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AFS Institute Foundry E-Learning

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- ☐ 3D Sand Printing Benefits
- ☐ 3D Sand Printing Casting Design
- ☐ 3D Sand Printing Mold Quality
- ☐ 3D Sand Printing Process & Terminology
- ☐ Acid Demand Value (ADV) of Sand
- ☐ AFS 2 in. Dia. x 2 in. Specimen Preparation, Rammer Method
- ☐ AFS Clay
- ☐ AFS Permeability for Green Sand
- ☐ Aluminum Casting Alloys
- ☐ Aluminum Casting Applications
- ☐ Aluminum Casting Defects: Gas Porosity & Shrinkage Porosity
- ☐ Aluminum Casting Defects: Oxides & Inclusions
- ☐ Aluminum Casting Production
- ☐ Basics of Fluid Dynamics for Metalcasting Gating Systems
- ☐ Basics of Heat Transfer Principles for Riser Design
- ☐ Basic Melt Practices for Cast Iron
- ☐ Big Picture of the Casting Process
- ☐ Casting Defect Analysis Practice & Conclusion
- ☐ Casting Material Properties
- ☐ Casting Process Selection
- ☐ Cast Iron Defects: Solidification Shrinkage in Ductile Cast Iron
- ☐ Cast Iron Defects: Solidification Shrinkage in Gray Cast Iron
- ☐ Casting Defect Analysis Practice & Conclusion
- ☐ Casting Material Properties
- ☐ Casting Process Selection
- ☐ Chemical Binder Handling Safety Requirements
- ☐ Coldbox Core Quality & Casting Defects
- ☐ Coldbox Coremaking Components
- ☐ Coldbox Coremaking Process
- ☐ Coldbox Tooling Design Basics
- ☐ Compactability
- ☐ Copper Casting Alloys
- ☐ Copper Casting Applications
- ☐ Copper Casting Defects: Gating
- ☐ Copper Casting Defects: Shrinkage
- ☐ Copper Casting Production
- ☐ Elements in Cast Iron
- ☐ Friability
- ☐ Functions & Features of a Rigging System
- ☐ Gas Related Defects
- ☐ Gating Design for 3D Printed Sand
- ☐ Green Sand Compaction
- ☐ Green Sand Molding Equipment
- ☐ Green Sand Molding Process
- ☐ Green Sand Preparation & Quality Control
- ☐ Green Sand Raw Materials
- ☐ Introduction to Cast Iron
- ☐ Introduction to Cast Iron Heat Treatments
- ☐ Introduction to Cast Iron Melting
- ☐ Introduction to Cast Iron Microstructures
- ☐ Introduction to Casting Defect Analysis
- ☐ Introduction to Green Sand Defects
- ☐ Introduction to Lean Manufacturing
- ☐ Introduction to Steel Heat Treatments
- ☐ Lean Manufacturing Application
- ☐ Lean Manufacturing Case Studies
- ☐ Loss on Ignition (LOI)
- ☐ Lost Foam Basics
- ☐ Lost Foam Design for Aluminum Castings
- ☐ Measurement & IIoT for Lean Manufacturing
- ☐ Mechanics for Heat Treatment: Aluminum Practices
- ☐ Mechanics for Heat Treatment: Aluminum Processes
- ☐ Melting & Pouring
- ☐ Metalcasting Facility Safety
- ☐ Methylene Blue Clay Test
- ☐ Moisture Determination for Sand Testing
- ☐ Nobake Materials & Equipment
- ☐ Nobake Mold & Core Defects
- ☐ Nobake Molds & Core Process
- ☐ Oxide Related Defects
- ☐ Permanent Mold Casting Process
- ☐ pH of Sand
- ☐ Purchasing Castings: Create the Relationship
- ☐ Purchasing Castings: Grow the Relationship
- ☐ Purchasing Castings: Maintain the Relationship
- ☐ Risering Iron Castings
- ☐ Sand Related Defects
- ☐ Sand Sampling Methods
- ☐ Shrink Related Defects
- ☐ Sieve Analysis & Grain Fineness Number (AFS GFN)
- ☐ Six Families of Cast Iron
- ☐ Steel Casting Alloys
- ☐ Steel Casting Defects: Oxides & Inclusions
- ☐ Steel Casting Defects: Shrinkage
- ☐ Steel Casting Inspection & Testing Methods
- ☐ Steel Casting Production
- ☐ Tensile Strength for Chemically Bonded Sand
- ☐ Types of Alloys
- ☐ Types of Casting Processes
- ☐ Types of Casting Tooling
- ☐ Wet & Dry Compression Strength for Green Sand
- ☐ Wet Tensile Strength for Green Sand

Spanish Modules

- ☐ Defectos en el Hierro Fundido: Contracción por Solidificación en Hierro Gris
- ☐ Defectos Relacionados con el Gas
- ☐ Defectos Relacionados con el Óxido
- ☐ Defectos Relacionados con la Arena
- ☐ Defectos Relacionados con la Contracción
- ☐ Elementos en el Hierro Fundido
- ☐ Equipo de Moldeo de Arena Verde
- ☐ Introducción a la Fusión de Hierro Fundido
- ☐ Introducción a la Microestructura del Hierro Fundido
- ☐ Introducción al Análisis de Defectos de Fundición
- ☐ Introducción al Hierro Fundido
- ☐ Introducción a los Defectos de la Arena Verde
- ☐ Introducción a los Tratamientos Térmicos de Fundición de Hierro
- ☐ Las Seis Familias de Hierro Fundido
- ☐ Materias Primas de Arena Verde
- ☐ Panorama General del Proceso de Fundición
- ☐ Práctica para el Analisis de Defectos en Piezas y Conclusión
- ☐ Prácticas Básicas de Fusión para Hierro
- ☐ Preparación de Arena Verde y Control de Calidad
- ☐ Proceso de Moldeo de Arena Verde

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