

# ESSENTIAL RELIABLE MANUFACTURING SKILLS BOOTCAMP

## OVERVIEW

Manufacturing teams today face relentless pressure to sustain margins with leaner resources. When reliability fails, everything downstream suffers – production targets, quality, and cost.

This three-day Bootcamp is built for leaders and supervisors who need to move fast, build capability, and deliver results on the floor. Each subject opens with a look at what top-performing facilities actually do – how they think about failure, how they develop strategy, and how they drive measurable outcomes.

Practical observation tools give participants a clear-eyed view of current conditions and a roadmap to move forward. Come prepared to challenge assumptions. Leave with documented actions and the know-how to begin.

## WHY THIS TRAINING MATTERS

- ✓ Builds a shared reliability language across leadership, maintenance, and operations
- ✓ Connects asset health, failure behavior, and measurable business outcomes
- ✓ Reduces chronic failures and cuts unplanned downtime
- ✓ Delivers a practical, actionable foundation for Reliable Manufacturing® implementation

## WHO SHOULD ATTEND

- ✓ Corporate, Senior, and Area/Line Managers
- ✓ Maintenance and Operations Supervisors
- ✓ Reliability Leaders and Technical Leads
- ✓ Frontline Supervision

## WHAT TO EXPECT

- ✓ Observation-based challenge activities
- ✓ Practical tools applicable immediately on return
- ✓ End-of-day report-outs and peer discussion
- ✓ Post-session observation results review

## Subject

### 1. ERMS Boot Camp

- Introduction to Reliable Manufacturing®
- Asset Strategy Development
- Condition Monitoring
- Precision Maintenance®
- Bearing and Lubrication Skills
- Pumps and Piping Systems
- Asset Operation and Troubleshooting
- Root Cause Problem Elimination
- Implementing Reliable Manufacturing®

### 2. Foundational Elements

- Effective Communication
- Developing Reliability Strategies
- Introduction to Work Management

### 3. Mechanical Condition Monitoring

- Vibration
- Infrared (IR)
- Ultrasound
- Oil Analysis

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## TYPICAL DAILY OUTLINE

### DAY 1

#### RELIABLE MANUFACTURING FUNDAMENTALS & STRATEGY

- > What is Reliable Manufacturing®?
- > How things fail
- > Reliability philosophies
- > Applying all the tools
- > Metrics and measures
- > Building a strategy
- > Asset strategy development
- > Effective work systems principles
- > Class end-of-day report-out

### DAY 3

#### OPERATION, ROOT CAUSE & SUSTAINABILITY

- > Asset care and operation
- > Operator's role in reliability
- > Essential asset care
- > Pumps and pumping systems
- > Root Cause Problem Elimination
  - RCPE thinking process
- > Documentation methods & forensic analysis
- > Design for Reliability
- > Applying Reliable Manufacturing® principles
- > Final course review

### DAY 2

#### ASSET HEALTH & PRECISION MAINTENANCE

- > Determining asset health
- > Using vibration to assess machine condition
- > Understanding infrared
- > Applying ultrasound technology
- > Using lubrication analysis to assess asset condition
- > Machine assembly and installation
- > Mechanical failure mechanisms
- > Precision Maintenance®
- > Introduction to bearing failures & installation techniques
- > Essential lubrication skills
- > Class end-of-day report-out

# ESSENTIAL RELIABLE MANUFACTURING SKILLS BOOTCAMP

## LEARNING OBJECTIVES & EXPECTED POST-TRAINING CAPABILITIES

Upon successful completion, participants will be capable of:

### **RELIABILITY FOUNDATIONS & MANUFACTURING EXCELLENCE**

- Understand and apply Reliable Manufacturing® principles across the organization
- Evaluate current reliability practices against what top-performing facilities actually do
- Develop a strategic roadmap for implementing and sustaining reliability improvements

### **ASSET FAILURE BEHAVIOR & RISK CONTROL**

- Recognize how and why assets fail, and how failures develop over time
- Identify and control common component and system failure modes

### **CONDITION MONITORING & PRECISION MAINTENANCE AWARENESS**

- Understand core condition monitoring technologies and their plant-floor applications
- Recognize the importance of precision maintenance and proper assembly practices

### **ROOT CAUSE THINKING & CONTINUOUS IMPROVEMENT**

- Apply root cause problem elimination thinking to persistent failures

### **Participants are expected to:**

- ✓ Return to their facilities with documented observations and improvement opportunities
- ✓ Apply ERMS principles to evaluate current reliability practices
- ✓ Support or lead the development of asset strategies and work system improvements
- ✓ Advocate for precision maintenance, proper operation, and condition monitoring
- ✓ Contribute to sustainable reliability and performance improvements

Graduates leave with a clear understanding of what must change, why it matters, and how to begin.