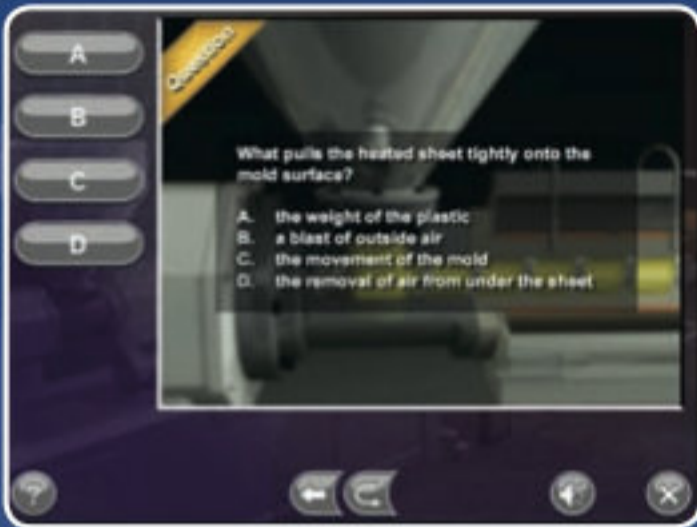


Thin Sheet Thermoforming



Paulson's fully interactive training programs explain the relationship between machine controls, plastic behavior and the thermoforming process with full motion video, text, audio and crisp, dynamic graphic animation.

Thermoforming is one of the most common processes for making a wide variety of consumer and industrial plastic parts. It's also one of the fastest growing of the plastics manufacturing industries and employs thousands of personnel. While simple in concept, thermoforming is a complex process requiring knowledgeable and skilled personnel at all levels in the plant.

Through these six lessons, your personnel will learn the fundamentals of the thermoforming process, how to quickly solve problems and will develop advanced troubleshooting skills. You'll receive complete training on all aspects of day-to-day thermoforming production. This training course:

- ◆ Shows and describes each step in the thermoforming process using actual in-plant footage and high definition 3D animation.
- ◆ Describes the behavior of the molten plastic and its effects on part properties.
- ◆ Explains the effects on the formed parts of each step in the process: heating, forming, and trimming.
- ◆ Covers extrusion and sheet extrusion fundamentals.
- ◆ Teaches how to optimize control settings, safety around the thermoforming machinery, and thermoforming for maximum efficiency and profit.

Recommended For: Machine Operators, Setup Personnel, Process Technicians, Maintenance Technicians, Process Engineers, Project Engineers

Thin Sheet Thermoforming

1 Lesson

The Machinery and Plastic Behavior

In this section of the course, personnel will learn how to control sheet temperature—one of the most important factors in achieving and maintaining part quality. Plastics are unique materials that have their own unique properties. Well-regulated control of plastic temperatures will minimize plastic degradation, contribute to part thickness uniformity, and improve overall quality.

2 Lesson

Thermoforming Process – Plastic Materials and Properties

This section explains many of the forming methods used to develop specific part properties, with emphasis on looking inside the forming process to see what happens to the plastic. For tooling personnel, it's important they understand the effects of each type of forming and type of mold on the formed parts.

3 Lesson

Pre-Heating and Heating the Plastic

In the thermoforming process, the plastic is heated twice—once in the extruder and once in the thermoforming machine. This lesson covers the 3 main heating methods used in the thermoforming machine—conduction, convection and infrared. Control of the heating in the thermoformer is a key to good part quality. Explains how plastic absorbs heat and how that affects the thermoforming process. Expands on the infrared heating of the plastic sheet including emissivity, view factor, wavelength and absorption.

4 Lesson

Transport of Plastic Sheet through the Thermoforming Line

This lesson covers heater temperature control methods in the heating tunnel, the transport system through the thermoforming line, indexing, sheet clamping methods, mold venting, plug assist and drape assist forming and pressure forming.

