COMPENDIUM OF INDIAN STANDARDS ON

PRODUCTION CONTROL

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Introduction

This compendium covers Indian Standards on Production Control, developed by the MSD 4 sectional committee of the Bureau of Indian Standards (BIS), is a consolidated reference of Indian Standards aimed at enhancing quality and efficiency in manufacturing and production systems. It includes IS 15446 Part 1 to Part 6, covering various aspects of production control methods and practices. The compendium provides structured guidance to industries for planning, monitoring, and controlling production processes, ensuring consistency, optimization, and continuous improvement. It serves as a practical resource for manufacturers, quality professionals, and process managers seeking to implement standardized and effective production control systems in diverse industrial settings.

IS 15446 (Part 1) : 2004 Guide to production control: Part 1 Introduction

This Indian Standard provides fundamental guidance for organizations to design, implement, and maintain effective production control systems. This part of the standard introduces the basic principles and framework necessary for controlling production activities to ensure consistency, efficiency, and quality in output. It outlines the core functions of production control, including planning, scheduling, monitoring, and feedback—each critical to achieving operational excellence.

The standard emphasizes the need for aligning production control with organizational objectives, customer requirements, and available resources. It helps organizations identify key control points within production processes and establish systematic procedures to manage variability, reduce waste, and enhance productivity. IS 15446 Part 1 also promotes the use of performance indicators and continuous improvement mechanisms to ensure ongoing optimization of production systems.

Applicable across a wide range of industries and production environments, the guidance serves as a strategic tool for production managers, planners, and quality professionals. It lays the groundwork for more detailed practices covered in subsequent parts of the IS 15446 series, making it an essential starting point for organizations aiming to build robust and standardized production control systems that support competitiveness, efficiency, and customer satisfaction.

IS 15446 (Part 2) : 2004 Guide to production control: Part 2 Production Programming

This Indian Standard focuses on Production Programming, a critical component of production control that deals with the efficient scheduling and allocation of resources to meet production targets. This part of the standard provides guidance on developing and implementing production programs that align with organizational objectives, customer demand, and available capacity.

The standard outlines methods for short-, medium-, and long-term production planning, incorporating elements such as demand forecasting, capacity assessment, material availability, and labour planning. It emphasizes the integration of production programming with other functions such as inventory control, procurement, and maintenance to ensure coordinated and streamlined operations.

Key principles include the development of master production schedules (MPS), loading and sequencing of operations, and the use of tools like Gantt charts, capacity planning models, and production dashboards. The standard encourages the use of real-time data and feedback loops to adapt to changes and uncertainties in the production environment.

Applicable to various industries, IS 15446 Part 2 helps organizations optimize their production timelines, reduce lead times, and improve resource utilization. It supports the creation of flexible and responsive production systems, enabling businesses to meet customer requirements more effectively while maintaining operational efficiency and cost control.

IS 15446 (Part 3) : 2004 Guide to production control: Part 3 Ordering Methods

This Indian Standard offers comprehensive guidance on Ordering Methods, a vital element of production control aimed at ensuring timely and efficient flow of materials and components throughout the production process. This part of the standard presents a range of ordering strategies and helps organizations determine the most appropriate method based on production needs, inventory policies, and operational constraints.

The standard describes several ordering methods, including reorder point systems, lot-for-lot ordering, fixed quantity ordering, periodic review systems, and just-in-time (JIT) approaches. Each method is explained in terms of its application, benefits, limitations, and suitability for different types of production environments—such as continuous, batch, or job-shop production.

It emphasizes the importance of aligning ordering methods with production planning, material requirements, and lead times, and integrating them into the overall production control system. The guidance supports efficient inventory management, reduction of excess stock, improved resource utilization, and responsiveness to demand changes.

IS 15446 Part 3 enables organizations to design effective ordering systems that balance cost, efficiency, and service level objectives. It is particularly useful for production planners, inventory managers, and operations professionals looking to optimize order quantities and timing to enhance productivity and customer satisfaction

IS 15446 (Part 4) : 2004 Guide to production control: Part 4 Dispatching (Shop-Floor Control)

This Indian Standard IS 15446 Part 4:2004 focuses on Dispatching (Shop-Floor Control), which is a key operational function within the production control system. This standard provides guidance on the procedures and tools necessary to manage and control shop-floor activities effectively. Dispatching ensures that production orders are executed in accordance with predefined schedules, enabling the smooth flow of work and resources on the shop floor.

The standard outlines methods for issuing work orders, job instructions, and material release, as well as assigning tasks to machines and operators.

IS 15446 Part 4 emphasizes the importance of real-time tracking, data feedback, and coordination with planning and scheduling functions. It supports the use of visual control boards, automated systems, and performance metrics to monitor progress and respond quickly to disruptions or delays.

By implementing effective dispatching practices, organizations can reduce downtime, improve workflow, ensure better adherence to schedules, and enhance productivity. This standard serves as a practical guide for production managers and shop-floor supervisors aiming to achieve operational efficiency and control.

IS 15446 (Part 5) : 2004 Guide to production control: Part 5 Relationship between Production Control and other Management Function

This Indian Standard provides guidance on the interrelationship between production control and other key management functions within an organization. Recognizing that production control does not operate in isolation, this standard emphasizes the need for integration and coordination with functions such as marketing, design and development, procurement, inventory management, quality control, maintenance, and human resources.

The standard explains how effective communication and collaboration across departments are essential for aligning production activities with business objectives. For example, coordination with marketing ensures that production plans reflect customer demand, while integration with procurement and inventory functions guarantees the timely availability of materials. Similarly, collaboration with quality and maintenance functions helps maintain consistent product standards and minimize equipment downtime.

IS 15446 Part 5 advocates for a systems approach where information flows freely between departments to support informed decision-making, timely responses to changes, and continuous improvement. It also highlights the role of top management in facilitating cross-functional integration and promoting a culture of teamwork and accountability.

By understanding and strengthening these interrelationships, organizations can create more agile, responsive, and efficient production systems that contribute to overall business success and customer satisfaction.

IS 15446 (Part 6) : 2004 Guide to production control: Part 6 Computer Aided Production Control

This Indian Standard provides guidance on the implementation and use of Computer Aided Production Control (CAPC) systems within manufacturing and industrial environments. The standard

emphasizes the integration of computer-based tools to enhance the efficiency, accuracy, and responsiveness of production control processes. It outlines key functions of CAPC such as production planning, scheduling, monitoring, and data acquisition, with the aim of improving decision-making and resource utilization.

The guide discusses the structure and components of CAPC systems, including databases, user interfaces, and communication modules, and highlights their role in supporting real-time control and feedback. It also addresses the compatibility and integration of CAPC with other computer-aided systems like CAD (Computer Aided Design), CAM (Computer Aided Manufacturing), and MRP (Material Requirements Planning).

Additionally, the standard provides recommendations for system selection, implementation strategy, and staff training to ensure effective adoption. It underlines the importance of aligning CAPC systems with organizational goals and ensuring flexibility to adapt to changing production needs. Overall, IS 15446 Part 6:2004 serves as a comprehensive guide for industries aiming to leverage computer technologies for optimized production control and improved operational performance