

# **Wire Frame Bin Instruction Manual**

This bin design is a lightweight and easily manufacturable option for indoor use.

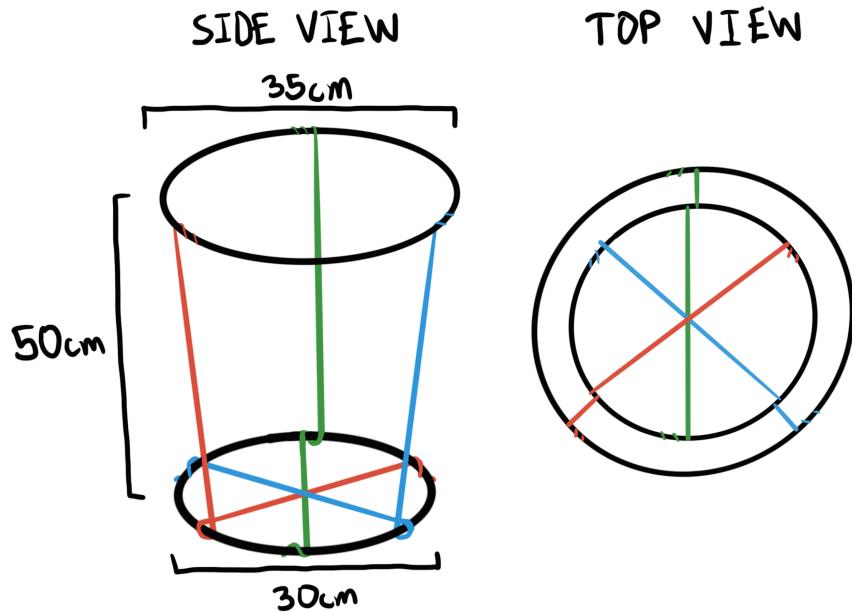


## **Materials**

- ~200 water sachets (assuming ~15x15 cm, ensure they are dry)
- Parchment paper
- Hot iron or clothing iron
- 0.5 m of wire with  $(6mm^2)$  cross-sectional area or 2.8 mm diameter or 10 AWG
- Pliers
- Wire cutters
- Ruler, tape measure, or other measurement tool

## Instructions

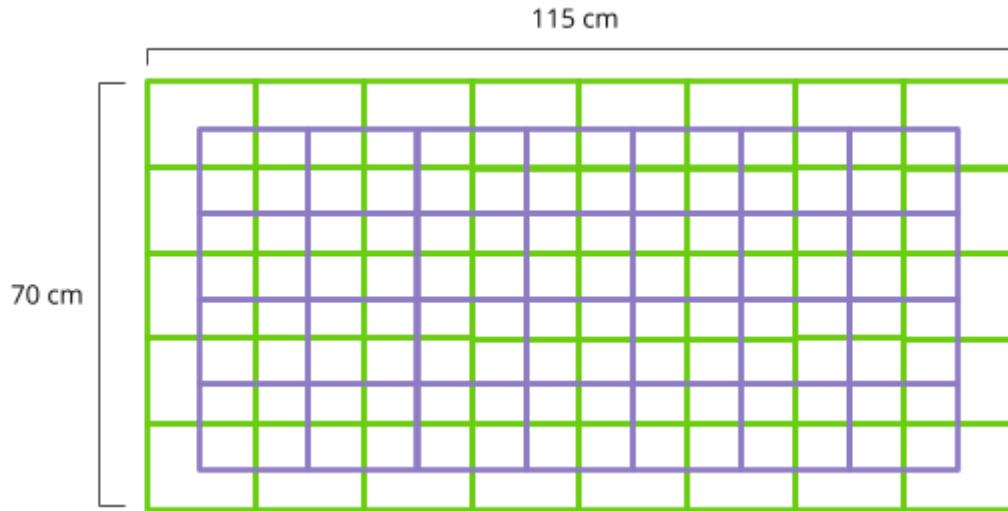
1. Make a wire frame



*Figure 1: Wire frame diagram*

- 1.1. Cut one 115 cm length of wire and one 100 cm length of wire.
- 1.2. Bend the two strips of wire into two hoops, one of 35 cm diameter and one of 30 cm diameter.
- 1.3. Cut three 90 cm strips of wire.
- 1.4. Wrap the three strips of wire around the two hoops as shown in red, green, and blue in Figure 1. You now have a wire frame that resembles a garbage bin!

2. Fuse a plastic sheet [see *Making\_Plastic\_Sheets.mp4* in *Instruction Manuals folder*]

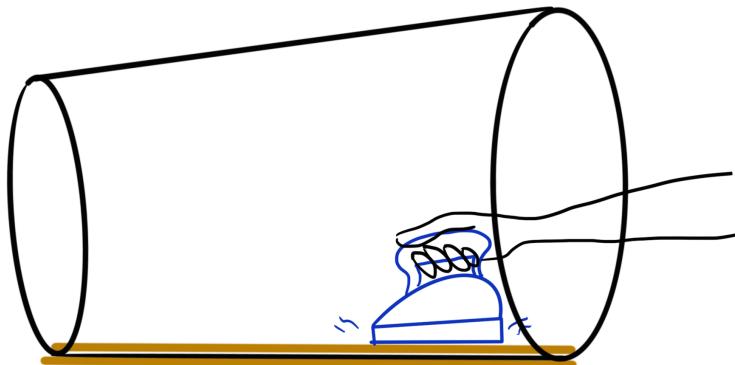


*Figure 2: Plastic sheet diagram*

- 2.1. Work in a well-ventilated space with a large, flat work surface. Cover the work surface with parchment paper.
- 2.2. Lay out an  $8 \times 5$  grid of flattened water sachets. Layer water sachets in the pattern shown in Figure 2 and the video (*Making\_Plastic\_Sheets.mp4* in *Instruction Manuals folder*). The sheet should be 115 cm long by 70 cm tall or greater. If the sheet is smaller, add more water sachets until it is at least these dimensions.
- 2.3. Heat a hot iron to 205°C. Place parchment paper over the water sachets so that the plastic is only touching parchment paper on both sides.
- 2.4. Iron the water sachets together. *Troubleshooting: If water sachets are not fusing, increase the temperature until they fuse. If you notice holes in the plastic, lower the temperature.*



3. Assemble the waste bin



*Figure 3: Ironing plastic sheet onto wire frame*

- 3.1. Wrap plastic sheet tautly around wire frame and lay flat as shown in Figure 3. **Leave 10 cm of overhang on the top and bottom of the bin.** Iron over where the plastic overlaps.
- 3.2. Place the bin upright on top of parchment paper. Fold under the excess plastic on the bottom of the bin. Place extra bags into the bin.
- 3.3. Cut a circle of parchment paper to fit the bottom of the bin and place it inside, as indicated by the yellow circle to the right.
- 3.4. Iron over the parchment paper inside the bin at 205°C.
- 3.5. Place bin sideways on parchment paper as in Figure 3.
- 3.6. Fold in the excess plastic on the top of the bin as indicated by red arrows to the right.
- 3.7. Iron over the rim of the bin at 205°C as in Figure 3.
- 3.8. The bin is now complete! Images of the final product are shown on page 5.



