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*Materials Management KPI Encyclopedia*

## Materials Management Metric Definitions

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The Inventory Management and Control function is responsible for the efficient storage and monitoring of inventory in company warehouses and storage facilities. Through communications with the Forecasting, Purchasing or Procurement Groups, they set levels at which to purchase additional volumes of each item (and notify the appropriate parties when those levels are reached, usually in an automated manner). They also control the quality of storage methods and ensure that incoming and outgoing items meet the necessary standards. This is especially important in industries with tight regulation, such as food production and processing, chemicals and oil and gas.
Inventory Management & Control

KPI Encyclopedia

Cost

- **Unit Cost: Product Packaging** – The total cost of product packaging (package materials, assembly, etc.) divided by the total number of units packaged over the same period of time.

- **Carrying Cost of Inventory** – The total expense required to warehouse and ship the inventory of a specific product or material over a certain period of time. Carrying cost of inventory includes warehouse labor, insurance, tax, storage, depreciation and shipping or freight expenses.

- **Carrying Cost of Inventory as a Percentage of Total Inventory Value** – The total expense (includes warehouse labor, insurance, tax, storage, depreciation and shipping or freight expenses) required to warehouse and ship the inventory of a specific product or material divided by the total dollar value of inventory of the same product or material over the same period of time, as a percentage.

- **Carrying Cost of Inventory as a Percentage of COGS** – The total expense (includes warehouse labor, insurance, tax, storage, depreciation and shipping or freight expenses) required to warehouse and ship the inventory of a specific product or material divided by the total cost of goods sold (COGS) for the same product or material over the same period of time, as a percentage.

- **Carrying Cost of Inventory as a Percentage of Sales** – The total expense (includes warehouse labor, insurance, tax, storage, depreciation and shipping or freight expenses) required to warehouse and ship the inventory of a specific product or material divided by the total sales generated for the same product or material over the same period of time, as a percentage.

Organizational

- **Percentage of Packaging Outsourced** – The total number of products manufactured by the company that are packaged by a third-party vendor divided by the total number of products manufactured over the same period of time, as a percentage.

Productivity

- **Inventory Turns** – An indication of how many times a company’s inventory is sold and replaced over a set period of time. Can be calculated by dividing the cost of goods sold (COGS) by the average dollar value of inventory on hand during a defined selling period (monthly, quarterly, annually).

Productivity (Cont.)

- **Supplier Orders Received per Hour** – The total number of supplier orders received divided by the total number of person hours worked over the same time period.

- **Days on Hand: Raw Materials** – The total value of raw materials in the company’s inventory divided by the average value of raw materials used in a single day.

- **Days on Hand: Finished Goods** – The total value of finished goods in the company’s inventory divided by the average value of finished goods sold in a single day.

- **Days on Hand: Total Inventory** – The total dollar value of the inventory-on-hand divided by the average cost of goods sold over the course of a single day, as a percentage.

- **Inventory Turnover** – The average number of days required to sell and replace a company’s inventory, from the time the inventory is replenished until it is depleted.

- **Cycle Time: Dock-to-Stock** – The number of hours required to store received goods, from the time the goods are received from the supplier until the time the goods are properly stored.

Quality

- **Percentage of Sales Lost Due to Supply Issues** – The total value (in dollars/currency) of sales lost due to the supplier being out of stock divided by the total value of customer orders placed over the same period of time, as a percentage.

- **Percentage of Backorder Lines** – The total number of customer order lines delayed in a shipment due to the company being out of stock divided by the total number of order lines processed over the same period of time, as a percentage.

- **Percentage of Backorder Dollars/Units** – The total number of order dollars or units delayed in shipment due to the company being out of stock divided by the total value or number of units ordered over the same period of time, as a percentage.

- **Cycle Time: Material Stocking** – The amount of time (hours) required to properly store received materials/goods, from the time they are received from the supplier until the time the goods are stored and recorded in inventory management tracking systems.
KPI Encyclopedia

Quality (Cont.)

• **Inventory Shrinkage** – The total cost related to inventory shrinkage (broken, pilfered, spoiled, or stolen inventory) divided by the total value of inventory on hand, as a percentage.

• **Average Warehouse Capacity Used** – The amount of warehouse capacity being used (measured in square feet or kilometers) divided by total warehouse or facility capacity, as a percentage.

• **Peak Warehouse Capacity Used** – The amount of warehouse capacity being used (measured in square feet or kilometers) during peak season(s)/hour(s) divided by total warehouse or facility capacity, as a percentage.

• **Honeycomb Percentage** – The total amount of a warehouse cube space (i.e., a single storage area or container; measured in square feet or kilometers) being used divided by the total warehouse cube space available for use at the same point in time, as a percentage.

• **Inventory Accuracy (Units/Dollars)** – The difference between reported and actual inventory levels (measured in dollars or units), as a percentage.

• **Inventory Accuracy (Location)** – The number of inventory locations which contain inventory inaccuracies divided by the total number of inventory locations counted, as a percentage.

• **Order Picking Accuracy** – The total number of orders picked and verified to be accurate prior to shipment divided by the total number of orders picked over the same period of time, as a percentage.

• **Material Handling Damage** – The total value of materials damaged from handling/storage divided by the total cost of goods sold (COGS) over the same period of time, as a percentage.

• **Equipment/Forklifts Capacity Used** – The total number of hours company equipment/forklifts are used divided by the total number of hours the company equipment/forklifts are available to be used over the same period of time, as a percentage.

• **Inventory Turns (Finished Goods Only)** – The total cost of finished goods sold divided by the average dollar value of finished goods on hand over the same period of time.

• **Inventory Turns (Raw Materials Only)** – The total cost of goods sold (COGS) divided by the average dollar value of raw materials, goods or products on hand over the same period of time.

• **Inventory Turns (Work-In-Process Only)** – The total cost of goods sold (COGS) divided by the average dollar value of work-in-process products/goods over the same period of time.

• **Percentage of Products Damaged During Distribution** – The total number of products damaged during distribution or warehousing divided by the total number of products shipped/warehoused over the same period of time, as a percentage.

• **Package Cube Efficiency (Actual)** – The total volume of product packaging divided by the total volume of space used on a single shipping pallet. This is a measurement of how efficiently pallet space is being used.

• **Package Cube Efficiency (Optimal)** – The total volume of product packaging divided by the total volume of space available on a single shipping pallet.

• **Average Shelf Life (All Goods and Materials)** – The average number of days (includes business and non-business days) that goods, components and/or materials remain in company storage facilities prior to use in the manufacturing process, or prior to shipment to customers, over a certain period of time. Includes raw materials, in-process, finished goods, components, parts and other materials.

• **Percentage of Orders Requiring Construction** – The number of product orders that require the combination of multiple components prior to shipment divided by the total number of orders placed over the same period of time, as a percentage.

• **Cycle Time: Component Picking** – The number of minutes required to gather, or ‘pick,’ the materials or components necessary to begin the production of an order from company storage facilities, from the time order picking begins until when the materials are ready to move into the manufacturing process.

• **Percentage of Component Parts Tracked** – The number of component parts that the company tracks in ERP or inventory management systems divided by the total number of component parts used and/or stored over the same period of time, as a percentage.

• **Inventory Value: Finished Goods** – The total dollar value of finished goods within the company’s inventory at a certain point in time. Finished goods are the output of the production or manufacturing process; these items are ready to be sold and shipped.