User Guide

Master Files Print - Calculations
V21.1.0200

EFI PrintStream | *V21.1.0200 Master Files Print – Calculations*

Patents

This product may be covered by one or more of the following U.S. Patents: 4,716,978, 4,828,056, 4,917,488, 4,941,038, 5,109,241, 5,170,182, 5,212,546, 5,260,878, 5,276,490, 5,278,599, 5,335,040, 5,343,311, 5,398,107, 5,424,754, 5,442,429, 5,459,560, 5,467,446, 5,506,946, 5,517,334, 5,537,516, 5,543,940, 5,553,200, 5,563,689, 5,565,960, 5,583,623, 5,596,416, 5,615,314, 5,619,624, 5,625,712, 5,640,228, 5,666,436, 5,745,657, 5,760,913, 5,799,232, 5,818,645, 5,835,788, 5,859,711, 5,867,179, 5,940,186, 5,959,867, 5,970,174, 5,982,937, 5,995,724, 6,002,795, 6,025,922, 6,035,103, 6,041,200, 6,065,041, 6,112,665, 6,116,707, 6,122,407, 6,134,018, 6,141,120, 6,166,821, 6,173,286, 6,185,335, 6,201,614, 6,215,562, 6,219,155, 6,219,659, 6,222,641, 6,224,048, 6,225,974, 6,226,419, 6,238,105, 6,239,895, 6,256,108, 6,269,190, 6,271,937, 6,278,901, 6,279,009, 6,289,122, 6,292,270, 6,299,063, 6,310,697, 6,321,133, 6,327,047, 6,327,050, 6,327,052, 6,330,071, 6,330,363, 6,331,899, 6,340,975, 6,341,017, 6,341,018, 6,341,307, 6,347,256, 6,348,978, 6,356,359, 6,366,918, 6,369,895, 6,381,036, 6,400,443, 6,429,949, 6,449,393, 6,476,927, 6,490,696, 6,501,565, 6,519,053, 6,539,323, 6,543,871, 6,546,364, 6,549,294, 6,549,300, 6,550,991, 6,552,815, 6,559,958, 6,572,293, 6,590,676, 6,606,165, 6,633,396, 6,636,326, 6,643,317, 6,647,149, 6,657,741, 6,662,199, 6,678,068, 6,707,563, 6,741,262, 6,748,471, 6,753,845, 6,757,436, 6,757,440, 6,778,700, 6,781,596, 6,816,276, 6,825,943, 6,832,865, 6,836,342, RE33,973, RE36,947, D341,131, D406,117, D416,550, D417,864, D419,185, D426,206, D439,851, D444,793.

Trademarks

The APPS logo, AutoCal, Auto-Count, Balance, Best, the Best logo, BESTColor, BioVu, BioWare, ColorPASS, Colorproof, ColorWise, Command WorkStation, CopyNet, Cretachrom, Cretaprint, the Cretaprint logo, Cretaprinter, Cretaroller, DockNet, Digital StoreFront, DocBuilder, DocBuilder Pro, DocStream, DSFdesign Studio, Dynamic Wedge, EDOX, EFI, the EFI logo, Electronics For Imaging, Entrac, EPCount, EPPhoto, EPRegister, EPStatus, Estimate, ExpressPay, Fabrivu, Fast-4, Fiery, the Fiery logo, Fiery Driven, the Fiery Driven logo, Fiery JobFlow, Fiery JobMaster, Fiery Link, Fiery Prints, the Fiery Prints logo, Fiery Spark, FreeForm, Hagen, Inktensity, Inkware, Jetrion, the Jetrion logo, LapNet, Logic, MiniNet, Monarch, MicroPress, OneFlow, Pace, PhotoXposure, PressVu, Printcafe, PrinterSite, PrintFlow, PrintMe, the PrintMe logo, PrintSmith, PrintSmith Site, Printstream, Print to Win, Prograph, PSI, PSI Flexo, Radius, Rastek, the Rastek logo, Remoteproof, RIPChips, RIP-While-Print, Screenproof, SendMe, Sincrolor, Splash, Spot-On, TrackNet, UltraPress, UltraTex, UltraVu, UV Series 50, VisualCal, VUTEk, the VUTEk logo, and WebTools are trademarks of Electronics For Imaging, Inc. and/or its wholly owned subsidiaries in the U.S. and/or certain other countries.

All other terms and product names may be trademarks or registered trademarks of their respective owners, and are hereby acknowledged.

Table of Contents

Introduction

Overview

This document provides user instruction for the Master Files Print – Calculations module of PrintStream.

Contact Information

EFI Support

US Phone:	855.334.4457 (first select option 3, then press option 8, then press option 1)
US Fax:	415.233.4157
US E-mail:	printstream.support@efi.com

Regular Service Desk hours are 8:00 AM to 7:00 PM Central Time, Monday – Friday. Outside of these hours, you may leave a voice mail message and an on-call support representative will be paged. Response time is based on the severity of the issue.

Note For problems involving infrastructure (i.e., computers, networks, operating systems, backup software, printers, third-party software, etc.), contact the appropriate vendor. EFI cannot support these types of issues.

EFI Professional Services

US Phone:	651.365.5321
US Fax:	651.365.5334
E-Mail:	ProfessionalServicesOperations@efi.com

EFI Professional Services can help you perform EFI software installations, upgrades, and updates. This group can also help you implement, customize, and optimize your EFI software plus offer a range of training options.

Press Run Speed

PrintStream supports two choices for press speed calculations - the **Ladder** or **Stair** method and the **Curve** method. A system setting that can be changed by contacting your account manager will determine which method is used. PrintStream uses this switch to determine the calculation method for press run speeds and also for the speeds for section finishing processes.

Calculation Formula

The first calculation is for the quantity of sheets to pass through the press to determine which quantity break to use. Next take the quantity of the section and divide by the number up on the press and subtract the total number of sheets used for job makeready and plate makeready. This number then represents the total number of sheets that have to pass through the press once the makeready is completed. (We assume this is the point at which the press will start winding up to run speed.)

Important Points about Press Slow Down Factors

Please note, the initial press run speed is calculated from the above table first and then due to paper slow downs, or ink coverage slow downs, or number of colors or number of webs or special makereadies (modifiers), this base speed is reduced based on the additional factors. If the press speed that you see in the estimate does not correspond to the press speed table alone, consider the other criteria that may be weighing on the speed calculation.

The best way to test the Ladder vs. Curve calculation is to test on a job with no additional slowdowns:

1. Paper with no press speed reduction in the paper master file.
2. A Paper that has no paper type slow down in the press master file.
3. A Press that has no slowdown based on number of webs or colors in the press master file.
4. A Press that has not had any modifiers selected in the estimate that slow the press down.
5. An Ink Coverage type that has no press slowdown factors.

Sample Data - Assume the following data is the basis for the calculations below.

Quantity Break	Run Speed
1,000	5,000
3,000	6,000
5,000	7,000
10,000	8,000
20,000	9,000
999,999	10,000

Ladder or Stair Method (System ships with this set as the default)

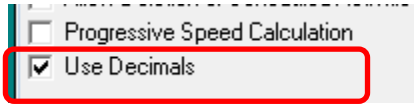
Using the above run speed table for a press run of 50,000 sheets, the system immediately jumps to the single quantity break that encompasses the run quantity. In this case the run is more than 20,000 so the last quantity break will be used – therefore a run speed of 10,000 per hour will be computed.

TOTAL RUN TIME = 5 Hours

AVERAGE RUN SPEED = 10,000 per hour

This run speed of 10,000 per hour will be displayed on the press calculation screen, and if the user presses the run speed button it will also show 10,000 as the run speed.

Curve Method (Also referred to as the Progressive Speed Calculation - Master Files Print > Miscellaneous > Estimating Parameters.)



Using the above run speed table for a press run of 50,000 sheets, the system progresses through each quantity break – running the appropriate number of sheets at that speed, until the next quantity break is reached. The formula for the example would be as follows:

- 1st 1,000 sheets run at 5,000 per hour – leaving a balance of 49,000 (1,000/5,000) = 0.2 Hrs
- Next 2,000 sheets (3,000 qty break) run at 6,000 per hour – leaving 47,000 (2,000/6,000) = 0.33 Hrs
- Next 2,000 sheets (5,000 qty break) run at 7,000 per hour – leaving of 45,000 (2,000/7,000) = 0.285 Hrs
- Next 5,000 sheets (10,000 qty break) run at 8,000 per hour – leaving 40,000 (5,000/8,000) = 0.625 Hrs
- Next 10,000 sheets (20,000 qty break) run at 9,000 per hour – leaving 30,000 (10,000/9,000) = 1.111 Hrs
- Remaining 30,000 sheets (999,999 qty break) run at 10,000 per hour (30,000/10,000) = 3 Hrs

TOTAL RUN TIME = 5.551 Hrs for running 50,000 sheets

AVERAGE RUN SPEED = (50,000/5.551 Hrs) = 9,007 per hour

This run speed of 9,007 per hour will be displayed on the press calculation screen, however if the user presses the run speed button it will show 10,000 per hour as the run speed the press reached by the end of the run.

Note The Ladder or Stair method is probably the more accurate calculation – especially when quotes with small differences between estimated quantities fall either side of quantity breaks.

Additional example:

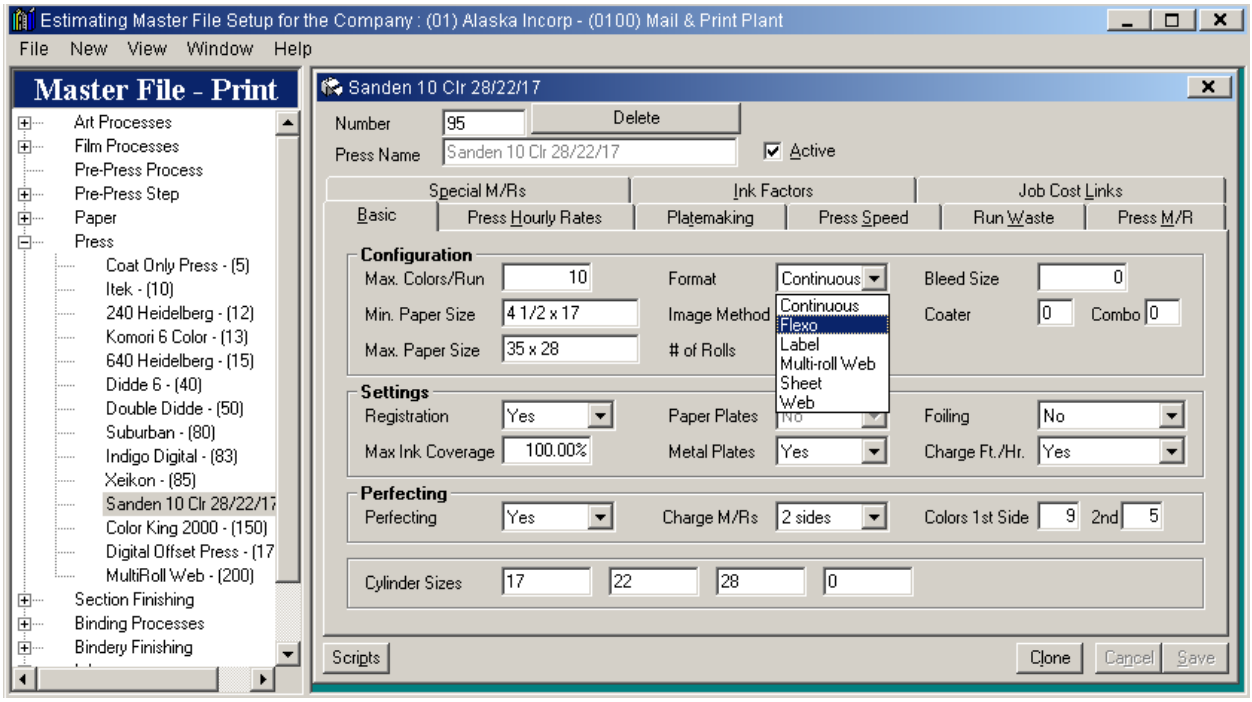
Ladder (Stair) Method

Qty	Press Speed
1000	3500
5000	4000
10000	4500
25000	5000
99999	6000

Using the press speed table above if my estimate quantity is 7500 the press speed for the entire run is 4500 impressions per hour. Total hours = 1.67

Flexo Press Calculation

'Format' setting



Note Flexo presses do not use the "Cutoff (Web)" setting in templates when calculating press sizes.

When setting up a Flexo press in Master Files > Print you should base the Min Paper Size and Max Paper Size on these rules.

Min Paper Size = Min Roll width x Min Cylinder size (circumference)

Max Paper Size = Max Roll width x Max Cylinder Size (circumference)

Use the following equation to **convert a "Per Foot" paper cost to a "Per 1000 sq in" paper cost:**

(Cost Per Foot / (roll width * 12)) * 1000 = Cost per 1000 sq in

Example:

Cost per foot = .053

Roll width = 6.5 inches

This is the equation

(.053 / (6.5 * 12)) * 1000 = .6795

The cost per 1000 sq inches is .6795

Use the following example and equation to calculate the amount of paper required and paper cost:

Information from "Print Override Screen"

Press Size: 5 x 3 1/4

Paper Size: 6 1/2

Section Qty: 1350

Replace the First dimension of the Press Size with Paper Size to determine the actual paper size used. 5 x 3 1/4 becomes 6 1/2 x 3 ¼

The equation is as follows:

(Actual Paper Size sq in) * Section Qty / 1000 = Number of "1000 sq inch units"

(6.5 * 3.25) * 1350 / 1000 = 28.51875

The result is then rounded up to the next whole number.

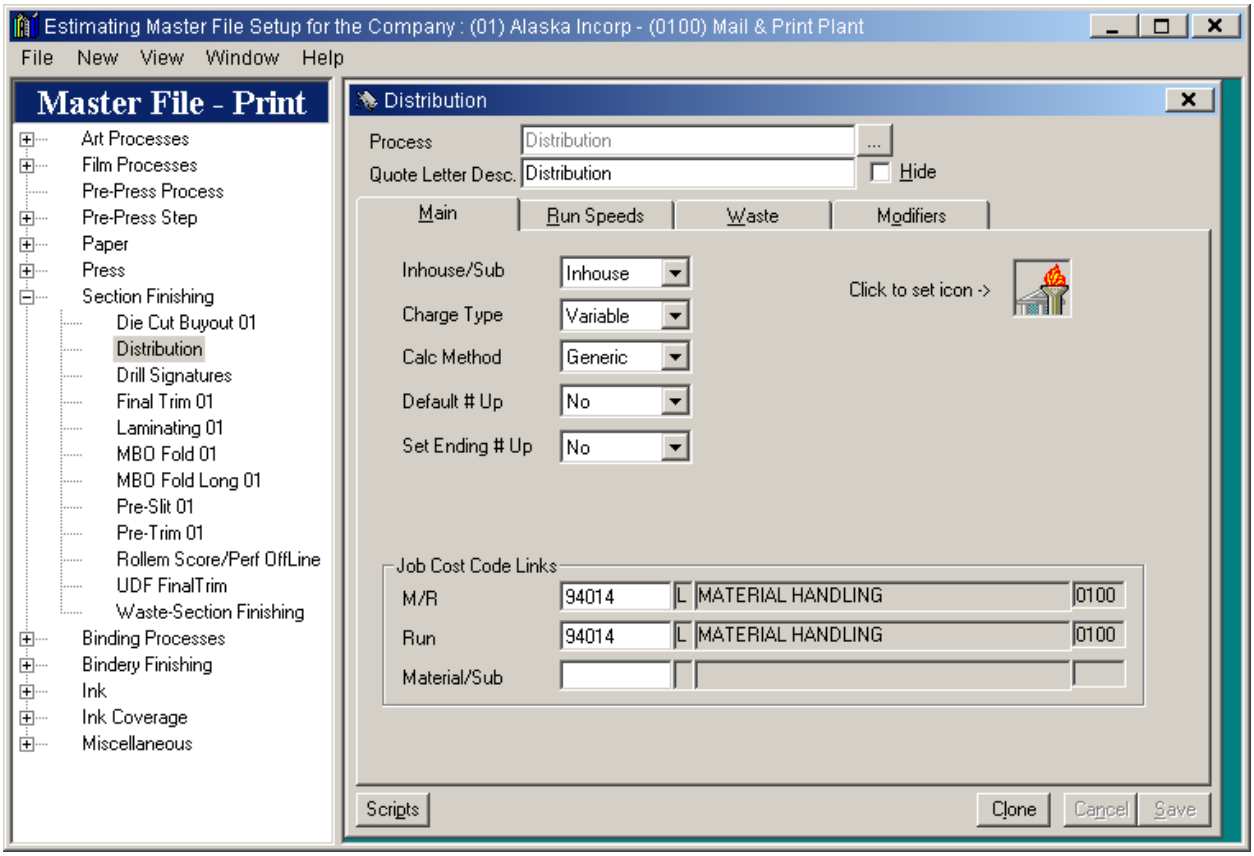
28.51875 is rounded up to 29

Multiply this by the Paper Price to get the Paper Cost

29 * 0.6795 = 19.71 (Rounded to the penny)

Section Finishing

‘Calculate Method’ settings



Generic (Based on Imps / Hour)

Setup Cost = (Setup MR Mins + (Section MR Mins * Sections)) / 60 * Hour Rate

Mat Qty = (Qty + Run Waste) * Sections * Number Up

Mat Cost = Mat Qty / 1000 * Mat Price / Number Up

Run Qty = (Qty + Run Waste) * Sections

Run Speed based on Run Rate for the Run Qty

Run Cost = (Run Qty / Run Speed) * Hour Rate

Total Cost = Setup Cost + Material Cost + Run Cost

Trim (Based on Imps / Hour)

Setup Cost = (Setup MR Mins + (Section MR Mins * Sections)) / 60 * Hour Rate

(Material does not work on trimming – Simply gives the material/1000 cost for all quantities)

Run Speed based on Time Per Lift based on the Number Up * Trim Factor

Total Lifts = (Qty + Run Waste) * Sections / Sheets Per Lift

Run Cost = ((Total Lifts * Run Speed / 60) * dbl Hour Rate)

Fold Long

Setup Cost = (Setup MR Mins + (Section MR Mins * Sections)) / 60 * Hour Rate * MR Percent

Mat Qty = (Qty + Run Waste) * Sections * Number Up

Mat Cost = Mat Qty / 1000 * Mat Price / Number Up

If based on Imps / Hour

Run Qty = (Qty + Run Waste) * Sections

If based on Feet/Hour

Build a layout based on the number out that is the squarest

Run Qty = number of feet based on the long dimension

Run Speed based on Run Rate for the Run Qty * Run Percent

Run Cost = (Run Qty / Run Speed) * Hour Rate

Total Cost = Setup Cost + Material Cost + Run Cost

Fold Short

Setup Cost = (Setup MR Mins + (Section MR Mins * Sections)) / 60 * Hour Rate * MR Percent

Mat Qty = (Qty + Run Waste) * Sections * Number Up

Mat Cost = Mat Qty / 1000 * Mat Price / Number Up

If based on Imps / Hour

Run Qty = (Qty + Run Waste) * Sections

If based on Feet/Hour

Build a layout based on the number out that is the squarest

Run Qty = number of feet based on the short dimension

Run Speed based on Run Rate for the Run Qty * Run Percent

Run Cost = (Run Qty / Run Speed) * Hour Rate

Total Cost = Setup Cost + Material Cost + Run Cost

Area

Setup Cost = (Setup MR Mins + (Section MR Mins * Sections)) / 60 * Hour Rate

Mat Qty = (Qty + Run Waste) * Sections * Roll Width * Sheet Short Dimension

Mat Cost = Mat Qty / 1000 / 144 * Mat Price

If based on Imps / Hour

Run Qty = (Qty + Run Waste) * Sections

If based on Feet/Hour

Build a layout based on the number out that is the squarest

Run Qty = number of feet based on the long dimension

Run Speed based on Run Rate for the Run Qty

Run Cost = (Run Qty / Run Speed) * Hour Rate

Total Cost = Setup Cost + Material Cost + Run Cost

Case Making

Setup Cost = (Setup MR Mins + (Section MR Mins * Sections)) / 60 * Hour Rate

Mat Qty = (Qty + Run Waste) * Sections * Number Up

Mat Cost = Mat Qty / 1000 * Mat Price / Number Up

Run Qty = (Qty + Run Waste) * Sections

Run Speed based on Run Rate for the Run Qty * the paper case making speed Adjustment

Run Cost = (Run Qty / Run Speed) * Hour Rate

Total Cost = Setup Cost + Material Cost + Run Cost

Foil Stamping

Setup Cost = (Setup MR Mins + (Section MR Mins * Sections)) / 60 * Hour Rate

Mat Qty = (Qty + Run Waste) * Sections * Number Up * Foil Size

Mat Cost = Mat Qty / 1000 * Mat Price / Number Up

Run Qty = (Qty + Run Waste) * Sections

Run Speed based on Run Rate for the Run Qty

Run Cost = (Run Qty / Run Speed) * Hour Rate

Total Cost = Setup Cost + Material Cost + Run Cost

Fold Custom

Setup Cost = (Setup MR Mins + (Section MR Mins * Sections)) / 60 * Hour Rate * MR Percent

Mat Qty = (Qty + Run Waste) * Sections * Number Up

Mat Cost = Mat Qty / 1000 * Mat Price / Number Up

If based on Imps / Hour

Run Qty = (Qty + Run Waste) * Sections

If based on Feet/Hour

Run Qty = number of feet based on the number of in-feed inches input by user

Run Speed based on Run Rate for the Run Qty * Run Percent

Run Cost = (Run Qty / Run Speed) * Hour Rate

Total Cost = Setup Cost + Material Cost + Run Cost

Sheeting (Not fully programmed)

Pre-Trim (Programmed for Book Estimating)

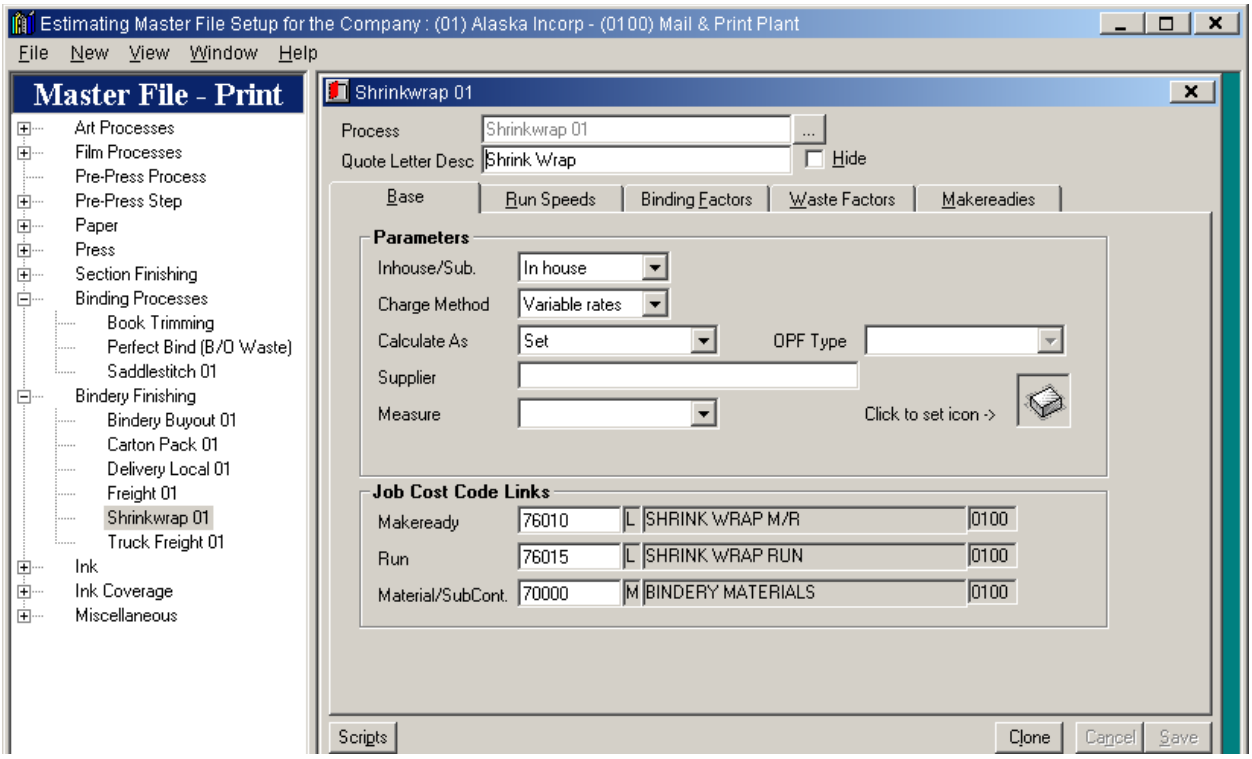
Pre-Slit (Programmed for Book Estimating)

Board Slitting (Programmed for Book Estimating)

Cover Cloth (Programmed for Book Estimating)

Binding Processes/Bindery Finishing

‘Calculate As’ settings



Sets

MakeReady Mins = “Job M/R minutes” + “MakeReady Mins”

MakeReady Cost = MakeReady Mins / 60 * “Hourly Rate”

Run Rate = “Units/Hour” based on “Run Quantity”

Run Qty = Qty / Number Up

Run Hours = Run Qty / Run Rate

Run Cost = Run Hours * “Hourly Rate”

Extra Labor Cost = Run Hours * “Helper Rate”

Material Cost = Qty / 1000 * “Material/1000”

Total Cost = MakeReady Cost + Run Cost + Extra Labor Cost + Material Cost

Sheet

MakeReady Mins = “Job M/R minutes” + “MakeReady Mins”

MakeReady Cost = MakeReady Mins / 60 * “Hourly Rate”

Number Of Sheets = Count all the Sheets in all sections

Run Rate = “Units/Hour” based on “Run Quantity”

Run Qty = Qty * Number of Sheets / “Sheets Per Set”

Run Hours = Run Qty / Run Rate

Run Cost = Run Hours * “Hourly Rate”

Extra Labor Cost = Run Hours * “Helper Rate”

Material Cost = Qty / 1000 * “Material/1000”

Total Cost = MakeReady Cost + Run Cost + Extra Labor Cost + Material Cost

Weight $

MakeReady Mins = “Job M/R minutes” + “MakeReady Mins”

MakeReady Cost = MakeReady Mins / 60 * “Hourly Rate”

Total Weight = Calculated weight of all sections

Run Rate = “Units/Hour” / 1000 based on the Total Weight for the “Run Quantity”

Run Cost = Total Weight * Run Rate

Total Cost = MakeReady Cost + Run Cost

Per Pad (Not fully programmed)

Case Binding

MakeReady Mins = “Job M/R minutes” + “MakeReady Mins”

MakeReady Cost = MakeReady Mins / 60 * “Hourly Rate”

Go through each section and calculate the total thickness of book block.

Speed Factor = 0

If Total thickness <= ¼ inch then Speed Factor is 25

If Total thickness > 1 inch then Speed Factor is 25

If Total thickness > 2 inches then Speed Factor is 35

If Book Size <= 4 x 5 ½ then add 25 to Speed Factor

If Book Size >= 9 x 13 then add 25 to Speed Factor

Run Rate = “Units/Hour” based on “Run Quantity”

Run Rate = Run Rate * ((100 – Speed Factor) / 100)

Run Qty = Qty

Run Hours = Run Qty / Run Rate

Run Cost = Run Hours * “Hourly Rate”

Extra Labor Cost = Run Hours * “Helper Rate”

Material Cost = Qty / 1000 * “Material/1000”

Total Cost = MakeReady Cost + Run Cost + Extra Labor Cost + Material Cost

By Length

MakeReady Mins = “Job M/R minutes” + “MakeReady Mins”

MakeReady Cost = MakeReady Mins / 60 * “Hourly Rate”

Run Rate = “Units/Hour” based on “Run Quantity”

Run Qty = Qty / Number Up

Run Hours = Run Qty / Run Rate

Run Cost = Run Hours * “Hourly Rate”

Extra Labor Cost = Run Hours * “Helper Rate”

Material Cost = Qty / 1000 * “Material/1000”

Total Cost = MakeReady Cost + Run Cost + Extra Labor Cost + Material Cost

Packing

MakeReady Mins = “Job M/R minutes” + “MakeReady Mins”

MakeReady Cost = MakeReady Mins / 60 * “Hourly Rate”

Go through each section to determine the thickness of the job.

Determine how many items can be placed in the bottom of the box

Calculate the number of items that a box can hold (Items Per Box)

Number of Boxes = Qty / Items Per Box

If Number of Boxes has a decimal value then round up.

Box Cost = Number of Boxes * Carton Cost

Total Weight = Calculated weight of all sections

Run Rate = “Units/Hour” based on the Total Weight for the “Run Quantity”

Run Cost = Total Weight * Run Rate

Total Cost = MakeReady Cost + Run Cost + Box Cost

Gen Binding (Not fully programmed)

Book Binding (Binding Processes)

MakeReady Mins = (“Job M/R minutes” + “MakeReadies Orig(Mins)”) * “Binding Factors M/R%)

MakeReady Cost = MakeReady Mins / 60 * “Hourly Rate”

Run Qty = Qty

Run Rate = “Units/Hour” based on “Run Quantity”

Run Rate = Run Rate * MakeReadies “Reduce Speed by %”

Run Hours = Run Qty / Run Rate / “Binding Factors Speed %”

Run Cost = Run Hours * “Hourly Rate”

Extra Labor Cost = Run Hours * “Helper Rate” * “Additional Workers”

Material Cost = Qty / 1000 * “Material/1000”

Total Cost = MakeReady Cost + Run Cost + Extra Labor Cost + Material Cost

Skid Storage (Not fully programmed)

Paper Storage (Not fully programmed)

News Stand Distribution (Not fully programmed)

Calc By Lifts (Not fully programmed - “Max Bulk” value does not get saved)

Truck Freight

“Weight to Ship” = Total weight of job

“Lbs/Truck” = “Weight/Box/Skid”

“No Trucks” = “Weight to Ship” / “Lbs/Truck”

“Total Cost” = “No Trucks” * “Rate/Truck”

Weight Per Hour

MakeReady Mins = “Job M/R minutes” + “MakeReady Mins”

MakeReady Cost = MakeReady Mins / 60 * “Hourly Rate”

Total Weight = Calculated weight of all sections

Run Rate = “Units/Hour” based on the Total Weight for the “Run Quantity”

Run Cost = Total Weight * Run Rate

Total Cost = MakeReady Cost + Run Cost

Shrinkwrap (Programmed for Book Estimating)

OPF (Programmed for Book Estimating)

Skidding (Programmed for Book Estimating)

Casemaking (Programmed for Book Estimating)

Foil Stamp (Programmed for Book Estimating)

Ink Calculations

Example 1 - Ink information from Master Flies Print > Ink screen

Black Ink		
Min Charge	0.00	
Cost	$8.00	(Ink Cost per pound)
Coverage	0.25	(How much of a pound to cover 100,000 Square inches)

Print Specifications

Quantity: 50,000

Pages: 8.5x11 letter 2up

Trim Size: 8.5 x 11

Press Size: 17 x 11

Paper Size: 17.5 x 22.5

Ink Colors: Black Ink on One Side

Ink Coverage: “Light Coverage” (Coverage 15%)

Determine the ink cost for 100,000 sq. in. based on the coverage selected

Cost * Coverage * Estimate Coverage % = Ink Cost

$8.00 * 0.25 * 15% = $0.30

Calculate the total number of square inches of paper to be run through the press

# of Press Sheets * Sheet Length * Sheet Depth = Total Square Inches

25,325 * 17 * 11 = 4,735,775

Determine the number of 100,000 Square Inch Units (100M sq. in. units)

Total Square Inches / 100,000 = 100M sq. in. units

4,735,775 / 100,000 = 47.35775

Calculate the Ink Cost

100M sq. in. units * Ink Cost / # of Colors * Paper Ink Factor = Ink Cost

47.35775 * $0.30 / 1 * 1 = $14.207325

Round Ink Cost = $14.21 and add any Minimum Ink Charges.

Example 2 - Ink information from Master Flies Print > Ink screen

Black Ink		
Min Charge	0.00	
Cost	$8.00	(Ink Cost per pound)
Coverage	0.25	(How much of a pound to cover 100,000 Square inches)

PMS Ink		
Min Charge	0.00	
Cost	$12.00	(Ink Cost per pound)
Coverage	0.33	(How much of a pound to cover 100,000 square inches)

Print Specifications

Quantity: 50,000

Pages: 8.5x11 letter 2 up

Trim Size: 8.5 x 11

Press Size: 17 x 11

Paper Size: 17.5 x 22.5

Ink Colors: Black and PMS 1 on One Side

Ink Coverage: “Light Coverage” (Coverage 15%)

Determine the Black ink cost for 100,000 sq. in. based on the coverage selected

Cost * Coverage * Estimate Coverage % = Ink Cost1

$8.00 * 0.25 * 15% = $0.30

Determine the PMS 1 ink cost for 100,000 sq. in. based on the coverage selected

Cost * Coverage * Estimate Coverage % = Ink Cost2

$12.00 * 0.33 * 15% = $0.594

Determine the combined ink cost by adding the ink costs together

Ink Cost1 + Ink Cost2 = Ink Cost

$0.30 + $0.594 = $0.894

Calculate the total number of square inches of paper to be run through the press

# of Press Sheets * Sheet Length * Sheet Depth = Total Square Inches

25,475 * 17 * 11 = 4,763,825

Determine the number of 100,000 Square Inch Units (100M sq. in. units)

Total Square Inches / 100,000 = 100M sq. in. units

4,763,825 / 100,000 = 47.63825

Calculate the Ink Cost

100M sq. in. units * Ink Cost / # of Colors * Paper Ink Factor = Ink Cost

47.63825 * $0.894 / 2 * 1 = $21.29429775

Round Ink Cost = $21.29 and add any Minimum Charges

Example 3 - Ink information from Master Flies Print > Ink screen

<u>Black Ink</u>		
Min Charge	0.00	
Cost	$8.00	(Ink Cost per pound)
Coverage	0.25	(How much of a pound to cover 100,000 Square inches)
<u>PMS Ink</u>		
Min Charge	0.00	
Cost	$12.00	(Ink Cost per pound)
Coverage	0.33	(How much of a pound to cover 100,000 square inches)

Print Specifications

Quantity: 50,000

Pages: 8.5x11 letter 2 up

Trim Size: 8.5 x 11

Press Size: 17 x 11

Paper Size: 17.5 x 22.5

Ink Colors: Black and PMS 1 on One Side

Ink Coverage: “Light Coverage” (Coverage 15%) *PMS 1 coverage set to 50%

Determine the Black ink cost for 100,000 sq. in. based on the coverage selected

Cost * Coverage * Estimate Coverage % = Ink Cost1

$8.00 * 0.25 * 15% = $0.30

Determine the PMS 1 ink cost for 100,000 sq. in. based on the coverage selected

Cost * Coverage * Estimate Coverage % = Ink Cost2

$12.00 * 0.33 * 50% = $3.96

Determine the combined ink cost by adding the ink costs together

Ink Cost1 + Ink Cost2 = Ink Cost

$0.30 + $3.96 = $4.26

Calculate the total number of square inches of paper to be run through the press

# of Press Sheets * Sheet Length * Sheet Depth = Total Square Inches

25,475 * 17 * 11 = 4,763,825

Determine the number of 100,000 Square Inch Units (100M sq. in. units)

Total Square Inches / 100,000 = 100M sq. in. units

4,763,825 / 100,000 = 47.63825

Calculate the Ink Cost

100M sq. in. units * Ink Cost / # of Colors * Paper Ink Factor = Ink Cost

47.63825 * $4.26 / 2 * 1 = $101.4694725

Round Ink Cost = $101.47 and add any Minimum Charges

Example 4 - Ink information from Master Flies Print > Ink screen

Black Ink		
Min Charge	0.00	
Cost	$8.00	(Ink Cost per pound)
Coverage	0.25	(How much of a pound to cover 100,000 Square inches)

PMS Ink		
Min Charge	$10.00	
Cost	$12.00	(Ink Cost per pound)
Coverage	0.33	(How much of a pound to cover 100,000 square inches)

Print Specifications

Quantity: 50,000
Pages: 8.5x11 letter 2 up
Trim Size: 8.5 x 11
Press Size: 17 x 11
Paper Size: 17.5 x 22.5
Ink Colors: Black and PMS 1 on One Side
Ink Coverage: “Light Coverage” (Coverage 15%) *PMS 1 coverage set to 50%

Determine the Black ink cost for 100,000 sq. in. based on the coverage selected

Cost * Coverage * Estimate Coverage % = Ink Cost1
$8.00 * 0.25 * 15% = $0.30

Determine the PMS 1 ink cost for 100,000 sq. in. based on the coverage selected

Cost * Coverage * Estimate Coverage % = Ink Cost2
$12.00 * 0.33 * 50% = $3.96

Determine the combined ink cost by adding the ink costs together

Ink Cost1 + Ink Cost2 = Ink Cost
$0.30 + $3.96 = $4.26

Calculate the total number of square inches of paper to be run through the press

# of Press Sheets * Sheet Length * Sheet Depth = Total Square Inches
25,475 * 17 * 11 = 4,763,825

Determine the number of 100,000 Square Inch Units (100M sq. in. units)

Total Square Inches / 100,000 = 100M sq. in. units

4,763,825 / 100,000 = 47.63825

Calculate the Ink Cost

100M sq. in. units * Ink Cost / # of Colors * Paper Ink Factor = Ink Cost = Round Ink Cost

47.63825 * $4.26 / 2 * 1 = $101.4694725 = $101.47

Ink Cost + Minimum Charge for PMS 1 = Total Ink Cost

$101.47 + $10.00 = $111.47

Additional Ink Information

Calculation for Ink Costs

- Use Ink Mileage (Coverage) from Master Files Print > Ink screen: '**0.25**' (1/4 lb. of ink to cover 100,000 sq. in. solid).
- Use the Ink Coverage selected in the Ink screen in Estimating: '**15%**'.
- Use the Press Sheet size: '23 x 35' (for web presses: web width x cutoff) and convert the sheet size to square inches: '**805**'.
- Multiply the Ink Coverage: '**15%**' by the Press Sheet size square inches: '**805**' = **120.75** sq. in.
- Multiply '**120.75**' sq. in. by the number of impressions: '**50,000**' = **6,037,500** sq. in.
- Divide '**6,037,500**' sq. in. by '100,000' = **60.375** units of 100,000 sq. in.
- Use the Ink Cost from Master Files - Print > Ink screen: '**$8.00**' per lbs.
- Multiply Ink Cost per lbs. by the Ink Mileage: '**$8.00**' * '**0.25**' = **$2.00** per 100,000 sq. in.
- Multiply '**$2.00**' by '**60.375**' units of 100,000 sq. in. = **$120.75** ink costs.
- If an ink has a minimum charge it will add that cost to the front side ink.

Calculation for Ink Pounds

- Ink Lbs. = ink units of 100,000 sq. in. '**60.375**' multiplied by ink mileage '**0.25**' = **15** lbs.