



Trace-It Technologies Inc

Process Manufacturing

**For
Deli Product Manufacturing**

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Oswego IL

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Scope

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Materials Receiving: Purchase Order Processing (POP):

Purchase orders for production materials are entered in Ross and downloaded to Trace-It.

The Receiving interface informs the receiving personnel of PO's to be received that day, the vendors' id, and the items to be received. In the event that an unscheduled order comes in after normal business hours, Trace-It will allow for a blind receive. In that case the next day the order will be entered in Ross and a Receiving Supervisor will assign the blind order to the real order. All information will be transferred over to the real order and sent up to Ross. This can also be done for an item on an order. Finally, there will be a tolerance, to be set by the user either on a type of material (IE Raw vs. Dry) or on a per-product basis for over receiving vs. ordered. After that "shipment" is received the information can be sent to Ross. You can receive across a multiple day period and the order not closed until everything is received.

Raw Material: Receiving, Inventorying, Relieving:

a) Receiving:

- For Raw Material (received in combo's or palletized cartons); each container is weighed on a floor scale, given a serialized bar-coded label and inventoried.
- Once all containers are weighed, a receiving manifest may be printed and the completed received order is uploaded to Ross.
- The Receiving floor scale interface will included the ability to enter and record the following information for each container weighed.
 - Purchase Order
 - Companies 5 digit Product Code (SKU)
 - Date and time of receipt
 - Net, Tare and Gross weights
 - Vendor lot number
 - Vendor "Use By" date
 - Companies lot number (computed)
 - Vendor USDA establishment Number
 - Product Temperature
 - Additional information as defined by the Client

b) Inventorying/Relieving:

Each container of raw material is serialized. Once weighed and labeled, the container is moved to the raw material warehouse(s). Where multiple warehouses are available, Trace-It will record the location by scanning a barcode the label identifying the warehouse.

Trace-It accommodates both directed put-away or discretionary put-away.

On-Hand inventory can be view or printed using the inventory menu of the Trace-It workstation.

Raw Material inventory is relieved by scanning the container barcode to a job or a production process.

Dry Goods: Receiving, Inventorying, Relieving:

Dry goods are all other materials except raw material. They are generally received and inventoried in pounds, units, feet or gallons.

As with raw material, the dry goods receiving office computer will include the Trace-It POP interface.

A transfer terminal will allow the warehouse to transfer materials to up to 9 different sub warehouses. This process will automatically adjust the central warehouse inventory.

Any material received in Bulk will simply be received and then automatically taken out of inventory. All of these items will be back flushed for inventory purposes.

The Trace-It Spice interface will run in each spice room to record spices for each job. Spice quantity and lot information will be keyed in. A laser printer will print a Job Report to be kept with the spices.

Job Processing, Finished Product and Sub-Assemblies:

Job processing is defined as a manufacturing process creating a finished inventory item or Sub-Assembly (WIP).

Each sub-assembly will have its own job number designation. Trace-It will capture data for all inputs and outputs of a job and provide a means (printed tags, reports, etc) to follow the product flow. Jobs may be closed in full or partially. Actual material usage can be sent to Ross real-time or at first partial job close.

Jobs Creation: Jobs are created in Ross and downloaded to Trace-It. Data entry interfaces provided by Trace-It are located in specific areas to capture job data as the materials move through the manufacturing process.

Each new job created will include the;

- Job Number
- Expected Output
- Bill Of Materials

Each Trace-It capture point will include the following functions.

- Job open
- Date and Time
- Weight capture
- Materials lot numbers
- Label/ Tag / report printing
- User sign-on
- Job complete

Data Capture Interface Points

Hot Dog Line:

Hot dog manufacturing example is a continuous chain line.

Job data to be captured and sent to Ross includes

- Raw material receive
- Job open
- Input to grind and assignment to job
- Grind output with job update
- Input of spices and other liquids
- Input lot number of packaging material that have direct food contact
- Output finished packages
- Job complete

Process

1. All Hot dogs will be done with 1 Job Daily from Start to Finish. Because it is a continuous line there is no way to break out the jobs. There will need to be partial job closes because of this. As some hot dogs will be packaged before all the raw material even gets into the job.
2. A touch screen terminal in the raw material warehouse will display the current hot dog job and the lot of the oldest meat to be used.
3. Raw Material combo is scanned at terminal assigning this combo to the job.
4. Combo of raw meat are moved to the hot dog manufacturing room to be ground and loaded into Vats.
5. Each vat is weighed and captured data recorded against the job number.
6. A travel document is printed to stay with the vat until ready for blending?
7. Vats are moved to the blender, scanned and dumped.
8. Spices were already added to the Job in the spice room. These are premeasured and brought out to the blend where a travel document is scanned to complete the blend.
9. Liquids are measured, recorded using a data input terminal in the blend back of the room and added to the blend.
10. The lot numbers or all film or any packaging materials that have direct food contact will be entered to the job.
11. Final recording of production data is captured when the finished hot dogs are packaged placed in cartons and weighed and labeling.

Deli Ham: In this example production of Deli Hams is broken down into multiple WIP jobs.

1. Job 1 - Injection
 - a. A touch screen terminal in the raw material warehouse will display the current ham job and the lot of the oldest meat to be used.
 - b. Raw Material combo is scanned at terminal assigning this combo to the job.
 - c. Green hams are dumped into the injector, injected and dumped into vats.
 - d. Many combos = many vats.
 - e. Each vat is weighed to verify the correct amount of pickle and hand adjusted if required.
 - f. A travel tag is printed to stay with the vat until dumped on the netting table. The tag will contain the job (lot) number.
2. Job 2 - Tumble
 - a. Vats are dumped into tumblers.
 - b. Spices are added from a premade Bill of Materials. Some are weighed on the floor scale in the hallway and will be assigned to the job there. Some are added at the tumbler. Those will be added either at the terminal located by the injectors, or the hallway floor scale.
 - c. Once the tumbling process is complete, the meat is dumped into the same vats from which it came.
 - d. Vats are weighed and a new tag printed.
3. Job 3 - Stuff/ Netting
 - a. Vats are scanned to the netting room dumped and stuffed.
 - b. Stuffed hams on racks are weighed, capturing the rack weight and ham count. A tag is printed at this time.
 - c. Racks are moved into the smoke house for ham smoking.
 - d. Tag is scanned, Smoked hams are weighed and cooked weight recorded.
 - e. Hams are moved to the tempering cooler
 - f. Hams are weighed when leaving the tempering cooler to capturing the chilled weight then to de-net/de-mold.
 - g. Hams are weighed a final time prior to packaging.
 - h. Finished hams are packaged and the finished cartons weighed.
 - i. Lots for any dry material touching the product need to be added at the terminal where de-netted hams are weighed.
 - j. System will have the ability to bring the hams back into the cooler in the cases they are not being packaged. If this happens need to decide just to replace the de-net weight or keep both.

Sausage: In this example production of sausage products Hams is broken down into multiple WIP jobs.

1. Job 1 - Blend

- a. A touch screen terminal in the raw material warehouse will display the current sausage and the lot of the oldest meat to be used.
- b. Combo is moved to the grinding stations and scanned to relieve inventory and assign it to the Job.
- c. Meat is ground and dumped into vats.
- d. Each vat is weighed and a travel document printed.
- e. When call for a vat is scanned to the kitchen and moved to a blender.
- f. Meat is blended along with the prerecorded spices and liquids.
- g. Meat is stuffed and loaded onto racks.
- h. Racks are moved to a floor scale and weighed. The pre-cooked weight is recorded against the job number and a bar-coded tag is printed to attach to the rack.
- i. End Job 1

2. Job 2 – Smoke / Chill

- a. Racks are loaded into the smokers
- b. Once the smoking process is completed the racks are weighed again to capture the cooked weight.
- c. Racks are stored in one of 3 chill coolers until ready for packaging. For now there will be no scanning done to capture the cooler of location in the cooler.
- d. Racks are weighted coming out of the cooler to capture the chilled weight.
- e. Product is packaged.
- f. Lots for anything touching the product need to be entered at the Terminal recording the chilled weight.
- g. Job 2 complete.

Software:

- Ross Systems ERP software including
 - Ross ERP process manufacturing module
- Trace-It Technologies Software including
 - Trace-It scale management module
 - Trace-It materials receiving and inventory module
 - Trace-It process manufacturing module

Hardware:

- File server running Microsoft SQL Database Management software.
- Wireless access points statically located throughout the plant for real time wireless communication.
- Floor scale(s) with touch screen data terminal and barcode label printer.
- Bench Scales with touch screen data terminal and barcode label printer. (may be static or automatic weighing)
- Touch screen terminals with scanners for tracking WIP jobs.
- Touch screen terminals with scanner and barcode label printers for tracking and relabeling WIP jobs.
- Hand held (mobile PC) scanners for tracking and recording WIP product movement.

Options:

- Trace-It inventory and warehouse management software
- Trace-It sales order fulfillment module
- Trace-It co-pack product receiving and inventory module