



BlackLite Telescope Tubes

## **INSTALLATION GUIDE**



Part Nos.  
BL-8, BL-10, BL-12

## General Information

BlackLite telescope tubes are an alternative to heavy cardboard or aluminum tubing. The phenolic and kraft paper composite construction makes them strong and light, and has excellent thermal properties. ProtoStar Hi-tack flocked light trap material is integrated into the inside tube wall during manufacturing resulting in excellent stray and scattered light control (almost ten times darker than flat black paint).

## General Tips on Using BlackLite Tubes

### Cutting and drilling

BlackLite tubes cut and drill more like wood than paper (you will get “sawdust”). Focuser holes can be cut with a standard hole saw in seconds.

Cutting the tube shorter is best done with a hand saw with a 15” (or longer) blade, and 12 teeth per inch (or finer). First, mark your cutting line by wrapping a sheet of paper around the tube, and marking along the edge. When you align the ends and edges of the paper, it guarantees a straight and square line.

It’s easiest to cut the tube on a carpeted floor. Start sawing with very light strokes until the cut is through the tube wall. Continue sawing with light force, and rotate the tube as your cut progresses.

After cutting, raking a metal file or sanding block along the inside and outside edges will remove cutting burrs. If a tip of the flocking comes separated at the freshly cut edge, glue it back in place.

### Joining 2-piece tubes

Tubes longer than 48 inches come as two sections with a short coupler, and require assembly. First glue the coupler to the long section of tubing using carpenter’s wood glue. The keys to a good result are to add the glue progressively as you slide the coupler on, and only apply the glue to the outside of the BlackLite tube. (Never apply glue to the inside of the coupler!) Slide the coupler on halfway, wipe away any excess glue with a paper towel, and let it cure overnight.

Next, glue the second BlackLite tube into the coupler. Let the tube stand vertically to cure overnight. After curing, this joint will be stronger than the tubing itself.

### Installing and removing end trim (trim is available separately)

Install end trim it by tapping it lightly with a hammer, and progressively working your way around the tube. The metal core inside the trim will hold the trim in place without glue.

The trim can be removed by gently prying one end up, and gently pulling the rest off. You can reinstall the same piece, but a glue may be necessary the second time since the metal core has been expanded.



## Finishing and painting

BlackLite tubes are supplied unpainted, and they can be used as-is. The phenolic resin does provide for some measure of water resistance even without paint. If you prefer a painted surface, enamel spray paint is recommended. Use a light colored primer first, and follow with two or three light coats of enamel. Most enamel paints require at least one day at room temperature to fully harden.

For those wanting a seamless surface appearance, the spiral seams can be filled with wood filler, and sanded to create a smooth surface. This process results in a professional looking tube after painting.



## Maintenance

Depending on your use, you may occasionally need to remove dust or other particles from the inside flocked wall. This is best done with a rolling tape lint remover (typically used for clothing).

## Specifications

	BL-8	BL-10	BL-12
Inside diameter inch (mm)	7.65" (194)	9.65" (245)	11.45" (291)
Outside diameter inch (mm)	7.90" (201)	9.90" (251)	11.80" (300)
Wall thickness inch (mm)	0.12" (2.8)	0.13" (3.0)	0.16" (3.6)
Weight per length	1.0 lbs/ft (15 g/cm)	1.3 lbs/ft (19 g/cm)	1.8 lbs/ft (27 g/cm)
Modulus of elasticity, <i>E</i>	1400 ksi (9.65 GPa)	1400 ksi (9.65 GPa)	1400 ksi (9.65 GPa)
Inside wall reflectivity @ 0° AOI	< 0.4%	< 0.4%	< 0.4%
Inside wall reflectivity @ 80° AOI	< 0.7%	< 0.7%	< 0.7%
Thermal conductivity, <i>k</i>	0.23 W/mK	0.23 W/mK	0.23 W/mK
Thermal expansion coefficient, (1/°F)	8 x 10(-6)	8 x 10(-6)	8 x 10(-6)
Design temperature range	-25 to 170 °F (-30 to 75 °C)	-25 to 170 °F (-30 to 75 °C)	-25 to 170 °F (-30 to 75 °C)

## Technical Assistance

If you have a special application or a question not covered in these instructions, feel free to call us for technical support at (614)-785-0245 (M-F 9:00 PM to 5:00 PM Eastern U.S.A. time).



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