

<p align="center">Expanded Bead Foam Molding Individual Module: 13</p>	<p align="center">TEL 204: Polymer Molding & Forming Department of Technology</p>	<p align="center">Student Name: (PRINT)</p>
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Overview:

Polystyrene expandable bead foam molding is a high speed industrial process used to make products such as packaging, hot/cold cups, flotation devices, etc. Small, gas filled (penthane) polystyrene beads are heated in a container. The heat softens the bead wall and causes the gas inside the bead to expand. When this expansion happens in a closed mold the beads swell up and stick together forming the product.



Module Grade:

Mold Alignment (10)	Product Density (30)	Surface Finish (20)	Product Trimmed (10)	Lessons Learned (30)
Instructor Signature:			Date:	Grade:

Molding Procedures:

1. Wear safety glasses.
2. Wear gloves and do not touch hot molds, hot plastic, hot molder surfaces.
3. Pre-expansion: Place some virgin beads into boiling water. Use a strainer to remove as they float and place in a tray lined with newspaper to dry. Do not let them get too large. (Dry heat (from a heat gun) may also be used but the beads tend to stick together).
4. Apply a LIGHT coat of silicone mold release to both halves of mold.
5. Fill both sides of the mold tightly. Use a piece of cardboard between mold halves to flip the top half over.
6. Use mold bolts to clamp the mold halves together.
7. Expand the beads by placing the mold in rapidly boiling water for 15 minutes.
8. Quench in a cooling bucket for 15 minutes. DO NOT QUENCH IN THE LAB SINK AS BEADS WILL CLOG THE DRAIN.
9. De-mold the product and trim/sand as needed.

Lessons Learned:

List the most important lessons learned from this polymer module.

1. _____

2. _____

3. _____

Notes