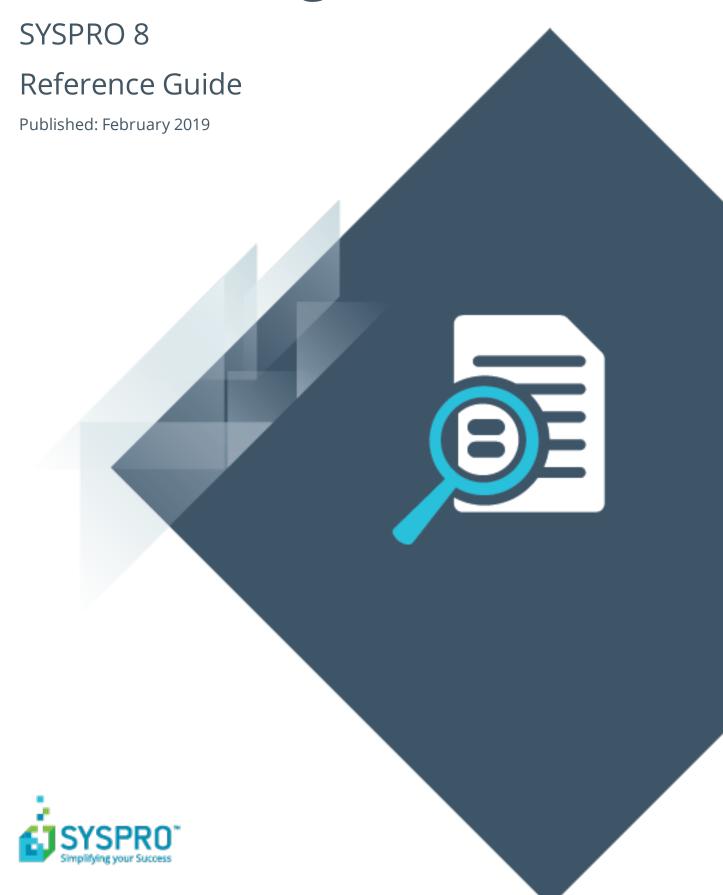
Job Nesting



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Job Nesting	
Exploring	1
Starting	3
Using	5
Job Nest Capture	
Exploring	6
Starting	7
Solving	8
Using	9
Referencing	10
WIP Nest Processing	
Exploring	14
Starting	15
Solving	16
Using	17
Referencing	18
WIP Nest Format Maintenance	
Exploring	23
Starting	24
Solving	25
Using	26
Referencing	27
WIP Nest Cost History Query	
Exploring	29
Starting	30
Solving	31

Using	32
Referencing	

Job Nesting

Exploring

Where does it fit in?

Job nesting combines several small jobs to form one larger nested job process. It provides the ability to view and select combinations of work orders that can be batched together in larger processes (i.e. you can nest multiple jobs utilizing the same raw material or components).

This results in:

- Reduction of waste
- Optimized use of raw material
- Optimized use of resources
- Reduction in operational costs
- Improved efficiencies

Nested-based machining typically involves placing a single sheet of material on a CNC router table. The router is programmed to process components based on the machine's capabilities, in a single setup without any material handling required, other than loading and unloading.

The Production Planner typically chooses any combination of work orders to nest together based on their sharing a commonality (such as the same raw material or the same work center) to create a combined job nest.

The components in a nested-based process are positioned in a pattern that will achieve the best possible material utilization.

For example: when making a pair of denim jeans, the fabric is laid out and the pattern cut based on the different parts of the jeans - front, back, pockets and waist.

Terminology used

Job nest

A group of jobs, to be processed together as a percentage of the material and labor used.

Nest (a.k.a. project nest)

The result of an ability to view and select combinations of worksorders that can be batched together. The nest or project nest is the aggregrate single view of the batch.

Nesting interface

The integration interface providing a link between systems such as ERP and a dedicated nesting software.

Nesting (process)

Nesting refers to the process of efficiently manufacturing shaped and non-symmetrical parts from flat raw material.

The components in a nested-based process are positioned in a pattern that will best use the materials and minimize waste.

Nesting software

External generic or machine-specific software that performs the optimization of the nest against the raw materials.

Remnant

A part or quantity that is left over after the greater part has been used, removed or destroyed.

Remnants are receipted back into stock for future use.

Scrap

Scrap is material that falls outside of specification and which has characteristics that make it impractical to rework. Within SYSPRO, you can associate a description to a code that describes the reason you need to scrap the material.

Starting

Prerequisites

The Associate serials by bin setup option (Setup Options > Configuration > Distribution > Inventory) must be enabled.

Restrictions and Limits

General

- Only confirmed jobs and made-in stocked items can be added to a nest.
- A valid nest job will only have one operation for the specified work center and only one allocation linked to that operation.
- Operations must be linked to the material allocation via the operation/offset.
- Quantities must be in the stocking unit of measure.
- If you have a multi-level BOM, you must create sub-jobs for the made-in items.
- If you issue a quantity of more than one for a stock code to a nest (without a sheet number) then when you capture the percentage utilization for that item, it will be of the total, not per sheet.

This is useful for punch cutting where multiple sheets are used, but the same items are cut per sheet.

Job linking

- Once jobs are linked to a nest, you can't modify the job. Material and labor can still be posted to non-linked allocations.
- When a job is linked to a nest, the date calculation method is set to Manual, so that the job will be excluded from any MRP calculations.
 - If you add a job to a nest and then subsequently remove it from the nest while in the planning phase, you will need to revert the job date calculation method manually.
- All jobs linked to a nest must have a common work center.
 - A job can be linked to multiple job nests, but an allocation can only be linked to one nest.

Traceability

- The job nest stock code (i.e. the raw material) cannot be a manual serialized item.
- If you want to trace an item back to an individual sheet, then you need to supply a sheet number that is unique per job nest.

• You can only issue one lot (or one serial) per raw material, so that the parts can be tracked correctly back to the raw material.

Setup Options

Setup Options > Configuration > Distribution > Inventory

Associate serials by bin

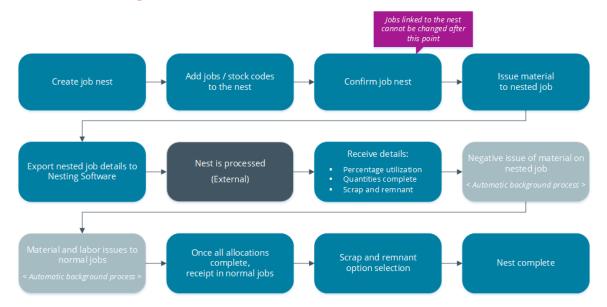
This is only available if multiple bins is enabled and the serial tracking system is required. You typically use this to track serialized items by bin location.



Once activated, you won't be able to switch off multiple bins at company level, or switch off the **Associate serials by bin** option. A conversion process migrates your lot/bin/serial tables, which cannot be reversed. If you need the system to function as before, you'll need to switch off multiple bins at warehouse level.

Using

Processing Flows



Job Nest Capture

Exploring

Where does it fit in?

This program lets you create and maintain job nests.

Nesting (or grouping jobs together) allows you to optimize costing and the use of resources. You can link jobs and stock codes to a nest. When you move a job to a nest, the material is effectively taken out of stock and moved from the warehouse to the work center.

As a job may need different raw materials, it can be linked to multiple nests.

You can specify whether the remainder of the material should be allocated to a remnant bin or scrapped (**Scrap from job nest** setup option in the **Work Centers** program). If the remainder is scrapped, you can decide to either distribute the scrap over the jobs or to write it off at the **Scrap handling** field in the **Job Nest Capture** program.

Things you can do in this program include:

- create and maintain a job nest
- assign the materials you plan to use to a nest
- link jobs and/or BOMs to a nest
- confirm the nest

Navigation

• This program is accessed from the **Program List** pane of the SYSPRO menu.

Program List > Work in Progress > WIP Job Nesting > Job Nest Capture

Starting

Prerequisites

■ The **Associate serials by bin** setup option (*Setup Options > Configuration > Distribution > Inventory*) must be enabled.

Restrictions and Limits

- A job linked to a nest should comprise only one material allocation and one operation.
- Once jobs are linked to a nest, you can't modify them, but material and labor can still be posted to non-linked allocations.
- All jobs linked to a nest must have a common work center.
- Although a job can be linked to multiple job nests, an allocation can only be linked to one nest.
- Only confirmed jobs and made-in stocked items can be added to a nest.
- A valid nest job will only have one operation for the specified work center and only one allocation linked to that operation.
- Quantities must be in the stocking unit of measure.
- If you have a multi-level BOM, you must create sub-jobs for the made-in items.
- If you issue a quantity of more than 1 for a stock code to a nest (without a sheet number) then when you capture the percentage utilization for that item, it will be of the total, not per sheet.

This is useful for punch cutting where multiple sheets are used, but the same items are cut per sheet.

Setup Options

Setup Options > Configuration > Distribution > Inventory

Associate serials by bin

This is only available if multiple bins is enabled and the serial tracking system is required. You typically use this to track serialized items by bin location.



Once activated, you won't be able to switch off multiple bins at company level, or switch off the **Associate serials by bin** option. A conversion process migrates your lot/bin/serial tables, which cannot be reversed. If you need the system to function as before, you'll need to switch off multiple bins at warehouse level.

Solving

Error messages

Job Nest Capture



The Associate serials by bin setup option (Setup Options > Configuration > Distribution > Inventory) must be enabled.

FAQs

Why can't I edit the work center of the job nest?

You can only select a work center when creating a new job nest. Once you have saved the job nest, the work center cannot be edited.

Using

Tasks

How to create a job nest

- 1. Open the **Job Nest Capture** program (*Program List > Work in Progress > WIP Job Nesting > Job Nest Capture*).
- 2. Capture the job nest information.
- 3. Add jobs to the nest using the **Job Nest Review**.
- 4. Add raw materials to the nest.
 - This is the raw material from which the parts will be cut. It doesn't have to match the material allocation on the job.

For example: Grade A steel could be used instead of Grade B, as it is a suitable substitute.

- 5. Assign which raw material will be used for the job nest (i.e. which sheet will be used).
- 6. Confirm the job nest.
- 7. Save your changes.

When saving the nest, new jobs are created for BOMs that were added.

Referencing

Menu and Toolbar

Field	Description
Nest Entry	This lets you create a new job nest.
Nest Maintenance	This lets you maintain an existing job nest.
Work Center	This selects the work center for which you want to create a job nest.
Job Nest	This selects the existing job nest.
Save	This saves the details you entered or changed. When saving the nest, new jobs are created for BOMs that were added.
Delete	This deletes the data record currently displayed.
Export	This generates an export file that can be imported in the nesting software.

Job Nest Header Details

Field	Description	
Work center	This indicates the s	elected work center.
Job nest	This identifies the understanding the state of the state	• •
Description	Enter a description	for the job nest.
Nest confirmed	This lets you confirm the nest.	
	A job nest can be confirmed and un-confirmed at any stage. However, you cannot select an unconfirmed job nest in the WIP Nest Processing program to issue material or labor.	
Scrap handling	This specifies how	the system handles the scrap.
	Apportion	This distributes the scrap over all the jobs in the nest.
	Write off	This writes off the scrap.

Job Nest Details

Field	Description
Job Nest Selections	This lets you select jobs and bill of materials for the nest. The Job Nest Review screen will be displayed.
Assign Raw Material	This lets you assign the raw material you plan to use for the job nest. This is not necessarily the material that will be used as you use the WIP Nest Processing program to issue the actual material used. Select Edit to split the job across multiple sheets.
Remove Raw Material	This lets you remove assigned raw material.
Job	This indicates the job included in the job nest.
Parent stock code	This indicates the parent stock code of the finished part included in the job nest (i.e. the stock code on the job).
Quantity to make	This indicates the quantity that needs to be made.
Stock code	This indicates the stock code of raw material included in the job nest.
Warehouse	This indicates the warehouse where the stock is located.
Uom	This indicates the stock code's unit of measure.
Raw material	This indicates the stock code of raw material included in the job nest.
Assign raw material	This lets you pre-assign a job to a specific raw material or sheet.
	You can also split a job between several sheets (if one is insufficient).
Exists on nest	This indicates whether the data record was just added or previously saved.
Error message	This displays the description of the error message, if a part couldn't be added to the nest.

Raw Material Details

This lets you add raw materials for the job nest from which parts will be cut.

Field	Description
Stock code	Indicates the stock code of raw material included in the job nest.
Sheet number	Indicates the sheet number of the selected raw material.
Warehouse	Indicates the warehouse where the stock is located.
Uom	Indicates the stock code's unit of measure.
Revision	Indicates the revision, if the item is ECC-controlled.
Release	Indicates the release, if the item is ECC-controlled.

Job Nest Review

This screen is displayed when you select the **Job Nest Selections** button on **Job Nest Details** pane. It lets you select jobs for the nest.

Field	Description	
Start Review	Select this to accept the Review Criteria you indicated and to display the data.	
	This option is enabled when you initially access the program, but thereafter, it is only re-enabled after you select the Change Criteria option.	
	The results are disp	played in the Job Nest Review list view.
Change Criteria	Select this to change	ge the review criteria previously selected.
	This function Review funct	is only enabled after you select the Start tion.
Options	Include jobs	This includes all jobs for the selected work center in the review. This field is enabled by default.
	Include BOMs	This includes all bill of materials for the selected work center in the review.
Component stock codes	Indicate the range of review.	of stock codes to include in the job nest
Component warehouses	Indicate the range of review.	of warehouses to include in the job nest

Field	Description
Jobs	Indicate the range of jobs to include in the job nest review.
Parent stock codes	Indicate the range of parent stock codes to include in the job nest review.
Machines	Indicate the range of machines to include in the job nest review.

WIP Nest Processing

Exploring

Where does it fit in?

This program lets you process a job nest.

Things you can do in this program include:

- Process a job nest.
- Issue the actual material and labor to the job nest.

Navigation

This program is accessed from the **Program List** pane of the SYSPRO menu.
 Program List > Work in Progress > WIP Job Nesting > Job Nest Processing

Terminology used

Job nest

A group of jobs, to be processed together as a percentage of the material and labor used.

Nesting software

External generic or machine-specific software that performs the optimization of the nest against the raw materials.

Nesting (process)

Nesting refers to the process of efficiently manufacturing shaped and non-symmetrical parts from flat raw material.

The components in a nested-based process are positioned in a pattern that will best use the materials and minimize waste.

Nesting interface

The integration interface providing a link between systems such as ERP and a dedicated nesting software.

Starting

Prerequisites

■ The **Associate serials by bin** setup option (*Setup Options > Configuration > Distribution > Inventory*) must be enabled.

Setup Options

Setup Options > Configuration > Distribution > Inventory

Associate serials by bin

This is only available if multiple bins is enabled and the serial tracking system is required. You typically use this to track serialized items by bin location.



Once activated, you won't be able to switch off multiple bins at company level, or switch off the **Associate serials by bin** option. A conversion process migrates your lot/bin/serial tables, which cannot be reversed. If you need the system to function as before, you'll need to switch off multiple bins at warehouse level.

Solving

Error messages

WIP Nest Processing



The Associate serials by bin setup option (Setup Options > Configuration > Distribution > Inventory) must be enabled.

Nest is still in planning status

The status of the job nest has to be **Confirmed** before it can be processed. Use the **Job Nest Capture** program to confirm the job nest before attempting to process it.

FAQs

Why is the job nest not available for selection at the Job Nest field?

If the status of the job nest is not **Confirmed** it is unavailable for selection. Use the **Job Nest Capture** program to confirm the job nest before processing it.

Using

Tasks

How to process a nest

- 1. Open the **WIP Nest Processing** program (*Program List > Work in Progress > WIP Job Nesting > Job Nest Processing*).
- 2. Select the job nest you want to process.
- 3. Issue all the required raw materials to the nest.
 - Once you have issued material, the nest status is set to In progress and you can't edit the nest using the Job Nest Capture program.
- 4. Process the job nest, entering the stock utilization, remnant or scrap percentages.
- Complete the job nest.This sets the status to Complete.

How to do complete a job nest

You would typically use this procedure once the material and labor required for the job nest has been recorded. This updates the status to Complete.

- 1. Open the **WIP Nest Processing** program (*Program List > Work in Progress > WIP Job Nesting > Job Nest Processing*).
- 2. Select the job nest you want to complete.
- 3. Select **Set to complete** from the **Job Nest Header** pane.

A tick mark is inserted in the **Nest complete** field.

Referencing

Menu and Toolbar

Field	Description
Job Nest	Select the job nest that you want to process.
	You can only select job nests that are in a status of Confirmed.

Job Nest Header

Field	Description
Job nest details	
Job Nest	This indicates the job nest.
Nest description	This indicates the job nest description.
Status	This indicates the job nest status (which must be Confirmed in order to be processed).
	Once processed, the nest status will be set to Complete.
Work center	This indicates the work center of the job nest.
Work center description	This indicates the description of the work center.
Nest complete	A tick mark indicates that all raw material has been accounted for and the job nest is complete.
Set nest to complete	Select Set to complete to complete the nest. If all raw material has been accounted for, the nest will be set to complete automatically. However, you can also set the nest to complete manually.

Nest Materials

Field	Description
Issue new material	This issues the actual material that will be used for the job nest. This may not be the same material that was assigned to the job code using the Job Nest Capture program. The material is taken out of stock and when the jobs are processed, even if this differs from the assigned material that was planned for the job nest.
Stock code	This indicates the stock code of the issued material.
Description	This indicates the description of the stock code.
Sheet	This indicates the sheet that is issued for the job nest.
Qty required	This indicates the quantity of material that is required for the job nest.
Qty issued	This indicates the quantity of material that was issued for the job nest.
Issue to nest	Either Issue material or Issue done is displayed at this field. When material has not been issued, select Issue material and enter the materials in the Issue Materials pane. Once material has been issued: Issue material changes to Issue done and can no longer be selected. The job nest status is set to In progress and can't be changed using the Job Nest Capture program.
Process jobs	 Either Issue first, Process jobs or Complete is displayed at this field. If material has not been issued, Issue first is displayed. Once material has been issued, select Process jobs and enter the job details on the Process Nested Jobs for Stock code screen. Once the job is processed, Complete is displayed.

Issue Materials

The fields on this pane become available when you select **Issue material** on the **Nest Materials** pane.

Field	Description
Post	This posts the issued materials.
Issue to the nest	
Stock code	This indicates the stock code for of the material that will be issued to the nest.
Warehouse	This indicates the warehouse from which stock will be issued to the nest.
Description	This indicates the stock code description.
Sheet	This indicates the sheet number of the material that will be issued to the nest.
Quantity	This indicates the quantity of stock that will be issued to the nest.
Ledger code	This indicates the ledger code against which the issued material will be billed.
Bin location	This indicates the location of the bin for the stock that will be issued.
Lot	This indicates the lot from which the stock will be issued.
Serial	This indicates the serial from which the stock will be issued.

Process Nested Jobs for Stock code xxx

This screen is displayed when you select **Process jobs** option from the **Nest Materials** pane.

Jobs that are linked to the selected raw material (as well as unprocessed jobs not linked to any raw material) will be listed.

Field	Description
Process nested jobs (labor and material)	This processes the nest jobs, applies utilization percentages, as well as the labor and material issued.
Add scrap	This specifies that the remainder of the raw material or sheet will be scrapped.

Field	Description
Add remnant	This specifies that the remainder of the raw material or sheet will be returned to the remnant bin for re-use.
Nest Labor Details	
Labor details	This lets you record the labor details in the unit of measure defined against the Work Centers .
Machine	Select the machine that was used to complete the job nest.
Total runtime	Enter the amount of time the machine required to complete the job nest
Total startup time	Enter the amount of time the machine required to start up.
Total setup time	Enter the amount of time required to set up the machine.
Total teardown time	Enter the amount of time the machine required to shut down.
Rate indicator	Indicate the machine rate.
Employee	Indicate the employee who operated the machine.
Employee rate indicator	Indicate the employee rate.

Nested job details

Field	Description
Job	This indicates the job code.
Stock code	This indicates the stock code used.
Stock description	This indicates the description of the stock code.
Raw material stock	
Sheet	This indicates the specific sheet or raw material that will be used for the job nest.
Qty to make	This indicates the expected quantity for the job nest.

Field	Description
Percentage utilization	Enter a percentage utilization.
	For example: Part 1 took up 20% of the sheet.
	You do not need to add a percentage for each job.
	 The total utilization and scrap/remnant percentage must equal 100%.
Qty manufactured	Optionally enter the manufactured quantity, which will be used as a default when receipting the job.
Qty scrapped	Enter the quantity that was scrapped for the job nest. These are typically items with defects that haven't passed quality control.
Material reference	
Bin	Enter the bin into which the remnant stock is placed.
Scrap reason	Enter the reason for scrapping items. This relates to the items in the Qty scrapped field.

WIP Nest Format Maintenance

Exploring

Where does it fit in?

This program lets you create the layout of the file that will be used for exporting the job nesting data to external nesting software.

Things you can do in this program include:

- Create the export mapping format.
- Define fields to include in the export.
- Define custom fields to include in the export.

Navigation

This program is accessed from the **Program List** pane of the SYSPRO menu.
 Program List > Work in Progress > WIP Job Nesting > Job Nest Format Setup

Terminology used

Job nest

A group of jobs, to be processed together as a percentage of the material and labor used.

Nesting software

External generic or machine-specific software that performs the optimization of the nest against the raw materials.

Nesting (process)

Nesting refers to the process of efficiently manufacturing shaped and non-symmetrical parts from flat raw material.

The components in a nested-based process are positioned in a pattern that will best use the materials and minimize waste.

Nesting interface

The integration interface providing a link between systems such as ERP and a dedicated nesting software.

Starting

Prerequisites

■ The **Associate serials by bin** setup option (*Setup Options > Configuration > Distribution > Inventory*) must be enabled.

Setup Options

Setup Options > Configuration > Distribution > Inventory

Associate serials by bin

This is only available if multiple bins is enabled and the serial tracking system is required. You typically use this to track serialized items by bin location.



Once activated, you won't be able to switch off multiple bins at company level, or switch off the **Associate serials by bin** option. A conversion process migrates your lot/bin/serial tables, which cannot be reversed. If you need the system to function as before, you'll need to switch off multiple bins at warehouse level.

Solving

Error messages

WIP Nest Format Maintenance

WIP Nest Format Maintenance



Associate serials by bin is not switched on

■ The **Associate serials by bin** setup option (*Setup Options > Configuration > Distribution > Inventory*) must be enabled.

Using

Tasks

How to create a job nest mapping format for exporting

You would typically use this procedure to generate the format of the file that will be used to export job nesting data to external nesting software.

- 1. Open the **WIP Nest Format Maintenance** program (*Program List > Work in Progress > WIP Job Nesting > Job Nest Format Setup*).
- 2. Create the export file header.
 - a. Select **Define fields**.

The **Field Selector** screen is displayed.

- b. Select the fields you want to include in the export file.
- 3. Apply and save the changes.

How to remove fields from the job nest mapping format

- 1. Open the **WIP Nest Format Maintenance** program (*Program List > Work in Progress > WIP Job Nesting > Job Nest Format Setup*).
- 2. Select the export file format.
- 3. Select **Define fields**.
- 4. From the **Field Selector** screen, indicate the fields you want to remove from the export mapping format and select **Apply**.

The selected fields will be removed.

5. Apply and save the changes.

Referencing

Menu and Toolbar

Field	Description
New	This adds a new data record.
Delete	This deletes the data record currently displayed.
Save	This saves the details you entered or changed.
Format	This lets you select an existing mapping format.

Format header

Field	Description
Format details	
Format	Enter a unique export format code.
Description	Enter a description for the export format.
Format type	This defaults to Export and can't be edited.
File type	Select the type of export file you want to create (ASCII or CSV).
Format fields	Select the fields you want to include in the export file.
	Select Define fields to display the Field Selector screen.
Format fields	
Field	Indicates the field names that are included in the export.
Description	Indicates a description of the field that is included in the report.
Field length	Indicates the length of the field.

Field Selector

This screen is displayed when you click on **Define** at **Format fields**.

Field	Description
Company	This displays the selected company.

Field	Description
Include	This lets you select fields you want to include in the file that will be exported to the external nesting software.
Apply	This includes the selected fields in the file that will be exported to the external nesting software.
Save	This saves the details you entered or changed.
Include	Select the fields you want to include in the export. A tick mark in the box indicates that the field is selected.
Field	This indicates the table name and field name.
Description	This displays a short description of the field, making it easier to select the required field.

WIP Nest Cost History Query

Exploring

Where does it fit in?

This program lets you query the details of a job nest.

Things you can do in this program include:

- view the status of a job nest.
- view all transactions linked to a job nest.
- view values and costs of a job nest.

Navigation

■ This program is accessed from the **Program List** pane of the SYSPRO menu.

Program List > Work in Progress > WIP Job Nesting > WIP Nest Cost History

Starting

Prerequisites

■ The **Associate serials by bin** setup option (*Setup Options > Configuration > Distribution > Inventory*) must be enabled.

Setup Options

Setup Options > Configuration > Distribution > Inventory

Associate serials by bin

This is only available if multiple bins is enabled and the serial tracking system is required. You typically use this to track serialized items by bin location.



Once activated, you won't be able to switch off multiple bins at company level, or switch off the **Associate serials by bin** option. A conversion process migrates your lot/bin/serial tables, which cannot be reversed. If you need the system to function as before, you'll need to switch off multiple bins at warehouse level.

Solving

Error messages

Job Nest browse



■ The **Associate serials by bin** setup option (*Setup Options > Configuration > Distribution > Inventory*) must be enabled.

Using

Tasks

How to query the job nest details

You would typically use this procedure to review the cost history and other details of a job nest.

- 1. Open the **WIP Nest Cost History Query** program (*Program List > Work in Progress > WIP Job Nesting > WIP Nest Cost History*).
- 2. Select the stock code and warehouse.

You can view the following information:

- The status of a job nest.
- All transactions linked to a job nest.
- Values and costs of a job nest.

Referencing

Menu and Toolbar

Field	Description
Stock code	Select the stock code for which you want to view job nest cost history.
Warehouse	Select the warehouse for which you want to view job nest cost history.

Nest Cost Details

Field	Description
Nest cost Details	
Stock code	This indicates the selected stock code.
Description	This indicates the description of the selected stock code.
Warehouse	This indicates the selected warehouse.
Number of buckets	This indicates how many times the item has been receipted.
Total receipted	This indicates the total quantity of the item receipted.
Overall average	This indicates the total unit cost for the total quantity receipted.
Calculate	This lets you calculate a price for quotations, based on the last receipts. This is calculated as follows: Total unit cost / total quantity + markup % defined
Number of most recent receipts	Specify the number of most recent receipts you would like to include in the calculation of the average. This is used to calculate an average cost based on the number of receipts.
Markup percentage	This indicates the mark-up percentage of the stock code.
Calculate average	Select Calculate to calculate the average cost and cost plus markup.
Average cost	Once calculated, displays the average cost of the stock item.

Field	Description
Average cost + markup	Once calculated, displays the average cost plus markup of the stock item.

Nest Cost History

Field	Description
Receipt date	This indicates the date when the stock items have been received.
Receipt quantity	This indicates the quantity of stock items received.
Unit cost	This indicates the unit cost of the stock items.



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