

## E-CELL by HOTSABI

*PLEASE READ INSTRUCTIONS CAREFULLY AND COMPLETELY BEFORE STARTING PROJECT.*

### ELECTROLYZER PARTS AND TOOLS LIST

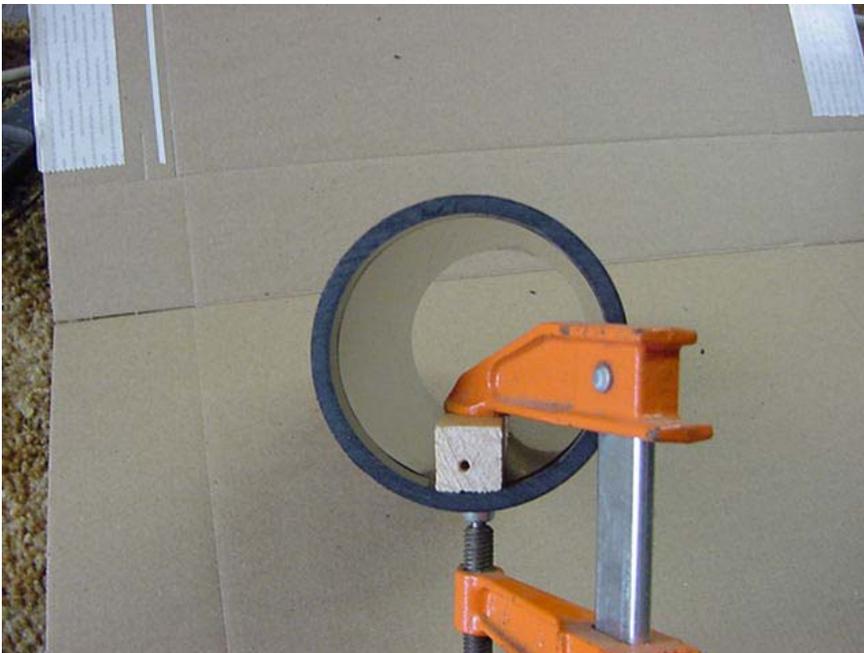
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|---|---|
| <ol style="list-style-type: none"><li>1. 7" long x 3" ABS tubing cut square deburr edges</li><li>2. 3" ABS Plug clean out threaded cap</li><li>3. Threaded adapter DWV 3" HXFPT</li><li>4. 3" ABS cap</li><li>5. 4" Stainless steel cap screw 1/4 20</li><li>6. 2 Stainless steel 1" 1/4 20 cap screw</li><li>7. 1 10/32 x 1/4 " stainless screw</li><li>8. 5 washers 8 Stainless steel nuts 1/4 20</li><li>9. Stainless steel shimstock 11" x 6" .003 thick</li><li>10. Stainless steel wire mesh 14 gauge 8" x 3"</li><li>11. 3/8 nylon plug</li><li>12. 1/4 x 1/4 NPT barbed fitting</li><li>13. Plumbers tape</li></ol> | <p>Tools needed to assemble E-CELL</p> <ol style="list-style-type: none"><li>1. Hand drill</li><li>2. Cutters (for mesh and shimstock)</li><li>3. 1/4 NPT tap and 5/16 "drill bit</li><li>4. 3/8 NPT tap and 1/2 drill bit</li><li>5. 10/32 tap and 1/8 drill bit</li><li>6. Clamp and 1"x1" wood strip</li><li>7. Hex key "T" handle wrench to fit capscrew</li><li>8. Phillips screwdriver</li><li>9. Small adjustable wrench</li></ol> |
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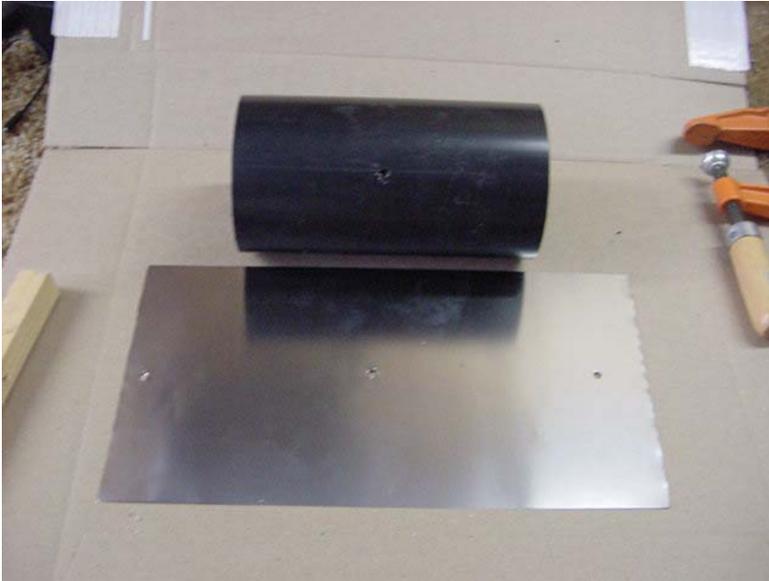
Cut and fit shimstock into ABS tubing 11" works well.  
This gives 1" overlap.



For drilling use a strip of wood.  
Be sure shimstock is flush with at least 1 edge of tube.  
Use the flush side as the bottom.



Clamp securely and drill two .165" holes. 1 on either side.  
Perpendicular to each other as best you can.  
These holes will be tapped  $\frac{1}{4}$  20



The shimstock's holes will need to be reamed to accept the capscrew.



Note this is why 2  
Holes are drilled  
This facilitates  
assembly

Next assemble the electrode into the barrel.  
***Important*** use SS nut inside to seat capscrew.



Note tube shown top side up.  
The shimstock is flush  
with the bottom of tube.

Final assembly for electrodes. Note capscrews each have  
SS nuts inside barrel to seat to shimstock.

The screw on the left will be used for the neg. post of the cell.

The right side capscrew merely seats the shimstock.



Shown here part # 2&3  
Top;  
Threaded adapter DWV 3"  
HXFPT  
Bottom;  
3"ABS Plug clean out  
threaded cap

Prepare top cap and plug.

Drill and tap a 3/8 NPT in the center of threaded cap. (main fill plug)

Drill and tap a 1/4 NPT on the side. (barbed fitting)



Prepare bottom cap.  
Drill and tap  $\frac{1}{4}$  20 hole in the center.  
Install capscrew with SS nut. Tighten and install washer and SS nut outside.

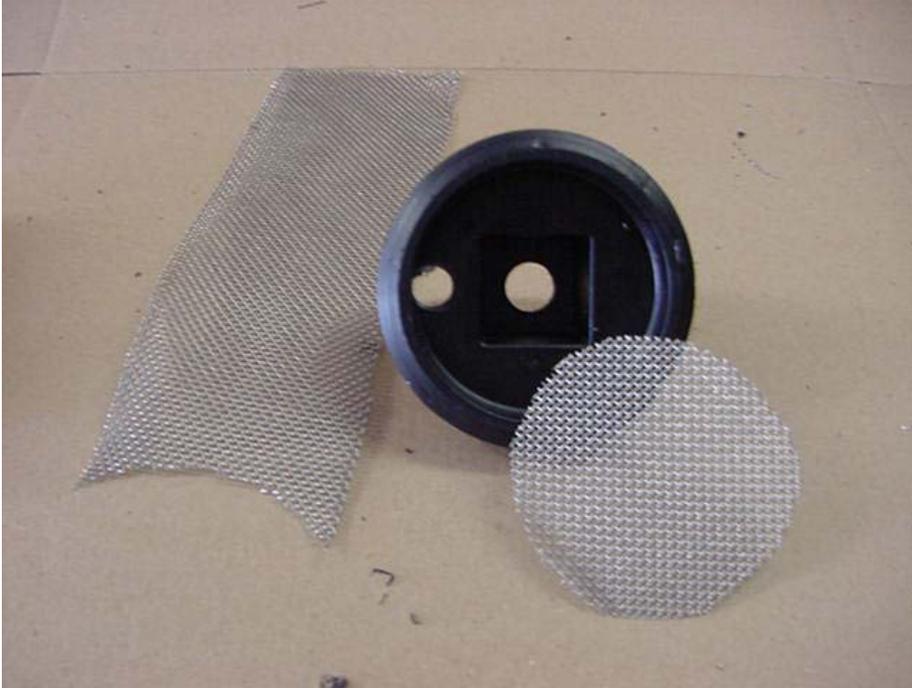


This is the positive electrode.



Finished  
e-cell  
Shown  
here  
upside  
down.

Assemble unit with ABS glue.



Next prepare SS mesh. Cut to carefully fit inside threaded cap. Use at least 3 pieces.



After fitting mesh tightly into cap. Mount with a 10/32 stainless screw  
Opposite side of the  $\frac{1}{4}$  tapped hole for the barbed fitting.  
This is a flame arrestor, so make CERTAIN that the entire  
Inside is covered tightly. Note the sides of the mesh wrap up.  
Turn each layer to cross the grain of the mesh.



Use white “plumbers tape on all threaded fittings.

Contact info  
hotsabi@gmail.com  
use “e-cell” in subject line