

# Vacuum Forming Basics

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## Vacuum Forming Basics

- I. Equipment
  - A. Heat Source
    1. Oven
    2. Hot Plate
    3. Heat gun
  - B. Vacuum Plenum (Box)

Constructed out of heat resistant materials

    1. Masonite
    2. Plywood
  - C. Holder Frame  
Constructed out of heat resistant materials
    1. Metal
    2. Masonite
    3. Plywood
  - D. Molds  
Constructed from stable (non-crushable) materials
    1. Hardwoods
      - a. Jelutoug
      - b. Mahogany
      - c. Maple
      - d. Spruce
    2. Cast Resin
      - a. Pour-A-Cast
      - b. Alumilite
    3. Aluminum
  - E. Oven Mitts (Its only fun if you don't catch yourself on fire)
- II. Plastic Materials
  - A. Styrene
  - B. ABS
  - C. PETG
  - D. Acetate
- III. Setup
- IV. Processing
  - A. Start Vacuum
  - B. Heat Plastic
    1. Deforms then draws taunt
    2. Once the material just starts sagging push the holder frame over the mold making sure it seals on the edges of the plenum.
  - C.. Turn off heat source (or have it out of the way)
  - D. Turn off vacuum after 30 seconds.
  - E. Remove formed plastic from mold (or the other way around!)
  - F. Score sheet with X-Acto and snap apart

### Resources:

*Secrets of Building a Plastic Vacuum Forming Machine*  
by Vince Gingery at: <http://www.lindsaybks.com/>

*Do it Yourself Vacuum Forming* by Douglas Walsh (out of print but maybe in the library system)

*Understanding Thermoforming* (Hanser Understanding Books)  
by James L. Throne at <http://www.amazon.com>