

Want to build your own static mixer to improve O₃ mixing with water after O₃ has been injected using a venturi then follow these steps.

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Static Mixer

This is a picture of one of the designs adopted by market leaders.



This can be easily made as per the following steps...

You need a minimum of 2 set of twists following each other but the norm is between 3 and 5.

It must be installed after your injection point/venturi...

Step1:

Cut 3 or more pieces of 50mm PVC Pipe in lengths of 45mm



Step 2:

Cut through the length on one side to make long twists if you have lots of space after the venturi or cut through both sides to half the PVC pipe to make small twists if you have limited space.

If you only have a short run after the venturi then the small twists will work better as you can squeeze more of these into a short space.



Step 3:

Chuck the pieces into a pot of boiling water and boil for a minute or two on the stove to soften the PVC so that you can bend it.

The PVC gets very flexible when you heat it but at the same time becomes hard very quickly once removed from the pot so you need to work quite quickly in step 4 but if you don't get it right you can always throw them back into the pot and try again.



Step 4:

Using tongs to remove each piece, bend it immediately after removal by flattening and twisting 90 degrees on each end.

Do each piece individually and be careful not to burn your hands with the boiling water.

Don't worry if the bends are not perfect as not being perfect actually improves the mixing result. In this case untidy is better.



Step 5:

Insert each piece into the 50mm PVC pipe using a stick (sosatie or chop stick) to apply a bit of PVC glue to the ends and reachable contact areas to hold each piece steady in place.



The trick is to insert each following piece at a 90 degree twists from the original piece like the following picture...



Your twists should be like this inside the pipe... see how they are offset at 90 degrees on the contacting points.



Now just give your glue a bit of time to dry and install...