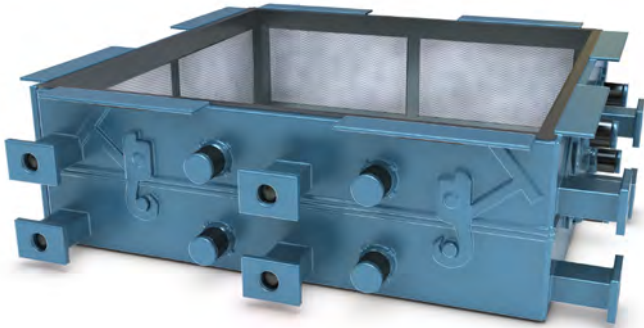


CASTINGS: VACUUM PROCESS FUNDAMENTALS

eLearning courses designed to increase productivity and profits



Learning made Simple, Visual, and Interactive

Presented in THORS' highly visual and interactive learning format, this course will help foundry employees become familiar with the important equipment processing steps associated with their profession.

Credit Hours **2**

Learning Objectives

- Understand the life of a casting manufactured by vacuum process molding.
- Identify the equipment used in vacuum process molding.
- Learn about the design considerations for pattern and mold making.
- Comprehend the processes and procedures that define the vacuum process.
- Diagnose the casting defects manufactured by the vacuum process.

Table of Contents

I. Vacuum Process Foundry

- Process Summary
- Foundry Layout
- Operator Safety
- Equipment Terminology
- Advantages and Disadvantages

- Accessories Placement
- Core setting
- **Pouring and Shakeout**
 - o Pouring
 - o Shakeout

- Orange Peel
- Potato Chipping
- Shrink Porosity
- Wave
- Worm Track
- o Incorrect Dimensions
 - Core Set
 - Core Knock-Out Damage
 - Mold Swell
 - Strip
 - Shift
- o Incomplete Casting
 - Misrun
 - Cold Shut
 - Short Pour
- o Inclusions
 - Inclusion
 - Crush

II. Processing Steps

- Pattern Making
- Filming the Pattern
 - o Heating
 - o Forming
 - o Coating
- Creating the Mold
 - o Flask Placement
 - o Flask Filling
 - o Flask Sealing
- Assembling the Mold
 - o Placing Cores and Inserts

III. Casting Finishing and Evaluation

- Casting Finishing
- Casting Evaluation
 - o Metallic Projections
 - Chill Set
 - Washing
 - o Cavities
 - Gas Blow
 - o Discontinuities
 - Hot tear
 - o Defective Surfaces
 - Bump
 - Burn-on

