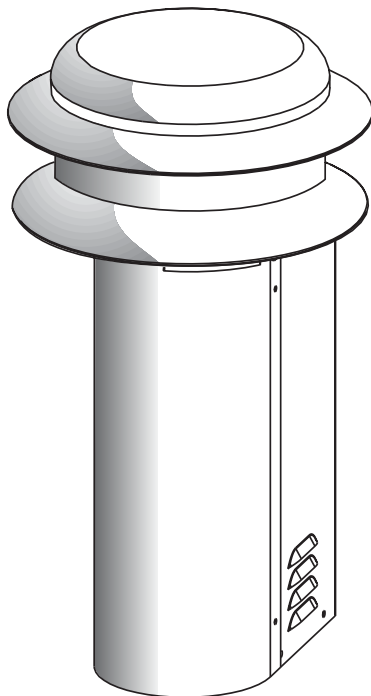


FIBERworks®

Perimeter Installation Manual

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS



⚠ WARNING

Read and follow all warning notices and instructions accompanying this product. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage. Call (800) 831-7133 for additional free copies of this manual.

Important Notice



Attention Installer.

This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/operator of this equipment.

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Pentair Water
Pool and Spa™

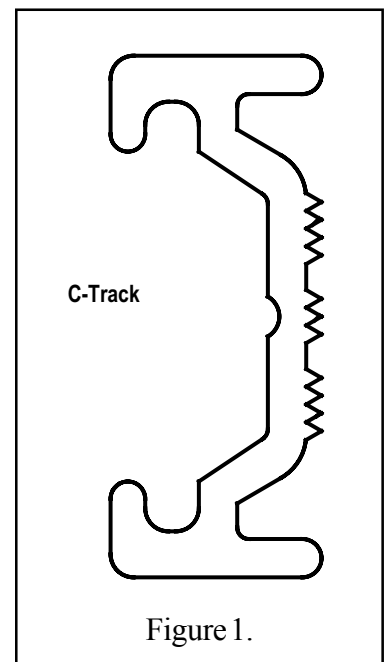
SECTION I. Installing UltraGlow Perimeter Cable

A. Tips, Tricks, and Traps

1. For installations where the total cable length is over 50', the cable should be looped so that both ends are loaded into the Photon Generator. While looping is not absolutely necessary on 50' or shorter runs, it will still yield the best performance.
2. If not looping shorter runs, the bright, open end of the cable should be filled with silicone to prevent water intrusion and hidden from view.
3. For cable runs over 200' an additional Photon Generator will be required.
4. For the most attractive installations with track and tile, leave a $\frac{3}{4}$ " gap between tile and cantilever coping for track. See Figure 2.
5. On corners and tight bends, avoid sharp, 90° turns. The minimum bend radius we recommend is $\frac{3}{4}$ ".
6. When not installing cable into a track, the best results are obtained by installing to a smooth, non-porous surface, such as ceramic tile.
7. Avoid placing UltraGlow cable below the water line. Though UltraGlow cable will still perform well, extreme chemical conditions may cause the cable jacket to whiten.
8. For elevation changes on raised beam applications, hiding the cable as shown in Figure 4 gives better end results. The flat back design of the cable does not lend to easily bending the cable in the vertical direction.

B. C-track on concrete or fiberglass

1. What you'll need
 - a. UltraGlow cable
 - b. White Track (P/N 21004200) or Clear Track (P/N 21004800) which is 13 lengths of 8' (104' total)
 - c. RTV silicone (P/N 21007200)–3 tubes per 100' of track
 - d. Fishtape
 - e. Electrician's lube
 - f. Entry fitting (fiberglass pools, P/N 23501900)
 - g. #8 x $\frac{3}{4}$ " round head stainless steel screws and #6 plastic plug, 3 or more per section of track-40 provided with track
 - h. $\frac{3}{16}$ " fluted concrete drill bit
 - i. Plastic spline tool, available at hardware stores, used to install screening into frame
 - j. Hack saw or PVC cutters
2. Running conduit
 - a. Stub 1" conduit out just below coping or top of pool wall.
 - b. Use only sweep elbows for conduit bends.
 - c. For fiberglass pools, install step entry fitting if desired or drill $\frac{3}{4}$ " hole.
 - d. For concrete pools, cut conduit flush with finished wall surface.
3. Installing the C-track on concrete or fiberglass
 - a. Place track on deck around pool.
 - b. Starting at conduit entrance determine if a full 8' section of track can be used. If not, cut track with a sharp hack saw, cable cutters or PVC cutters.
 - c. Run a $\frac{3}{16}$ " – $\frac{1}{4}$ " bead of RTV silicone adhesive down the center of the backside of the track. There are small recesses on the edges of the back of the track to help keep excess silicone from spreading out from under the track.
 - d. To conceal conduit entry, put track in place overlapping the conduit edge with the first and last pieces. If installing a 5' to 8' section of track use two people to place track to avoid smearing silicone on the adjoining surfaces.
 - e. Run your fingers back and forth inside the track to securely seat the track.
 - f. Install anchors and screws before moving to next piece of track. A minimum of three screws should be used in each 8' section no matter how well the track appears to be adhering to the surface. See Step #4.
 - g. If silicone comes out from behind track use a wet finger to smooth out.
 - h. Avoid sharp bends and 90° turns whenever possible. When a sharp inside or outside corner is encountered, run the track to about $\frac{3}{4}$ " inch from the corner and allow the UltraGlow perimeter cable to make the turn without track. The minimum bend radius for the track is about 2", and $\frac{3}{4}$ " for the cable. Track may be formed by hand.
 - i. Check for uneven areas behind track that are preventing continuous contact to mounting surface. Also check for stress areas caused by small radiuses and reverse radiuses. If installing on 2" mat tile, more screws may be needed than if mounting on 6" tile, directly to mortar joint above tile or to a fiberglass step or pool.
 - j. When installing screws, apply pressure to the track to keep it from shifting as the silicone will not hold the track fast for 24 hours.



4. Installing anchors and stainless steel screws, See Figure 2.

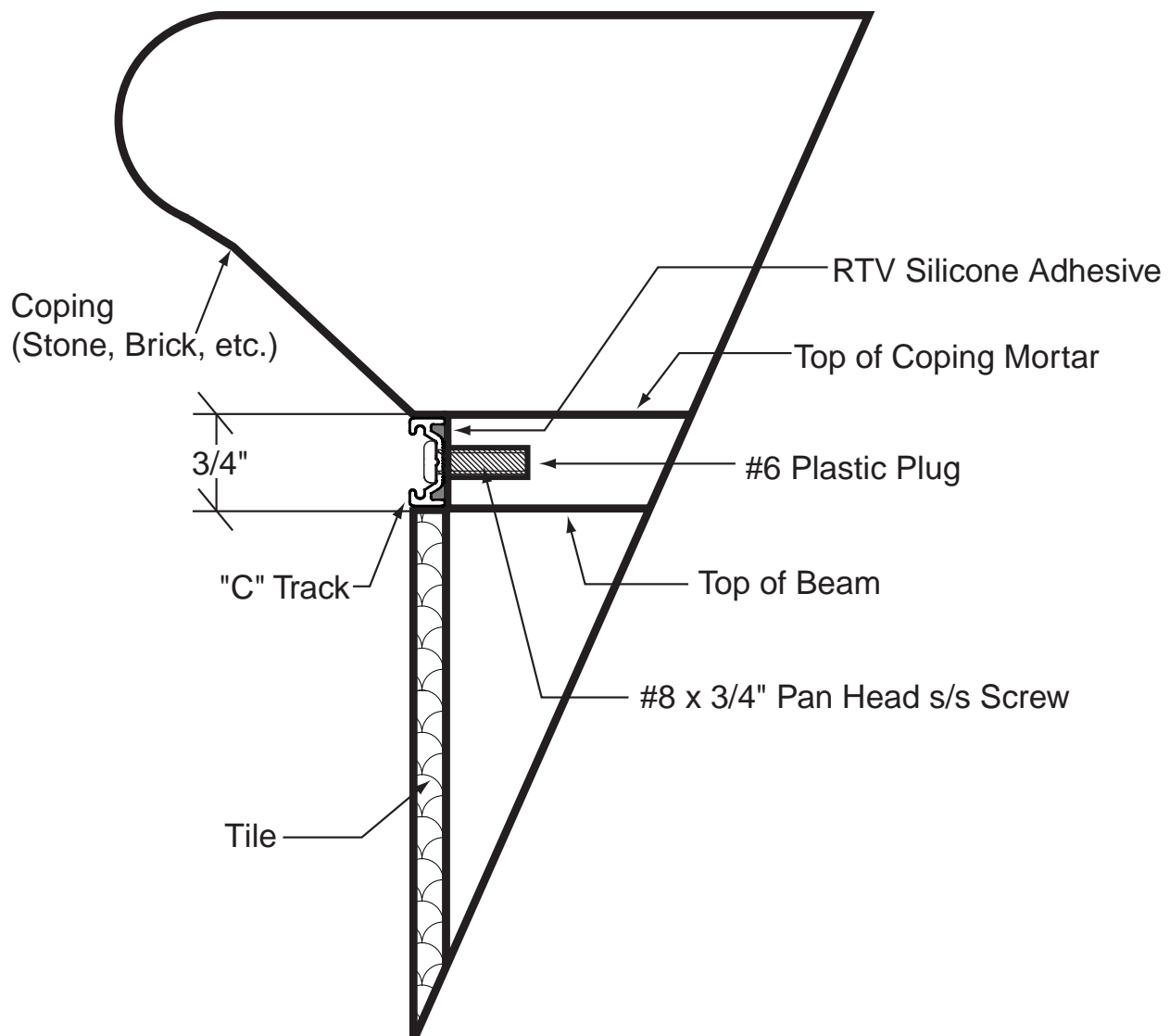
a. *Concrete pools*

- Using a 3/16" fluted concrete bit, drill through track using center groove as guide and then 1" deep into tile grout joint or mortar.
- When removing bit, slightly open hole in track by rotating drill.
- Blow and clean debris from hole.
- Hand screw a #8 x 3/4" screw one turn into a #6 plastic plug.
- Using screw as a handle, push plastic plug into hole.
- Tighten screw using low speed cordless drill or screwdriver.
- If invisible screw head is desired, dress screw head with white appliance paint before installing cable.

b. *Fiberglass steps and pools*

- Using a cordless drill, drill a 3/32 pilot hole through the track using the center groove as a guide and into the fiberglass. Slowly screw a #8 x 3/4" screw through track and into fiberglass wall.
- If invisible screw head is desired, dress screw head with white appliance paint before installing cable.

C-Track Detail Installation

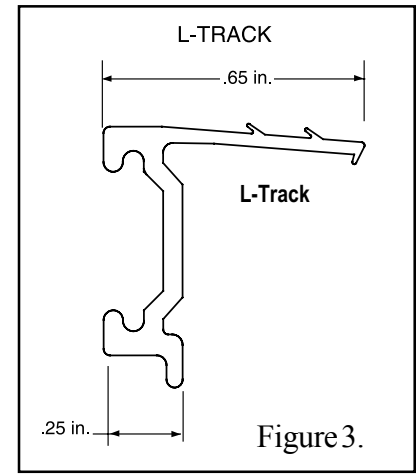


"C" Track Detail

Figure 2.

C. L-track on vinyl liner pools

1. What you'll need
 - a. UltraGlow cable
 - b. L-track (P/N 21005100) which is 13 lengths of 8' (104' total)
 - c. Fishtape
 - d. Electrician's lube
 - e. Splining tool, available at hardware stores, used to install window screens into frames
 - f. UltraGlow cable
 - g. Vinyl Pool Fiberglass step kit (P/N 22001500) if lighting step
 - h. Rubber Mallet
 - i. Hack Saw or PVC cutters
 - j. Pool Putty or A/B Epoxy (to secure conduit to coping if needed)
2. Run conduit and install track on steps
 - a. With Fiberglass Step lighted with perimeter cable
 - Install Fiberglass Step entry fitting (included in P/N 22001500) into back or side of step at track level.
 - Connect 1" PVC conduit to back of fitting and run under deck.
 - Install UltraGlow 'C' track (included in P/N 22001500) inside fiberglass step. Starting at conduit entrance determine if a full 8' section of track can be used. If not, cut track with a sharp hack saw, cable cutters or PVC cutters.
 - For radius corners form track by hand first.
 - Run a 3/16" – 1/4" bead of RTV silicone adhesive (included in P/N 22001500) down the center of the backside of the track. There are small recesses on the edges of the back of the track to help keep excess silicone from spreading out from under the track.
 - Put track in place against the entry fitting. If installing a 5' to 8' section of track use two people to place track to avoid smearing silicone on the step.
 - Run your fingers back and forth inside the track to securely seat the track.
 - If silicone comes out from behind track use a wet finger to smooth out.
 - Continue installing full or cut lengths around inside of step. Note: Form track by hand to mold around inside corners of step.
 - Avoid sharp bends and 90° turns whenever possible. When a sharp inside or outside corner is encountered, run the track to about 3/4" inch from the corner and allow the UltraGlow perimeter cable to make the turn without track. The minimum bend radius for the track is about 2", and 3/4" for the cable.
 - **ADD SCREWS AS NEEDED:** Check for uneven areas behind track that are preventing continuous contact to mounting surface. Also check for stress areas caused by small radiuses and reverse radiuses. Use #8 x 3/4" pan head sheet metal screws to secure track where needed following procedure outlined for fiberglass pools on previous pages. To insure that the track will stay in place for years to come, a minimum of three screws should be used in each 8' section no matter how well the track appears to be adhering to the surface.
 - b. With Fiberglass Step not lighted with perimeter cable
 - Install 3/4" PVC conduit on each side of step where liner coping meets side of step. Secure conduit in place with rebar and epoxy so it doesn't move during deck pour.
 - Drill 1/2" hole in coping at edge of step and insert 3/8" rebar through hole into conduit until deck is poured.
 - c. Without Fiberglass Step
 - Run 1" conduit to pool above liner track. Secure into place with rebar and epoxy so it doesn't move during deck pour.



3. Installing L-track

- a. Install liner and add water to desired level to assure that the bead is tight into the liner track.
- b. Place “L” perimeter track on deck around pool.
- c. Starting at conduit entrance (or edge of step if step is being lit) determine if a full 8’ section of track can be used. If not, cut track with a sharp hack saw, cable cutters or PVC cutters.
- d. Insert barbed lip of “L” track into liner track above liner material with cable opening pointing down toward water. Tap into place with rubber mallet if necessary. Continue installing full or cut lengths around entire pool.
- e. At radius corners cut notches into barbed lip as needed. “L” track will bend around 4’ radius corners without notching.
- f. At reverse radiuses, cut notches in barbed lip as needed.
- g. Avoid sharp bends and 90° turns whenever possible. When a sharp inside or outside corner is encountered, run the track to about 3/4” inch from the corner and allow the UltraGlow perimeter cable to make the turn without track. The minimum bend radius for the track is about 2”, for the cable, 1”.

D. Preparing and installing cable to all tracks

1. Determine cable length

- a. Calculate perimeter of pool.
- b. Add twice the conduit run from the pool to the Photon Generator.
- c. Add 5’ for entry into the Photon Generator.
- d. Remember that corners and level changes require extra cable.
- e. Cable spools come in 50’, 125’, 150’, 200’, 500’ and 1000’.

2. Install cable to track

- a. Roll cable around pool, do not pull off side of spool or it will twist.
- b. Verify that you have enough cable.
- c. Tape open ends of cable.
- d. Use fishtape or push one end through conduit until about 3’ of cable is above grade at Photon Generator.
- e. Starting at the conduit, insert the longer, fatter leg of the UltraGlow perimeter cable into one side of the track by hand. Using the screen spline tool, roll the other side of the cable into the track. If two people are available one person should move about three feet ahead of the other holding the cable into the track.
- f. At inside 90° corners do not try to push cable all the way into the corner. Maintain a minimum 1” radius. If track has been properly installed leaving a 3/4” gap, be sure that the cable is completely installed into the available track.
- g. Do not stretch cable as you install. It will shrink in cold weather and come out of track.
- h. When you get back to the conduit, straighten out any twists from the cable and use fishtape or push remaining end of cable through the conduit. Pull slack to the Photon Generator so a smooth corner is maintained at the conduit.
- i. Neatly seal conduit entrance at pool or step wall as well as behind cable in any 90° corners with white or clear silicone to match other pool finishes.

E. Installing cable without a track (concrete and fiberglass pools only)

1. What you’ll need

- a. UltraGlow cable
- b. Double-sided tape (P/N 21007100)
- c. RTV silicone (P/N 21007200)
- d. Fishtape
- e. Electrician’s lube
- f. Entry fitting (fiberglass pools, P/N 23501900)

2. Preparing and installing the cable

a. Determine cable length

- Allow 24” of cable on each end to extend above the Photon Generator mounting location.

▲IMPORTANT

DO NOT underestimate the length of cable you will need! Remember that corners and level changes require extra cable length.

b. Run conduit

- Stub 1” conduit out just below coping or top edge of pool wall.
- Use only sweep elbows for conduit bends.
- For fiberglass pools, install step entry fitting.
- For concrete pools, cut conduit flush with finished wall surface.

c. Apply tape

- The cable should be installed to the top 1/2” of the tile.
- Thoroughly clean and dry wall or tile mounting surface before applying tape. Wet, dirty, or oily mounting surfaces will prevent the tape from sticking.
- Apply the tape in a straight, level line. DO NOT remove protective paper backing.

d. Pull cable

- Roll cable around the perimeter of the pool and/or spa. DO NOT PULL OFF OVER END OF SPOOL, as this will twist the cable.
- Verify that you have the correct length of cable.
- Make sure the cable isn't twisted.
- Strip off 3” of jacket and tape the fibers to the jacket.
- Feed fish tape from Photon Generator side.
- Tape both cable ends to fishtape.
- Pull cable.
- Use generous amounts of electrician's lube.
- Feed cable from pool side.
- Pull cable to two feet above the Photon Generator mounting location.

e. Apply cable

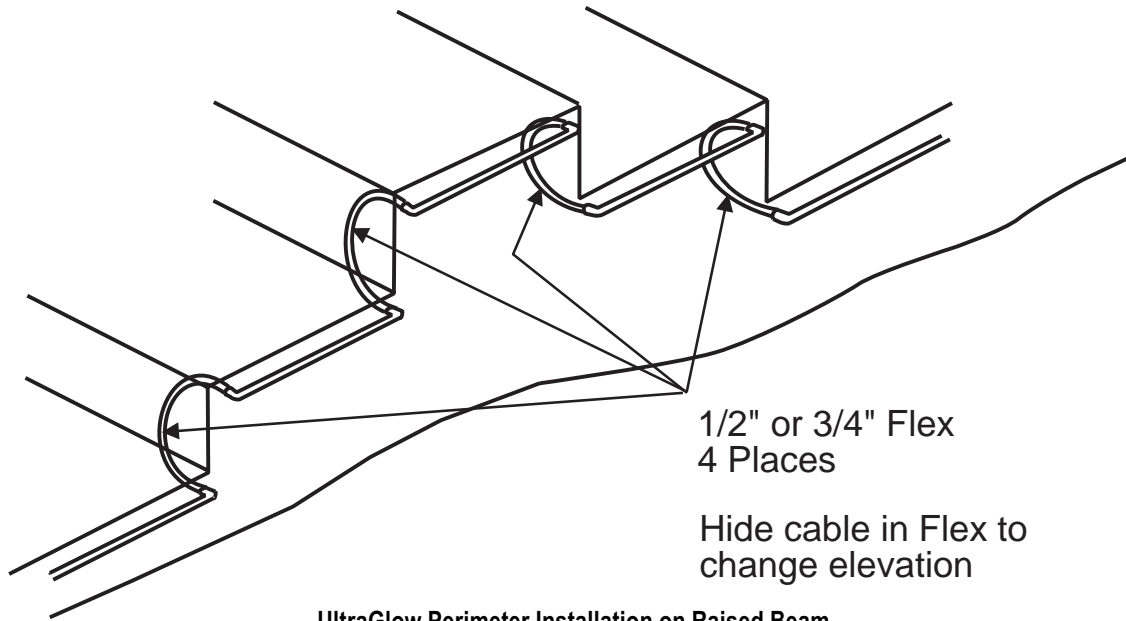
- Peel off 5-10 foot sections of protective strip beginning at conduit entrance.
- Apply cable to tape.
- DO NOT stretch the cable, but rather push it back towards itself as you apply it to the tape.
- Affix the cable in this manner around the whole perimeter of the pool.

f. Apply silicone

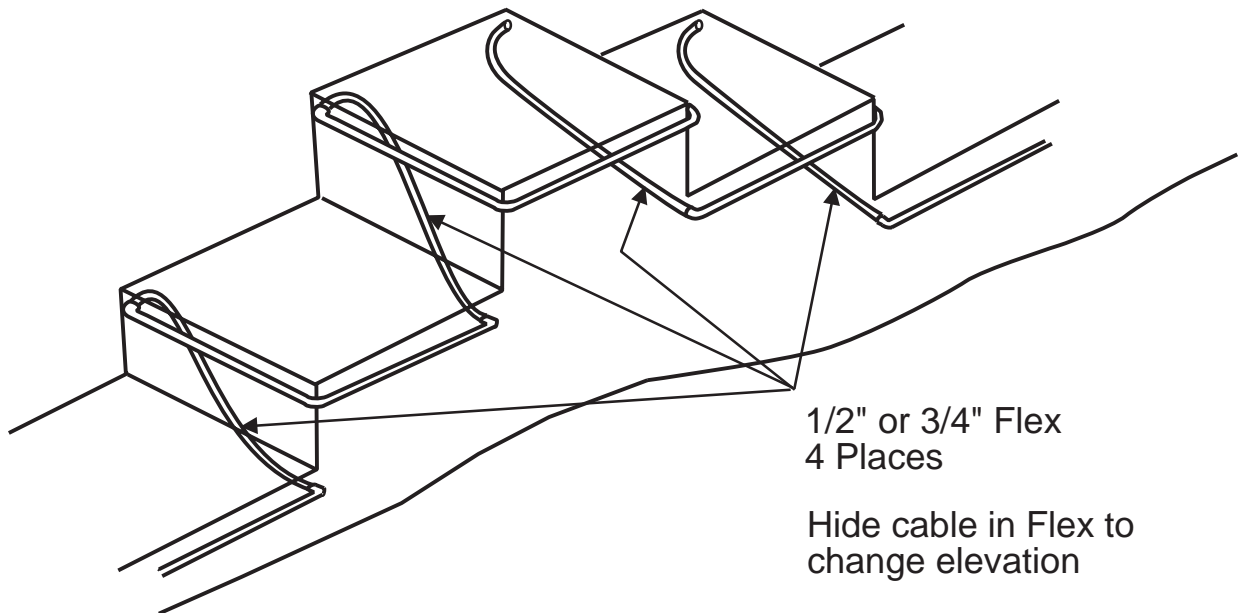
- Apply a 1/4” diameter bead of silicone to the bottom edge of the cable in 5 foot sections. Start at conduit entrance and work around entire perimeter from one end only.
- After each section, smooth the silicone bead with a wet finger or tool. Be sure the edge of the cable is sealed to the pool wall.
- Repeat for the top edge of the cable.

g. Neatly seal conduit entrance at pool wall with silicone

Hide Elevation Changes



UltraGlow Perimeter Installation on Raised Beam
(without perimeter cable on step riser)



UltraGlow Perimeter Installation on Raised Beam
(with perimeter cable on step riser)

Figure 4.

SAVE THESE INSTRUCTIONS.

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