

Portable Backdrop Plans

Tom Way, April 2, 2015

Description

Build four portable backdrops using PVC pipe for the frames which are covered with black curtains, to be used in Newark Charter theater productions. The backdrops should each be 5 feet wide and 8 feet high, be easily repositioned, and should be designed so they can be right next to each other at an angle. Sandbags may be needed to weight down each backdrop by placing them on the back legs ([online plans for cheap sandbags](#)).

Materials

1.25" PVC and fittings available from local home improvement stores
Mitre box and mitre saw or hacksaw to use for cutting PVC pipe
Measuring tape and marker (or masking tape) to accurately mark locations for cuts
PVC primer and cement
Fine sand paper to rough surface of PVC prior to spray painting
Black spray paint specifically for painting plastic
Four 5'x8' black curtains (purchased online?)

Plan for each frame

Purchase the following items:

- 3 x 10' lengths of 1.25" PVC pipe
- 4 elbow connectors (90 degree)
- 2 cross connectors
- 4 end caps

Cut the following lengths of PVC pipe:

- 2 x 7'8"
- 1 x 4'8"
- 2 x 8.75"
- 1 x 35"
- 2 x 12"
- 2 x 16"

Cuts for each 10' length of PVC pipe:

Pipe 1: [7'8"][12"][16"]
Pipe 2: [7'8"][12"][16"]
Pipe 3: [4'8"][35"][8.75"][8.75"][12"]

*One 12" piece is leftover

Notes:

- The feet are inset about 1' from each end so that frames can be positioned next to each other and at an obtuse angle
- When frames are positioned next to each other, small bulldog clips can be used to join curtains from behind to prevent light leakage

Assembly:

- Assemble per the photograph and diagram attached
- Cement all parts of the base together, and all parts of the top bar
- Do not cement the upright poles so they are removable from the base and top bar
- Take care that the elbow connectors for the upright poles are exactly perpendicular to the floor on which the base rests (tips on doing this are available by searching online)

Painting:

- Good instructions here: <http://www.wikihow.com/Paint-PVC>
- Assemble all parts
- Using fine sandpaper (e.g., 220 grit), rough up all surfaces
- Put the frame outdoors and position so spray paint won't get on anything it shouldn't
- Spray a light coat of black paint specifically designed for painting plastic (e.g., Krylon Fusion or Valspar Black Paint for Plastic)
- Allow to dry, then apply one or more additional coats as needed

Sandbags:

- Whether purchasing or making sand bags, use two gallon-size or larger zipper plastic bags, one inside the other, to hold the sand. This will prevent leakage as the sand bag material is not always completely airtight and sand will definitely leak through the sand bag zippers.

Curtains:

- It may be possible to buy a large quantity of black fabric and sew curtains for this project
- The easiest and most-cost effective solution appears to be purchasing the curtains online, with the best deal here ([link to example 10'x20' curtains](#)), from the **tarpsandcordura** ebay store. They state that curtains can be made in any size desired.
- The curtains available from tarpsandcordura should be custom ordered to be 8'x5', and it may be worth having them do this: **For a charge we will sew on black fabric loops instead of the grommets for 100% black surface.** These loops would make it easier to attach the curtains to the pipes, but we should make sure the loops are large enough for the pipes (including the elbow) to fit through them.



Example of curtain from **tarpsandcordura**

Photos of Materials and Assembly



220 grit sandpaper, plastic-ready spray paint, PVC primer and cement



PVC components: 2 uprights, top bar, and base assembly



DIY cheap sandbag



Sandbags on Amazon for about \$5 each



Professional sandbags (\$25 to \$35 each)



Made using duct tape.



Assembled portable backdrop frame.