



BlackLite Telescope Tubes

INSTALLATION GUIDE



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

General Information

BlackLite telescope tubes are an economical alternative to heavy cardboard tubing. The phenolic and kraft paper composite construction makes them up to 40% lighter than cardboard or aluminum tubes (based on typical aluminum wall thicknesses), and they also have excellent thermal properties. ProtoStar flocked light trap material is integrated into the interior tube wall during manufacture (Patent pending) for superior stray light baffling compared to 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. When cutting, use light force to prevent separation of the flocked liner when you punch through. (If you do pull the flocked liner free, it is easily repaired with a few drops of wood glue.)

If you need to cut the tube to a shorter length, this is best done with a fine-tooth hand saw. The saw blade should be at least 15-inches long, with 12 teeth per inch (or finer). Mark the cutting line by wrapping a sheet of paper around the tube. When you align the ends of the paper, it guarantees a square line. Make a pencil mark around the entire tube using the edge of the paper as a guide.

Make your cut with short, light, strokes, and continuously monitor where your saw cut is relative to the pencil line. Do not use too much cutting force, as it may tear the flocked material. (If a tear does occur, it can be repaired with glue and tucked under the end trim.) After completing the cut, a file or sandpaper can be used to remove any paper burrs.

Joining 2-piece tubes

Tubes longer than 48-inches come as two sections with a short coupler, and require assembly. After bonding the two tubes together with the coupler, this joint will be stronger than the tube itself.

It is easier to glue the coupler to one tube first, allow it to cure overnight, and then join the second tube. Water based wood glues (like Elmer’s®) are adequate, but epoxy adhesives are the strongest. 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 tube. (Never apply glue to the inside of the coupler!)

After curing, you can glue the second tube into the coupler. Repeat the process, and let the tube assembly stand vertically to cure overnight. After curing, this joint will be stronger than the tubing itself.

Installing and removing end trim (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. (New end trim is also available as a separate item.)



Finishing and painting

BlackLite tubes are supplied unpainted, and they can be used as-is. If you prefer a painted surface, enamel spray paint is recommended.

For those wanting a seamless surface appearance, the spiral seams can be filled with wood filler, and sanded to create a smooth surface. Use a light colored primer first, followed by enamel paint. 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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