

Plastic Forming - Vacuum Forming Guide

What is vacuum forming? What does it do? What are the methods used in forming vacuums? Vacuum forming is basically the procedure used in shaping any kind of plastic. The shaping of unusual shapes like dishes, boxes and others is called Vacuum forming process. The simplest explanation to its method is by placing the mould into an oven, heated for it to take shape and cooled within a significant amount of time. The advantages of using vacuum forming as a method is limitless and effective. Majority of the vacuum forming products are affordable, since not many produce vacuum forming products. The moulds could be made of low-costing materials and the process of the vacuum forming could be possibly faster than any forming process.

- The most common product made using vacuum forming is a simple plastic toy
- All of the process used includes three important stages. Heating, shaping and cooling.
- There are factors that would be vital in the process selection of the vacuum forming.
 - Quantities of the product
 - Material of the product
 - Shape and details of the product
 - Final product's shape and size

1. Clamping process

The clamp or the fastener gives security to the materials being processed. By using this vacuum forming method, you could process even the thickest materials. It is important that the frame of the clamps is strong for the materials not to move during the whole vacuum forming process.

2. Heating process

This vacuum forming method makes use of infra-red heaters and aluminum plates. Although this kind of process is usually handles by larger machines, it could former thicker plastics rapidly. The heaters are located both above the aluminum plates and below it, to produce quality outcomes.

3. Bubble

When the plastic material is inside the machine and it has reached the temperature needed for it to form, this method pre-stretches the plastic to give a smoother outcome product. The bubble method is important because it could assure that unusual shaping materials with extraordinary angles could be reached by the heat.

4. Sheet level

This method involves an electric beam inside the machine that inspects the plastic material and the bottom heater. This method is used when the plastic starts to sag. When the plastic sags, the beam would automatically break down and a quantity of air would enter the machine causing the sagginess to stop.

6. Vacuum

This vacuum forming method pre-stretches the plastic material. The vacuum serves as assistance in the forming of quality sheets. There are two vital parts in a vacuum - the vacuum tank and the vacuum pump. These two parts enable the machine to rapidly mold the hot sheets.

Once the materials have been shaped and formed, a cooling procedure is done before releasing the plastic.

- Cooling is important because when the materials are released, the molds would become deformed and would cause a rejected outcome
- High speed fans are made use to fasten the cooling process. There is also an option in using s spray mist which is directed into the product sheet
- When cooled, it is inserted again into the machine to perform a reverse pressure method that strips excess product from the mould

7. Finishing Up

There are several trimming methods that could be used in vacuum forming. These methods would depend on the size of the part, production number

needed, the kind of trimming, and the material's thickness. The finishing of the product or the post-forming processes depends upon the materials processed in the vacuum forming method. Some finishing includes designing, printing of decorations, strengthening of the product and construction. Although there are many kinds of method used in forming plastics, you could always make use of the easiest method - vacuum forming. Anybody could do it. With just the right tools and these friendly procedures, you could make your own toy in a jiffy.

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About the Author

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