

Materials for Fire Tornado setup:

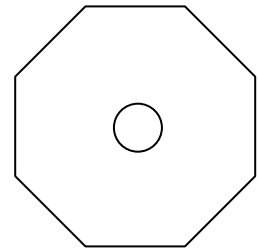
for the sides: 2 pieces of 19" x 48" x 1/16" thick polycarbonate (lexan); can be cut out of a 4' x 8' sheet

for the top: 1 piece of 32" x 32" x 1/8" thick polycarbonate (lexan); can be cut out of a 4' x 8' sheet

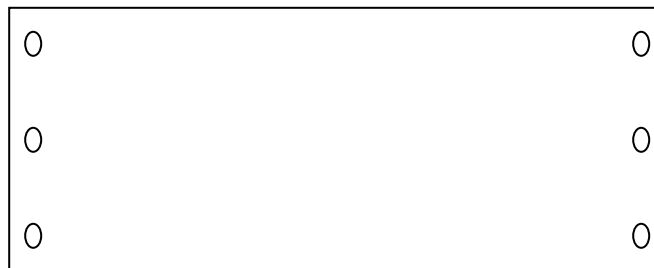
for the chimney: 1 piece approx. 4.75 O.D. x 1/8" thick x 24" long polycarbonate (lexan) tubing

In 2001 the above sheet pieces were purchased from Laird Plastics (1-800-873-8403) and the tubing from PlexLab (810-754-8900), both in the Detroit metro area. For a small fee they will cut to the above desired sizes. In 2001 the total cost for the polycarbonate was about \$200 (for 2 setups), when we purchased full 4' x 8' sheets.

Cut a 4" diameter hole in center of top piece and cut off the corners of sheet. (If you wish you could cut outside to a circular shape with 16" dia., but this would be harder to do. You could leave this piece square and save work.)



For the sides you will want to drill circular holes (about 0.75" from the edge, as shown) to clear the screws that you use to keep 1/2" spacers (made out of whatever you wish) in place for air entry gaps between the side sheets. Have the sheets overlap about 1.5" where the air gaps are located. Remember that the air gaps must be arranged to allow air to come in with a fixed sense of rotation.



For the chimney you could cut notches (not essential) in one end to allow better airflow up the tube once the flame gets going. You start off with the flat end down and when it gets close to a tornado you turn the chimney with the notched end down.



For fuel use pure ethanol or add about 10% rubbing (isopropyl) alcohol (gives a little brighter flame). You only need a small amount (30 ml?) in a heat resistant saucer. Remember that a quick blow will put the flame out, but it is best to have an extinguisher present. Also remember, don't let the tornado go too long (more than 10 to 15 seconds) or your top and chimney will melt. (Lexan is one of the higher temp plastics.)