PCS:

A <u>P</u>allet <u>C</u>osting <u>S</u>ystem for Wood Pallet Manufacturers

Version 1.0 for Windows®

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Abstract

The Pallet Costing System (**PCS**) is a computer-based, Microsoft Windows® application that computes the total and per-unit cost of manufacturing an order of wood pallets. Information about the manufacturing facility, along with the pallet-order requirements provided by the customer, is used in determining production cost. The major cost factors addressed by PCS are raw materials, labor, machine, and manufacturing overhead. Combined with information on current market demands, this cost information can assist in establishing a selling price for a pallet. PCS also functions as a "what-if" analysis tool, allowing pallet producers to evaluate the impact of changes in labor cost, species, processing steps, and other factors.

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Why Consider Manufacturing Costs?

Wood pallet producers must plan strategically and control their manufacturing activities to stay competitive and keep production costs as low as possible. Cost information on various production operations must be gathered and used to determine whether certain activities are efficient and profitable. This cost information, along with consideration of current market prices for wood pallets, competition among wood pallet producers, and other economic factors, can be used in assigning a sale price to an order of pallets.

What Can PCS Do For You?
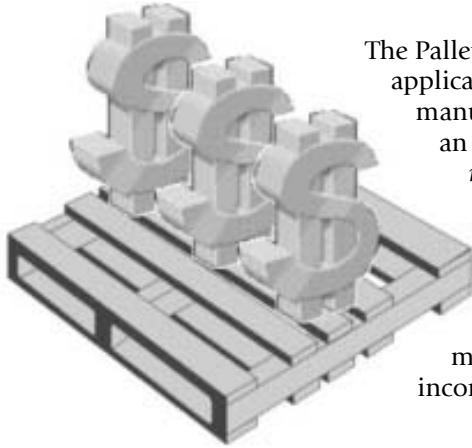
The Pallet Costing System (PCS) is a stand-alone, Windows-based computer application designed to calculate the costs associated with wooden pallet manufacturing. PCS may be used to *assist* manufacturers in assigning a price to an order of pallets based on the total cost of production. However, it should *not* be used as a stand-alone pricing tool because it does not take current market conditions and other external factors into consideration. Unlike some other accounting and costing software packages, PCS was designed *only* for the wood-pallet industry. PCS considers historical overhead costs, historical volumes of lumber or cants used, machine configuration and processing steps, machine costs, labor costs, and material costs along with the lumber or cant grade yields, and then incorporates them into the program's costing methods.

System Requirements

The *minimum* computer system requirements for the Pallet Costing System are:

IBM® compatible PC
486 processor or higher
Microsoft Windows® version 3.11 or higher
At least 8 megabytes or random access memory (RAM)
5 megabytes of available hard disk space
3.5-inch floppy disk drive

Installing PCS to your Computer

To install PCS, place the program diskette in your computer's 3.5-inch drive. If you are running Windows 3.11, select Run from the File menu and enter A:\SETUP.EXE.

If you are running Windows 95 or above, make sure that your display is set to Small Fonts (under Windows 95, you can adjust your system's default font size by right clicking the Windows 95 desktop, selecting the Properties menu, and selecting the Settings tab). Click on Start from the task bar and select Run. Enter A:\SETUP.EXE. From this point on, follow the instructions on your screen.
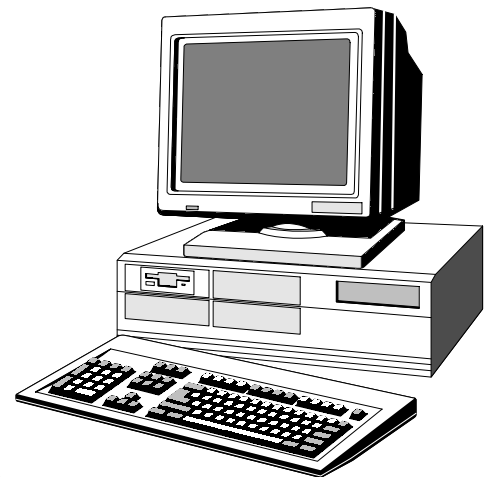
Basic Program Features

The visual layout of PCS is very similar to other Windows-based programs. In order to achieve maximum user-friendliness, we have designed a simple and well organized user interface (Fig. 1):

- Menu bar - provides quick selection of program items.
- Status bar - displays text that describes selected items and indicates program status.
- Tool bar - provides shortcuts for the most commonly used menu items.
- Page tabs - allow the user to enter information by clicking on a tab that opens a particular section. When a tab is clicked, it is highlighted, and the appropriate data entry section becomes active. When a data-entry section is inactive, its tab is darkened. This interface makes it easy to enter or edit mill and pallet-order information at any time.
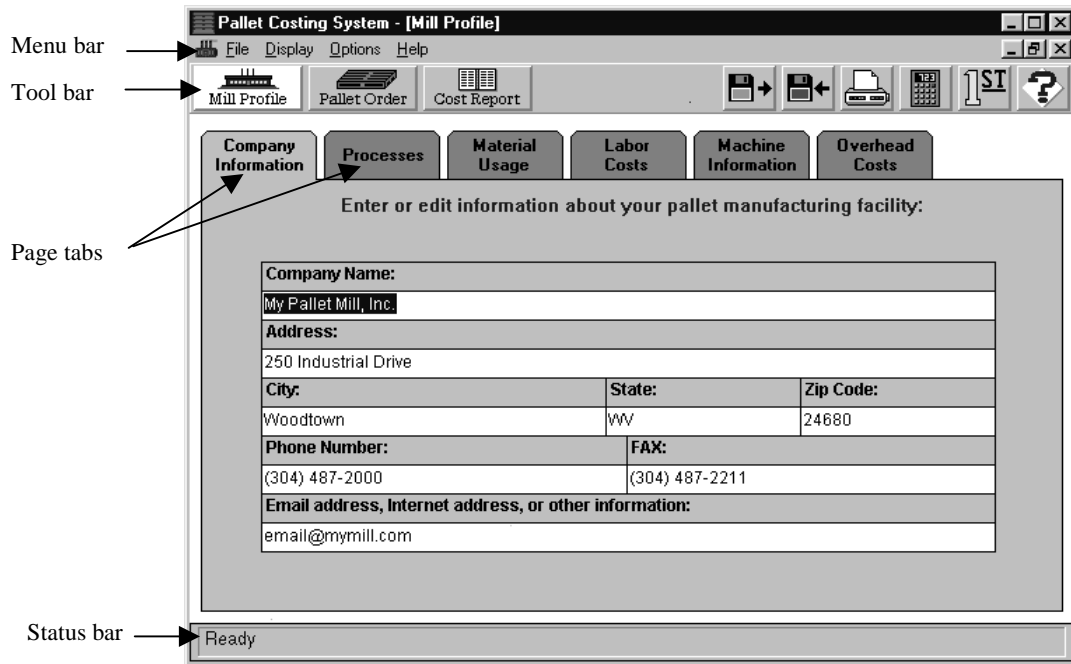

Figure 1.—The PCS interface.

The Menu Bar

When you start PCS, the menu bar appears at the top of the screen. It contains the main menu items (File, Display, Options, and Help) that allow you to perform activities such as creating a new file, printing reports, and entering or editing cost information. Table 1 lists PCS main menu items (shown in bold type with a shaded background) and their respective submenu items.

The Status Bar

The status bar appears at the very bottom of the PCS window and displays a short description of a *selected* menu item or tool bar icon (explained next). If nothing is selected, the status bar reads "Ready," indicating the program is ready for further use.

The Tool Bar

The PCS tool bar is located just below the menu bar. It contains picture-based buttons or "icons" that act as shortcuts to their respective menu items. For example, if you wish to print a PCS report without having to go to the main menu and execute File|Print, you can simply click on the printer icon. When you place the cursor on one of the icons or over a menu item, a description of that object appears on the status bar.

Table 1.—PCS menu and submenu items

File	Contains file operation commands
New	Creates a new PCS file from scratch
Open	Opens an existing PCS file from disk
Save	Saves the active PCS file to disk
Save as	Allows the user to save a PCS file under a different name
Print	Sends a PCS report to a printer
Exit	Terminates the PCS program
Display	**Shows the data entry sections and calculator**
Mill profile	Displays the mill profile data entry section
Pallet order information	Displays the pallet order data entry section
Calculator	Activates the MS Windows calculator
Options	**Lets the user set the viewing options for the PCS interface**
Summarized report	Displays the PCS report as a summary
Detailed report	Displays the PCS report in detail
Show the tool bar	Displays the PCS tool bar
Hide the tool bar	Removes the PCS tool bar from view
Show the status bar	Displays the PCS status bar
Hide the status bar	Removes the PCS status bar from view
Help	**Provides assistance of PCS topics**
What do I do first?	Explains how to begin using PCS
Contents	Displays all PCS topics
About PCS	Displays information about PCS and its developers

Page Tabs

PCS contains two areas that act as the "heart" of the program: the Mill Profile window and the Pallet Order Information window. In the Mill Profile window, you enter information about your mill. In the Pallet Order Information window, you enter information on a particular order of pallets. Each window contains sections that are arranged like file folders. To activate a section, you click on that section's tab. The tab will be highlighted when a section is active and darkened when inactive. PCS automatically updates itself whenever a section is edited. To switch between the Mill Profile, Pallet Order Information, and Cost Report windows, use the first three icons on the tool bar or select a window from the Display menu.

Structure and Function

PCS is divided into three major sections: the Mill Profile section, the Pallet Order section, and the Cost Report section. The Mill Profile and the Pallet Order sections function as data entry forms, while the Cost Report section functions as an output screen that displays cost information.

Mill Profile Section

Before PCS can compute the cost of a pallet order, information about the manufacturer must be entered into the Mill Profile section (Fig. 2). Once PCS has gathered this information, themanufacturer will not have to re-enter mill data for additional pallet orders unless changes are made to the mill setup. These changes may include the acquisition of new equipment, disposal of obsolete machinery, and/or changes in the number of employees working at the mill. There are six data-entry pages in the Mill Profile section organized as a series of tabbed file folders: Company Information, Overhead Costs, Material Usage, Processes, Machine Information, and Labor Costs. Each page heading and a description of its contents, are listed below.

Figure 2.—The Mill Profile section with the Overhead Costs page selected.

Company Information

General information about the mill is entered on this page. This includes the mill's name, address, city, state, zip code, telephone number, fax number, and email address. PCS uses the information *only* to label the printed cost reports and it is not involved in computing production costs. Therefore, the entrance of data on this page is optional.

Processes

PCS focuses on seven manufacturing processes: cross-cutting, ripping, notching, chamfering, assembly, marking, and drying. The user must provide detailed information on those processes that pertain to his or her operation.

Material Usage

The total volume (in board feet) of wood consumed in the previous 12 months is used to derive a manufacturing overhead rate based on volume of throughput. Only a single numeric figure representing total wood use is requested.

Labor Costs

Information on production employees who are involved *directly* in pallet manufacturing is entered on this page. PCS requests the number of employees, hourly wage, and fringe benefits (expressed as a percentage of hourly wage) for each manufacturing process defined by the user. Other earnings such as management and office salaries should be included in the Overhead Costs section.

Machine Information

The user is asked to define the machines used in pallet production. PCS allows the user to define up to 50 machines. Each machine must be given a description and a primary use. For each machine, the following also is requested from the user: initial cost, estimated salvage value, estimated useful life in years, average daily operating hours, days to be operated per year, annual maintenance cost, and optional comments or notes for the machine. The machine information is subsequently used to allocate machine cost on an hourly basis.

Overhead Costs

PCS provides three options for entering overhead costs not directly related to pallet manufacturing, such as administration and advertising (Fig. 3):

- as a single, total figure for the previous 12 months
- as the previous 12-month costs summarized by item
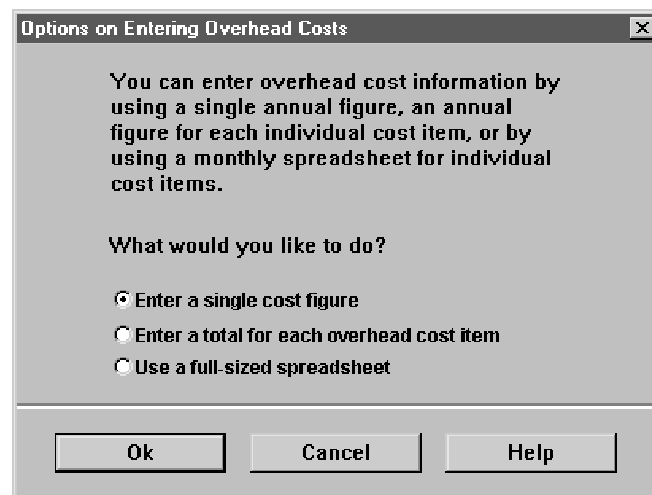- as itemized costs for each month in the previous 12 months

Figure 3.—Dialog that displays the options for entering overhead costs into PCS.

Pallet Order Section

After the Mill Profile section has been defined, PCS is ready to accept information about a specific pallet order. There are seven data-entry pages in the Pallet Order section organized as a series of tabbed file folders: Customer Information, Quantity of Pallets, Materials, Pallet Information, Processes Needed, Machines Needed, and Incidental Costs. Each page heading and a description of its contents are listed below (Fig. 4).

Customer Information

The first page of the Pallet Order section is very similar to the Company Information page in the Mill Profile section, but questions relate to the customer and includes the customer's name, address, city, state, zip code, order number, fax number, email address, internet address or other information. Entering customer information into PCS is optional and it is not involved in computing production costs. However, the information may become useful for identifying your cost report when multiple reports are being printed.

Quantity of Pallets

The number of pallets of a particular kind to be produced is entered as a single figure on this page. If the user does not indicate the number of pallets, PCS will not calculate the cost of raw materials. If several pallet types are included in the order, a separate PCS run must be made for each pallet type.
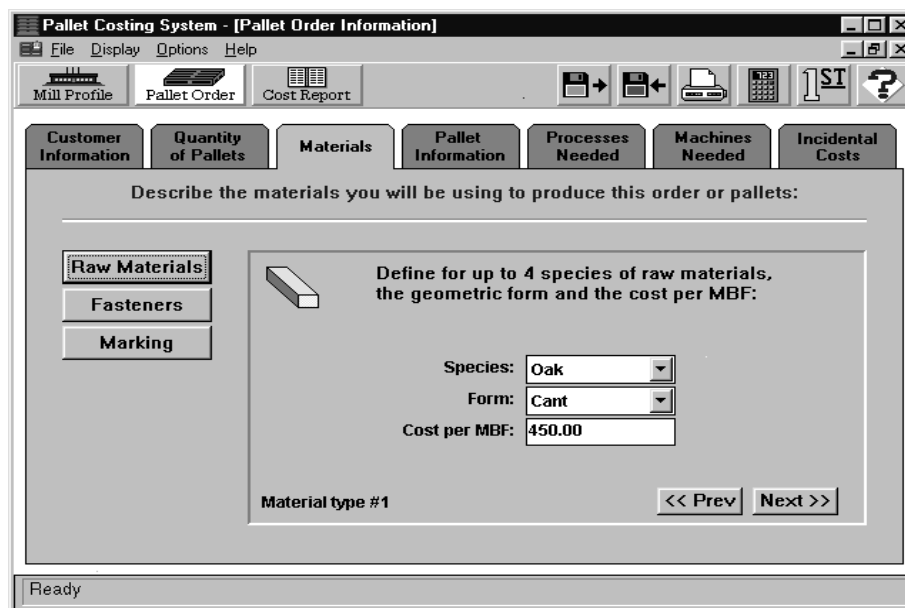
Figure 4.—The Pallet Order section with the Materials page selected.

Materials

The user can specify the wood, fasteners, and marking (or treating) material that are to be used in filling this specific order:

> Wood – the user may define up to four species (including mixed), their form (cant or lumber), and the cost per thousand board feet (MBF).
>
> Fasteners – the user may define up to three types, the quantity of fasteners per unit (i.e., the number of fasteners in a package), and the cost per unit or package.
>
> Marking or treating material – PCS asks for the estimated gallons of material used to mark or treat 100 pallets and the cost per gallon.

Pallet Information

With each pallet order, the user must define the pallet's *actual* length, width, height, and the following characteristics of the top and bottom decks:

- actual board thickness
- actual board width (user can define up to four widths)
- number of boards of each specific width
- species
- number of fasteners (of a specific type) used to fasten each board
- yield factor (the ratio of the volume of deckboards coming out and the volume of wood going in). The default value for deckboards is 81 percent[1].

The stringers are defined by entering the following information:

- actual stringer height
- actual stringer width (user can define up to four widths)
- number of stringers of each specific width
- species
- yield factor (the ratio of the volume of stringers coming out and the volume of wood going in). The default value for stringers is 73 percent[1].

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[1]For additional information on yields, please refer to the publication "Predicting Pallet Part Yields from Hardwood Cants," by contacting Dr. Marshall S. White at the Brooks Forest Products Center, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061-0503. Phone: (540) 231-5341.

Processes Needed

PCS assumes that all pallet-manufacturing processes will be used for every order. However, some of the processes (defined in the Mill Profile section as cross-cutting, ripping, notching, chamfering, assembly, marking, and drying) might not be required for certain pallet orders. For those not required, the user can deselect a process. By doing so, associated machine and labor costs for each deselected process are not considered in computing the cost of production.

Machines Needed

Some pallet manufacturers might have more than one machine per department (or process). Depending on the situation, a mill might choose one or more machines to process an order. PCS allows the user to enable or disable any machine defined in the Mill Profile section. When a machine is activated, its hourly cost is used in assigning a final cost for the pallet order. When disabled, hourly cost is not used in figuring production costs. By default, all machines defined in PCS are enabled.

Incidental Costs

Some users might want to consider other costs such as transportation and storage. The Incidental Costs page provides space for the user to enter any incidental costs not defined elsewhere. Any cost figure entered on this page represents an incidental cost for the entire pallet order and will be divided by the number of pallets produced to obtain a cost per pallet. You must enter the total for all incidental costs. Use the calculator to help if necessary.

Cost Report Section

After the Mill Profile and Pallet Order sections have been completed, PCS creates a report section that displays the total production cost by item (materials, labor, machine, overhead, and incidentals if applicable). The cost report can be viewed as a summary (Fig. 5), or as a detailed description of manufacturing costs (Fig. 6). The user has the option of printing the summarized or detailed onscreen report.

Figure 5.—The summarized Cost Report section with the pallet description on the left, and itemized costs on the right.
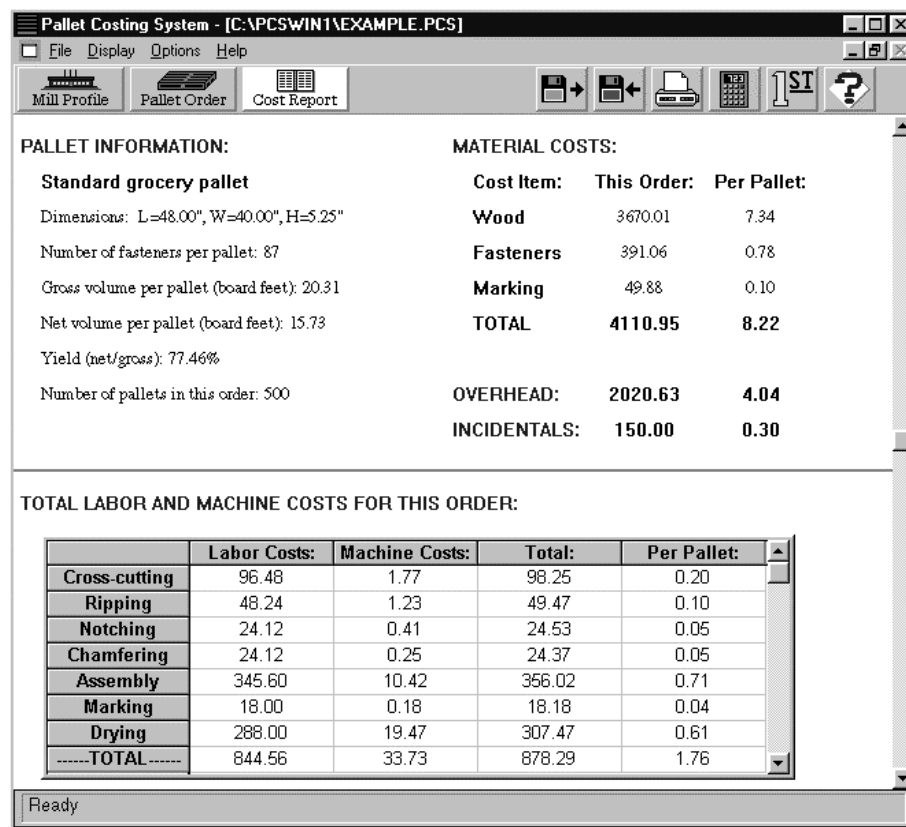
Figure 6.—The detailed Cost Report section with labor and machine costs for each manufacturing process.

How PCS Determines Manufacturing Costs

PCS uses embedded mathematical formulas and algorithms to calculate the raw material requirements of a pallet order, cost of operating machinery, labor requirements, and so on. The program automatically recalculates all cost information when the user switches data entry sections. This eliminates the need for the manual issuance of an update command.

Pallet Volume Calculation

PCS determines the volume of a single pallet by calculating the board feet of wood material needed for the pallet's top deck, bottom deck, and stringers, and then adding those volumes together. With PCS, a deck may contain up to four types of deckboards. Each type may be of a unique species, width, and yield. The example in Figure 7 has a total of seven top deckboards, but *three* different types:

The top deck's total volume is calculated by getting the individual deckboard volumes and adding them:

a. deckboard1Volume = $\dfrac{\text{(numberOfTheseBoards x (palletWidth x deckboardWidth x deckboardThickness) / 144)}}{\text{This board's yield factor}}$

b. deckboard2Volume = $\dfrac{\text{(numberOfTheseBoards x (palletWidth x deckboardWidth x deckboardThickness) / 144)}}{\text{This board's yield factor}}$

c. deckboard3Volume = $\dfrac{\text{(numberOfTheseBoards x (palletWidth x deckboardWidth x deckboardThickness) / 144)}}{\text{This board's yield factor}}$

d. topDeckTotalVolume = deckboardboard1Volume + deckboard2Volume + deckboard3Volume

Board ID	Number of boards	Board width	Default yield factor (%)
Type 1	2	5.5	81
Type 2	2	4.0	81
Type 3	3	3.5	81

Type 1 (Oak)
2 deckboards that
are 5.5 inches wide

Type 2 (Oak)
2 deckboards that
are 4 inches wide

Type 3 (Mixed)
2 deckboards that
are 3.5 inches wide
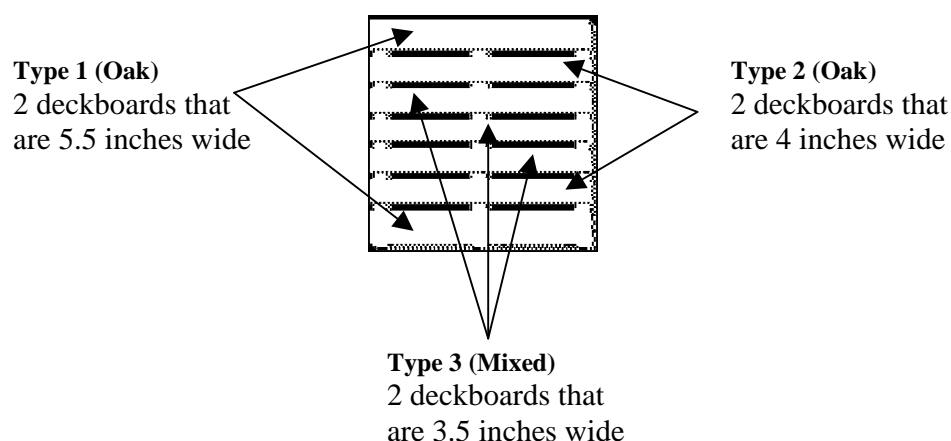
Figure 7.—Wood pallet specifications.

This procedure is also used in calculating the bottom deck's volume.

Calculate the volume of the pallet's stringers. PCS allows up to three different types of stringers. Each type has its own width and yield factor. The volume for all the stringers is calculated by getting the individual stringer volumes and adding them:

a. stringer1Volume = $\dfrac{\text{(numberOfTheseStringers x (palletLength x stringerWidth x stringerHeight) / 144)}}{\text{This stringer's yield factor}}$

b. stringer2Volume = $\dfrac{\text{(numberOfTheseStringers x (palletLength x stringerWidth x stringerHeight) / 144)}}{\text{This stringer's yield factor}}$

c. stringer3Volume = $\dfrac{\text{(numberOfTheseStringers x (palletLength x stringerWidth x stringerHeight) / 144)}}{\text{This stringer's yield factor}}$

d. totalStringerVolume = stringer1Volume + stringer2Volume + stringer3Volume

Add the deckboard and stringer volumes together to get the volume of wood use per pallet:

palletVolume = topDeckTotalVolume + bottomDeckTotalVolume + totalStringerVolume

To get the volume for an order, multiply the pallet volume (palletVolume) by the number of pallets in the order.

Raw Material Costs per Pallet

After calculating the pallet's volume, PCS determines the raw material cost per pallet.

Raw material cost of the top deck:

a. deckboard1Cost = (deckboard1Volume x deckboardSpecies1Cost) / 1000

b. deckboard2Cost = (deckboard2Volume x deckboardSpecies2Cost) / 1000
c. deckboard3Cost = (deckboard3Volume x deckboardSpecies3Cost) / 1000
d. topDeckTotalCost = deckboard1Cost + deckboard2Cost + deckboard3Cost + deckboard4Cost

This procedure also is used in calculating the bottom deck's raw material cost.

Calculate the raw material cost of the stringers:

a. stringer1Cost = (stringer1Volume x stringerSpecies1Cost) / 1000
b. stringer2Cost = (stringer2Volume x stringerSpecies1Cost) / 1000
c. stringer3Cost = (stringer3Volume x stringerSpecies1Cost) / 1000
d. totalStringerCost = stringer1Cost + stringer2Cost + stringer3Cost

Add the deckboard and stringer costs to get the raw material cost per pallet:

costPerPallet = topDeckTotalCost + bottomDeckTotalCost + totalStringerCost

Multiply the total cost by the number of pallets to get the raw material cost for the order.

Fastener and Marking Costs

The cost of fasteners for a pallet is determined by using this equation:

fastenerCost = (pricePerContainer / numberOfFastenersPerContainer) x numberOfFastenersPerPallet

Multiply the fastener cost by the number of pallets to get a fastener cost for the whole order.

The cost of marking material (paint, chemicals, etc.) for a pallet order is calculated by using the following equation:

costOfMarkingMaterial = (gallonsNeededToMark100Pallets x quantityOfPallets x pricePerGallon) / 100

For illustration, assume that a mill uses 2.5 gallons of paint to mark 100 pallets. The price of paint per gallon is $3.99. What will it cost to mark 500 pallets?

costOfMarkingMaterial = (2.5 x 500 x 3.99) / 100
            = 4987.50 / 100
            = $49.88

Divide the cost by the number of pallets to get a marking cost per pallet.

Labor Costs

Labor costs are calculated for each process (cross-cutting, ripping, notching, chamfering, assembly, marking, and drying), and then totaled.

a. crossCuttingLaborCost = numberOfEmployees x hourlyWage x (1 + fringeBenefits) x manHoursCrossCutting
b. rippingLaborCost = numberOfEmployees x hourlyWage x (1 + fringeBenefits) x manHoursRipping
c. notchingLaborCost = numberOfEmployees x hourlyWage x (1 + fringeBenefits) x manHoursNotching
d. chamferingLaborCost = numberOfEmployees x hourlyWage x (1 + fringeBenefits) x manHoursChamfering
e. assemblyLaborCost = numberOfEmployees x hourlyWage x (1 + fringeBenefits) x manHoursAssembling
f. markingLaborCost = numberOfEmployees x hourlyWage x (1 + fringeBenefits) x manHoursMarking
g. dryingLaborCost = numberOfEmployees x hourlyWage x (1 + fringeBenefits) x manHoursDrying
h. totalLaborCost = a + b + c + d + e + f + g

Divide the total labor cost by the number of pallets to get a labor cost per pallet.

Machine Costs

The hourly cost for each machine if calculated by using this equation:

$$hourlyMachineCost = \frac{((initialCost - salvageValue) / usefulLife) + annualMaintenance}{productiveHoursPerYear}$$

Get a machine cost for each process by multiplying the hourly machine cost (hourlyMachineCost) by the hours spent in a particular process:

a. machineCostForCrossCutting = crossCuttingHourlyMachineCost x hoursNeededToCrossCut
b. machineCostForRipping = rippingHourlyMachineCost x hoursNeededToRip
c. machineCostForNotching = notchingHourlyMachineCost x hoursNeededToNotch
d. machineCostForChamfering = chamferingHourlyMachineCost x hoursNeededToChamfer
e. machineCostForAssembly = assemblyHourlyMachineCost x hoursNeededToAssemble
f. machineCostForMarking = markingHourlyMachineCost x hoursNeededToMark
g. machineCostForDrying = dryingHourlyMachineCost x hoursNeededToDry
h. totalMachineCost = a + b + c + d + e + f + g

Divide the total machine cost by the number of pallets to get a machine cost per pallet.

Hourly Machine Cost: An Example

Compute the hourly cost of a single machine used for cross-cutting pallet lumber. The machine information is listed as follows:

Initial investment (purchase price):	$19,999
Salvage or residual value:	$3,800 (If none, enter zero.)
Estimated useful life:	10 years
Estimated annual maintenance:	$600
Scheduled average daily operating hours:	6 hours
Scheduled average annual operating days:	250 days per year

Step 1: Compute the machine's productive hours per year.

$$productiveHoursPerYear = dailyOperatingHours \times operatingDaysPerYear$$
$$= 6 \text{ hours} \times 250 \text{ days}$$
$$= 1500 \text{ hours per year}$$

Step 2: Compute the machine's hourly cost.

$$hourlyMachineCost = \frac{((initialCost - salvageValue) / usefulLife) + annualMaintenance}{productiveHoursPerYear}$$

$$= \frac{((19,999 - 3,800) / 10) + 600}{1,500}$$

$$= \frac{(16,199 / 10) + 600}{1,500}$$

$$= \frac{1,620 + 600}{1,500}$$

$$= \frac{2,220}{1,500}$$

$$\$1.48/hour$$

Overhead Costs

Overhead costs are calculated by using the following equation:

$$\text{Overhead} = (\text{totalPalletOrderMBF} / \text{totalMBFUsedLastYear}) \times \text{overheadFromLastYear}$$

PCS considers the following when calculating manufacturing overhead:

a. Volume of wood used in the last 12 months
b. Volume of wood required to process this order (grossVolumePerPallet x numberOfPallets)
c. Overhead rate (%), using the processing of wood material as an activity base (b / a)
d. 12 months' total overhead cost
e. Overhead cost for this order = c x d

Divide the result by the number of pallets to get an overhead cost per pallet.

Incidental Costs

An incidental cost is entered by the user. It is then divided by the number of pallets in the order to obtain an incidental cost per pallet.

Using PCS: a Step-by-step Example

PCS accepts cost data and produces a report based on that data. The report can be sent to a printer, or stored on disk for later use. This section shows how to become familiar with PCS and begin entering pallet cost information.

Viewing the Example File

To see how PCS actually works, first take a look at the example file included with the program. The file may be viewed by selecting File|Open from the menu and choosing "example.pcs." Although it is unlikely this example file will apply to your mill profile or pallet order, it can be used as a template for creating a new PCS file. You may also create a new file by following the procedures explained in the next section.

Creating a New File

To create a new PCS file, select File|New from the menu. The following steps explain how to create a mill profile, set up a pallet order, and view the cost report. Note: you can view the PCS help facility at anytime by pressing the F1 key.

Creating a Mill Profile

To view the Mill Profile section, select Mill Profile from the Display menu. You will see six page tabs near the top of your screen identical to those in Figure 8.
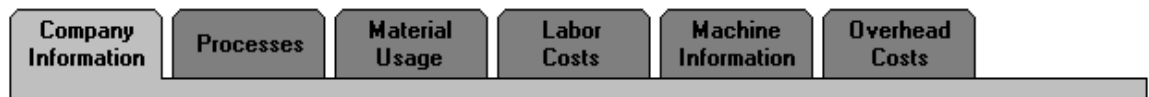

Figure 8.—Six page tab options for creating a mill order.

1. The first active page is **Company Information**. Enter your company name, address, city, state, zip code, phone number, FAX, and email address.

2. Click on the **Processes** tab. Select the pallet manufacturing processes used by your mill.

The available processes for PCS are:

- cross-cutting
- ripping
- notching
- chamfering
- assembly
- marking
- drying

3. Click on the **Material Usage** tab. Enter the volume (in board feet) of wood material (cants or lumber) used to produce pallets during the last 12 months.

4. Click on the **Labor Costs** tab. Enter the number of employees, average hourly wage per employee, and average fringe benefits as a percentage of hourly wage per employee for each process. You can navigate from one process (or department) to another by clicking the buttons on the left side of this section.

5. Click on the **Machine Information** tab (Fig. 9). Use the fields provided to set up each machine. Give each machine a name or description and define its primary use. Use the buttons on the right side of the page to move between machine definitions, add, delete, or modify a machine definition.

Figure 9.—The Machine Information page.

6. Click the **Overhead Costs** tab. Enter your overhead costs as a single, total figure for the previous 12 months; as a summary by item of the previous 12-month costs; or as itemized costs for each month for the previous 12 months.

Setting Up a Pallet Order

Select Pallet order information from the Display menu. In this section you will see seven page tabs near the top of your screen identical to the one in Figure 10.
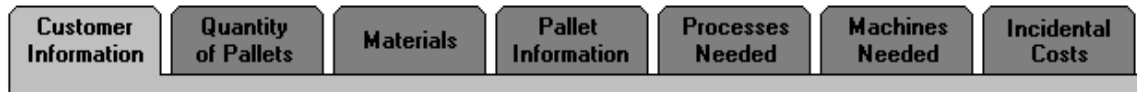

Figure 10.—Seven page tab options for setting up a pallet order.

1. The first active section is **Customer Information**. Enter the customer name, address, city, state, zip code, order number, phone number, and other optional information.

2. Click on the **Quantity of Pallets** tab. Enter the number of pallets required for this order.

3. Click on the **Materials** tab. Define the species of wood, fasteners, and, if your mill marks or treats pallets, marking/treating material to be used in this pallet order.

4. Click on the **Pallet Information** tab. Enter the dimensions of the pallets to be produced. Please be sure to enter actual width and thickness. (Note: a 1x4 softwood board is most often 0.75x3.5 inches). You can also enter or edit the specifications for the top deck (Fig. 11), bottom deck, and stringers.

5. Click on the **Processes Needed** tab. You can select your mill's *defined* processes needed to manufacture this order of pallets. Enter the estimated hours the order will spend in each process (or department).

6. Click on the **Machines Needed** tab. You can enable or disable a machine, depending on whether or not it will be needed in processing your pallet order.

Figure 11.—Dialog that allows the user to specify the pallet's top-deck components

7. Finally, click on the **Incidental Costs** tab. This page lets you enter "other costs" that you may wish to include with the pallet order.

Viewing the Cost Report

Select Cost report from the Display menu. This window displays the final cost of manufacturing this order of pallets. To view a cost summary, select View Summarized Report from the Options menu. To view a detailed cost report, select View Detailed Report from the Options menu.

Saving a File

After you have entered your data, select File|Save as from the menu and assign a name to your file. Whenever you get ready to do another pallet order, simply open one of your existing PCS files, modify the pallet-order information as needed, and save under a different file name. In doing this, you will not have to enter your mill-profile information again.

Printing a PCS File

You can print a cost report by selecting File|Print and specifying your printer. PCS prints in both summary and detail mode. For example, if the summary screen is active, PCS will print a summarized report. If the detailed screen is active, PCS will print a detailed report.

How to Obtain a Copy Of PCS

You may obtain copies of PCS or inquire about its operation by writing or calling A. Jefferson (Jeff) Palmer, Jr. at the USDA Forest Service, Northeastern Research Station, Forestry Sciences Laboratory, 241 Mercer Springs Road, Princeton, WV 24740 (Telephone: 304-431-2700).

Email Address:
Jeff Palmer: jpalmer01@fs.fed.us

The Pallet Costing System (PCS) is a computer-based, Microsoft Windows® application that computes the total and per-unit cost of manufacturing an order of wood pallets. Information about the manufacturing facility, along with the pallet-order requirements provided by the customer, is used in determining production cost. The major cost factors addressed by PCS are raw materials, labor, machine, and manufacturing overhead. Combined with information on current market demands, this cost information can assist in establishing a selling price for a pallet. PCS also functions as a "what-if" analysis tool, allowing pallet producers to evaluate the impact of changes in labor cost, species, processing steps, and other factors.

Keywords: pallets, computer, software, costing, production, manufacturing, wood
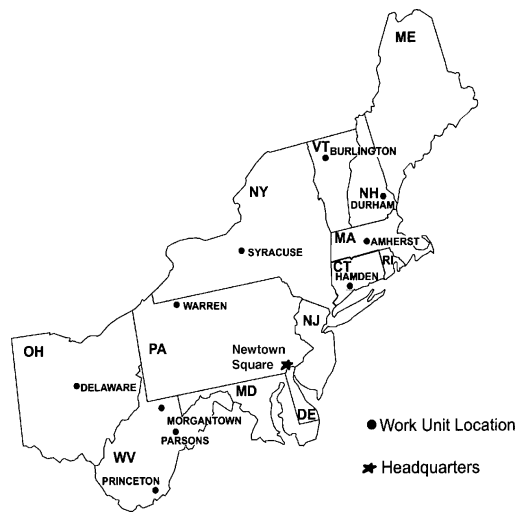
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