

Hydraulic Press Construction

The hydraulic principle is the applied version of the law of incompressibility of liquids. The force applied to a liquid inside a closed container is evenly distributed to all surfaces in contact with the liquid. Thanks to this principle, hydraulic brake systems, leverage arms used in construction machinery, and many other applications are useful. Today, we will make a small hydraulic press using the hydraulic principle, i.e., the incompressibility of liquids, with the help of syringes.

You can follow the steps of our application below.

Step 1: Preparation of Materials

- 2 pieces of 10cc syringes
- 40 cm syringe tubing
- 1 plastic bottle cap
- Colored water
- Corrugated cardboard
- Adhesive

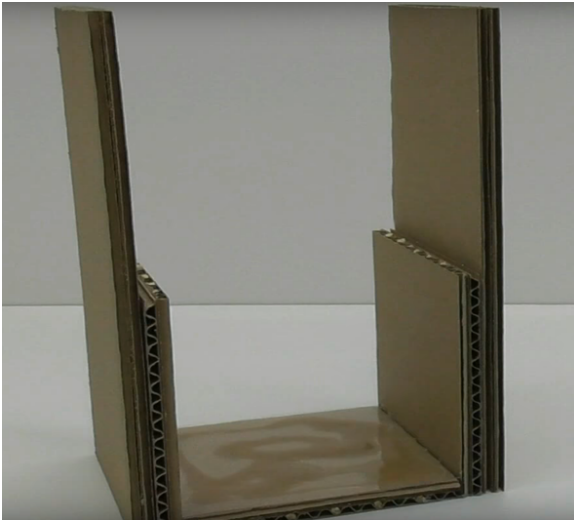
Step 2: Dimensions and Quantities of Corrugated Cardboards

- 6 pieces of 10x10 cm cardboard
- 1 piece of 20x20 cm cardboard
- 2 pieces of 10x20 cm cardboard
- 1 piece of 12x20 cm cardboard

Step 3: Glue two of the cardboard pieces cut to 10x10 cm with the corrugations facing in opposite directions at a 90-degree angle. This way, our 10x10 cm cardboards will be ready.



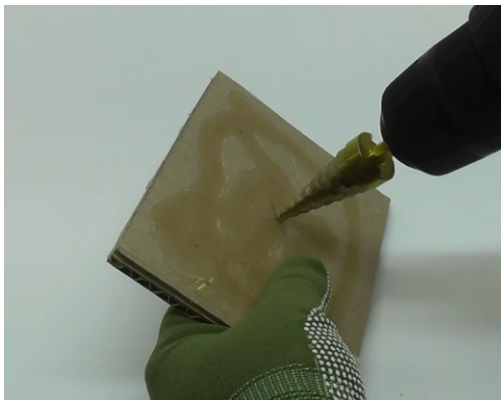
Step 4: Place our 20x20 cm cardboard on a flat surface and glue our 10x10 cm single-layer cardboard to the exact center. Glue our 10x20 cm cardboards perpendicularly to the two opposite edges of the cardboard we just glued.



Step 5: Let's glue our 10x10 cm cardboard pieces to the inside of the walls as shown above.

Step 6: Let's glue our 13x20 cm cardboard to the back of the walls as shown in the adjacent image.

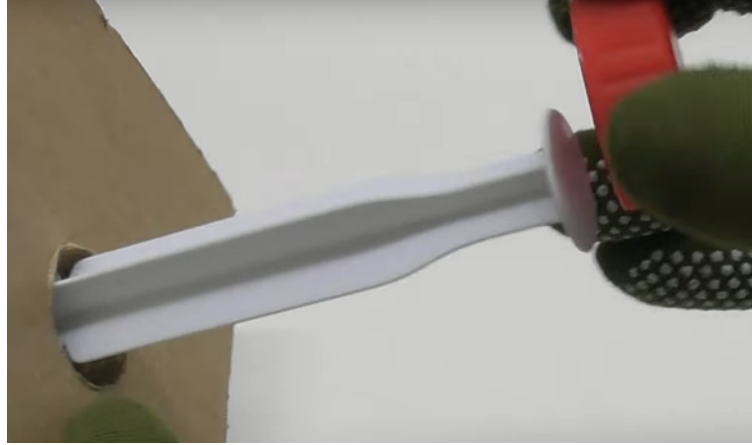
Step 7: Let's punch a hole in the center of the two-layered 10x10 cm cardboard as shown below.



Step 8: Insert the syringe through the pierced hole and glue it in place as shown in the diagram.



Step 9: Glue the bottle cap to the back of the syringe as shown.



Step 10 : Attach the cardboard with the syringe to the top of the 10x10 cm cardboard on the side walls as shown.



Step 11: Finally, let's close the top of our hydraulic press as shown in the image.



Step 12: Attach the hose to the empty syringe and fill it with colored water. Connect the other end of the hose to the other syringe in our hydraulic press. This way, our hydraulic press is ready.

