Advanced Spare Parts Inventory and Maintenance Management Training Course

30 Nov - 04 Dec 2026

Boston

7500 € (Per Person)

Ref: #IM6921_160421

Course Introduction / Overview:

Effective spare parts inventory management is a critical cornerstone of successful maintenance operations, directly impacting asset reliability, operational uptime, and financial performance. Holding excessive inventory ties up valuable capital, while insufficient stock leads to costly production delays and emergency purchases. This comprehensive training course is meticulously designed to bridge the gap between inventory theory and practical maintenance execution. It provides a holistic framework for optimizing spare parts management, drawing upon established principles and modern best practices. Participants will explore the intricate relationship between inventory control and maintenance strategies, a concept thoroughly examined by maintenance expert Joel Levitt in his works on maintenance management. This program, offered by BIG BEN Training Center, moves beyond basic formulas to instill a strategic mindset, enabling professionals to develop robust systems for classifying, stocking, and deploying spare parts. By mastering the techniques covered, from ABC analysis to integrating inventory with a CMMS, attendees will be empowered to reduce costs, improve service levels, and enhance overall plant reliability, transforming their spare parts storeroom from a cost center into a strategic asset.

Target Audience / This training course is suitable for:

- Inventory Managers and Planners.
- Maintenance Managers and Supervisors.
- Reliability and Maintenance Engineers.
- Supply Chain and Procurement Professionals.
- Warehouse and Storeroom Managers.
- Operations Managers.
- CMMS Administrators and Key Users.
- Technical Buyers and Purchasing Agents.
- Asset Management Professionals.

Target Sectors and Industries:

- Manufacturing and Industrial Production.
- Oil and Gas Exploration and Refining.
- Power Generation and Utilities.
- Aviation and Aerospace Maintenance.
- Mining and Heavy Equipment Operations.
- Pharmaceuticals and Chemical Processing.
- Transportation and Logistics.
- Governmental bodies and Public Sector Utilities.
- Facilities Management and Real Estate.

Target Organizations Departments:

- Maintenance and Engineering.
- Supply Chain Management and Procurement.
- Warehouse and Inventory Control.
- Operations and Production.
- Asset Management.
- Finance and Accounting.
- Planning and Scheduling.
- Reliability and Continuous Improvement.

Course Offerings:

By the end of this course, the participants will have able to:

- Develop a strategic framework for spare parts inventory management.
- Implement advanced inventory classification techniques like ABC, XYZ, and VED analysis.
- Calculate and optimize key inventory levels, including safety stock and reorder points.
- Align spare parts inventory strategy with preventive and predictive maintenance programs.
- Improve storeroom and warehouse operations for efficiency and accuracy.
- Establish robust processes for managing critical and obsolete spare parts.
- Utilize Key Performance Indicators (KPIs) to measure and improve inventory performance.
- Leverage CMMS/EAM systems for enhanced inventory control and decision-making.
- Reduce inventory holding costs while increasing maintenance service levels.
- Create a comprehensive Bill of Materials (BOM) for critical assets.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, engaging, and practical, ensuring that participants can immediately apply the learned concepts in their workplace. This course blends expert-led instruction with a variety of adult learning techniques to facilitate deep understanding and skill development. Sessions will include detailed presentations, real-world case studies from various industries, and interactive group discussions where participants can share their unique challenges and solutions. A significant portion of the course is dedicated to hands-on workshops and practical exercises, such as performing an ABC analysis on a sample inventory list and calculating optimal reorder points. Team-based problem-solving activities will be used to simulate real-world scenarios, fostering collaboration and critical thinking. The instructor will provide continuous feedback and facilitate Q&A sessions to address specific queries. This immersive and participant-centered approach ensures a comprehensive learning experience that goes beyond theory to build tangible, job-ready competencies in spare parts and maintenance management.

Course Agenda (Course Units):

Unit One: Fundamentals of Spare Parts and Maintenance Inventory

- The Strategic Role of Spare Parts in Asset Management.
- Understanding the Link Between Maintenance and Inventory.
- Types of Maintenance and Their Impact on Spares Demand.
- Defining MRO (Maintenance, Repair, and Operations) Inventory.
- The High Cost of Poor Inventory Management (Stockouts vs. Overstocking).
- Key Terminology and Concepts in Spare Parts Management.
- The Structure and Function of a Modern Storeroom.

Unit Two: Inventory Classification and Control Techniques

- ABC Analysis for Prioritizing Inventory Items.
- XYZ Analysis for Demand Volatility Classification.
- VED (Vital, Essential, Desirable) Analysis for Criticality Assessment.
- Combining Analyses (e.g., ABC-VED Matrix) for Strategic Decisions.
- Setting Min-Max Levels and Reorder Points.
- Calculating and Applying Safety Stock Formulas.
- Introduction to Economic Order Quantity (EOQ) Model.

Unit Three: Integrating Inventory with Maintenance Planning

- Developing and Managing Accurate Bill of Materials (BOMs).
- Spare Parts Kitting for Planned Maintenance Jobs.
- Forecasting Spare Parts Demand for Preventive Maintenance.
- Strategies for Managing Unplanned (Corrective) Maintenance Spares.
- The Role of Reliability-Centered Maintenance (RCM) in Spares Optimization.
- Planning for Shutdowns, Turnarounds, and Outages.
- Coordination Between Planners, Schedulers, and the Storeroom.

Unit Four: Storeroom Operations and Warehouse Management

- Best Practices for Storeroom Layout and Design.
- Receiving, Inspection, and Put-Away Processes.
- Effective Storage and Preservation Techniques for Spare Parts.
- Parts Issuing, Tracking, and Returns Management.
- Implementing a Cycle Counting Program to Ensure Accuracy.
- Conducting a Full Physical Inventory Count.
- Security and Access Control for the Storeroom.

Unit Five: Advanced Strategies, Technology, and Performance Measurement

- Leveraging CMMS/EAM Systems for Inventory Control.
- Managing Spare Parts Data and Master Data Governance.
- Strategies for Dealing with Slow-Moving and Obsolete Stock (SLOB).
- Supplier Management and Collaboration for Spare Parts.
- Key Performance Indicators (KPIs) for Inventory Management.
- Using Data Analytics for Predictive Spares Forecasting.
- Developing a Continuous Improvement Culture in the Storeroom.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How can an organization effectively balance the financial pressure to minimize inventory holding costs with the operational imperative to ensure high equipment availability and reliability?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by adopting a holistic and integrated perspective that directly links spare parts inventory management to the strategic goals of maintenance and asset reliability. Unlike programs that focus narrowly on inventory formulas, this training emphasizes the critical interface between the storeroom and the plant floor. It provides a practical roadmap for aligning inventory levels with specific maintenance strategies, whether preventive, predictive, or reliability-centered. A key differentiator is the focus on both the financial and operational dimensions of inventory, teaching participants how to justify stock levels using data that resonates with both finance and operations departments. The curriculum is enriched with real-world case studies that illustrate the consequences of both poor and excellent inventory practices across various industries. Furthermore, the course is forward-looking, dedicating significant time to the role of modern technology, such as CMMS/EAM systems and data analytics, in transforming inventory management from a reactive function to a proactive, strategic component of operational excellence.