Oracle Process Manufacturing - Process Execution

ORACLE E-BUSINESS SUITE 12

ORACLE PROCESS MANUFACTURING

KEY BENEFITS
- Maximize Production Flexibility
- Increase Plant Efficiencies and Customer Satisfaction
- Complaint Based record keeping
- True representation of Shop floor
- Integration with MES, Warehouse Management and Mobile Supply Chain

Oracle® Process Manufacturing Process Execution ensures manufacturing consistency throughout the production cycle by providing tight control over ingredients and processes, balanced with the flexibility to respond to changing plant conditions. OPM Process Execution is part of the Oracle E-Business Suite, an integrated set of applications that are engineered to work together.

Maximize Production Flexibility to Meet Unique Customer Requirements

Flexibility is a key to success for an e-business. The extensiveness of the Internet provides your customers with a means to access competing suppliers worldwide, twenty-four hours per day. You need to be able to satisfy their product requirements consistently, regardless of the variability present in your plant. OPM Process Execution provides the integrated control needed to guarantee uniformity, as well as the flexibility to accommodate unexpected developments within your own manufacturing requirements.

Integrate Process Execution for Consistent Product and Processes

Process manufacturing frequently involves highly complex production cycles. Variations in material availability, ingredient quality, processing conditions, and product quality requirements can complicate your core challenge—to produce consistent product from inconsistent ingredients using variable processes.

OPM Process Execution works in concert with other Oracle Process Manufacturing applications. It initiates scheduled batches by obtaining ingredient and procedure requirements from OPM Product Development. As ingredients are consumed during production, raw material inventory decreases, while finished goods inventory increases when production is complete. Throughout the cycle, OPM Process Execution uses information from OPM Quality Management to assure manufacturing quality control and product consistency.

Handle Production Orders and Bulk Runs Flexibly

OPM Process Execution supports bulk, continuous flow, and hybrid manufacturing for make-to-stock and make-to-order environments. This lets you build bulk runs as required for economical stock quantities. It also provides the scheduling flexibility to let you schedule runs during specified hours, shifts, days, or weeks–depending upon your business needs.

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You can also scale the batches to fit production requirements. Ingredients are scaled according to preset fixed, proportional or integer multiple quantities to assure proper batch sizing.

Improve Process Execution with Clear and Detailed Formulation Definitions

Maintain multiple versions of recipes to make a product. By specifying the exact conditions for use of each recipe version, OPM provides the tools to enable optimal use of available materials and resources to produce consistent product.

Execute Production Runs Starting with Extensive Recipe Information

OPM Process Execution begins a production run by obtaining complete recipe information from the recipe created in the OPM Product Development application. Process Execution lets you select the appropriate recipe for a batch.

With OPM Process Execution, you can have a batch with far more than the listed ingredient quantities. All information regarding co-products, byproducts, and scrap are available by production process. Also available is ready-to-use scalability and theoretical yield data.

With a scalable formula, you can easily increase or decrease production quantities by specifying a new production quantity. PM Process Execution automatically scales the ingredient, co-product, and by-product quantities for you. Theoretical yield information lets you compensate for factors such as evaporation or chemical reactions that often cause a formula to yield less than the sum of the individual ingredient quantities. OPM Process Execution calculates and displays the expected theoretical yield percentage of any scheduled batch. OPM Process Execution also takes input from the OPM Product Development formula cost information to create batches on a Least Cost Validity rule.

Increase Plant Efficiencies and Customer Satisfaction with Integrated Planning and Inventory Management

Accepting customer orders that will consistently lead to satisfied customers and profitable sales requires many factors working in concert across your business. OPM Process Execution is integrated to relevant business flows to ensure that accurate, timely information is used in the manufacturing process.

Reserve and Assess Inventory before Production

Upon opening a run, OPM Process Execution lets you automatically or manually reserve specific inventory for production, according to predefined business rules. You can enforce inventory-handling rules—such as first expired, first out (FEFO), or first in, first out (FIFO)—in the midst of the production process. This guarantees the efficient use of inventory and ensures that you always receive appropriately graded or dated materials for any scheduled batch.

OPM Process Execution also checks inventory to ensure that you have an adequate supply of ingredients and raw materials, and automatically notifies you of any shortages. As a result, you can decide whether to hold production orders until sufficient ingredient quantities arrive, or scale batches to reflect the constraints of available inventory. This helps to eliminate the inconvenience, expense, and lost productivity associated with halting production because of unanticipated shortages.

Record Production Actual through Partial or Complete Run Certification

On completion of a production run, you can run reports to show exactly which raw materials and ingredients were consumed, and which finished goods, co-products, by-products, and scrap were produced. In continuous-flow production environments, incremental back flushing allows you to complete a partial quantity of a batch at an interim production step. This is useful when production runs continuously over multiple shifts, or for more than one day.

Record Production by Step

Ingredient usage and product yield can be planned for and recorded by production step. Planning will recognize that an ingredient that will be used in a later step in a process will not be needed when a production run is started, but when the step in which the ingredient will be used is planned to start. Similarly, planning will recognize that products that are yielded at an intermediate step will be available before the entire production run has completed.

Release Ingredients Simultaneously or Incrementally

When you release a run, you have the option to subtract allocated items or ingredients from inventory simultaneously at the beginning of production, or incrementally as ingredients are consumed. Reporting ingredient consumption incrementally allows those process manufacturers whose production runs may last several days to update their inventory as stock is consumed. This offers an accurate, real-time view of inventory status. OPM Process Execution inventories a released production run as work-in-process. If you cancel a run, it automatically returns all allocated items to available inventory, unless otherwise directed.

Streamline Inventory Staging

OPM Process Execution allows configuring the shop floor with staging area and also enables material movement tracking by use of Move Orders. Materials could be moved from the Raw material inventory to the staging areas, documented and tracked by the moved orders, thereby providing complete material control of the shop floor.

Facilitate Electronic Data Exchange with Standard Application Programming Interfaces (APIs)

Today, integration with the shop floor has become a business necessity in the process industries. OPM Process Execution incorporates Application Programming Interfaces (APIs) that provide easy, flexible integration with your shop floor systems. Whether your manufacturing is fully or partially automated, you can use APIs to achieve direct user input into OPM screens, interfaces to specific pieces of equipment, or full integration with a complete manufacturing execution system (MES). Because Process Execution represents an out-of-the-box solution to shop floor integration, it provides a rapid return on your investment—along with the benefits of better, timelier manufacturing control.

21 CFR Part 11 Compliant Electronic Recordkeeping

21 CFR Part 11 represents the combined effort of divisions within the FDA, along with members of the pharmaceutical industry, to establish a uniform, enforceable, baseline standard by which the FDA will consider electronic records equivalent to paper records and electronic signatures equivalent to traditional handwritten records and signatures.

In 2003, the FDA announced that it was taking a narrower interpretation of the scope of part 11— focusing its efforts on assuring compliance for high-risk records. High-risk records are those whose integrity, or lack thereof, pose the greatest potential risks to product quality and consequently, public health and safety. The FDA also reaffirmed that Part 11 was here to stay.

Oracle looks to these regulations as the basis for designing the compliance solutions it offers its customers. To that end, electronic recordkeeping is available on all critical business events in OPM Process Execution, including batch status changes during a production run, and updates to quantities and allocations throughout the manufacturing cycle.

Integration to Warehouse Management Systems

In most of the shop floor operations, material consumption and yield occur in the warehouse management system and is recorded using mobile devices. Activities such as put away and yielding to an LPN are done directly using mobile devices. With OPM Process Execution, you are now able to yield directly into LPN, and put away using the Oracle Warehouse Management System (WMS)

Oracle Process Manufacturing Command Center

The Oracle Process Manufacturing Command Center provides dashboards empowering production supervisors and quality managers with actionable insights that help manage the production operations efficiently to meet the customer commitments and resolve the production quality issues. With tools and visualizations such as actionable indicators, tag clouds, interactive charts, and consumer-like search and filters, users can browse and drill on whatever captures their attention, revealing new information on which to base next discovery steps. Through this "information-driven navigation", users can quickly narrow in on priority transactions and take immediate, informed action.

The Oracle Process Manufacturing Command Center is available at no additional cost to licensed users of Oracle Process Manufacturing, Release 12.2.4 and above
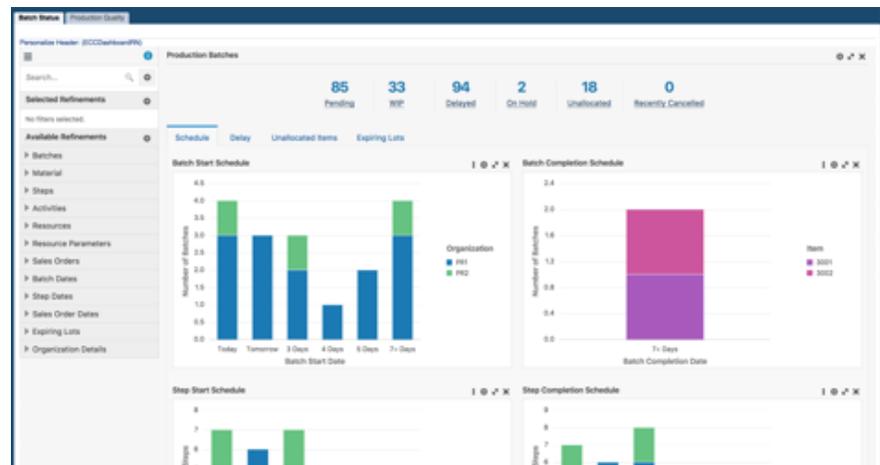

Figure 3: Batch Status Dashboard in Oracle Process Manufacturing Command Center

Oracle E-Business Suite: The Complete Solution

Oracle E-Business Suite enables companies to efficiently manage customer processes, manufacture products, ship orders, collect payments, and more—all from applications that are built on unified information architecture. This information architecture provides a single definition of your customers, suppliers, employees, and products—all important aspects of your business. Whether you implement one module or the entire Suite, Oracle E-Business Suite enables you to share unified information across the enterprise so you can make smarter decisions with better information.

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Oracle is committed to developing practices and products that help protect the environment