



TOPS[®]Pro Tutorial

Packaging Design and Palletization Software

Version 6.8X

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TOPS Pro is designed to meet the most advanced needs of the packaging professional.

This tutorial is designed to give a general overview of the primary functions of the software. The tutorial does not explore the full range of TOPS Pro's capabilities, but is designed only as a basic tutorial that walks you through the core of the system.

This tutorial is organized into four sections:

Getting Started: Walks you through the process of logging into the system.

Exercise #1: Load Shipper to Pallet: Walks through the steps you will need to complete in order to find an optimized pallet pattern for a shipcase you know the dimensions to.


Exercise #2: Load Product to Shipper to Pallet: Walks through the different stages you will need to complete in order to find an optimized shipcase for your product, then an optimized pallet pattern.

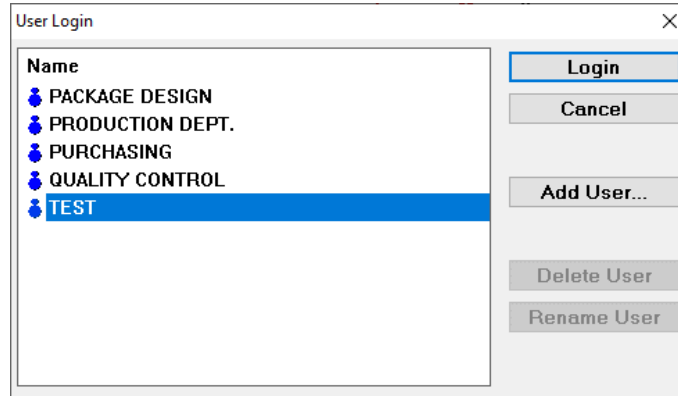
Create a Report: Walks through how to save your analysis and create different types of reports based on your chosen solution.

If you experience problems or difficulties while using the TOPS Pro software, please call your Account Manager or the TOPS Technical Support Department at 972.739.8677.

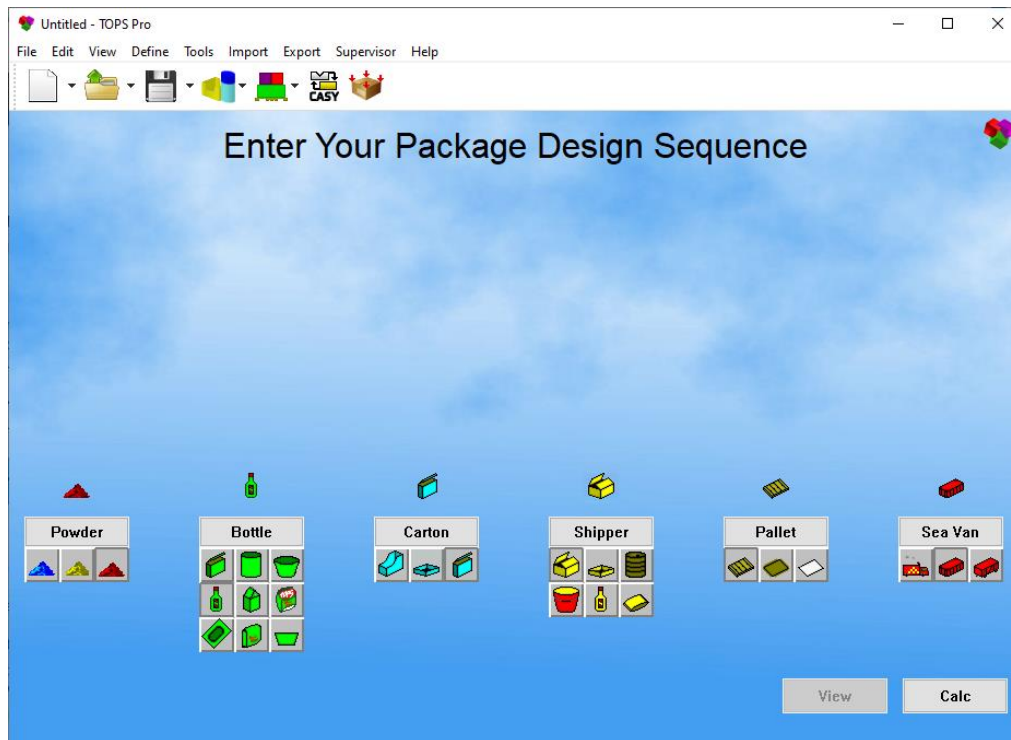
Login to the System

Follow these instructions after your TOPS sales/evaluation copy has been licensed or unlocked. If you see a license screen prompting for a Verification Code, please contact your TOPS Account Manager or email info@topseng.com.

1. From your desktop, double-click on the TOPS Pro icon () or under the “TOPS for Windows App” group in your Start menu.



2. Select a user name and then click on the Login button. You can also click the Add User... button add your name as a user.

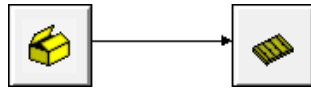


Control Center

This is the starting point for all your work in TOPS Pro. Depending on what type of analysis you want to create, you will start at the different stages to build your analysis.

- **Granular:** This stage was created for a particular client. If you are interested in using the granular stage, please give us a call so we can walk through it together.
- **Primary Pack Stage (green):** This stage allows you to select which primary pack, or product, you will use for your analysis, if applicable.
- **Intermediate Pack Stage (blue):** This stage allows you to select an intermediate pack that your product sits in, before it is placed into the shipper, if applicable.
- **Shipper Stage (yellow):** This stage allows you to select a shipper that your product will go into.
- **Pallet Stage (brown):** This stage allows you to select a pallet that your unitload will sit on.
- **Truck Stage (red):** This stage allows you to select a container for your unitloads to be loaded into, if applicable.
- **Calc:** You will select the calc button when you have built out your analysis and you are ready for the software to find optimized solutions.

Exercise #1: Shipper → Pallet



This exercise should be used when you know the dimensions of your shipcase and you would like to find an optimized pallet pattern.

1. From the Control Center, click on the word “Shipper” from the yellow group. This will add the shipcase stage to your design sequence. Once added, click on the shipper icon “in the clouds” to dive in to the shipcase parameters.
2. Make sure “Fixed” Case is selected, meaning you will provide the dimension of the shipcase in the analysis.
3. Enter the dimensions of the shipcase as shown below. These include Length, Width, and Height. The “Vert” checkbox tells the software the vertical orientation allowed when creating your analysis solution. Once you have entered in the information, click OK.

Shipcase Parameters

Case
 New
 Fixed
 DataBase

DataBase
 All
 Multiple
Select

Material
 Corrugated
 Other

Dimensions
 Inside
 Outside

Units
 English
 Metric

Description: User Defined
Mix Tray: []
Style: RSC (FEFCO 0201)
C.A.S.Y. Style: None
Flute: C Flute

	Length (in)	Width (in)	Height (in)	Slack	Vert
	10.000	8.000	6.000	0.000	<input type="checkbox"/>
				0.000	<input type="checkbox"/>
				0.000	<input checked="" type="checkbox"/>

Net Gross
Case (lbs) 0.000 0.000

Round to nearest 1/16"

Sizing
 Range: Min Count 2, Max Count 6
 Values: 0 0 0 0 0

Buttons: OK, Cancel, Options, Dividers, Graphic, Add Product, Help, Fix Pack

4. Next, we will add our pallet to the design sequence by clicking the word “Pallet” in the brown Pallet group. Then, click on the icon of the pallet “in the clouds” to dive into our pallet parameters.

- From here, enter in all applicable information regarding your pallet parameters, such as pallet style, Maximum Height and Maximum Overhang. You can use the sample data below or enter your own data. Once you have entered in all information, click OK.

Note: Please keep Maximum Underhang at default value of 15 inches.



UnitLoad Parameters
✕

Single Pallet Style **GMA (NOTCHED)**

Slave Pallet Slave

Number of Slaves Two

Multi Pallets Select Pallets

Optimize for all Pallets Optimize for each Pallet

Maximum Height (incl. Pallet) (in) 56.00

Maximum Weight (incl. Pallet) (lbs) 9999.000

Load Offset

	Length (in)	Width (in)
Maximum Overhang	1.00	1.00
Maximum Underhang	15.00	15.00

Packaging weight (lbs) 0.000

Limit to Max.

Layers	0	Items/Layer	0	Total Items	0
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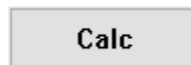
Max UL High 4 **Clamp Direction** N/A

Pallet Size (in) 48.00 X 40.00 X 5.00

Units
 English
 Metric

OK
Cancel
Options
New Pallet
Layer
Help

- Now we will calculate to find the most optimized pallet pattern for our shipcase by clicking on the “Calc” button.



- Calculating will bring us to our Solution List Screen. You will see the UnitLoad screen in the top left corner, the UnitLoad Statistics in the top right, and the solution list at the bottom.

The Solution List

The screenshot displays the TOPS Pro software interface. The main window is titled "UnitLoad View 1 of 100" and shows a 3D isometric view of a pallet layout. The pallet is composed of yellow and red blocks, with dimensions of 42.00, 50.00, and 53.00. To the right of the 3D view is a statistics panel for "GMA (Notched) 48.00x40.00x5.00". Below the 3D view are buttons for "RFID", "Print", "Strength", and "Modify".

The statistics panel includes the following data:






	Shipper (ID)	Shipper (OD)	Shipper Bulge	UnitLoad (Incl. Pal)
Ln:	9.688 in	10.000 in	0.000 in	50.00 in
Wd:	7.688 in	8.000 in	0.000 in	42.00 in
Ht:	5.375 in	6.000 in	0.000 in	53.00 in
Net:		0.00 lb		0.00 lb
Grs:		0.00 lb		65.00 lb
Cube:	0.232 ft3	0.278 ft3		64.410 ft3
Prod. Vol:	0.000 in3			0.000 ft3
Shipper:				208
Area Efficiency:		0.0 %		108.3 %
Cubic Efficiency:		0.0 %		102.0 %
Prod. Eff:	0.0 %	0.0 %		0.0 %
Cases per layer:				26
Layers/load:				8
Pattern:				Interlock
RSC Area:		3.50 ft2		728 ft2
Density (gr/cc):				0.0000
Max UL High:				4
Clamp Direction:				N/A
Box Cost:		0.00		0.00

The Solution List pane at the bottom shows a table of solutions:

Select	Sol	Case Wgt	Vol (ID)	Board Area	Dim Vert	Len	UL Wid	Hgt	UL Wgt	Ptrn Type	Cases /Layer	Layers /UL	Cases /UL	Area Eff	Cubic Eff
	1	0.000	0.232	3.50	H	50.00	42.00	53.00	65.0	B	26	8	208	108.3%	102.0%
	2	0.000	0.232	3.50	H	50.00	42.00	53.00	65.0	T	26	8	208	108.3%	102.0%
	3	0.000	0.232	3.50	H	50.00	42.00	53.00	65.0	T	26	8	208	108.3%	102.0%
	4	0.000	0.232	3.50	H	50.00	42.00	53.00	65.0	W	26	8	208	108.3%	102.0%

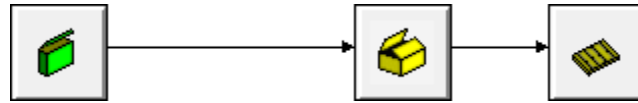
- **UnitLoad View:** On the top left portion, here displays a graphic of the selected unitload solution. Alternate layouts of the same pattern appear as thumbnails on the left margin.
- **Statistics:** The top right portion gives detailed statistics for the selected unitload solution.
- **Solution List:** This pane at the bottom displays a list of the best 50 (if there are 50) solutions generated for the pallet layout, along with a variety of basic information for each solution.

You can scroll through the different solutions under the Solution List. Keep in mind, these solutions are listed from MOST efficient to LEAST cubic efficient. You can see the Area and Cubic efficiency listed at the far right in the solution list. There are other things you can identify in the solution list, such as the number of cases per layer and total number of cases. All of this information is important when determining which solution and pallet pattern you would like to go with.

UnitLoad																
Select	Sol	Case Wgt	Vol (ID)	Board Area	Dim Vert	Len	UL Wid	Hgt	UL Wgt	Ptrn Type	Cases /Layer	Layers /UL	Cases /UL	Area Eff	Cubic Eff	
	1	0.000	0.232	3.50	H	50.00	42.00	53.00	65.0	B	26	8	208	108.3%	102.0%	
	2	0.000	0.232	3.50	H	50.00	42.00	53.00	65.0	T	26	8	208	108.3%	102.0%	
	3	0.000	0.232	3.50	H	50.00	42.00	53.00	65.0	T	26	8	208	108.3%	102.0%	
	4	0.000	0.232	3.50	H	50.00	42.00	53.00	65.0	W	26	8	208	108.3%	102.0%	
	5	0.000	0.232	3.50	H	50.00	42.00	53.00	65.0	W	26	8	208	108.3%	102.0%	

Once you have selected a solution, you can save the analysis by selecting File > Save As. To print a report of the analysis, go to the Create a Report section of this tutorial.

Exercise #2: Product → New Shipper → Pallet



This exercise should be used when you have a product and would like TOPS Pro to find an optimized shipcase for your product, then find an optimized pallet pattern.

1. From the Control Center, click on the word “Carton” (in the green group) or whichever primary pack you’re using for the analysis. This will add the primary pack stage to your design sequence. Then, you will click the carton icon “in the clouds” to dive in to the carton parameters.

Note: To use another primary shape, click one of the green icons in the group. The description will be changed from Carton to the new shape. Then click on the description to add to the design sequence.

Carton Parameters

Carton
 New
 DataBase
 KnockDown

Description: User Defined
Style: STANDARD REVERSE TUCK C
C.A.S.Y. Style: None

	Length	Width	Height	Vert
	6.000	12.000	4.000	<input type="checkbox"/>
	0.000	0.000	0.000	<input type="checkbox"/>
	0.000	0.000	0.000	<input checked="" type="checkbox"/>
	0.000	0.000	0.000	

Volume (in3): 0.000

Weight (lbs): 0.000
Caliper (in): 0.018

Net: 0.000
Gross: 1.000

Dimensions:
 Inside
 Outside

Units:
 English
 Metric

Bundle:
 Bundle

Buttons: OK, Cancel, Options, Graphic, KnockDown, Add Product, Help

2. Use “Fixed” Carton and enter the product dimensions, Length, Width, Height, and Weight. The Vert checkbox tells the software the vertical orientation allowed when placing your products into the shipcase. Once you have entered in the information, click OK.
3. Next, we will move on to our Shipcase Parameters. You will add the shipcase to your design sequence by clicking the word “Shipper” and then clicking the shipper icon “in the clouds”.



Shipcase Parameters

Case
 New
 Fixed
 DataBase

DataBase
 All
 Multiple

Material
 Corrugated
 Other

Dimensions
 Inside
 Outside

Units
 English
 Metric

Description: User Defined
Mix Tray:
Style: RSC (FEFCO 0201)
C.A.S.Y. Style: None
Flute: C Flute

Length (in): 18.313 Slack: 0.000 Vert:
Width (in): 12.313 Slack: 0.000 Vert:
Height (in): 12.625 Slack: 0.000 Vert:

Max Weight (lbs): 0.000

Use Tare weight
Tare weight (lbs): 0.000
 Round to nearest 1/16"

Sizing

	Min Count		Max Count		
<input checked="" type="radio"/> Range	8		12		
<input type="radio"/> Values	0	0	0	0	0

Fix Pack

4. For this exercise, be sure that “New” Case is selected. This allows TOPS Pro to find an optimized shipcase for your product.
5. Under Sizing, enter the product quantity as a range or discrete value(s) so the software knows the quantity of products to optimize for and produce accurate solutions. After all applicable information is entered, click OK.
6. Now, we will get into the pallet parameters by clicking on the word “Pallet”, then clicking the pallet icon “in the clouds”.



UnitLoad Parameters

Pallet Single Pallet Style GMA (NOTCHED)

Slave Pallet Slave

Number of Slaves Two

Multi Pallets

Optimize for all Pallets Optimize for each Pallet

Maximum Height (incl. Pallet) (in) 56.00

Maximum Weight (incl. Pallet) (lbs) 9999.000

Load Offset

	Length (in)	Width (in)
Maximum Overhang	0.00	0.00
Maximum Underhang	15.00	15.00

Units English Metric

Packaging weight (lbs) 0.000

Limit to Max.

Layers 0 Items/Layer 0 Total Items 0

Max UL High 4 Clamp Direction N/A

Pallet Size (in) 48.00 × 40.00 × 5.00

7. Select the Pallet Style, specify Maximum Height of unitload.
8. In this example, change Maximum Overhang to “zero”, allowing no shipcases to load outside the edge of the pallet. Click OK to return to the Control Center.
9. Click Calc to have TOPS Pro optimize the entire design sequence.

The Solution List

The screenshot displays the TOPS Pro software interface. At the top, there is a menu bar (File, Edit, View, Define, Tools, Import, Export, Supervisor, Help) and a toolbar with various icons. Below the menu bar, there are two main view windows: 'Shipcase View 1 of 44' on the left and 'UnitLoad View 1 of 13' on the right. The Shipcase view shows a 3D model of a cardboard box with dimensions 12.313 (OD) x 18.313 (OD) x 12.625 (OD). The UnitLoad view shows a 3D model of a pallet load with dimensions 40.00 x 48.00 x 55.50. Below these views is a 'Solution List : Shipcase' window. This window has two tabs: 'Shipcase' (selected) and 'UnitLoad'. The 'Shipcase' tab contains a table with the following data:

Select	Sol	Len	Case Wid	(OD) Hgt	Case Wgt	Vol (ID)	Board Area	Board Area Eff	Dim Vert	Cart. /Case	Cart. /UL	Cases /UL	Arrgmt
1		18.313	12.313	12.625	1.061	1.500	10.61	1.18	H	9	252	28	3 x 1 x 3
2		18.313	12.313	16.625	1.231	2.000	12.31	1.03	H	12	252	21	3 x 1 x 4
3		12.313	18.313	12.625	1.316	1.500	13.16	1.46	H	9	252	28	1 x 3 x 3
4		12.313	18.313	16.625	1.486	2.000	14.86	1.24	H	12	252	21	1 x 3 x 4
5		6.313	24.313	16.625	1.741	1.333	17.41	2.18	H	8	240	30	1 x 2 x 4

TOPS Pro will generate a solution list for your Shipcases and for your UnitLoads. We want to look at the different solutions for our Shipcases first.

You want to pay attention to the cartons/case, cartons/unitload, and cases/unitload numbers in the solution list. You can use the arrow keys on your keyboard to scroll through the different solutions TOPS Pro produced for you. Again, these will be in order of most efficient to least efficient in the total number of products (cartons in this case) for the unitload.

Once you have the Shipcase solution you would like to move forward with, click the green arrow in the Shortcut Toolbar (top of screen) to move into the UnitLoad solution list.



Untitled - TOPS Pro

File Edit View Define Tools Import Export Supervisor Help

UnitLoad View 1 of 13

UnitLoad View 1 of 13

GMA (Notched) 48.00x40.00x5.00

	Carton (OD)	Shipper (ID)	Shipper (OD)	UnitLoad (Incl. Pal)
Ln:	6.000 in	18.000 in	18.313 in	48.00 in
Wd:	12.000 in	12.000 in	12.313 in	40.00 in
Ht:	4.000 in	12.000 in	12.625 in	55.50 in
Net:	0.00 oz		0.00 lb	0.00 lb
Gr:	0.00 oz		1.06 lb	94.70 lb
Cube:	288.000 in ³	1.500 ft ³	1.647 ft ³	61.667 ft ³
Prod.Vol:	0.000 in ³	0.000 in ³		0.000 ft ³
Shipper:				28
Area Efficiency:			100.0 %	82.2 %
Cubic Efficiency:			100.0 %	81.4 %
Prod.Eff:	0.0 %	0.0 %	0.0 %	0.0 %
Cases per layer:				7
Layers/load:				4
Pattern:			3x1x3	Interlock
Max UL High:				4
Clamp Direction:				N/A

Solution List: UnitLoad

Shipcase UnitLoad

Select	Sol	Case Wgt	Vol (ID)	Dim Vert	Len	UL Wid	Hgt	UL Wgt	Ptn Type	Cart. /UL	Cases /Layer	Cases /UL	Area Eff	Cubic Eff
	1	1.061	1.500	H	42.94	36.94	55.50	94.7	B	252	7	28	82.2%	81.4%
	2	1.061	1.500	H	36.63	36.94	55.50	90.5	C	216	6	24	70.5%	69.8%

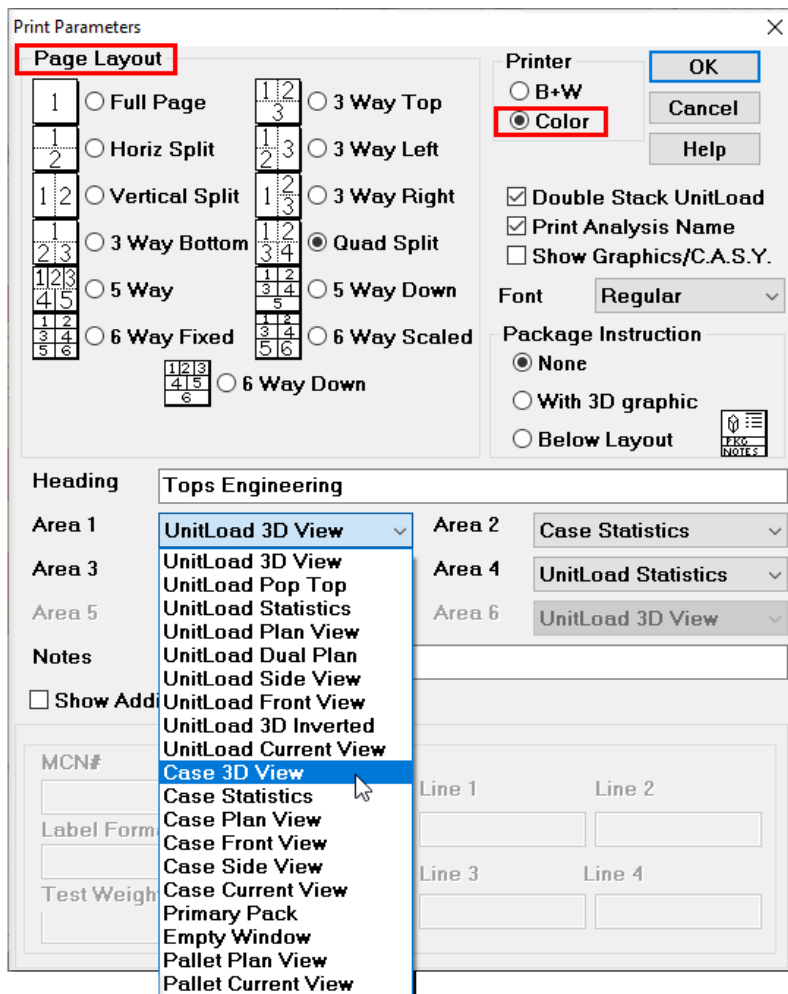
You want to pay attention to the area efficiency and cubic efficiency in the solution list. You can use the arrow keys on your keyboard to scroll through the different solutions TOPS Pro produced for you. Again, these will be in order of most efficient to least efficient.

Once you have the UnitLoad solution you would like to move forward with, you can save the analysis by selecting File > Save As (e.g. Example2). To print a report of the analysis, go to the Create a Report section of this tutorial.

Create a Report

Once you save an analysis, you might want to create a report.

1. To start a report, open the analysis.
2. Select File > Print Preview > Analysis.

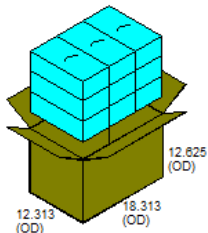


3. In the Print Parameters dialog, configure the report to fit your needs.
 - Page Layout – Specify the number of sections in your report and the layout.
 - Contents – For each section, use the dropdown to select the graphic or statistics to display. They layout and contents can be saved to a default so there is no need to reconfigure it each time. Click OK to generate the report.

Example2 - TOPS Pro
File Edit Text Picture Export Help

ReportViewWindow

Close
Zoom
Print
Email
PDF
Add/Edit text

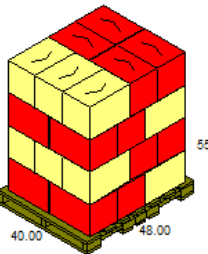


12.313 (OD) 18.313 (OD) 12.625 (OD)

Example2 Date Printed : 3/19/2020
Last Saved : 3/18/2020

RSC (FEFCO 0201) 18.3 x12.3x12.6

	Carton (OD)	Shipper (OD)
Ln:	6.000 in	18.313 in
Wd:	12.000 in	12.313 in
Ht:	4.000 in	12.625 in
Net:	0.00 oz	0.00 lb
Grs:	0.00 oz	1.06 lb
Cube:	288.000 in3	1.647 ft3
	Height Vert	Height Vert
Prod.Vol:	0.000 in3	0.000 in3
Carton:		9
Cubic Efficiency:		100.0 %



40.00 48.00 55.50

GMA (Notched) 48.00x40.00x5.00

	Shipper (OD)	UnitLoad (Incl. Pal)
Ln:	18.313 in	48.00 in
Wd:	12.313 in	40.00 in
Ht:	12.625 in	55.50 in
Net:	0.00 lb	0.00 lb
Grs:	1.06 lb	94.70 lb
Cube:	1.647 ft3	61.667 ft3
	Height Vert	Height Vert
Prod.Vol:	0.000 in3	0.000 ft3
Shipper:		28
Cubic Efficiency:		81.4 %

Notes:

4. Once the report is created, you can generate a PDF by clicking the PDF or Email button on the left. Both options will create a PDF file, one to be saved to a file location and the other as an attachment of a new message with your email client. You can also add annotations to the report by clicking the Add/Edit text button.
5. Click Close to exit the TOPS report preview.
6. When you save the analysis again, the report layout, contents, and any annotation will also be saved.