

# This information is for those in the UK struggling to build arches like our fellow xLighters do in the USA

I have been in Christmas lighting for three years now here in the UK. All this time I have wanted to make arches like our cousins in America but could not locate any suitable tube to use and I know a lot of others have come up against this problem. . The reason being is that here in the UK we only make PEX tubing in colours as Yellow =gas Blue =water supply and green = sewer etc. So neutral is not manufactured. Its a shame as this pipe is naturally coiled and make superb arches.

After much research and a recommendation from Mark Phelan on the UK Christmas light group I purchased 6 x 3Mt. Lengths of this pipe <https://www.screwfix.com/p/floplast-push-fit-pipe-white-40mm-x-3m/65426> , Having taken my torch to the supplier to check how well the light would be transmitted thru the tube. Now to find a method of bending the tube into an arch.

After a lot of research I found 3 methods of bending this tube (all involving heat).

- Purpose made electric heater made in the USA. To expensive.
- Heat gun. Ruled out as not accurate enough.
- Water. Once again wasn't sure it was controllable.
- Heated sand this appealed to me as the sand would fill the tube and thus prevent any kinks.



I decide on the last method as being the best and built a jig.



I then worked out the quantity of builders soft sand that would be needed to fill the 3mt. length of tube, by heating it up in a saucepan (to dry it out).

I found I needed approx 14lb. of dry sand. I then had to find a bigger pan to heat this quantity in.

The temperature range recommended for bending pipe was 170F for gentle bends and 220F for acute bends. So I opted for 170F.



Two solvent weld inspection caps were gaffer taped to the ends of the 3mt. length of pipe to keep sand in place.

Once ready the quantity of sand was heated to the required temperature using a cooking thermometer to measure temperature accurately and then it was poured into the pipe and the pipe sealed.



## Fitting heated pipe into jig

At this stage there is no rush leave the pipe to heat up as time is needed for the walls of pipe to become hot (about 5 minutes).

The pipe is then laid into the former not difficult if the pipe is hot enough. A tip was to tie a cord and pull the ends in slightly in and secure as when the pipe cools it will try to jump back a bit (but not as much as I had thought it would).



Leave pipe to cool and then pour out sand. Flush with water using a hose to remove any sand residue. We then pulled a wet rag through a couple of times to make sure all sand was cleared.

It is necessary to keep some form of constraint as the tube will spring back. I have used para cord between each leg.



I initially purchased six 3mt. lengths of pipe to make five arches things went so well that I now have six perfect arches. Each arch is 60in. wide and 44in. high.

I hope you find this useful?



My thanks to Norman (my brother in law) for his help in manufacturing these six arches.

