

PERCEPTION[®] WORK-PAC

Steel Reports

A Training Tutorial

This training guide outlines the basic features of the *PERCEPTION* system for setting up for the “Steel Report.”.

It is a supplement to the user manual entitled “*PERCEPTION Labor/Manpower Planning & Cost/Schedule Management,*” which provides more details for the user.

Before using this tutorial, the user should first view the preliminary training tutorial, “Getting Started With *PERCEPTION.*”

Other related training tutorials are the following:

- 1. *PERCEPTION* Starting A New Project**
- 2. *PERCEPTION WORK-PAC* Starting from Scratch**
- 3. *PERCEPTION WORK-PAC* Work Orders**
- 4. *PERCEPTION WORK-PAC* Manpower Planning & Forecasting**
- 5. *PERCEPTION WORK-PAC* Modeling Shipyard Manpower**

PERCEPTION

Steel Reports

PERCEPTION provides a set of reports to analyze and forecast steel production* by stage of construction:

- Fabrication
- Sub-Assembly
- Assembly
- Erection
- On Ship Weld-Out

* NOTE: These reports can be used for other structural materials, such as aluminum.

These reports include the ability to group steel labor by zone, unit/block, or by block type for the stages of construction defined by the shipyard.

Steel Zones Report

03/06/2000 11:47:27
(Date format:MM/DD/YYYY)

WORK-PAC Steel Report - By Zone
By SWBS Accounts
Project 9823 Hull 9823

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Zone	Weight	Cut And Form			Sub-Assembly			Assembly			Erection			On-Ship Weldout			Totals		
		Budget Mhrs/Ton	Actual Progress	Projected Mhrs/Ton	Budget Mhrs/Ton	Actual Progress	Projected Mhrs/Ton	Budget Mhrs/Ton	Actual Progress	Projected Mhrs/Ton	Budget Mhrs/Ton	Actual Progress	Projected Mhrs/Ton	Budget Mhrs/Ton	Actual Progress	Projected Mhrs/Ton	Budget Mhrs/Ton	Actual Progress	Projected Mhrs/Ton
1	148.00	29.51	0.20	29.51	35.44	0.00	35.44	104.17	0.00	104.17	42.56	0.00	42.56	85.12	0.00	85.12	296.80	0.00	296.80
2	686.20	14.10	66.27	12.20	32.37	68.19	31.37	47.91	52.69	53.41	15.48	30.77	15.17	20.08	26.43	18.57	129.94	0.00	130.72
3	686.20	13.75	93.87	13.88	33.52	92.30	31.39	51.01	85.19	58.85	16.65	56.06	14.95	20.58	49.73	17.75	135.51	0.00	136.82
4	413.80	13.08	45.67	13.39	0.00	0.00	0.00	61.94	40.68	72.34	19.12	18.56	19.06	26.61	10.77	26.36	120.75	0.00	131.15
Totals	1,934.20	12.31	61.43	11.84	21.49	72.09	20.58	46.39	52.85	52.13	15.44	30.73	14.85	21.94	23.01	20.62	117.57	48.79	120.02

Sample Steel Report - By Ship Zone

Setting Up For Steel Reports

Prior to running steel reports for the first time, the user must specify how the stages of construction are to be defined for the shipyard.

These are two different methods for identifying to the system the 5 major stages of construction:

- Fabrication
- Sub-Assembly
- Assembly
- Erection
- On Ship Weld-Out

These two methods define for the system how the user wishes to identify work orders for the various manufacturing processes involved in these stages of construction.

- If the Work Centers method is selected, the system expects that each stage correlate with only a specific work center. Therefore, all work orders for a specific stage must be assigned to that same work center, although the work orders may have different SWBS, PWBS and/or COA.

- If SWBS Accounts method is selected, the system expects that all work orders for a specific stage must be assigned to that same SWBS Account, although the work orders may be assigned to different work centers and may have different PWBS and/or COA.

To setup the system for steel report, select *Library/Company Parameters* from the main menu. This brings up the tab window displaying various parameters for the system installation. Click on the *Steel Setup* tab.

The screenshot shows a software window titled "System Parameters and Company Defaults" with several tabs: "Company Information", "Company Defaults", "Steel Setup", "Tax Rates", "Set COA Names", and "Accounting". The "Steel Setup" tab is active. The window contains several groups of parameters, each with a text box for a value and a dropdown menu for the unit of measure (UoM).

Category	Parameter	Value	UoM
Fabrication	FAB Acct	51	Weight
	FAB WC	20	Weight
	UoM	Weight	Weight
Sub Assembly	Sub Assy Acct	215	Weight
	Sub Assy WC	40	Weight
	UoM	Weight	Weight
Assembly	Assy Acct	52	Weight
	Assy WC	60	Weight
	UoM	Weight	Weight
Erection	Erect Acct	53	Weight
	Erect WC	80	Weight
	UoM	Weight	Weight
On Ship Weldout	Weld Acct	54	Weight
	Weld WC	100	Weight
	UoM	Weight	Weight

Additional controls include a "Select Steel Summary Method" dropdown menu set to "Use SWBS Accounts". At the bottom right, there are "Save", "Close", and "Help" buttons.

The first step in the setup is to select which steel reporting method to use from the drop-down list:

Use SWBS Accounts or Use Work Centers.

After selecting the method to use, tab to each of the stages of construction and enter the appropriate SWBS Account or Work Center for that stage.

At the same time select which unit of measure to use for that stage. There are three (3) units of measure that are available for each stage: weight, area, and weld length. The default unit of measure is weight.

NOTE: Regardless of what unit of measure you select, there must be data for that unit of measure defined on the unit/block table. If there is no data defined for the selected unit of measure, then the calculated production rate for that unit/block will be 0 for the steel report.

If the user does not wish to use some of the 5 standard stages, the SWBS Account or Work Center can be left blank. The steel reports, then, will show zero values of costs for these stages.

Running The Steel Report

There are four (4) different formats of steel reports available.

1. By PWBS Zone
2. By PWBS Unit (Details of the Zone)
3. By Block Type (same block types may be used across ship zones)
4. By Block Type Summary

For the PWBS Zone report format, each unit/block defined for the project must be cataloged for the appropriate ship zone.

For Block Type report formats, each unit/block must identify its appropriate block type.

To define block types, click on *Library/Block Types* on the main menu and enter them into the worksheet.

Each of these report options provides the following information for each Zone, Unit or Block type:

- Budgeted Man-hours per unit of measure**
- Actual Progress %**
- Project Man-hours per unit of measure at completion**

This information is displayed for each of the major stages of construction: Fabrication, Sub Assembly, Assembly, Erection, and On Ship Weld-Out

The column headings for each stage reflect the specific units of measure used to calculate the production rates.

NOTE: The last column on the report, the total column, only uses weight to calculate the production rates.

These reports can be run for only one project at a time.

The screenshot shows a dialog box titled "Steel Report Retrieval Selection". It contains two main sections: "Contract Selection" and "Retrieval Options".

Contract Selection:

- Radio buttons: List Only Open Contracts, List Both Open & Closed Contracts
- Contract: A-DEMO (dropdown menu)
- Project: [0] (text box)
- Zone: [0] (text box) To: [////////] (text box)
- Unit\Block: [0] (text box) [////////] (text box)
- Use Quantity From Work Orders

Retrieval Options:

- Reset Retrieval
- Reset To Globals
- Append

Buttons: OK, Cancel

**Steel
Report
Project
Selection
window.**

Both the Contract and Project must be specifically identified.

An option for the reports is *Use Quantity From Work Orders*.

- If this option is not selected, the quantities for the appropriate units of measure must be defined at the PWBS blocks/units. All work orders assigned to a valid stage of construction will contribute cost performance data for the report regardless of their individual work order units of measure (if defined on the work order).
- If the option for using quantities from work orders is specified (checked), the report will use the sum of work order *Actual Quantities* for those work orders having the same units of measure as the unit of measure identified for the stage of construction in the *Steel Setup*. Cost information from work orders that have different units of measure, yet are otherwise assigned to the stage of construction, will be ignored for the report.

The Steel Report By Zone

The Steel Report By Zone summarizes labor hours for each of the previously defined stages of construction for each zone.

The Zone Steel Report only uses the weight from the zone table to calculate the budgeted and forecast production rates.

It also prints the summarized results for the project

The Steel Report By Unit

The Steel Report By Unit summarizes labor hours for each of the previously defined stages of construction for each unit/block defined.

It also prints the summarized results for the project.

The Steel Report By Block Type

The Steel Report By Block Type summarizes labor hours for each of the previously defined stages of construction for each unit/block defined for a given project, grouping them by block type.

It also prints the summarized results for each block type and the project.

NOTE: Before running the block type steel reports, the user must define the block types in the system library (*Library/Block Types*).

NOTE: The block type 0 (zero) is reserved by the system for special cases. These block types are normally special structural assemblies, blocks, or grand blocks that should not be included in the weight rollup of the reports. Their weight is used by the reports to calculate the production rates, but their weight is not included in the summary level lines of the report.

After defining the various block types, the user must then apply them to each unit/block of the project PWBS. A unit/block that does not have a defined block type will not be reported by the block type steel reports.

Steel Report By Block Type Summary

Steel Report By Block Type Summary, is the same as the Block Type report, only it condenses the report to show only the defined block types (no unit/block details).

It also prints the summarized results for the project.

Special Considerations

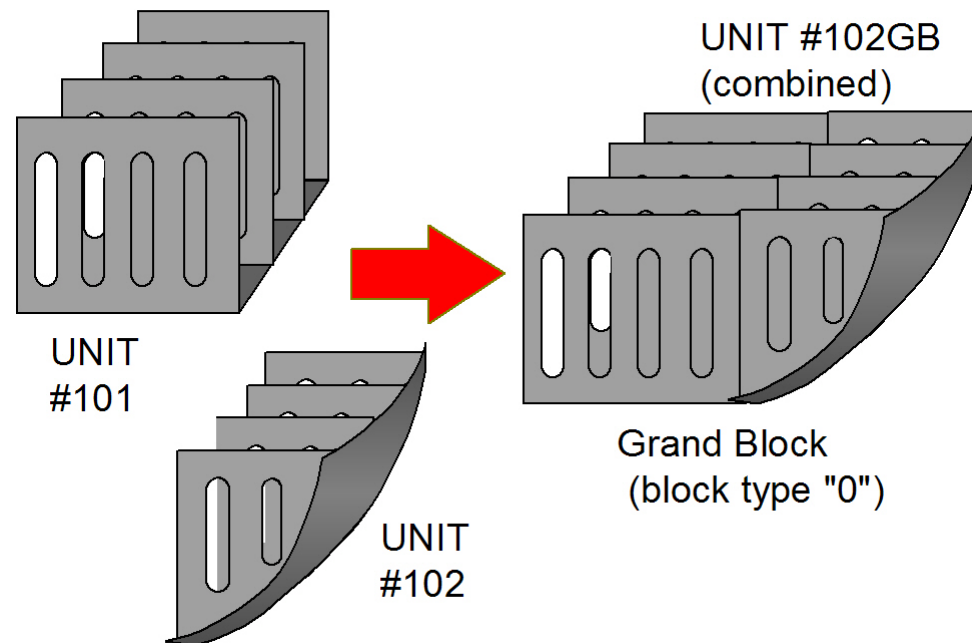
The Steel Reports provide an overall production performance for each stage of construction.

This bottom line summary also sums for a total weight for all defined unit/blocks.

Special considerations needs to be made to ensure that the steel reports produce correct overall project performance information.

Grand Blocks

Grand Blocks are blocks assembled from one or more blocks, units, assemblies, sub-assemblies and parts.



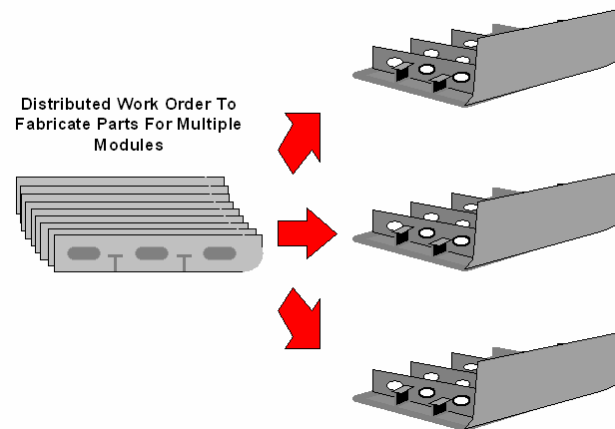
In order for block weights not be duplicated for the overall project steel performance (total man-hours per total weight), grand blocks should be given an identification that is distinct from the units that make it.

The units of the grand block should be identified with work orders that are cataloged for fabrication, sub-assembly and/or assembly only.

The grand block should be identified with work orders that are cataloged for erection and on-ship weld-out only. The grand block also should be identified as “block type” zero (0). This latter designation will instruct the steel report to not duplicate the weight of the grand block with the weights of the individual grand block units for the total weight for the project.

Parts Fabrication

Fabrication of parts for multiple assemblies or units should be done using a distributed work order. Each of the distributed work order subtasks then should be identified to each of the units to which they belong.



The budgeted man-hours for each subtask should be a prorated portion of the total fabrication work order budget.

When time charges are entered against the distributed work order, the time charges are automatically distributed to each of the units designated by the subtasks. These time charges then will be included in the steel reports under each of these designated units.