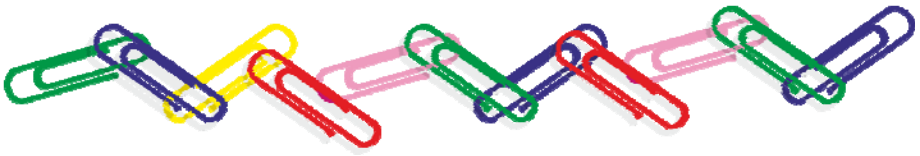
Version 11

Interface Guide



Revision 1.12

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Notices & Acknowledgements

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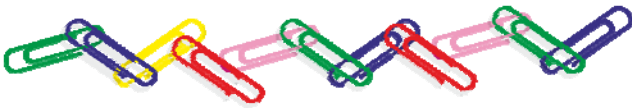
Welcome to the Version 11 Interface Guide



1. Introduction

This guide describes how to import and export data to and from the V11 Optimising and Production software. It gives the details for interfacing with the program and extracting data from the system

What does V11 do?

V11 is a comprehensive software package that covers most aspects of optimisation and production for the Furniture, Woodworking, and other Sheet processing industries. It is Windows software which runs on most computers. It provides all the information to keep control of costs, cut down errors, and cut material efficiently and effectively.

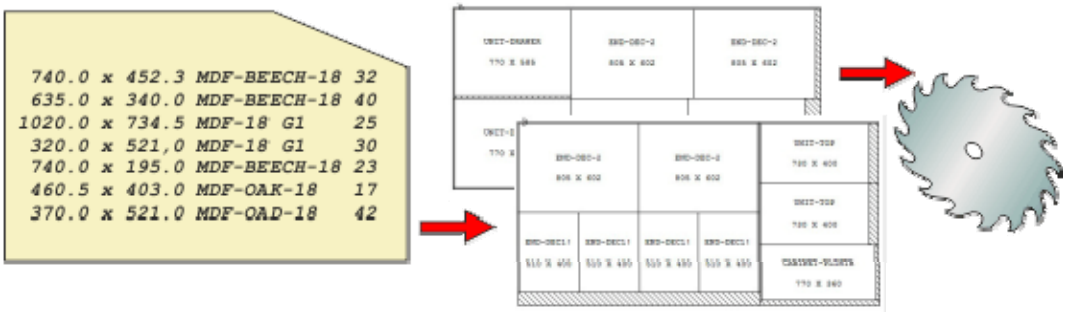
V11 deals with a variety of products.

- Kitchen cabinets
- Office furniture
- Shop fittings
- Doors
- Plastic fabrications
- Caravans
- Bathrooms
- Vanity Units

Enter or import part sizes and quantities and let the pro gram create a set of cutting patterns and cutting instructions. From the cutting patterns send information directly to the saw or machining centre to cut each pattern and machine each part.

The program works in Millimetres, Decimal Inches, or Fractional (Imperial) inches. Part lists can be entered in any measurement and converted.

The basic steps are:-



- Create or Import a list of part sizes
- Optimise
- Review cutting patterns
- Send cutting data to the saw

Why do I need this Interface guide ?

This guide is NOT required for everyday operation

Use this guide to integrate the Optimising program with other computer operations. Some typical situations are listed below.

Import parts lists or product requirements lists - part lists or lists of product requirements may be stored on another database / system and need to be transferred to the Optimising software ready for optimisation.

Export results for further analysis - export the summary results of each optimisation to another database or spread sheet for further analysis.

Stand alone operation - run a sub-set of the Optimising software. For example, one customer enters lists of parts to be cut at remote sites using a text editor and transfers the results to a central location to be optimised.

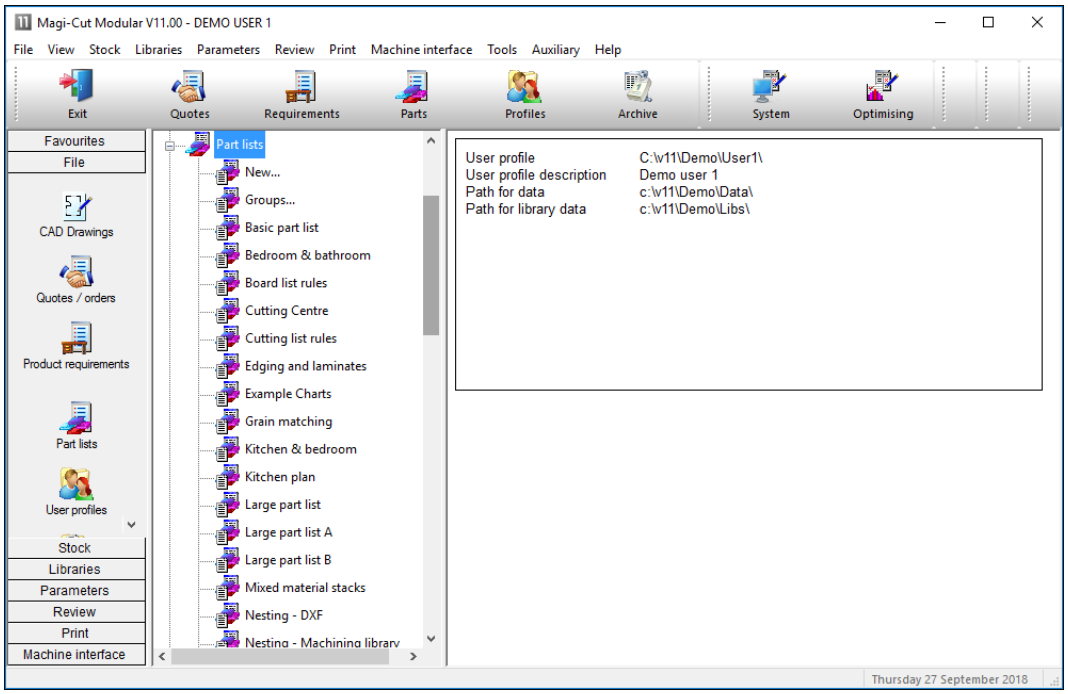
Interfacing with special machinery- to export data in a special format so that it can be used by other machinery. e.g. specialist loading or destacking equipment.

Interfacing with saws and machine centres not covered by the software - the Optimising software covers a wide range of saws and machining centres but it may be

necessary to do extra work to link to specialist machines or machines not covered by the standard software.

1.1 Overview of the program

Start at the main screen, this is the command centre of the system. Access all the options from here.



Main screen

The program name is shown at the top of the screen. There are different names in some countries, for example, Cut-Rite, Magi-Cut, Schnitt-Profi(t) …

At the left is a tree showing the various options and existing data. Click on an item in the tree to see the files in a category. There are also traditional menus and buttons to access all the options.

Part lists

A part list is a list of all the part sizes and quantities required for cutting. This might be for a single order or for several different jobs.

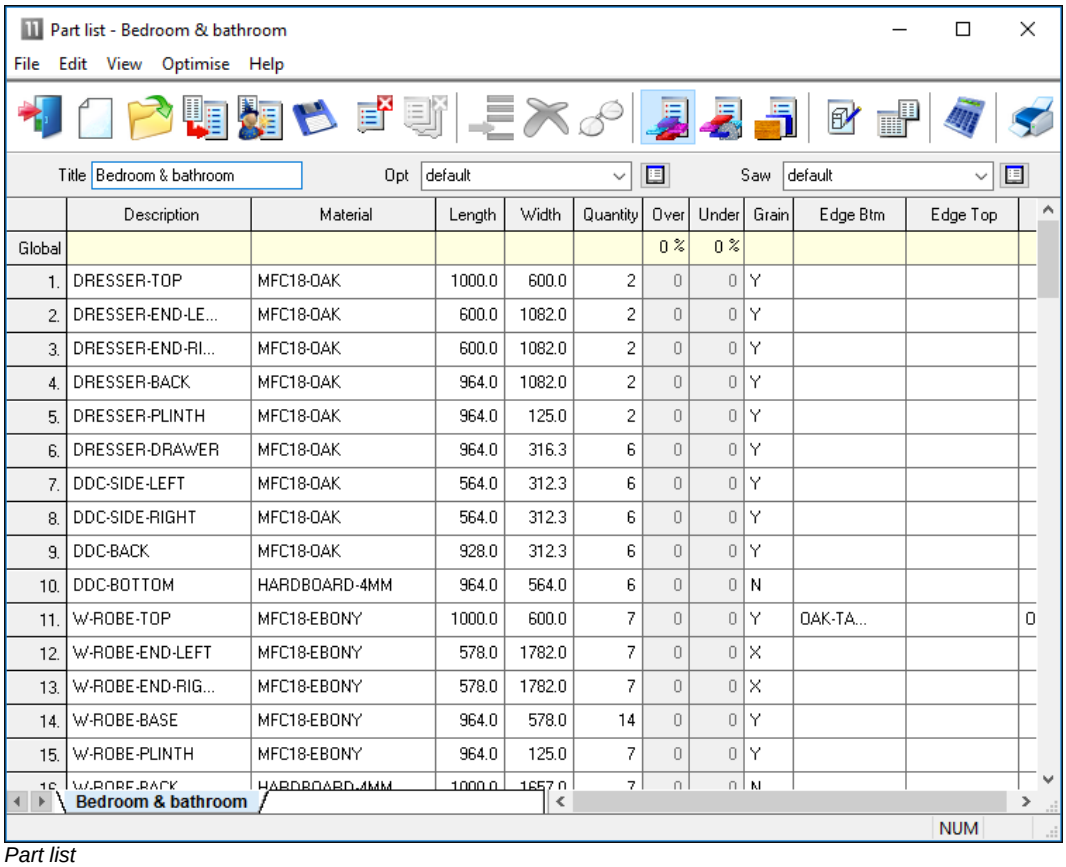
Select a part list by opening the Part list branch of the file tree and double clicking on a part list.

The program may prompt: *'Patterns exist - significant changes will delete patterns'* - this happens because in the demo data (installed with the system) many of the part lists are already optimised.

It is Ok to ignore this message as the next step is to optimise the part list and re-create the patterns.

The program moves on to the Part list editor screen. This is a spread sheet like grid listing part sizes and quantities and other information about each part type.

The part list contents are displayed.



	Description	Material	Length	Width	Quantity	Over	Under	Grain	Edge Btm	Edge Top	
Global						0 %	0 %				
1.	DRESSER-TOP	MFC18-OAK	1000.0	600.0	2	0	0	Y			
2.	DRESSER-END-LE...	MFC18-OAK	600.0	1082.0	2	0	0	Y			
3.	DRESSER-END-RI...	MFC18-OAK	600.0	1082.0	2	0	0	Y			
4.	DRESSER-BACK	MFC18-OAK	964.0	1082.0	2	0	0	Y			
5.	DRESSER-PLINTH	MFC18-OAK	964.0	125.0	2	0	0	Y			
6.	DRESSER-DRAWER	MFC18-OAK	964.0	316.3	6	0	0	Y			
7.	DDC-SIDE-LEFT	MFC18-OAK	564.0	312.3	6	0	0	Y			
8.	DDC-SIDE-RIGHT	MFC18-OAK	564.0	312.3	6	0	0	Y			
9.	DDC-BACK	MFC18-OAK	928.0	312.3	6	0	0	Y			
10.	DDC-BOTTOM	HARDBOARD-4MM	964.0	564.0	6	0	0	N			
11.	W-ROBE-TOP	MFC18-EBONY	1000.0	600.0	7	0	0	Y	OAK-TA...		0
12.	W-ROBE-END-LEFT	MFC18-EBONY	578.0	1782.0	7	0	0	X			
13.	W-ROBE-END-RIG...	MFC18-EBONY	578.0	1782.0	7	0	0	X			
14.	W-ROBE-BASE	MFC18-EBONY	964.0	578.0	14	0	0	Y			
15.	W-ROBE-PLINTH	MFC18-EBONY	964.0	125.0	7	0	0	Y			
16.	W-ROBE-BACK	HARDBOARD-4MM	1000.0	1657.0	7	0	0	N			

Part list

More than one list can be open.

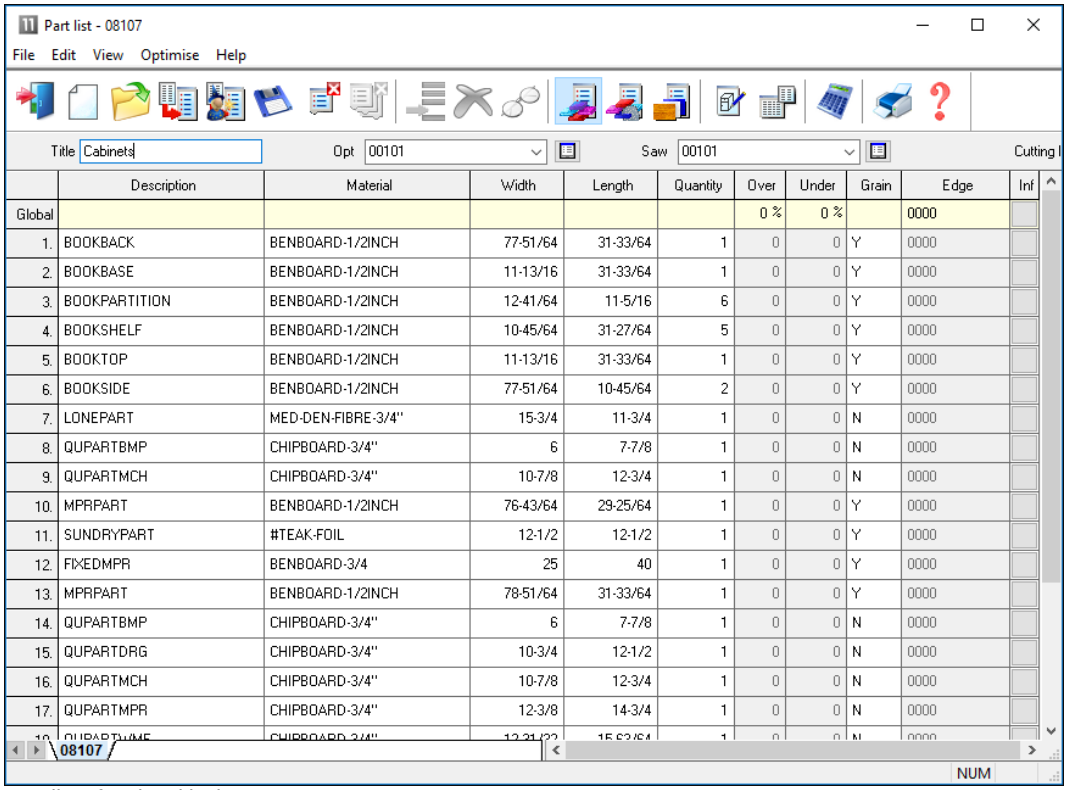
- Review and/or enter the required part list items. The basic information is:-

```
Description (or code)
Material code
Length
Width
Quantity
```

At the right of the part list screen there are several other columns - most of these are custom columns which can be used for all the extra data for parts, for example, edging, text for a part label, a tracking number …

MATERIAL CODE: This is important because it determines the material for a part. The program uses this to extract candidate boards from the board library and create a board list. The board list is simply the list of available board sizes and quantities for the job.

The program also supports fractional inches and decimal inches.

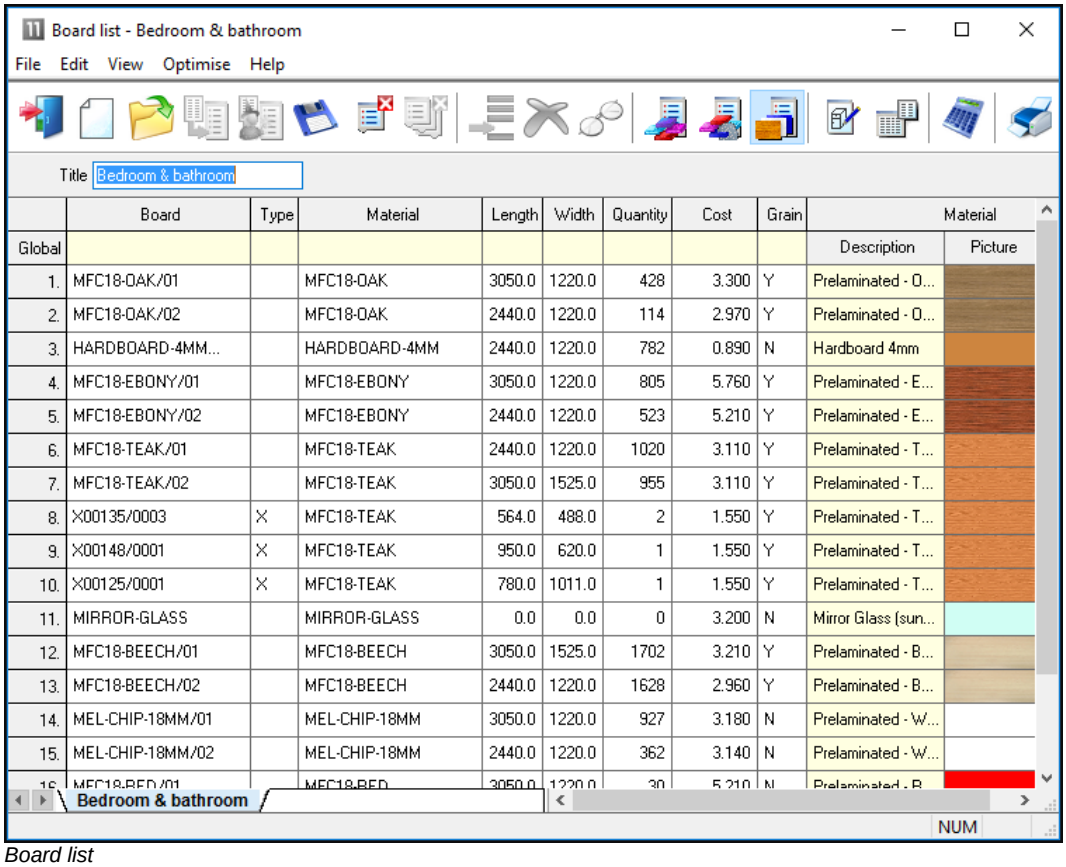


	Description	Material	Width	Length	Quantity	Over	Under	Grain	Edge	Inf
Global						0 %	0 %		0000	
1.	BOOKBACK	BENBOARD-1/2INCH	77-51/64	31-33/64	1	0	0	Y	0000	
2.	BOOKBASE	BENBOARD-1/2INCH	11-13/16	31-33/64	1	0	0	Y	0000	
3.	BOOKPARTITION	BENBOARD-1/2INCH	12-41/64	11-5/16	6	0	0	Y	0000	
4.	BOOKSHELF	BENBOARD-1/2INCH	10-45/64	31-27/64	5	0	0	Y	0000	
5.	BOOKTOP	BENBOARD-1/2INCH	11-13/16	31-33/64	1	0	0	Y	0000	
6.	BOOKSIDE	BENBOARD-1/2INCH	77-51/64	10-45/64	2	0	0	Y	0000	
7.	LONEPART	MED-DEN-FIBRE-3/4"	15-3/4	11-3/4	1	0	0	N	0000	
8.	QUPARTBMP	CHIPBOARD-3/4"	6	7-7/8	1	0	0	N	0000	
9.	QUPARTMCH	CHIPBOARD-3/4"	10-7/8	12-3/4	1	0	0	N	0000	
10.	MPRPART	BENBOARD-1/2INCH	76-43/64	29-25/64	1	0	0	Y	0000	
11.	SUNDRYPART	#TEAK-FOIL	12-1/2	12-1/2	1	0	0	Y	0000	
12.	FIXEDMPR	BENBOARD-3/4	25	40	1	0	0	Y	0000	
13.	MPRPART	BENBOARD-1/2INCH	78-51/64	31-33/64	1	0	0	Y	0000	
14.	QUPARTBMP	CHIPBOARD-3/4"	6	7-7/8	1	0	0	N	0000	
15.	QUPARTDRG	CHIPBOARD-3/4"	10-3/4	12-1/2	1	0	0	N	0000	
16.	QUPARTMCH	CHIPBOARD-3/4"	10-7/8	12-3/4	1	0	0	N	0000	
17.	QUPARTMPR	CHIPBOARD-3/4"	12-3/8	14-3/4	1	0	0	N	0000	

Part list - fractional inches

Board list

 Click on the toolbar symbol to view the Board list



	Board	Type	Material	Length	Width	Quantity	Cost	Grain	Material	
Global									Description	Picture
1.	MFC18-OAK/01		MFC18-OAK	3050.0	1220.0	428	3.300	Y	Prelaminated - O...	
2.	MFC18-OAK/02		MFC18-OAK	2440.0	1220.0	114	2.970	Y	Prelaminated - O...	
3.	HARDBOARD-4MM...		HARDBOARD-4MM	2440.0	1220.0	782	0.890	N	Hardboard 4mm	
4.	MFC18-EBONY/01		MFC18-EBONY	3050.0	1220.0	805	5.760	Y	Prelaminated - E...	
5.	MFC18-EBONY/02		MFC18-EBONY	2440.0	1220.0	523	5.210	Y	Prelaminated - E...	
6.	MFC18-TEAK/01		MFC18-TEAK	2440.0	1220.0	1020	3.110	Y	Prelaminated - T...	
7.	MFC18-TEAK/02		MFC18-TEAK	3050.0	1525.0	955	3.110	Y	Prelaminated - T...	
8.	X00135/0003	X	MFC18-TEAK	564.0	488.0	2	1.550	Y	Prelaminated - T...	
9.	X00148/0001	X	MFC18-TEAK	950.0	620.0	1	1.550	Y	Prelaminated - T...	
10.	X00125/0001	X	MFC18-TEAK	780.0	1011.0	1	1.550	Y	Prelaminated - T...	
11.	MIRROR-GLASS		MIRROR-GLASS	0.0	0.0	0	3.200	N	Mirror Glass (sun...	
12.	MFC18-BEECH/01		MFC18-BEECH	3050.0	1525.0	1702	3.210	Y	Prelaminated - B...	
13.	MFC18-BEECH/02		MFC18-BEECH	2440.0	1220.0	1628	2.960	Y	Prelaminated - B...	
14.	MEL-CHIP-18MM/01		MEL-CHIP-18MM	3050.0	1220.0	927	3.180	N	Prelaminated - W...	
15.	MEL-CHIP-18MM/02		MEL-CHIP-18MM	2440.0	1220.0	362	3.140	N	Prelaminated - W...	

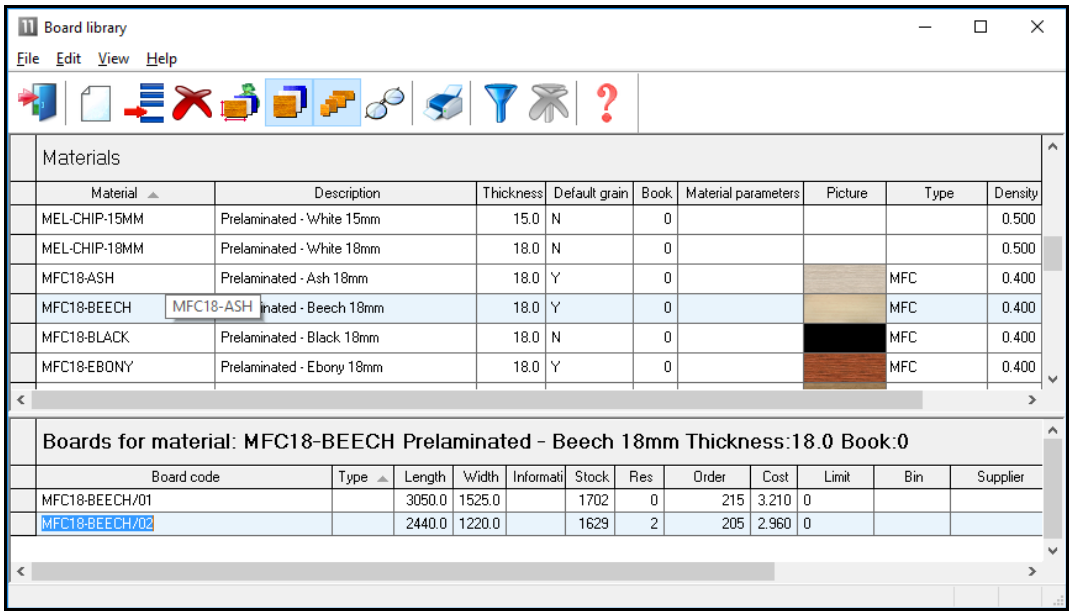
Board list

The Board list is created by the program extracting from the Board library all board sizes (and offcuts if any) matching the material codes used in the Part list against each part.

Board can include full size stock boards and offcuts from previous runs (marked with a type of ‘X’.

Board library

The board library stores the details and quantities of all the sheet material (a library is provided in the demo data).



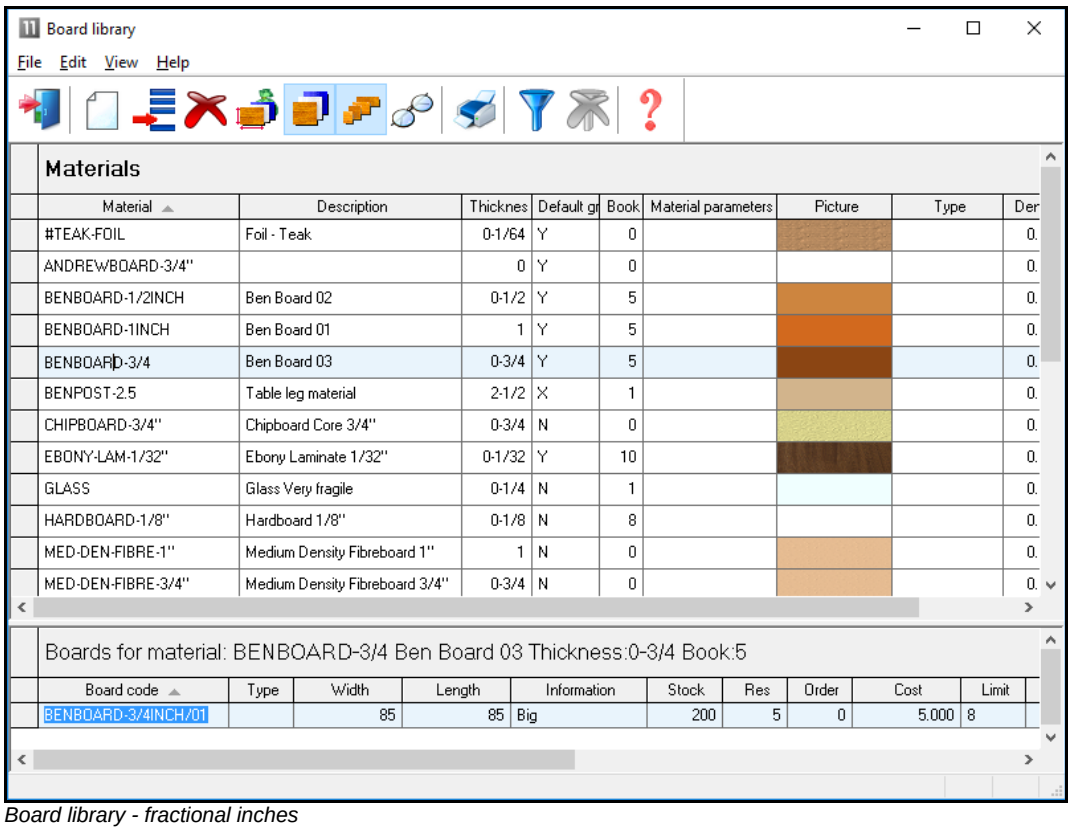
Board library

In this example there are two board sizes available for material MFC18-BEECH.

The board library can include extra information for each sheet size, for example, cost, how to deal with low stock levels, storage ...

Note - There are a wide range of materials from different suppliers so before using the program for real - an important task is to set up the board library for the materials typically available for the company.

The Board library also supports decimal and fractional inches.



Board library - fractional inches

Optimise

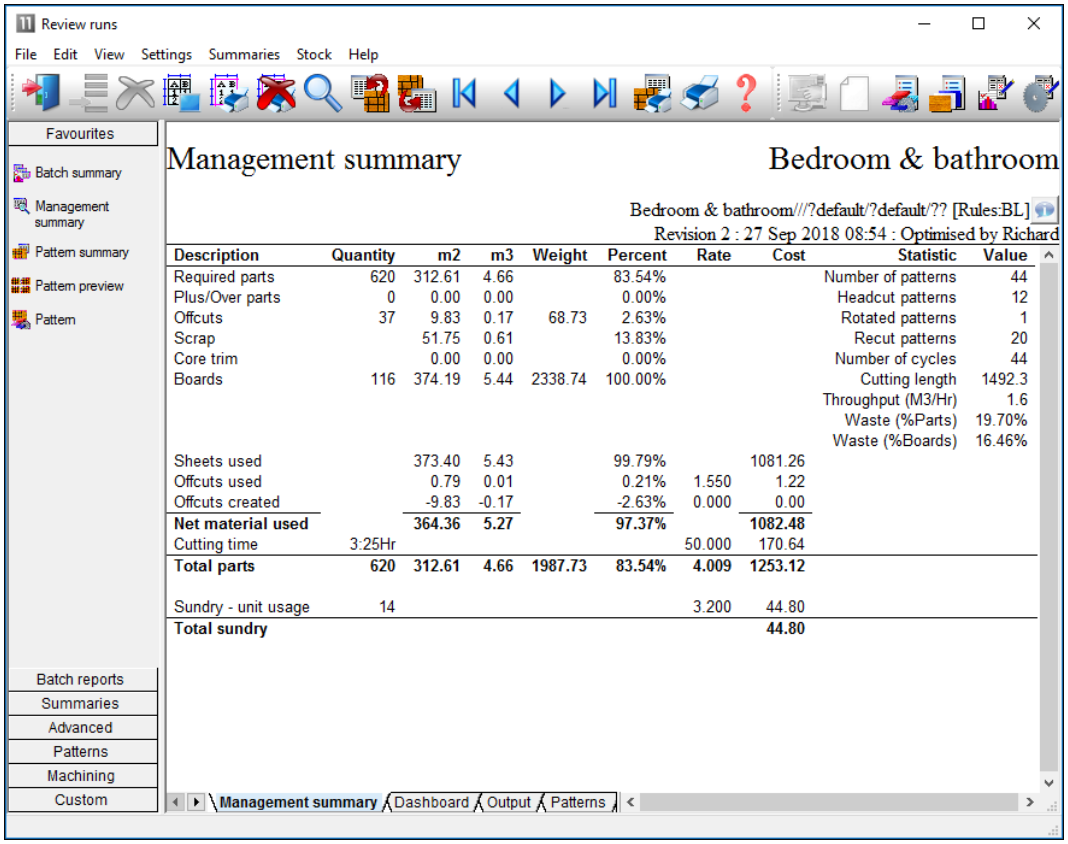
Once the Part list and Board list are created the job is ready to be optimised.

At the Part list screen (or at the Board list screen):-

 Select the optimise symbol

The program produces a set of cutting patterns and moves to the 'Review runs' section of the program. This shows all cutting patterns and a set of summary reports.

The first report shown is an overall summary of the job; the *Management Summary*.



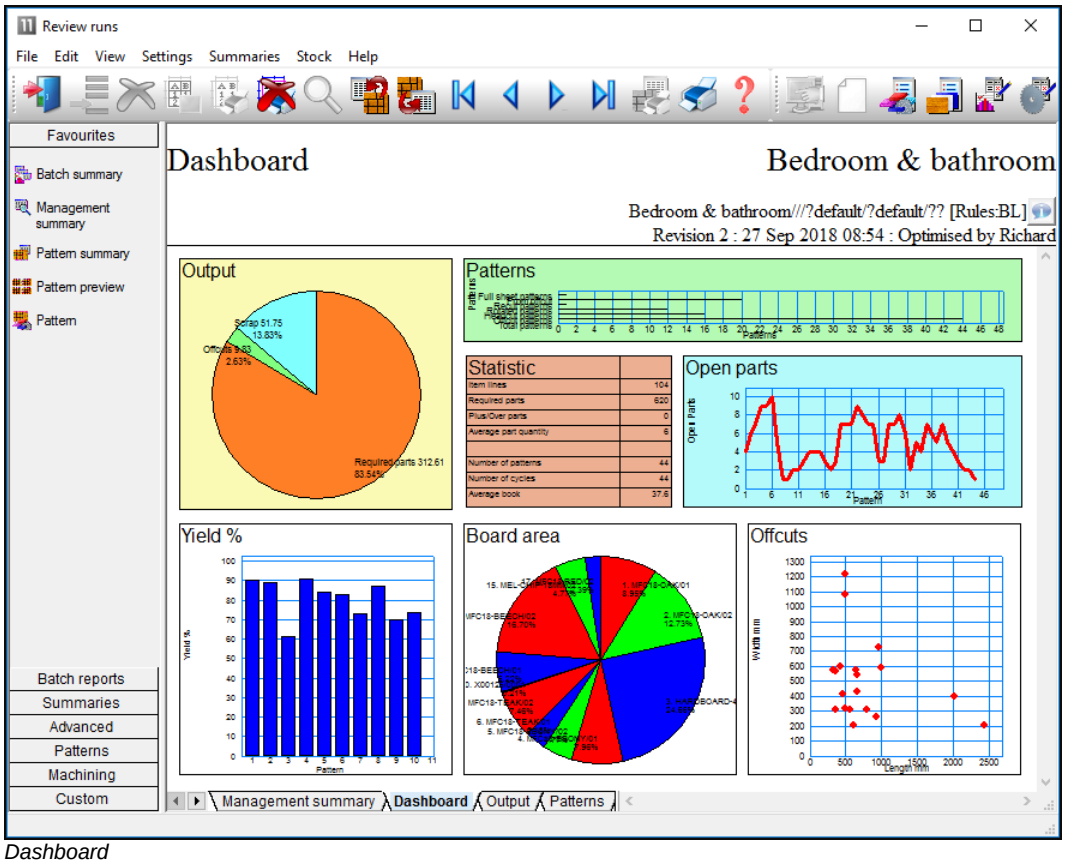
Description	Quantity	m2	m3	Weight	Percent	Rate	Cost	Statistic	Value
Required parts	620	312.61	4.66		83.54%			Number of patterns	44
Plus/Over parts	0	0.00	0.00		0.00%			Headcut patterns	12
Offcuts	37	9.83	0.17	68.73	2.63%			Rotated patterns	1
Scrap		51.75	0.61		13.83%			Recut patterns	20
Core trim		0.00	0.00		0.00%			Number of cycles	44
Boards	116	374.19	5.44	2338.74	100.00%			Cutting length	1492.3
								Throughput (M3/Hr)	1.6
								Waste (%Parts)	19.70%
								Waste (%Boards)	16.46%
Sheets used		373.40	5.43		99.79%		1081.26		
Offcuts used		0.79	0.01		0.21%	1.550	1.22		
Offcuts created		-9.83	-0.17		-2.63%	0.000	0.00		
Net material used		**364.36**	**5.27**		**97.37%**		**1082.48**		
Cutting time	3:25Hr					50.000	170.64		
Total parts	**620**	**312.61**	**4.66**	**1987.73**	**83.54%**	**4.009**	**1253.12**		
Sundry - unit usage	14					3.200	44.80		
Total sundry							**44.80**		

Management summary

This is an overall summary of the job, for example. Total costs, Overall Waste percentage, Net material used …

Use the Navigation buttons or 'Summaries' menu option to view other reports.

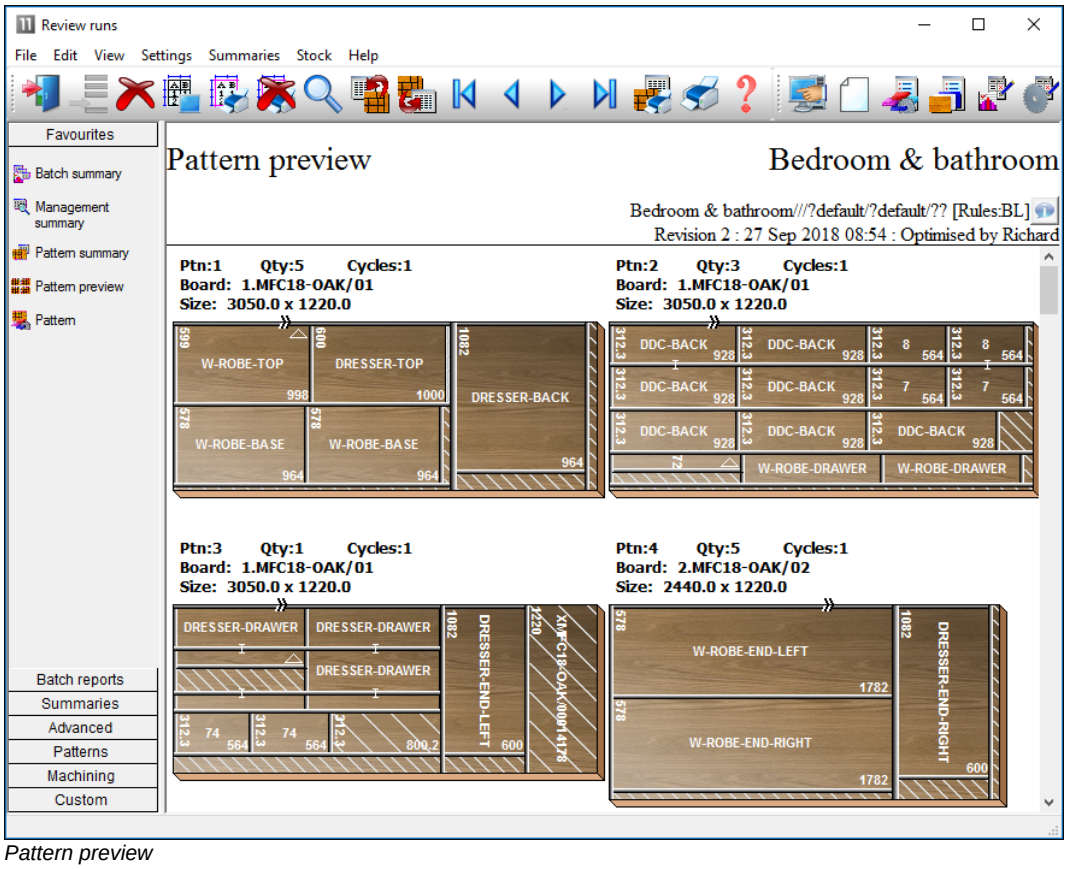
At the foot of the report are a set of tabs with more information. For example, the 'Dashboard' gives a graphical view of the data.



Dashboard

The individual cutting patterns are viewed via the 'Pattern preview' option.

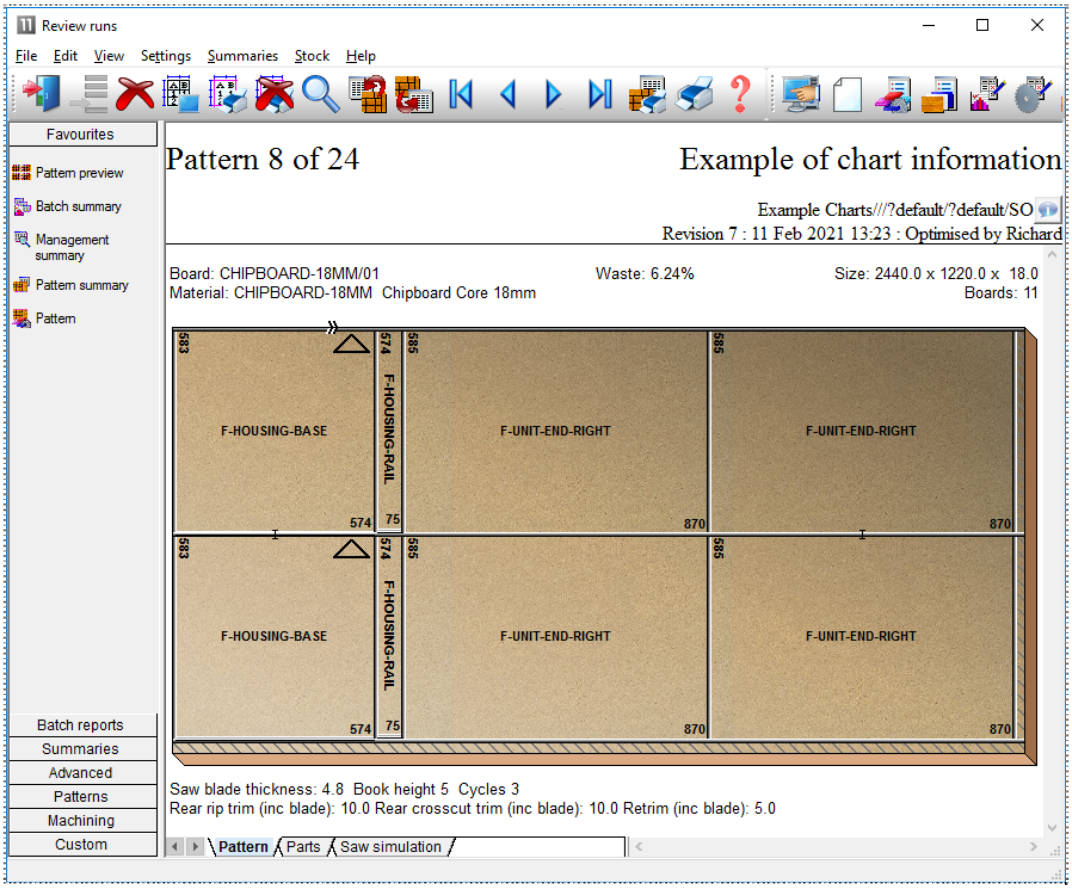
Pattern preview



Pattern preview

Use the navigation buttons or the Summaries menu to move between patterns and other summaries.

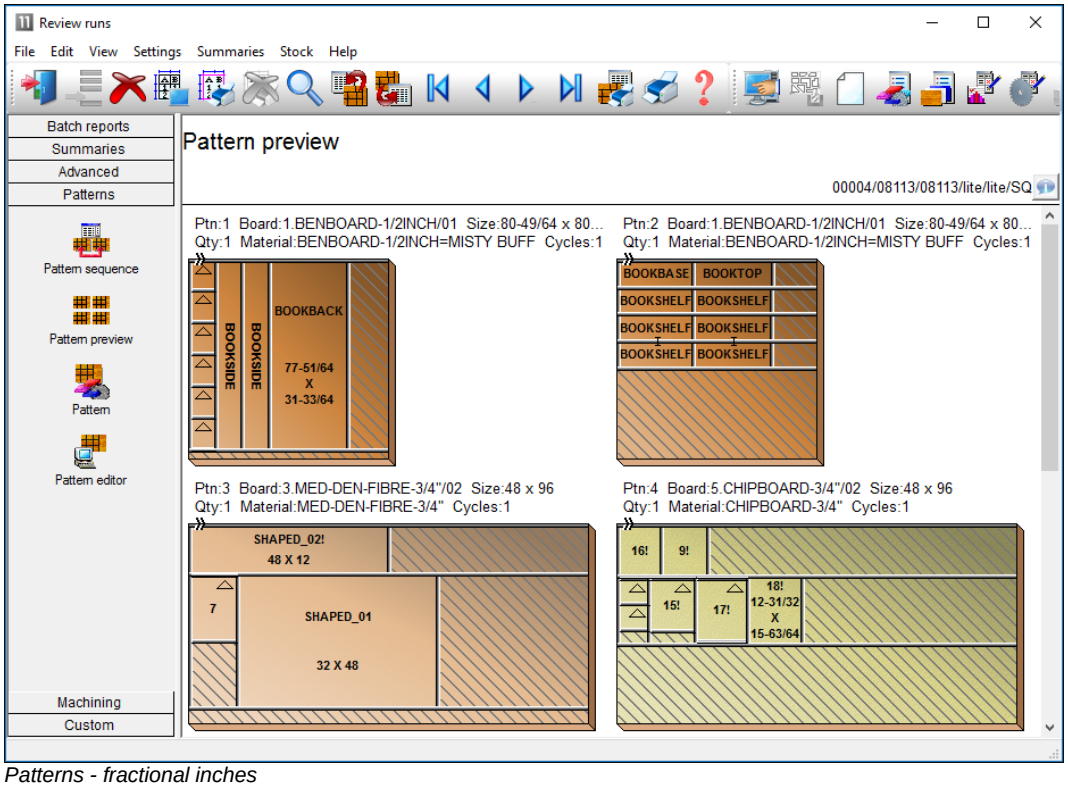
Double click on a thumbnail to view the pattern full screen.



Pattern

The tabs at the foot of the report show more details, for example, a full list of the parts produced by the pattern. The cuts, waste, offcuts and part information are shown for each pattern.

The program also supports decimal and fractional inches.



Patterns - fractional inches

In this example the display is set to use ‘Enhanced pictures’.

Transfer to Saw or Machining centre

After Optimisation the patterns (cutting instructions) are transferred to the Saw or Machining centre.

The program supports a wide range of saw controllers:-

CADmatic (all types)
Compumatic
Topmatic
Homag Sawtech (CHxx, NPS400, Ilenia)
Table saws
Online PC
Various other controllers
Printed patterns and cutting instructions for manual saws

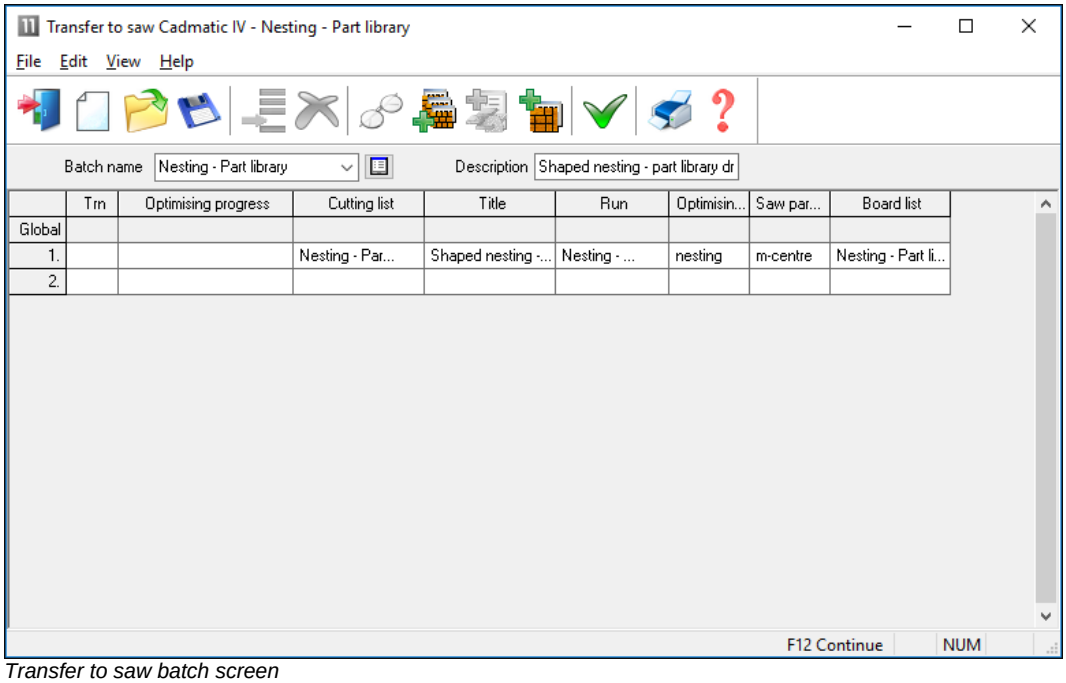
Some of the Machining centre transfer options are:-

2D DXF non-layered (DXF)
Busellato Autolink (DXF)
Weeke WoodWop V2.5 (MPR)
2D DXF layered (DXF)
Biesse RoverCAD (CID)
Morbidelli Aspan V3.2 (ASC)
Morbidelli Aspan V4.0 (ASC)
3D DXF layered (DXF)
Weeke WoodWop V4/V5/V6/V7 (MPR(X))
2D DXF nested layered (DXF)
2D DXF Biesse layered (DXF)
ASCII/Unicode (PTX)
MDB (PTX)

At the main screen select the Saw transfer or Machining Interface option.

 Saw Transfer  Machining interface

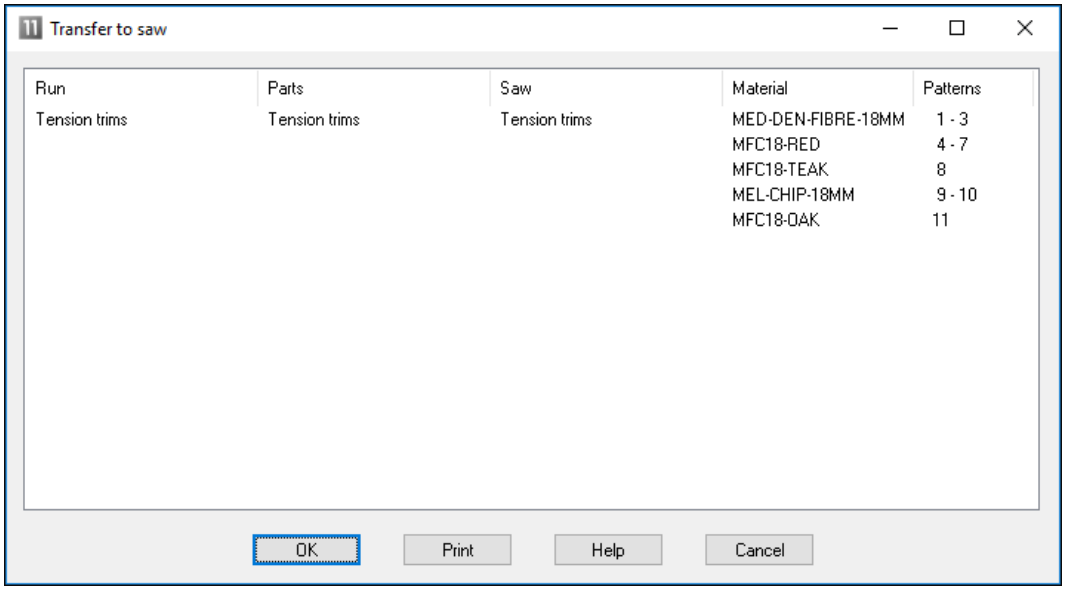
For Saw transfer, for example, the program prompts with the current job.



Transfer to saw batch screen

Select the 'Continue' option

The program displays the data to transfer.



Transfer to Saw

- OK to confirm

The transfer is finished.

Note - For practical use the saw transfer and machining transfer need to be set up for the company's machines. There are parameters for this and a wide range of options are available.

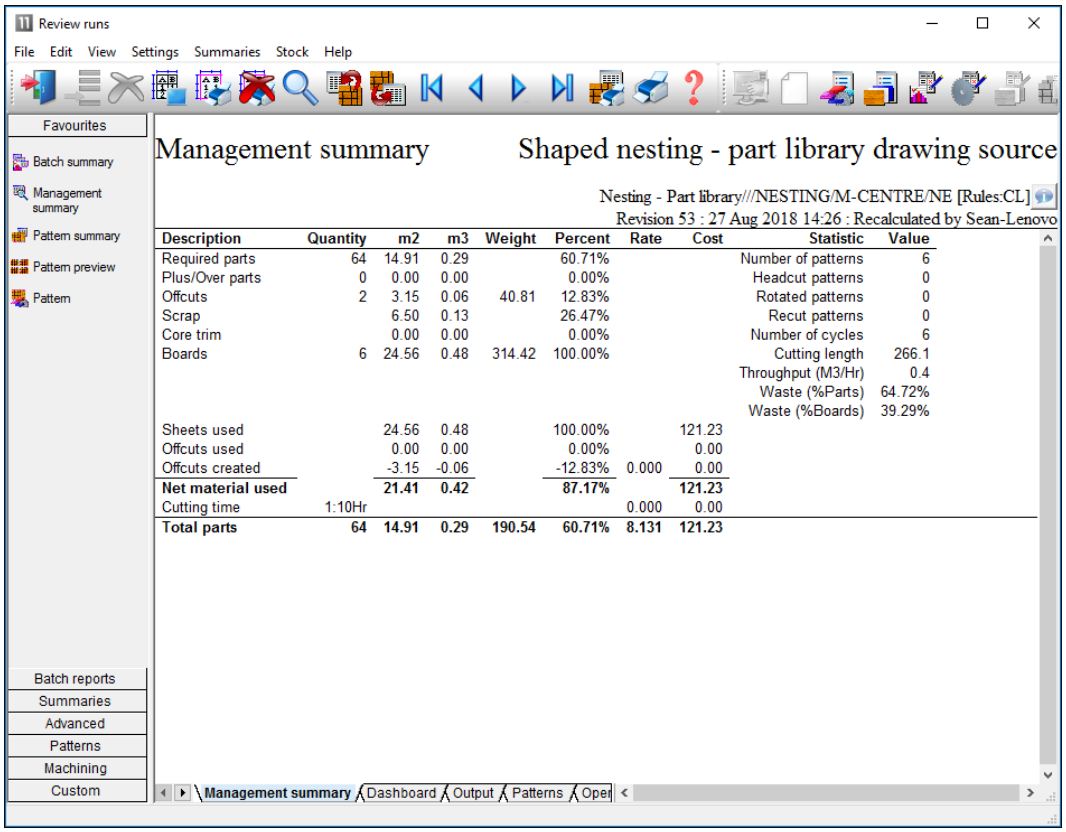
Typically the saw or machining centre transfer sends data to a location on the Network (Path for Saw data) and a separate program provided by the machinery manufacturer runs and sends the data to the machine.

1.2 Nested Optimising

The program also provides Nested optimising - in this case the transfer is usually to a Machine centre to both divide the patterns and machine the parts.

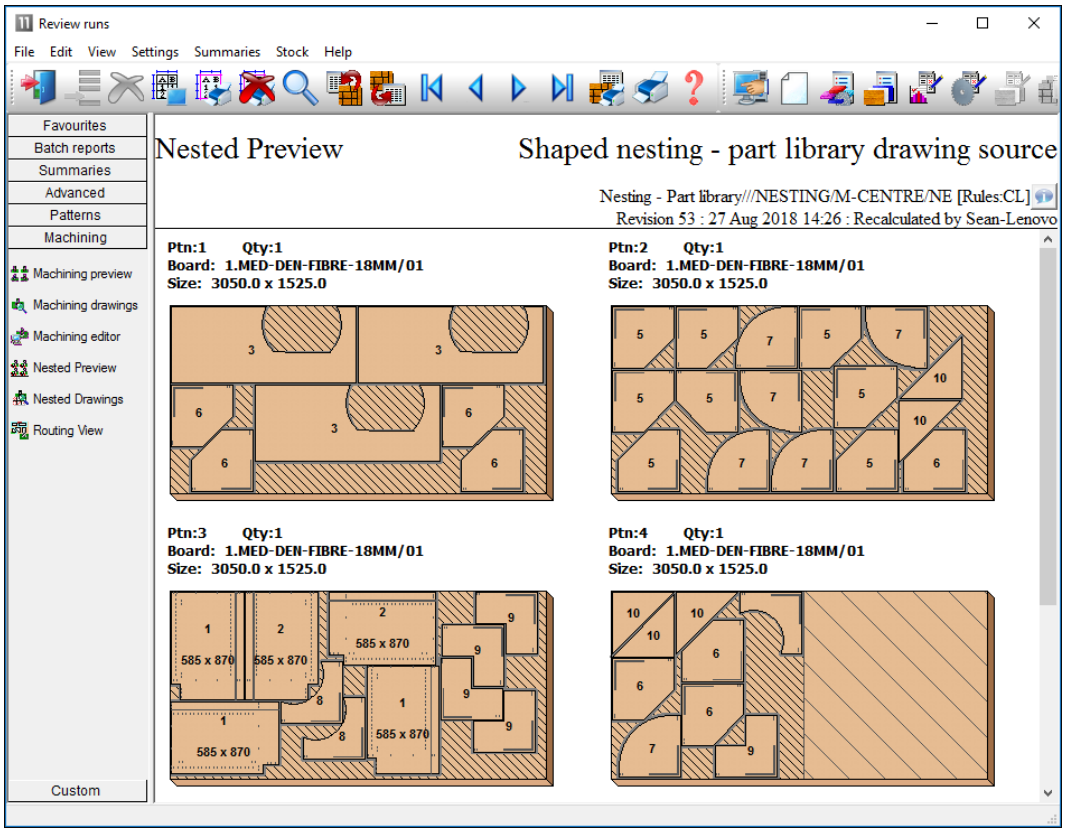
The Nested optimiser deals with Rectangular and Shaped parts.

Import and Export operate in the same way for Optimising and Nested Optimising and the program operations and reports are the same, for example, the Management summary.

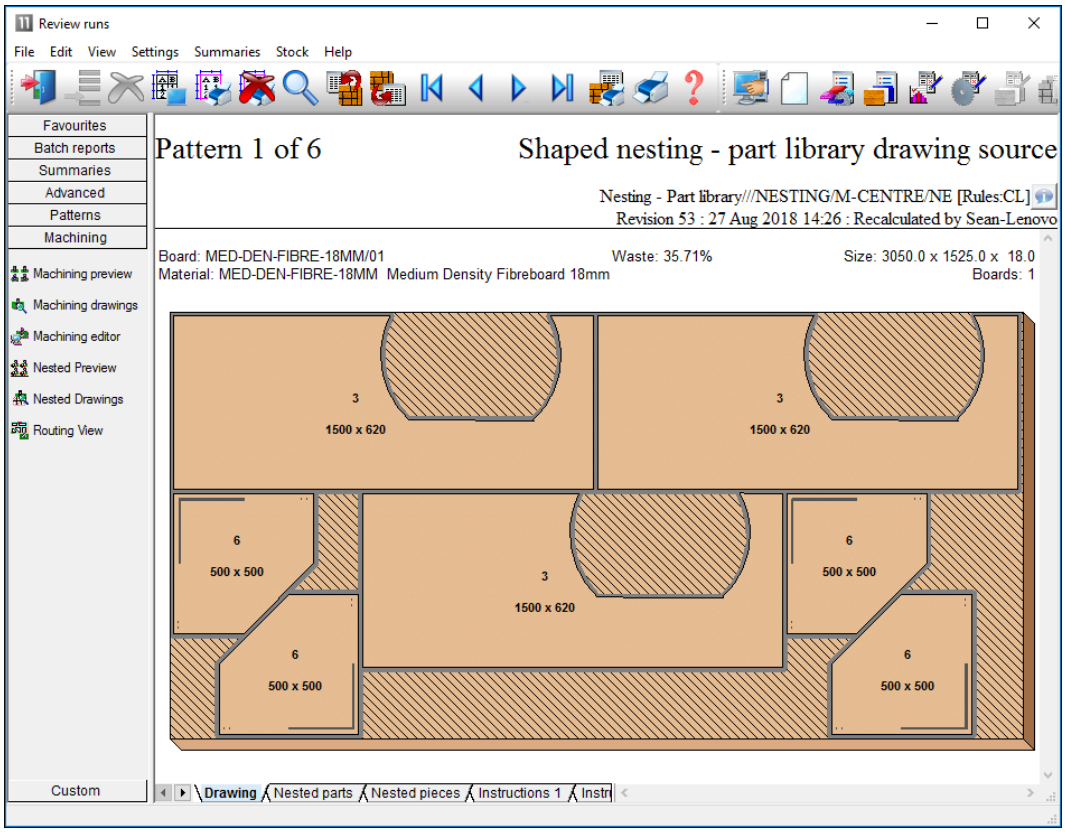


Description	Quantity	m2	m3	Weight	Percent	Rate	Cost	Statistic	Value
Required parts	64	14.91	0.29		60.71%			Number of patterns	6
Plus/Over parts	0	0.00	0.00		0.00%			Headcut patterns	0
Offcuts	2	3.15	0.06	40.81	12.83%			Rotated patterns	0
Scrap		6.50	0.13		26.47%			Recut patterns	0
Core trim		0.00	0.00		0.00%			Number of cycles	6
Boards	6	24.56	0.48	314.42	100.00%			Cutting length	266.1
								Throughput (M3/Hr)	0.4
								Waste (%Parts)	64.72%
								Waste (%Boards)	39.29%
Sheets used		24.56	0.48		100.00%		121.23		
Offcuts used		0.00	0.00		0.00%		0.00		
Offcuts created		-3.15	-0.06		-12.83%	0.000	0.00		
Net material used		**21.41**	**0.42**		**87.17%**		**121.23**		
Cutting time	1:10Hr					0.000	0.00		
Total parts	**64**	**14.91**	**0.29**	**190.54**	**60.71%**	**8.131**	**121.23**		

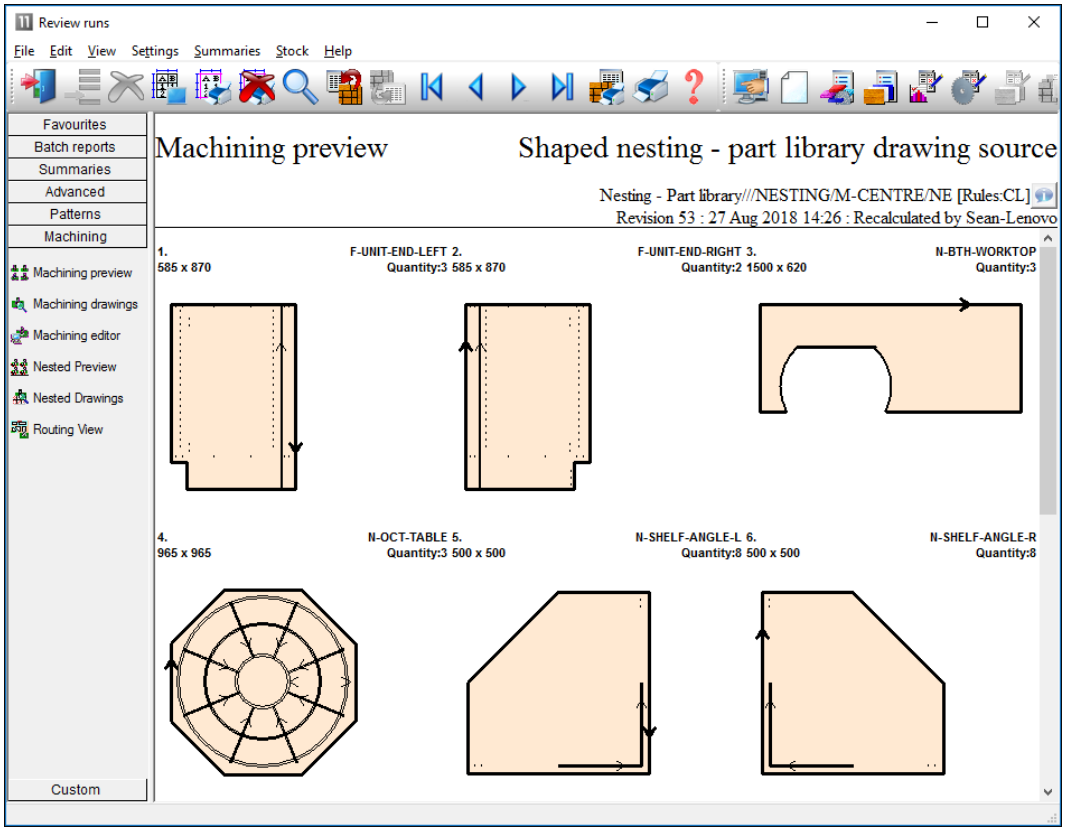
The runs are typically based on rectangular and shaped parts and are usually for smaller run quantities, processed one high.



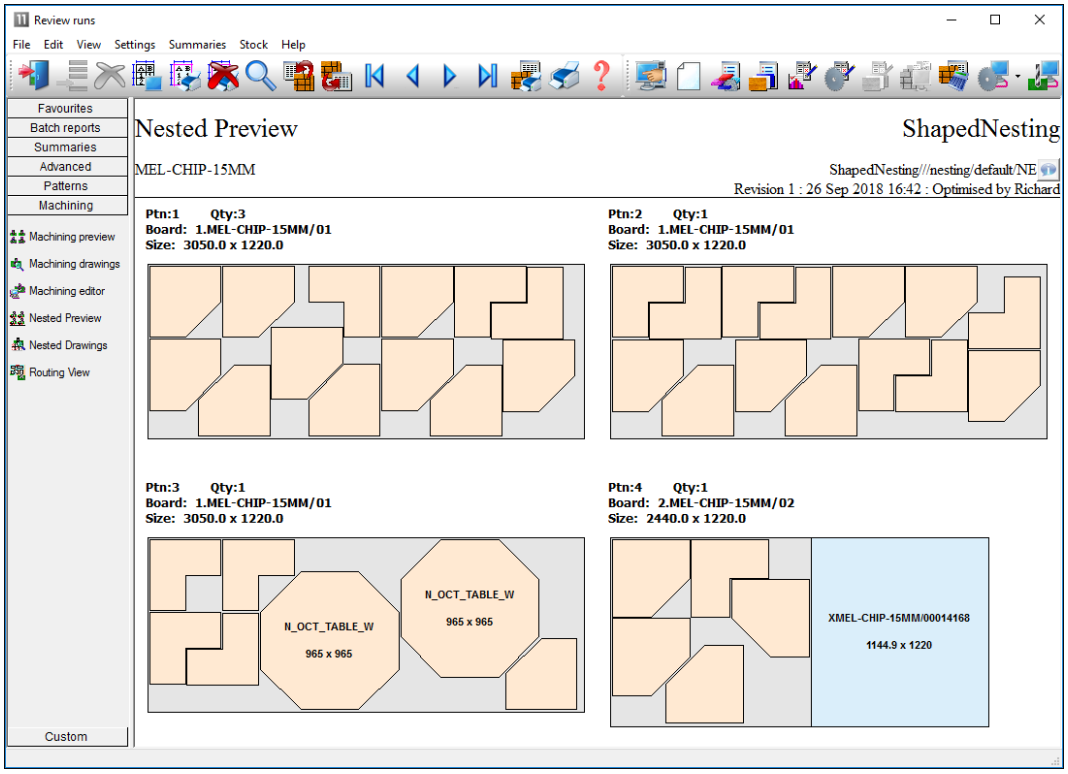
The pattern contains the cutting instructions for the pattern and the machining for each part.



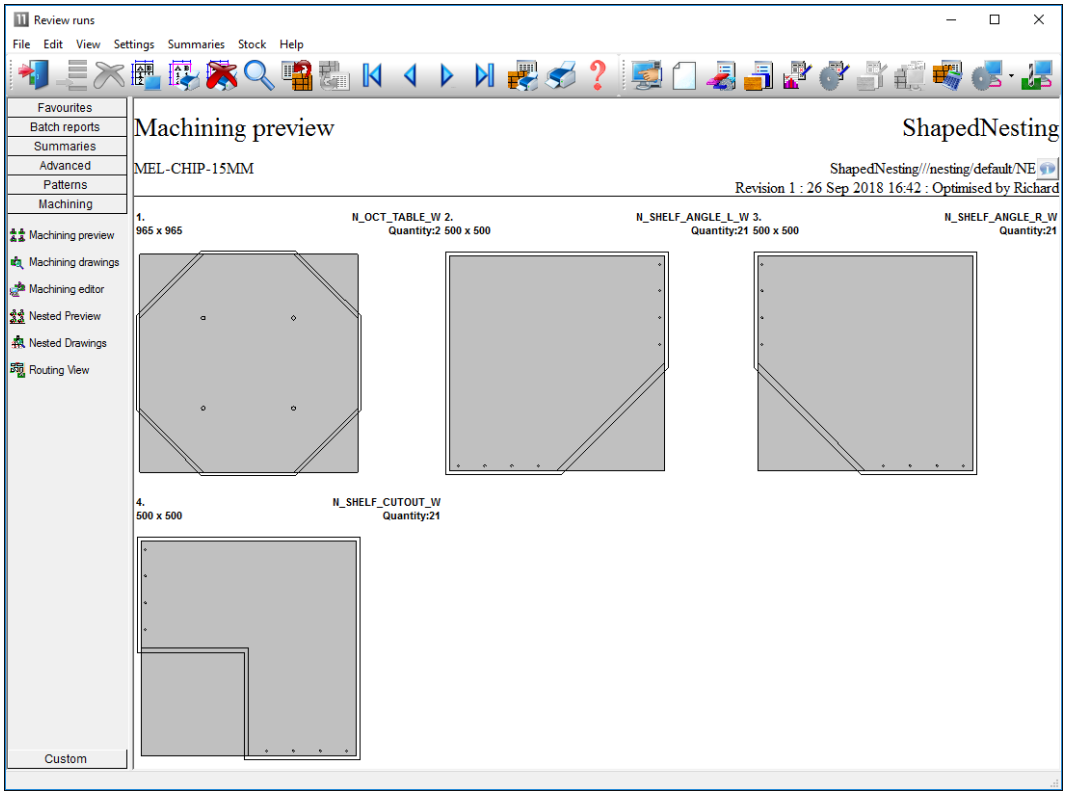
Patterns can include complex shapes and mchining.



The nesting option can be used and integrated with Weeke WoodWop and MPR(X) files.



In this example the patterns are based on MPR(X) drawings.



Note - When dealing with MPR(X) parts import can be a bit tricky as it has to take account of the variables in the MPR(X) files.

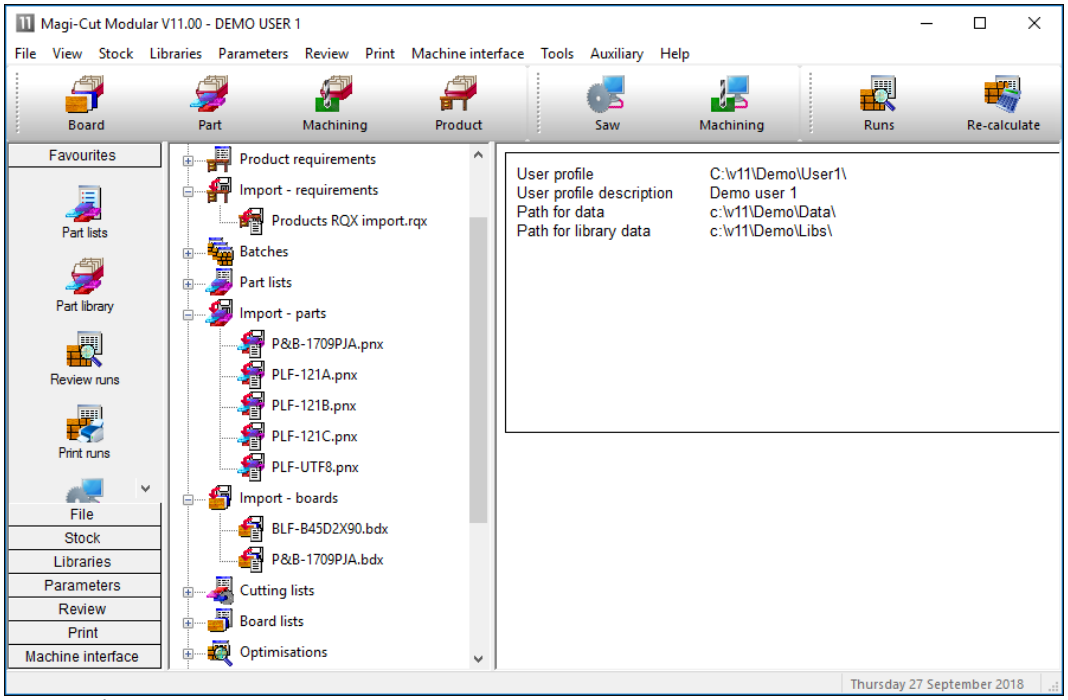
2. Import data

These days it is common for programs to interact with other files and systems. For example, part lists or product requirements may be created by a separate Sales order system; Boards may need to be imported from a stock control database.

Several different types of data can be imported.

Import parts
Import product requirements
Import boards
Import patterns (including parts and boards)
Import Quotes and Orders

These options are also available on the File Toolbar. Data can also be directly imported to a Part list.



Import options

Most common is to import parts lists created by another system, for example, an order or sales system.

When working with products it is quite likely the product requirements are generated by an external sales system.

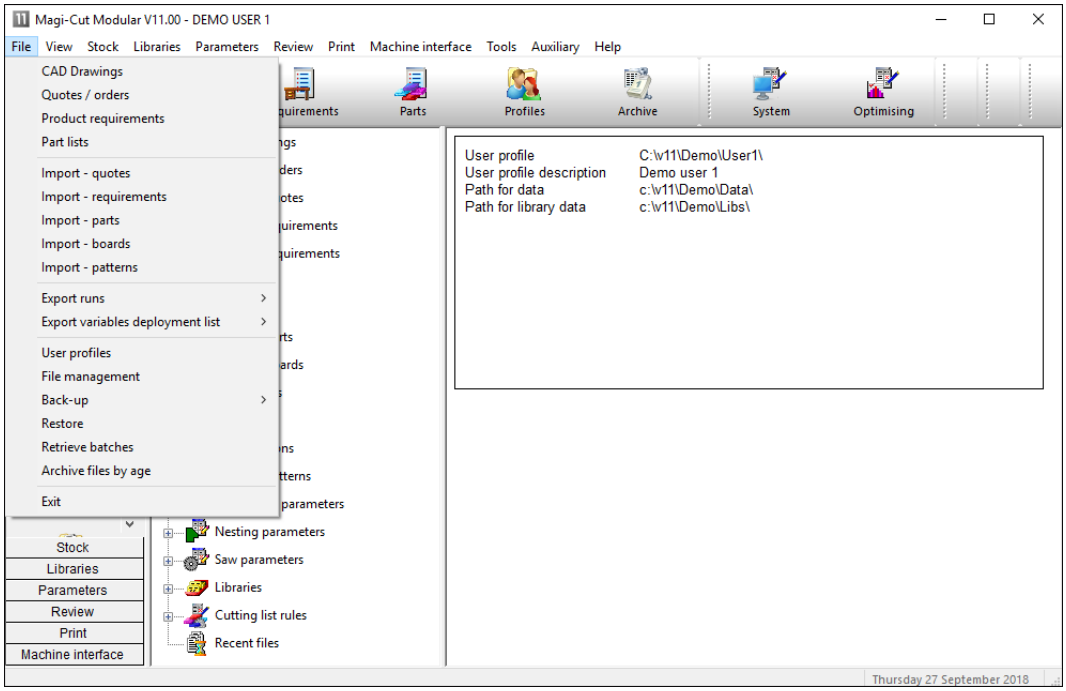
For boards is it sometimes necessary to import boards to the board library (the Stock control module is required for this). The system can also be set up to synchronise with external board databases e.g. Bargstedt SQL.

Sometimes users with one-off jobs with special board sizes prefer to import the board list rather than add those items to the board library.

2.1 Import parts

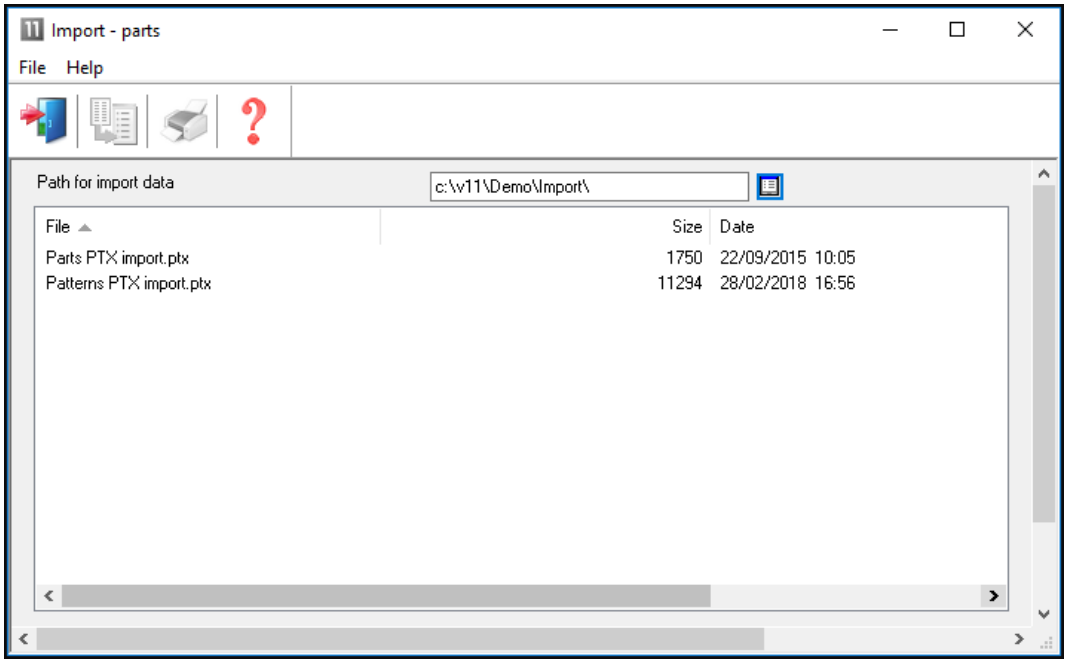
Import parts - operation

Part lists can be quickly imported. At the main menu there are direct options on the File menu.



Import parts

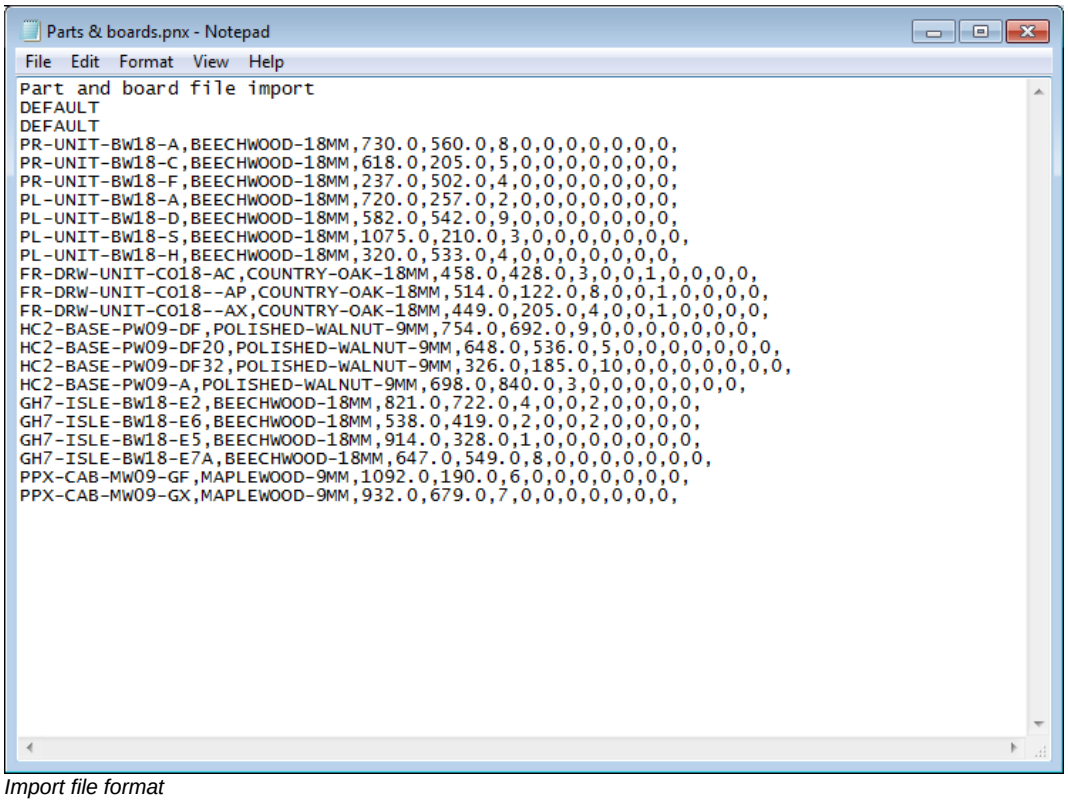
The program moves to the Import screen.



Import parts

- Select a file to import

In this example the import format is the program's format (named PNX; a ‘comma separated values (CSV)’ file with the fields in a fixed order.



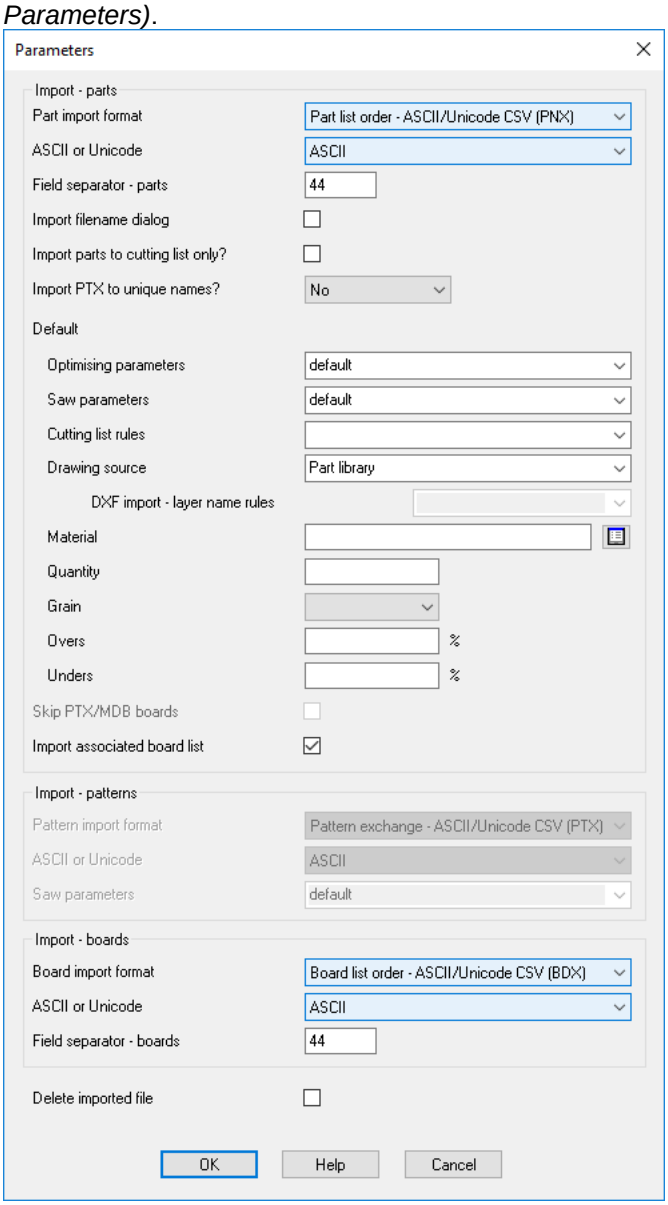
Import file format

For importing parts there are two basic settings to consider.

- Set the System parameter: *Path for import data* to specify where the files to import are located.

- Set the 'Import parameters' to describe the import format and other features of the import.

The import parameters are accessed from the Import dialog (*File - Import parts - File - Parameters)*.



Import parameters

One of the simplest options is: *Part list order – ASCII/Unicode CSV (PNX)*

The standard format is PNX but there are several other formats to choose from. Some are more complex imports where part and board sizes can be imported in one go or a batch of part lists can be imported, for example, 'Batch, part list order'. The options are:-

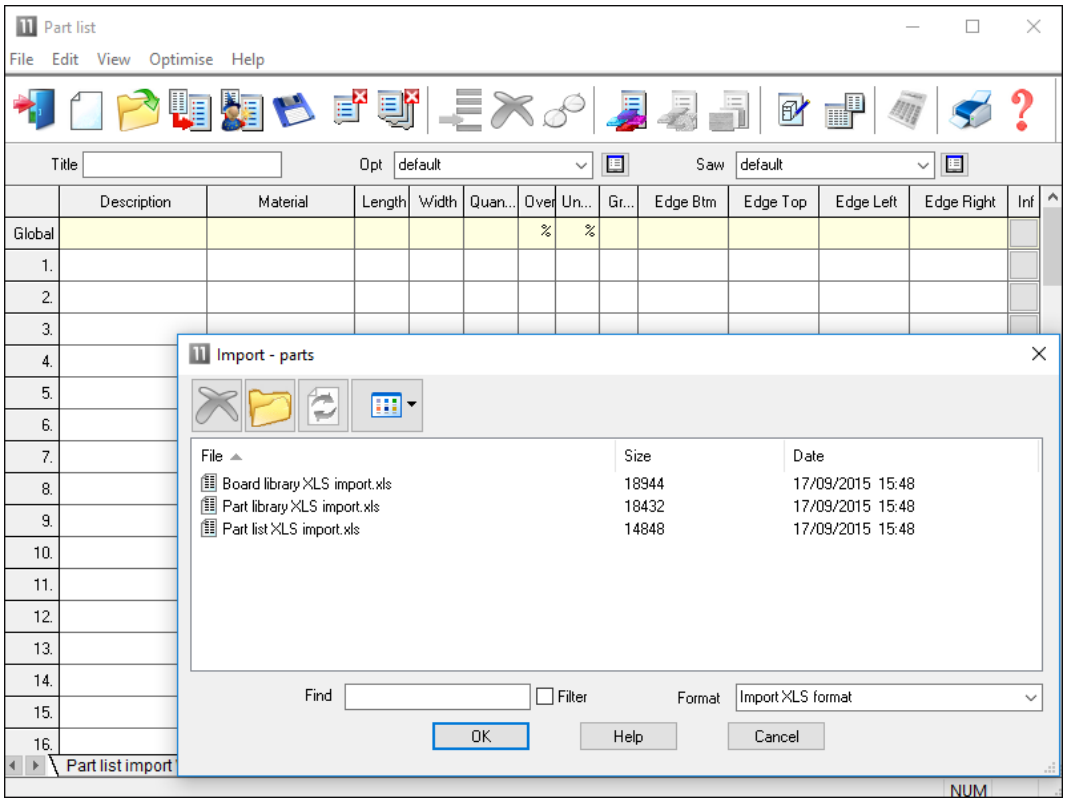
Part list order – ASCII/Unicode CSV (PNX)
Cabinet Vision format
Product Planner format
Code and quantity – ASCII/Unicode CSV (PNX)
Batch - part list order (BTX & PNX)
Batch - Code and quantity (BTX & PNX)
User defined order – ASCII/Unicode CSV
Batch - user defined order (BTX)
Parts & boards – ASCII/Unicode CSV (PTX)
Parts & boards - Access (MDB)
User defined order (XLS)
User defined order (XLXS)

There are several other parameters to control the import of parts, for example, to set the separator character and to set whether the import files are deleted after import …

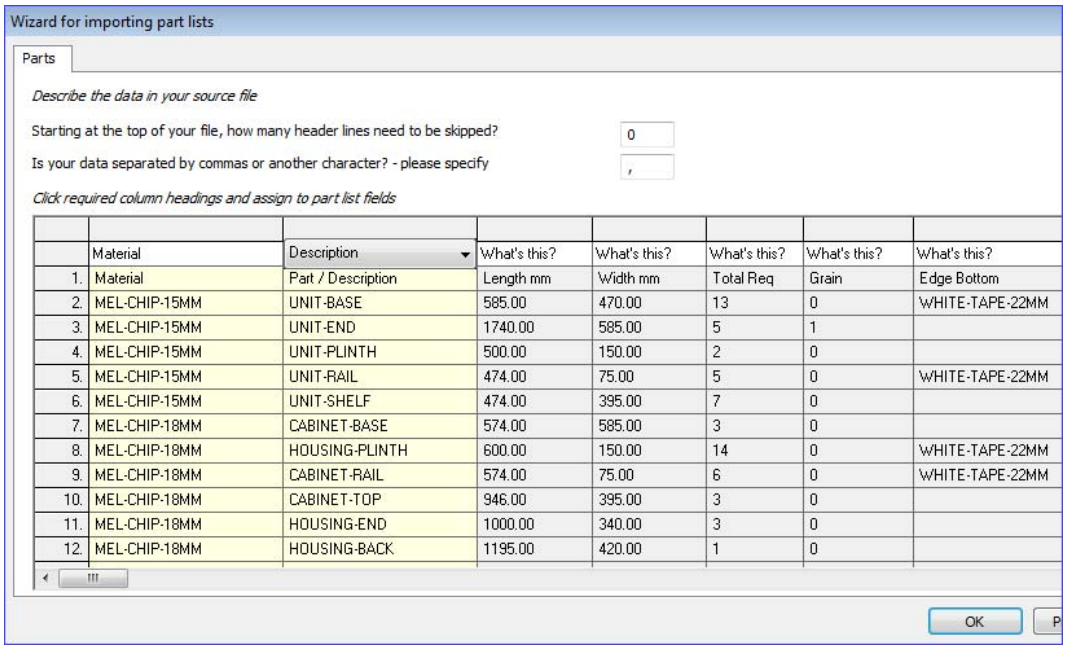
Custom import formats - It is also possible to use a custom format (user defined format). This can be useful where there is limited control over the format of the external file (see: *Part list import parameters'*). Once the format is set files can be quickly imported from the File tree at the main screen.

Import data at the Part list

At the part list data can be imported directly (*File – Import*)



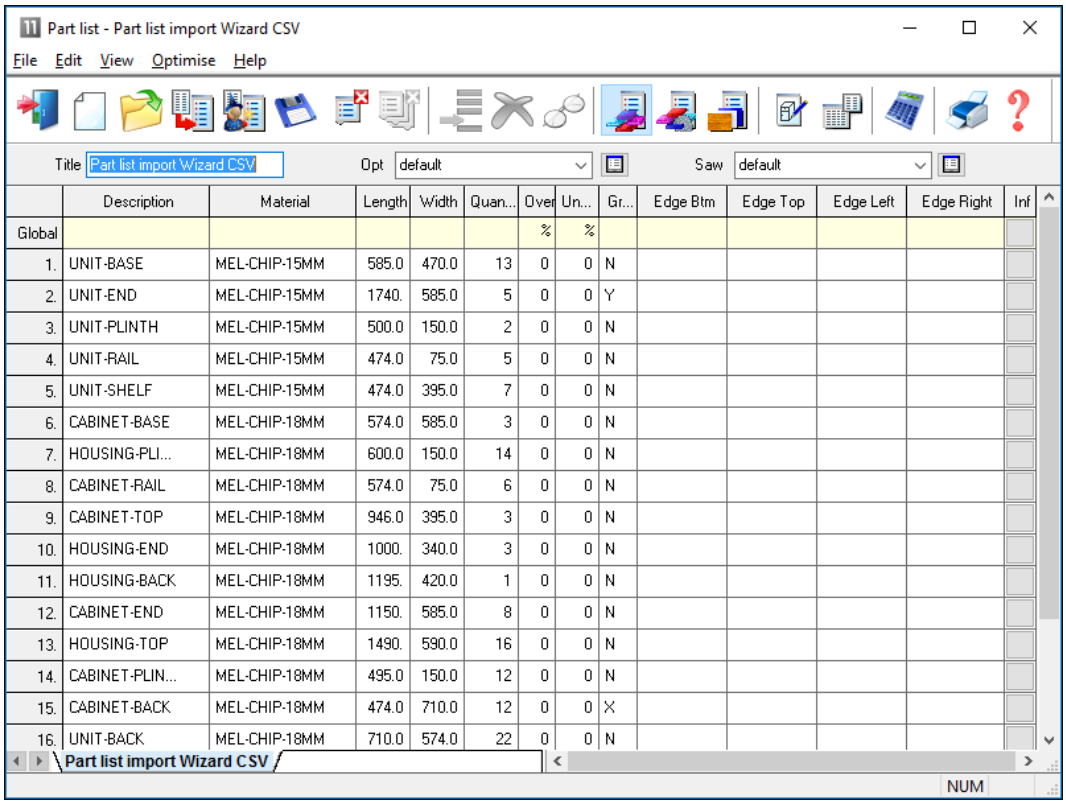
Where the format of the external file is not known or needs to be set up – use the Import Wizard (*File – Import Wizard*).



	Material	Description	What's this?	What's this?	What's this?	What's this?	What's this?
1.	Material	Part / Description	Length mm	Width mm	Total Req	Grain	Edge Bottom
2.	MEL-CHIP-15MM	UNIT-BASE	585.00	470.00	13	0	WHITE-TAPE-22MM
3.	MEL-CHIP-15MM	UNIT-END	1740.00	585.00	5	1	
4.	MEL-CHIP-15MM	UNIT-PLINTH	500.00	150.00	2	0	
5.	MEL-CHIP-15MM	UNIT-RAIL	474.00	75.00	5	0	WHITE-TAPE-22MM
6.	MEL-CHIP-15MM	UNIT-SHELF	474.00	395.00	7	0	
7.	MEL-CHIP-18MM	CABINET-BASE	574.00	585.00	3	0	
8.	MEL-CHIP-18MM	HOUSING-PLINTH	600.00	150.00	14	0	WHITE-TAPE-22MM
9.	MEL-CHIP-18MM	CABINET-RAIL	574.00	75.00	6	0	WHITE-TAPE-22MM
10.	MEL-CHIP-18MM	CABINET-TOP	946.00	395.00	3	0	
11.	MEL-CHIP-18MM	HOUSING-END	1000.00	340.00	3	0	
12.	MEL-CHIP-18MM	HOUSING-BACK	1195.00	420.00	1	0	

The program imports data from any CSV (comma separated values) files and Excel files.

You can then work through the fields and assign them to the correct Part list fields name by selecting the field name on the 'What's this' button.

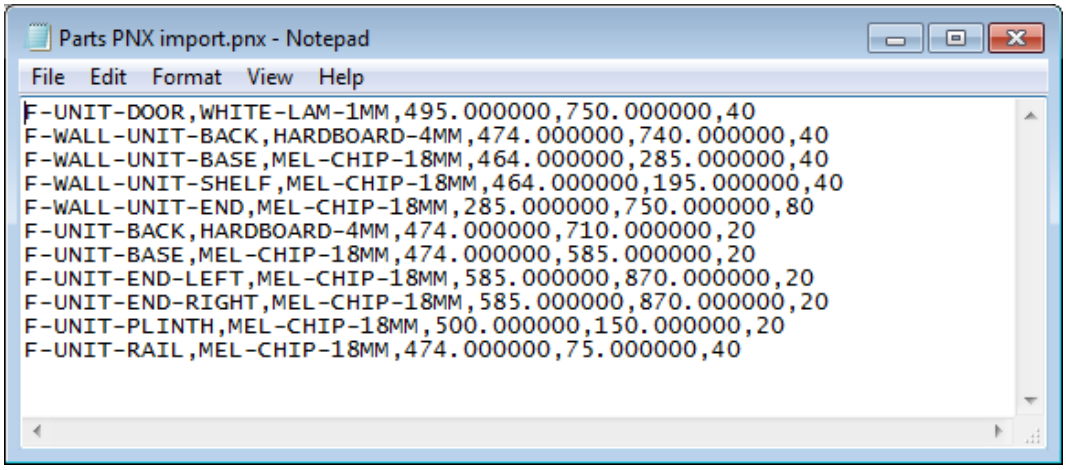


	Description	Material	Length	Width	Quan...	Over	Un...	Gr...	Edge Btm	Edge Top	Edge Left	Edge Right	Inf
Global						%	%						
1.	UNIT-BASE	MEL-CHIP-15MM	585.0	470.0	13	0	0	N					
2.	UNIT-END	MEL-CHIP-15MM	1740.	585.0	5	0	0	Y					
3.	UNIT-PLINTH	MEL-CHIP-15MM	500.0	150.0	2	0	0	N					
4.	UNIT-RAIL	MEL-CHIP-15MM	474.0	75.0	5	0	0	N					
5.	UNIT-SHELF	MEL-CHIP-15MM	474.0	395.0	7	0	0	N					
6.	CABINET-BASE	MEL-CHIP-18MM	574.0	585.0	3	0	0	N					
7.	HOUSING-PLI...	MEL-CHIP-18MM	600.0	150.0	14	0	0	N					
8.	CABINET-RAIL	MEL-CHIP-18MM	574.0	75.0	6	0	0	N					
9.	CABINET-TOP	MEL-CHIP-18MM	946.0	395.0	3	0	0	N					
10.	HOUSING-END	MEL-CHIP-18MM	1000.	340.0	3	0	0	N					
11.	HOUSING-BACK	MEL-CHIP-18MM	1195.	420.0	1	0	0	N					
12.	CABINET-END	MEL-CHIP-18MM	1150.	585.0	8	0	0	N					
13.	HOUSING-TOP	MEL-CHIP-18MM	1490.	590.0	16	0	0	N					
14.	CABINET-PLIN...	MEL-CHIP-18MM	495.0	150.0	12	0	0	N					
15.	CABINET-BACK	MEL-CHIP-18MM	474.0	710.0	12	0	0	X					
16.	UNIT-BACK	MEL-CHIP-18MM	710.0	574.0	22	0	0	N					

Note – you can also cut and paste directly from a spreadsheet to the part list – for example where the spreadsheet has data in the same order and format as the part list.

Part list details

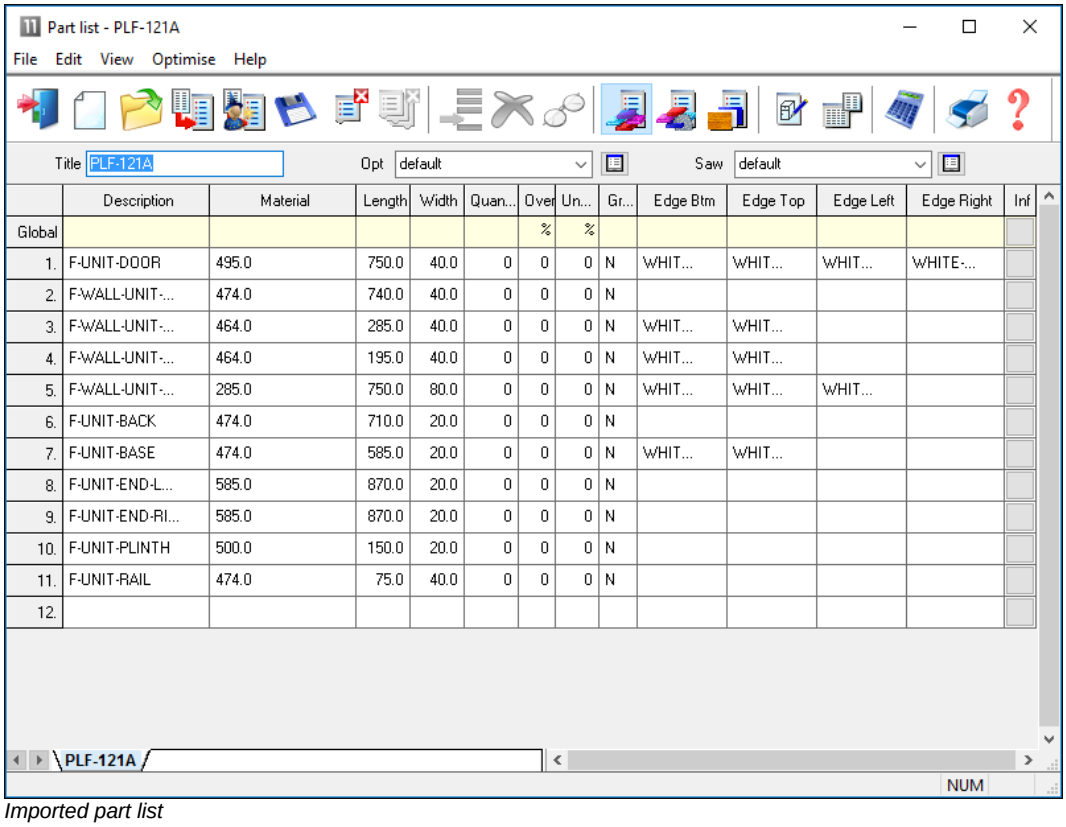
A part list is a list of part sizes and quantities to cut. 'Import parts' is the process of importing a list of sizes and quantities. The parts can then be optimised to produce cutting patterns. A simple import file:-



This is the basic data for a part: Part code, Material code, Length, Width, Quantity *with the fields in the same order as displayed at the part list screen.*

This format (called PNX) is automatically recognised by the Optimising software - use this format if possible. The import file extension is PNX e.g. JOB1.PNX

Part list screen after import of the above example:-



	Description	Material	Length	Width	Quan...	Over	Un...	Gr...	Edge Btm	Edge Top	Edge Left	Edge Right	Inf
Global						%	%						
1.	F-UNIT-DOOR	495.0	750.0	40.0	0	0	0	N	WHIT...	WHIT...	WHIT...	WHITE-...	
2.	F-WALL-UNIT-...	474.0	740.0	40.0	0	0	0	N					
3.	F-WALL-UNIT-...	464.0	285.0	40.0	0	0	0	N	WHIT...	WHIT...			
4.	F-WALL-UNIT-...	464.0	195.0	40.0	0	0	0	N	WHIT...	WHIT...			
5.	F-WALL-UNIT-...	285.0	750.0	80.0	0	0	0	N	WHIT...	WHIT...	WHIT...		
6.	F-UNIT-BACK	474.0	710.0	20.0	0	0	0	N					
7.	F-UNIT-BASE	474.0	585.0	20.0	0	0	0	N	WHIT...	WHIT...			
8.	F-UNIT-END-L...	585.0	870.0	20.0	0	0	0	N					
9.	F-UNIT-END-RI...	585.0	870.0	20.0	0	0	0	N					
10.	F-UNIT-PLINTH	500.0	150.0	20.0	0	0	0	N					
11.	F-UNIT-RAIL	474.0	75.0	40.0	0	0	0	N					
12.													

Imported part list

The import file can also contain up to three header lines which contain:-

- Title for part list
- Name of optimising parameter list
- Name of saw parameter list

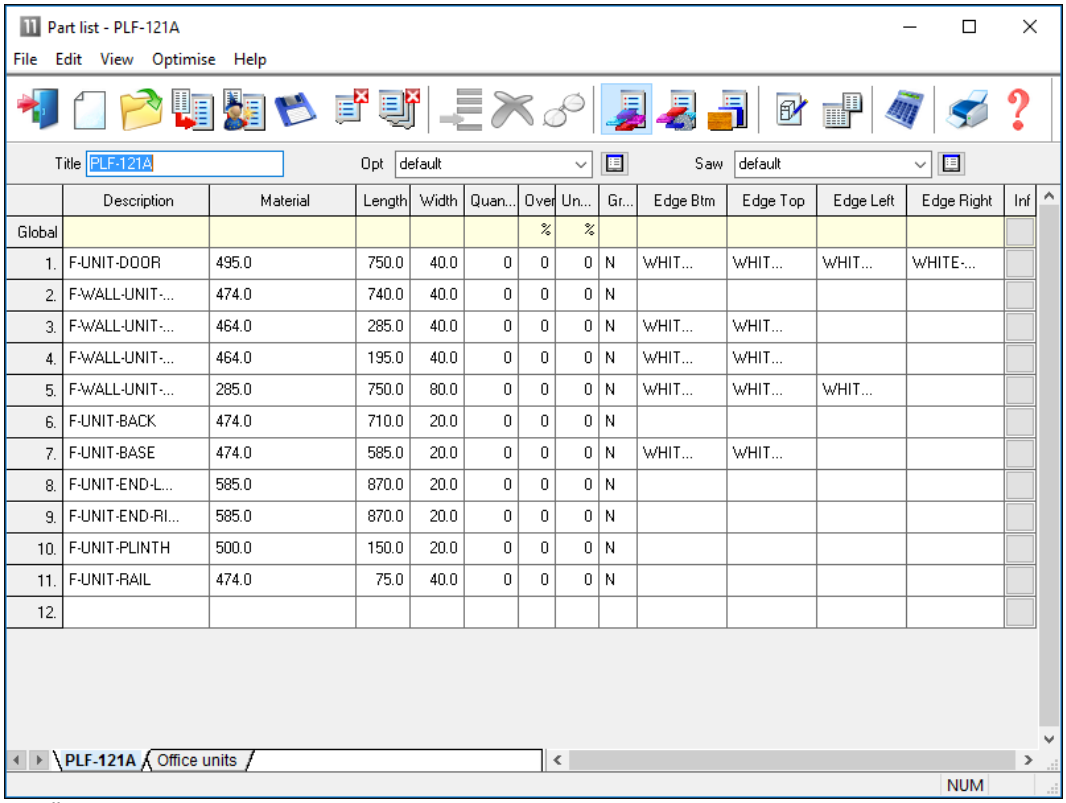
```
WORK FOR WEEK 26
STD2
ANGULAR
WU05WD-WHITE-DOOR,WHITE-LAM-1MM,495.0,750.0,40,,,Y
WU05HK-BACK,HARDBOARD-4MM,474.0,740.0,40,,,N
WU05MB-BASE,MEL-CHIP-18MM,464.0,285.0,40,,,N
```

Header lines - must not contain a separator (e.g. comma).

Title, optimising and saw parameter list names are imported from the import file.

Part list data

A part list is essentially a list of part sizes, quantities and the material to use for each part.



	Description	Material	Length	Width	Quan...	Over	Un...	Gr...	Edge Btm	Edge Top	Edge Left	Edge Right	Inf
Global						%	%						
1.	F-UNIT-DOOR	495.0	750.0	40.0	0	0	0	N	WHIT...	WHIT...	WHIT...	WHITE-...	
2.	F-WALL-UNIT-...	474.0	740.0	40.0	0	0	0	N					
3.	F-WALL-UNIT-...	464.0	285.0	40.0	0	0	0	N	WHIT...	WHIT...			
4.	F-WALL-UNIT-...	464.0	195.0	40.0	0	0	0	N	WHIT...	WHIT...			
5.	F-WALL-UNIT-...	285.0	750.0	80.0	0	0	0	N	WHIT...	WHIT...	WHIT...		
6.	F-UNIT-BACK	474.0	710.0	20.0	0	0	0	N					
7.	F-UNIT-BASE	474.0	585.0	20.0	0	0	0	N	WHIT...	WHIT...			
8.	F-UNIT-END-L...	585.0	870.0	20.0	0	0	0	N					
9.	F-UNIT-END-RI...	585.0	870.0	20.0	0	0	0	N					
10.	F-UNIT-PLINTH	500.0	150.0	20.0	0	0	0	N					
11.	F-UNIT-RAIL	474.0	75.0	40.0	0	0	0	N					
12.													

Part list

The basic part list data is described below.

Part list title - a description for the part list. Use this to identify part lists - the title is shown on most screens and printed on most reports.

Optimising parameter list name **-** parameter list to use when optimising a part list. The optimising parameter list describes features such as the saw blade thickness, trims, and type of recuts to use when optimising.

Saw parameter list name - name of the saw parameter list to use when optimising a part list. Saw parameters describe the features of a saw, such as, overall cutting length, minimum trims, method of re-cutting etc.

Optimising and saw parameter names default **-** optimising and saw parameter names are automatically defaulted to the first entry in the list of parameters files if they are not otherwise specified.

Part description - a description or code for each part.

Material **-** a unique material code. For example, 15mm melamine faced chipboard could have a code like MFC15 or 3/4 inch particle board might be PB3/4. The materials are stored in the Board library. There is a material code against each part in the part list so that the program uses the correct boards for each part.

Part sizes **-** The part sizes are the Length and Width of the part. The length is usually the longest edge of the part and if the part is grained the length is the dimension running along the grain direction. The width is usually the shortest edge of the part but if the material is grained the width is the dimension running across the grain direction.

The order in which the length and width columns are displayed depends on the setting of the System parameter: *Order of dimensions for parts.* If possible keep the order of length and width fields in the import file the same as that set in the system parameters.

In the program the 'length' and 'width' are the dimensions set by the 'length' and 'width' fields regardless of the relative sizes of the dimensions.

Part quantity - quantity required

Over/under production - allowed under or over production of a part. If they are set for each part they represent the absolute number of over or under produced parts. If they are set in the global header line they represent the percentage of over or under produced parts for every part in the list.

*Grain - parts - d*escribes the grain of the part.

```
Y - Grain runs along length
X - Grain runs along width
```

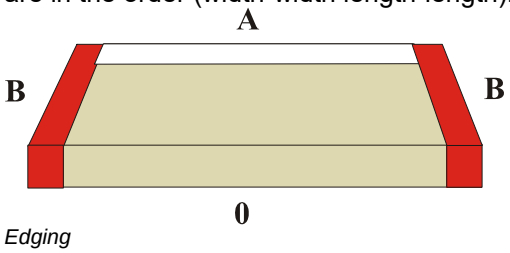
```
N - No grain
```

In an import file the grain value is represented by a number '0' - no grain, '1' grain along length, '2' grain along width.

Quick Edging field - This field stores the ‘Quick Edging’ codes for a part. These codes are a simple way of describing the edging requirements for a part where the edging is straightforward, for example, tape. A single code describes the edging on each edge, for example.

```
0 - No edging
A - White tape 1mm
B - Red tape 1mm

A0BB - (length-length width-width)
```

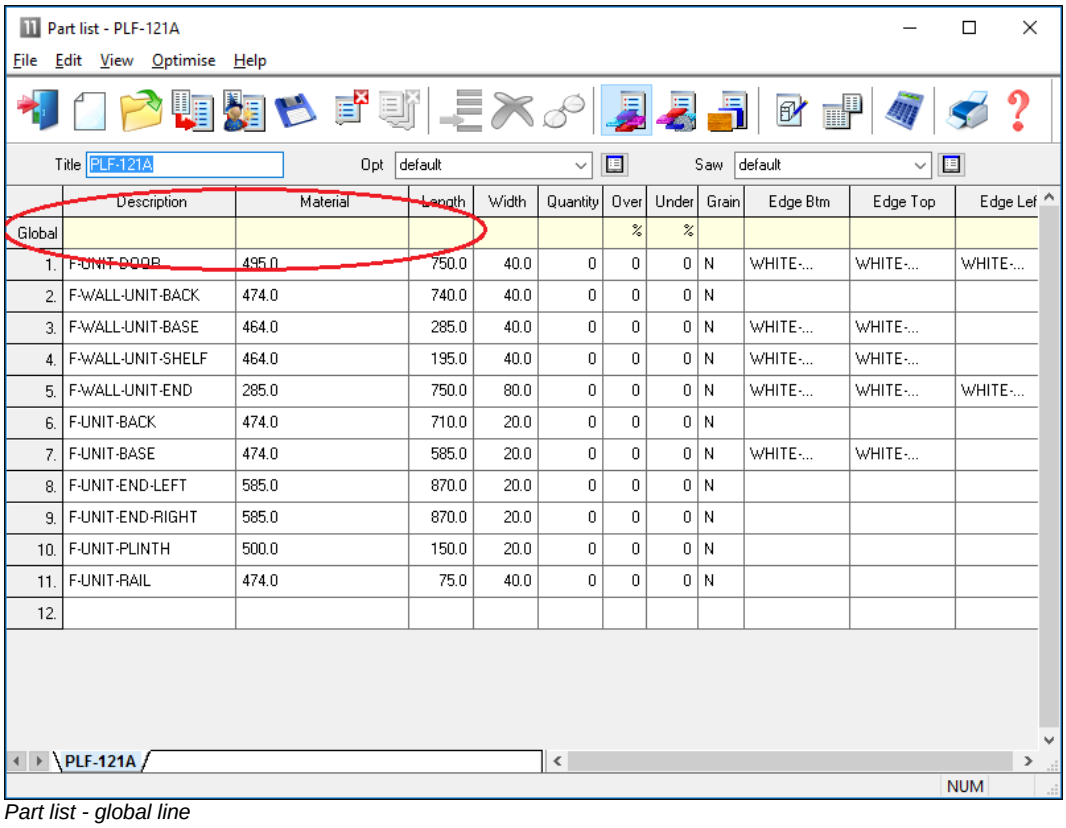
The order of edges follows the part list order. If part list order is Width-Length then edges are in the order (width-width length-length).



Edging

Global header line - part list - At the top of the part list screen is a header line labelled 'global'. If there is an entry in this line for a column this defines the value in that column for every part in the list.

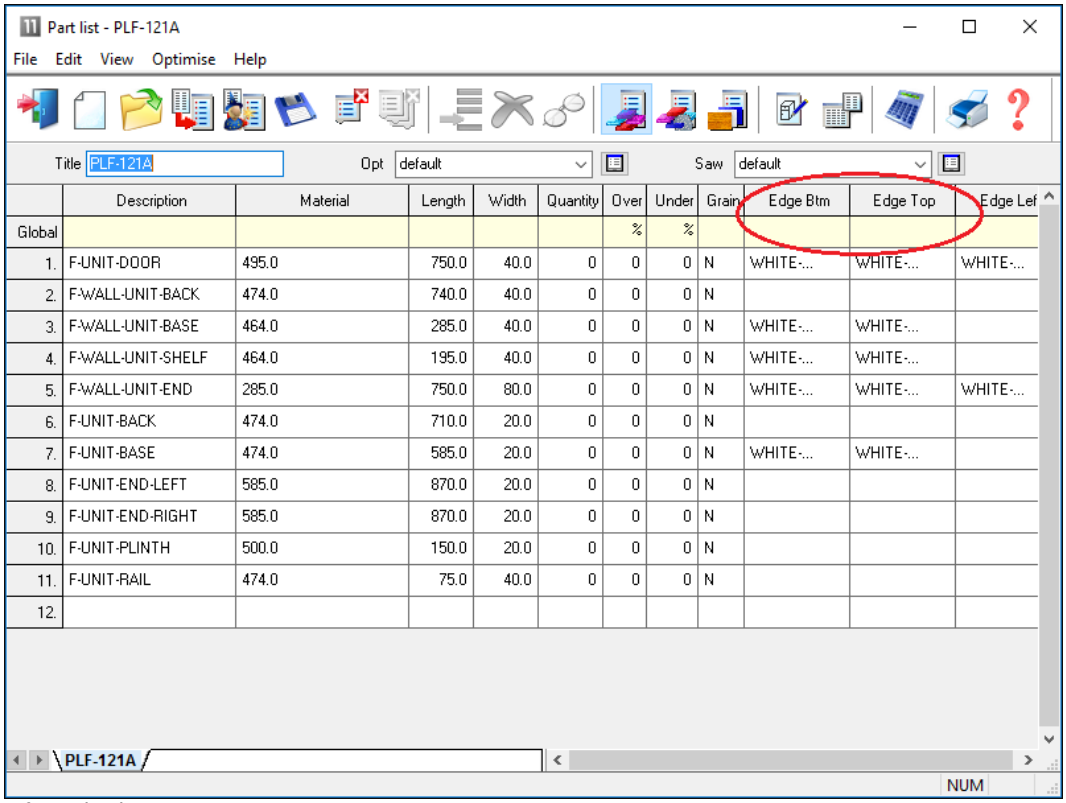
It is useful where a field is not used or has a constant value.



Part list - global line

Information boxes - part list

As well as the standard data items such as part code, length, width there are many other useful pieces of information to record for each part, for example, machining data, storage instructions, colours, complex edging, and so on. This data varies for each customer - some use a lot some use none at all. The Optimising program provides extra user defined fields (called 'Information boxes') for each part.



	Description	Material	Length	Width	Quantity	Over	Under	Grain	Edge Btm	Edge Top	Edge Lef
Global						%	%				
1.	F-UNIT-DOOR	495.0	750.0	40.0	0	0	0	N	WHITE-...	WHITE-...	WHITE-...
2.	F-WALL-UNIT-BACK	474.0	740.0	40.0	0	0	0	N			
3.	F-WALL-UNIT-BASE	464.0	285.0	40.0	0	0	0	N	WHITE-...	WHITE-...	
4.	F-WALL-UNIT-SHELF	464.0	195.0	40.0	0	0	0	N	WHITE-...	WHITE-...	
5.	F-WALL-UNIT-END	285.0	750.0	80.0	0	0	0	N	WHITE-...	WHITE-...	WHITE-...
6.	F-UNIT-BACK	474.0	710.0	20.0	0	0	0	N			
7.	F-UNIT-BASE	474.0	585.0	20.0	0	0	0	N	WHITE-...	WHITE-...	
8.	F-UNIT-END-LEFT	585.0	870.0	20.0	0	0	0	N			
9.	F-UNIT-END-RIGHT	585.0	870.0	20.0	0	0	0	N			
10.	F-UNIT-PLINTH	500.0	150.0	20.0	0	0	0	N			
11.	F-UNIT-RAIL	474.0	75.0	40.0	0	0	0	N			
12.											

Information boxes

This data can also be imported from a file. In the following example the PNX file includes data for the information boxes.

```
F-UNIT-DOOR,WHITE-LAM-1MM,495.0,570.0,20,,,N,,,,,WHITE-TAPE-22MM,WHITE-TAPE-
22MM,WHITE-TAPE-22MM, WHITE-TAPE-22MM
```

Pre-defined information

This is information that is already stored by the system or is created during optimisation.

User	Edging diagram
User Defined	Program - bottom edge
	Program - top edge
Part	Program - left edge
Part description	Program - right edge
Duplicate reference	
Colour names	**Laminating**
Part Number	Front laminate
Variable	Back laminate
Alternative materials	Front laminate description
Outfeed direction	Back laminate description
Optimising parameters	Material combination
Saw parameters	Core material code
	Core length and width
Part sizes	
Finished sizes	**Product information**
Finished length	Product information
Finished width	Product description
Second cut sizes	Order description
Minimum cut size	Product code
	Product width
Part requirements	Product height
Quantity of overs	Product depth
Pre-aggregated quantity	Product number in room
	Room / floor number
Edging	Product qty
Length edge bottom	Sub-assembly
Length edge top	
Width edge left	**Destacking**
Width edge right	Part layout
Length edge bottom description	Part orientation
Length edge top description	Stack height (pieces)
Width edge left description	Stack height (dim)
Width edge right description	Station number

Destacking	**Nesting**
Destack type	Step angle
Bottom layout	Mirrored

Bottom material	Do not place part on edge
Top layout	MPR(X) path
Top material	Part library code
Length	Part ID
Width	Template router
Overhang/oversize (len)	Sequence smallest to largest
Overhang/oversize (wid)	**Grain**
Thickness	Grain matching
Baseboards per stack	Pattern for master part
Support type	Template picture file name
Support material	**Tracking**
Support thickness	Quote ID
Support length	Product req ID
Support width	Part list ID
Support layout	Cutting list ID
Use secondary station	Tracking number
Stacks per station	
	Other
Costing	Label quantity
Unit price	Bar code 1
Machine time	Bar code 2
Material cost	
Machining Drawing	
Drawing name import	
Drawing name transfer	
Transfer name - back	
Transfer name - horizontal	
Transfer name - common	
Machine before edging	
Picture filename	
Create file (unmachined parts)	
Stop position	

The information boxes can be set with pre-defined information or user defined information.

For example, to print a label for each part and make sure that the original product code is on the label - set the 'Product code' information box for the part list. When the part list is created from the product requirements the correct product code is automatically stored against each part.

This type of information is provided as customisable information boxes since the use of this information varies a lot between users and can be unique to each user. For example, a user entering only part lists would not have use for the Product code field.

Information boxes can also be set up for user defined (free format) information.

Import from custom file formats

In some cases there is no control over the format of the import file or it is preferable to leave the format unchanged as the file is used elsewhere in the production process. In this case the format of the import file has to be set up in the Optimising program so it can be interpreted correctly by the import process.

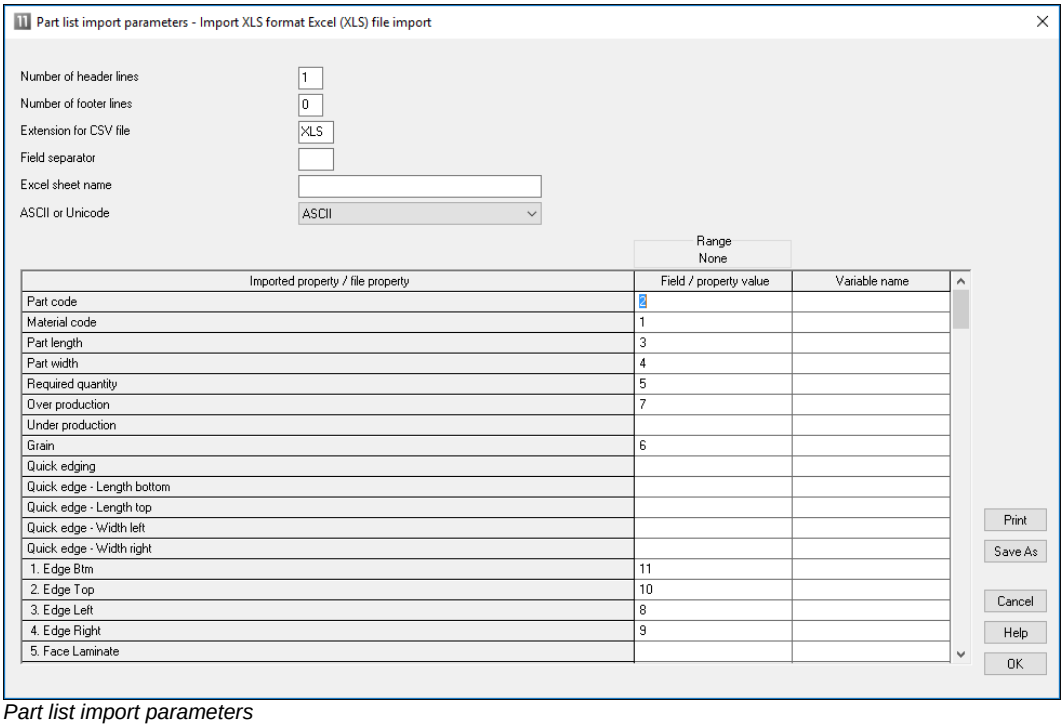
To do this use the Part list import parameters (*Main screen - Parameters - Part list import parameters*).

(You can also import custom files directly to the part list – see above).

In this example the data is not in PNX format because the order of fields is: Part Code, Length, Width, Quantity, Material.

```
END/2,600.0,750.0,25,MFC15
TOP,1200.0,690.0,30,MDF18
PLINTH,1500.0,150.0,10,MDF18
```

Use the parameter values to describe this:-.



Part list import parameters

Each parameter is a field in the part list and the parameter value is the position of that field in the external ASCII file. There are two other parameters that need to be set.

Header lines **-** number of header lines to ignore

```
R1.003./6678
Product line 31/76
-----------------
Work for Week 27     < Start of part list format
STANDARD
ANGULAR
WU05WD-WHITE-DOOR,WHITE-LAM-1MM,495.0,750.0,40,,,Y
```

In the above example the first three lines are not relevant to optimising and can be ignored by setting header lines to '3'. *This parameter only applies to the user defined import types (options 6 and 7).*

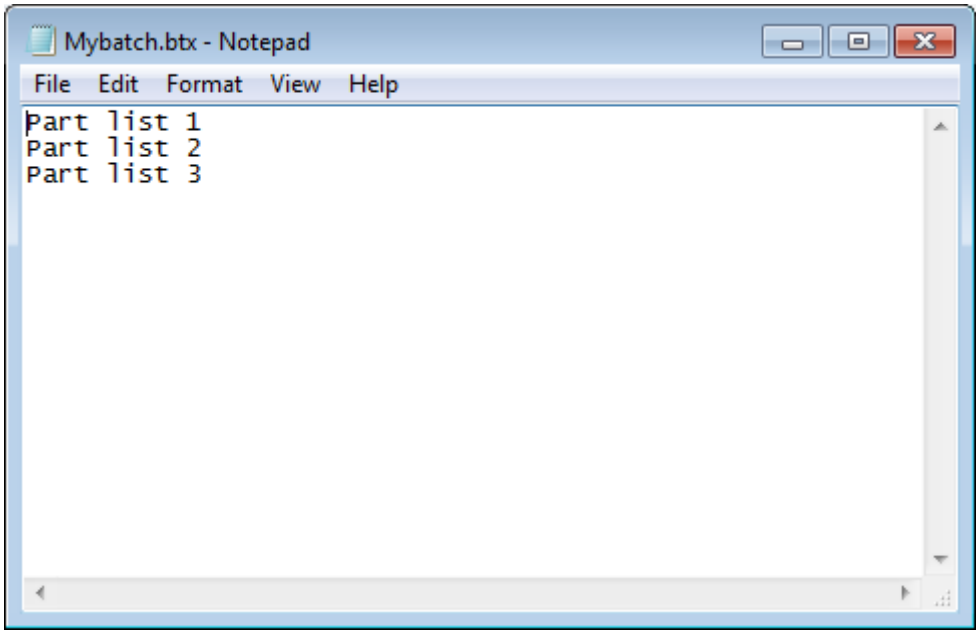
Extension for CSV file - set this to the file extension for the file, for example, CSV, ASC, TXT etc.

Field separator - enter an ASCII value for character defining each field e.g. '44' = comma

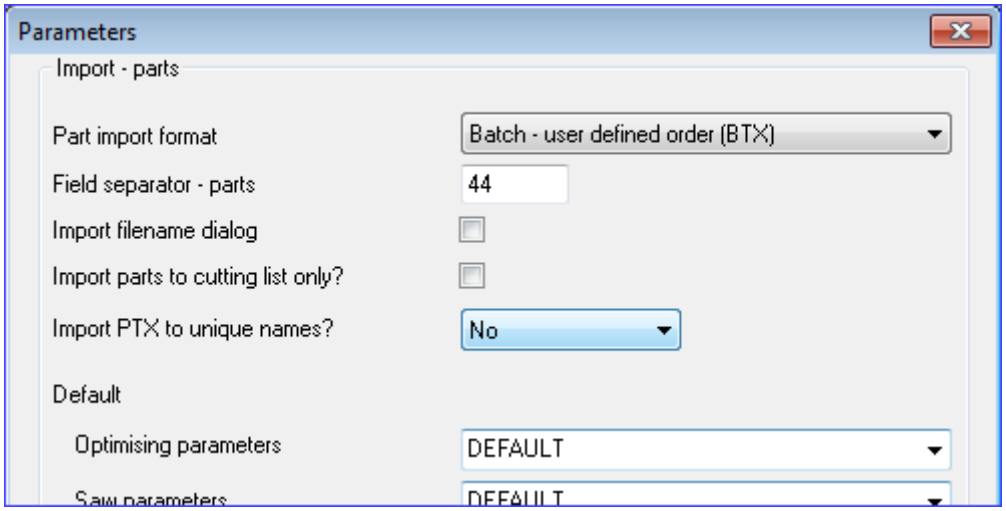
Import parts - batch of part lists

To do this create a batch file (BTX) containing the part list names *as well as creating the part list import files*. The part list import files can be in PNX format, PNX part code and quantity format, or a user defined format (the format options are set in the *Import parameters)*.

In its simplest form the batch file is just a list of files to import.

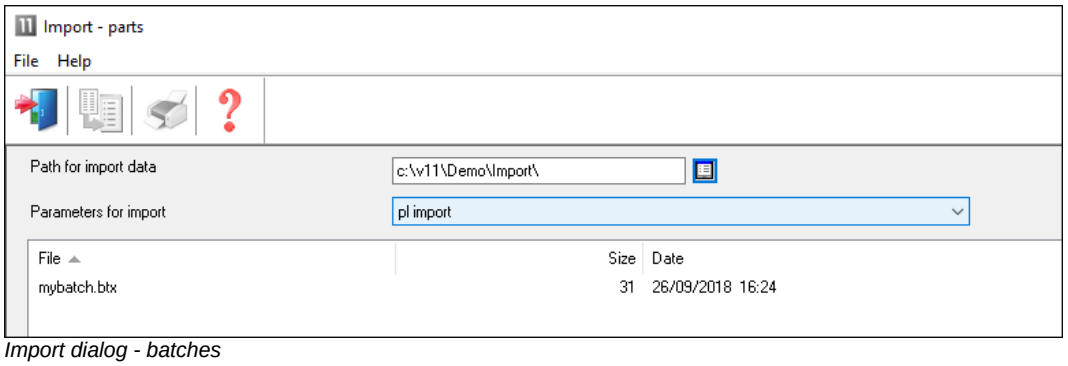


Set the Import format to a batch setting.



Batch import

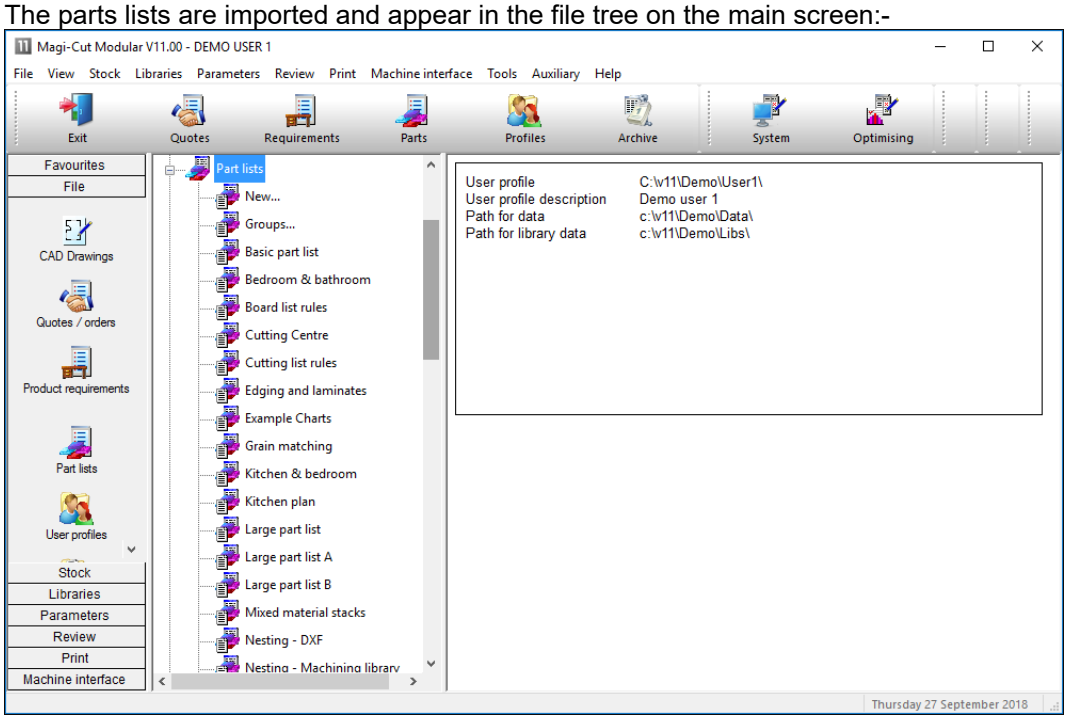
Move to the Import dialog. The files offered are now Batch (btx) files.



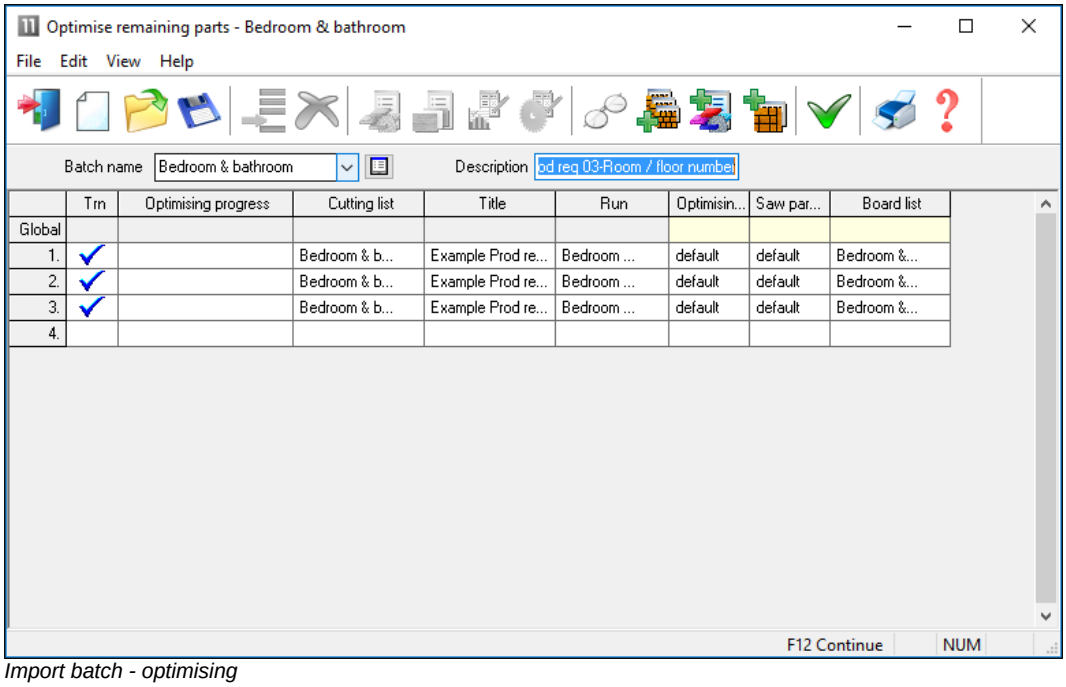
Import dialog - batches

 - Select a batch file and select the import button

The parts lists are imported and appear in the file tree on the main screen:-



The batch file (BTX) can also include other items as well as the Part list name. The process of batch import also creates the batch in the File tree at the main screen. The part lists are ready for optimising with a single click of a button. The batch is ready to optimise.



Import batch - optimising

In the above example the default optimising and saw parameter names are used but these can also be specified in the imported batch file:-

- Part list name
- Run number
- Optimising parameter list name
- Saw parameter list name

Note - If a run number is not included the program assigns a run number automatically. If parameter list names are not included these can be entered before optimising. The board list name is set equal to the part list name.

MPR(X) Variables - import parts

When working with Nesting optimising the imported list may contain variables related to the Weeke MPR(X) drawing format.

MPR(X) variables and answers can be imported during a part list import process. This only applies to the following two import formats:-

```
User defined order
Batch - user defined order
```

Each line in the import file refers to a line in the part list. The variables for each part are specified in the same line as the standard fields (e.g. part code, material, length, width etc....). A variable can appear in any field position on a line and is denoted by surrounding the variable name with @ symbols.

```
@DOORMAT@
```

The answer is always the next field and must not be surrounded by @ symbols. So a sequence of variable and answer would be as follows:

```
@DOORMAT@,MDF-18
```

The variable and answer pairs can occur at any point in the line:-

```
PARTCODE,@DOORMAT@,MDF-18,MEL-CHIP-
18MM,123,17,15,,,@CARCASEMAT@,MELCHIP15,@HINGE@,1
```

If a variable answer is blank, the variable is not placed into the generated part list.

Template details for grain matching – import parts

The 'Template details' information box allows users to import grain match templates directly into the part list without entering a template pattern in the pattern library.

Users can configure their part import data to contain a 'master' template part with a size to match the overall template size and containing all the relevant template information in a field to be imported into the Template details information box.

The create cutting list process uses the content of this information box to set the relevant grain matching data for each component of the template.

The Template details information box can be found in the 'Grain' section of the information box types. The 'Grain matching' information box must also be configured when using the Template details information box to define templates.

Please note that the contents of the Template details information box can only be set when importing parts and this information box cannot be edited in the part list.

Template details

The Template details information box contains three fields separated by semi-colons (;).

e.g. 1;4.8;[[[1;2;3];[4;5;6]]]

This information should be set for the master part in the part list to be imported.

Field 1 - Template type

1 = Cut parts in the main pattern
2 = Cut parts in separate pattern
3 = Create master part - divide at saw
4 = Create master part - divide at machine centre

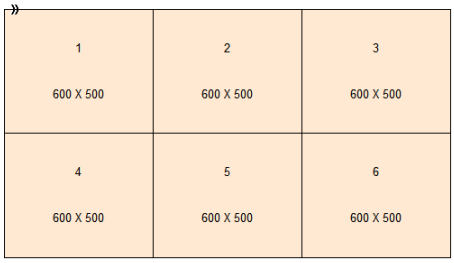
Field 2 - Saw blade thickness

This is the saw blade thickness to be used in the template. If no value is set a zero blade thickness is assumed. Please note that for embedded templates (Cut parts in main pattern) the saw blade thickness eventually used is set in the optimising parameters.

Field 3 - Template pattern

This field contains the template pattern in a similar format to the recursive (PTNR) pattern format used in the CADmatic .SAW file. Square brackets are used to indicate the start and end of a cutting phase and the part list item number used to indicate parts

e.g. [[[1;2;3];[4;5;6]]]

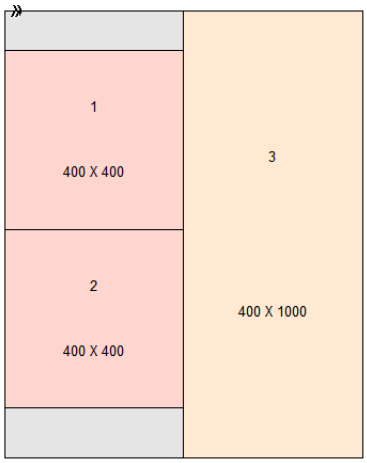


Semi-colons are used to separate values where necessary. Trims at the start and end of a phase can be entered preceded by the letter 'T'

e.g. [[T10[T15;1;2;3;T15];[T15;4;5;6;T15]T10]] *10mm rip trims and 15mm crosscut trims*

Waste parts/cuts can also be specified by specifying the dimensions preceded by the letter 'M'

e.g. [[[[M90;1;2]3]]] *90mm waste at the top of the recut*



Please note all dimensions (blade thickness, trims and waste parts/cuts) should be entered in millimetres when the measurement is millimetres and in decimal inches when the measurement mode is decimal inches or fractional inches.

Using the Template details information box for Grain matching

The data in the Template details information box is used to set the content of the Grain matching information box when creating a cutting list from an imported part list or when importing parts directly to a cutting list. When this cutting list is optimised the Template details information box is also used to generate embedded templates in patterns and appended template patterns.

For this process to work correctly the Grain matching information box must also be configured. The size of the master part in the part list must be at least as big as the template pattern and the components parts must all have matching material, valid grain and quantities

If there are problems with the content of Template details information box, the grain matching data is not set and the following errors can be displayed: -

i) Invalid template details [33446]
Missing or incorrect data in the information box (e.g. the template type is not 1-4). Please note that parts can only be assigned to one template. If they are assigned to multiple

templates the second and subsequent templates will generate this error also. This error is also shown if the Grain matching information box is not configured and template details are set.

ii) Parts in template have different materials [33447]
All components must have the same material as the master part

iii) Parts in template have different grain [33448]
If the master part has a grain of N all the grained component parts must have the same grain. In other words, all the component parts must be one of the following: -
- all N grained
- all Y grained
- a mixture of Y and N grained
- all X grained
- a mixture of X and N grained
Please note that it is possible to indicate part rotation in a template by setting the grain of the master part to Y and the grain of a component part to be rotated to X

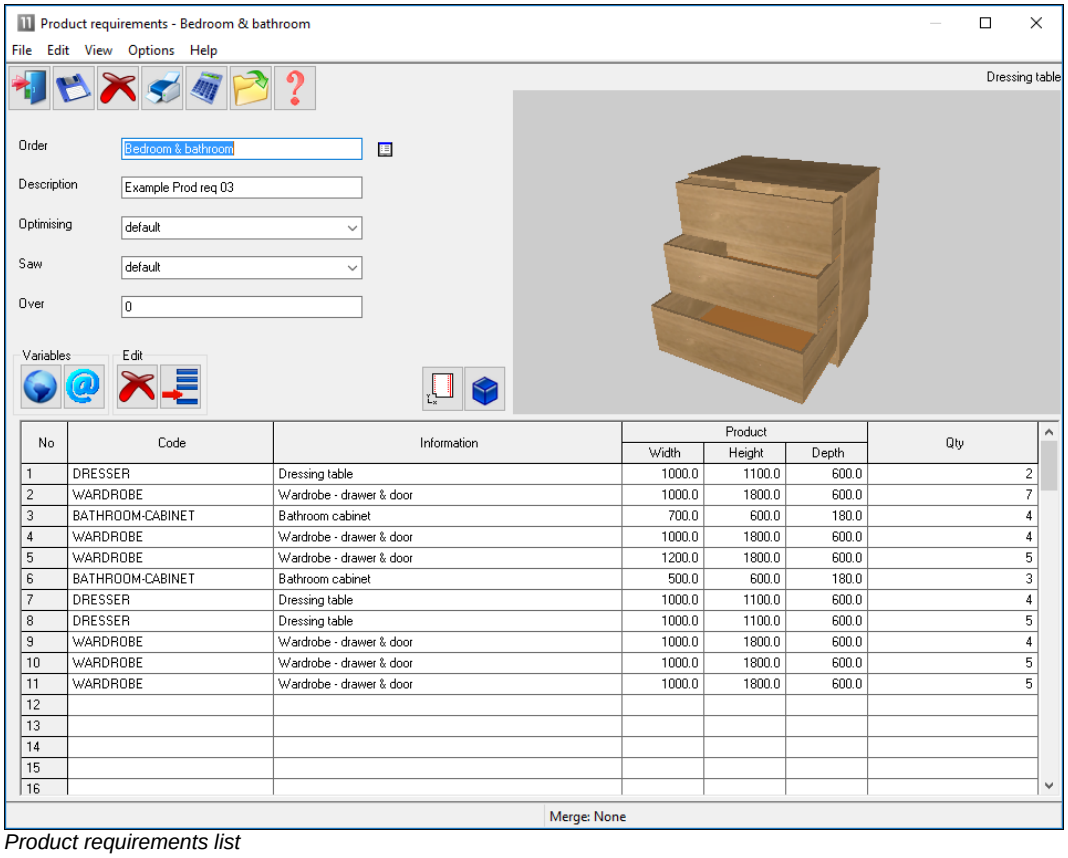
iv) Parts in template have incompatible quantities [33449]
The quantity of each component part must be compatible with the master part quantity. If the master part quantity is five and one of the component parts appears twice in the template pattern the quantity of that component part must be ten

v) Template master part too small [33317]
The master part size must be at least as big as the overall template pattern

2.2 Import product requirements

When working with Products (PQ module) it can be the case that the list of requirements is generated elsewhere, for example, in a Sales system.

Product requirements are a list of products and quantities.



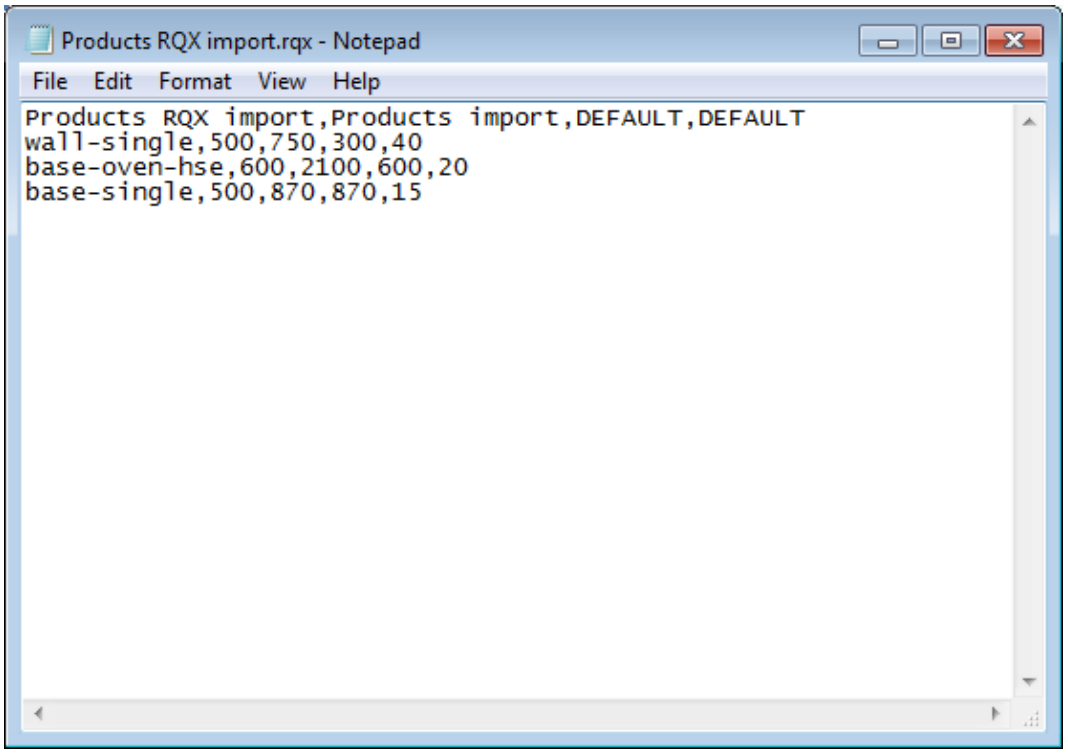
No	Code	Information	Product			Qty
			Width	Height	Depth	
1	DRESSER	Dressing table	1000.0	1100.0	600.0	2
2	WARDROBE	Wardrobe - drawer & door	1000.0	1800.0	600.0	7
3	BATHROOM-CABINET	Bathroom cabinet	700.0	600.0	180.0	4
4	WARDROBE	Wardrobe - drawer & door	1000.0	1800.0	600.0	4
5	WARDROBE	Wardrobe - drawer & door	1200.0	1800.0	600.0	5
6	BATHROOM-CABINET	Bathroom cabinet	500.0	600.0	180.0	3
7	DRESSER	Dressing table	1000.0	1100.0	600.0	4
8	DRESSER	Dressing table	1000.0	1100.0	600.0	5
9	WARDROBE	Wardrobe - drawer & door	1000.0	1800.0	600.0	4
10	WARDROBE	Wardrobe - drawer & door	1000.0	1800.0	600.0	5
11	WARDROBE	Wardrobe - drawer & door	1000.0	1800.0	600.0	5
12						
13						
14						
15						
16						

Product requirements list

At the simplest a product requirement list for import is just an ASCII list of product codes and the quantities required.

```
wall-single,40
base-oven-hse,20
base-single,15
```

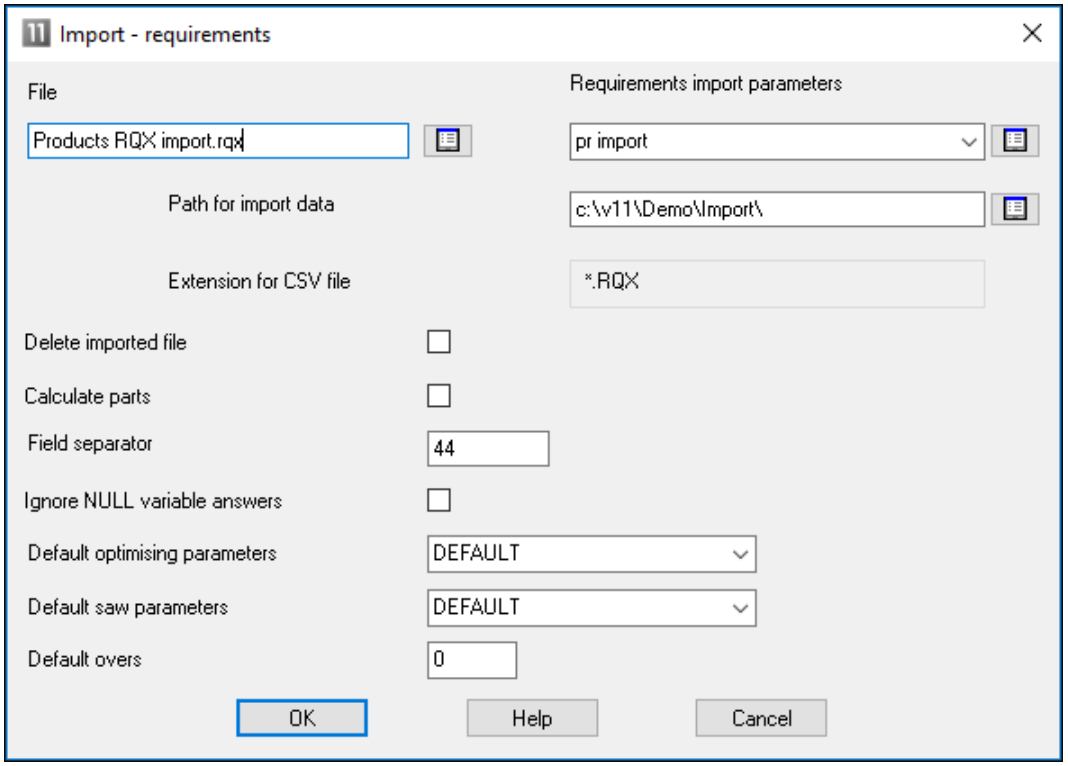
Below is a more detailed example.



The import process is as follows:-

At the main screen:-

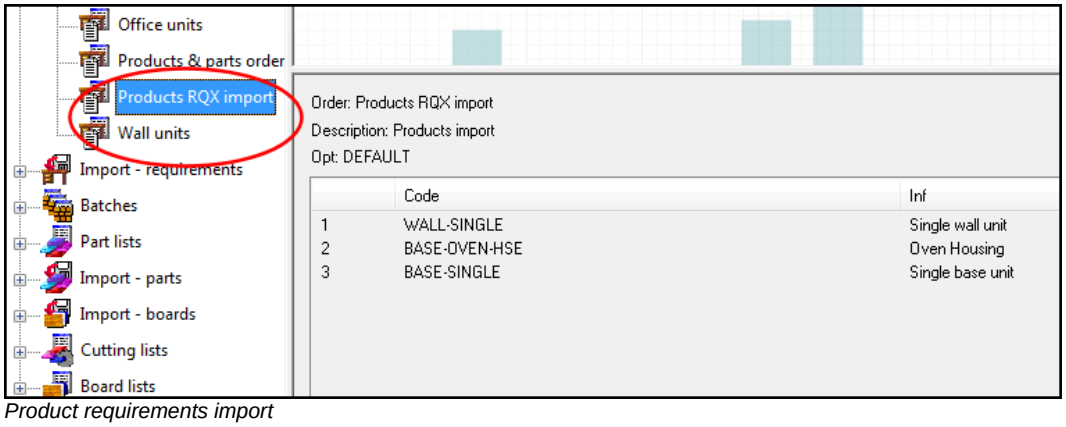
- Select: **File - Import product requirements**



- Select OK to import

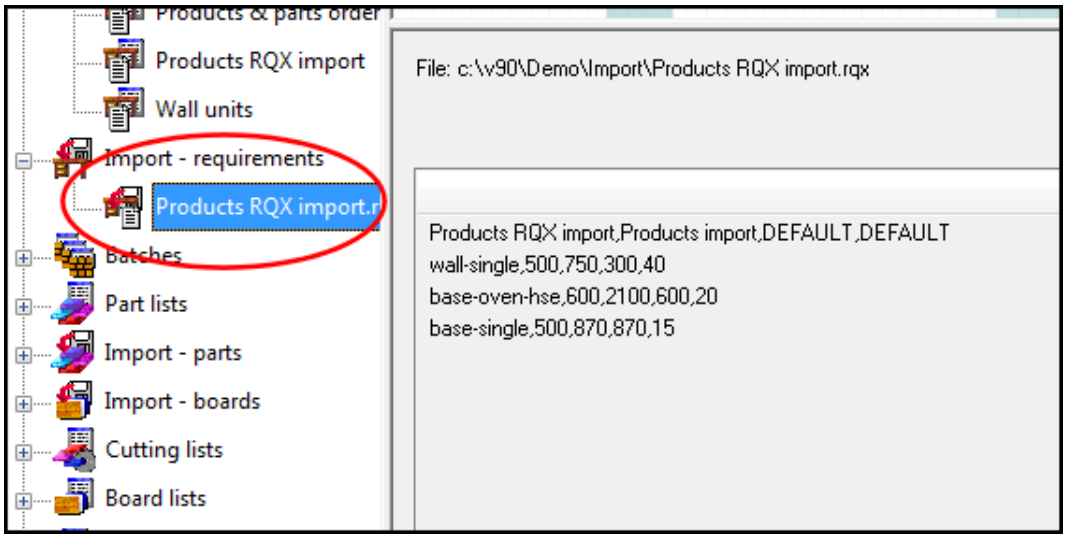
(There are settings to control the import, for example, to set the separator character and whether to delete import files after import or not).

The requirements file is shown in the File tree at the main screen.



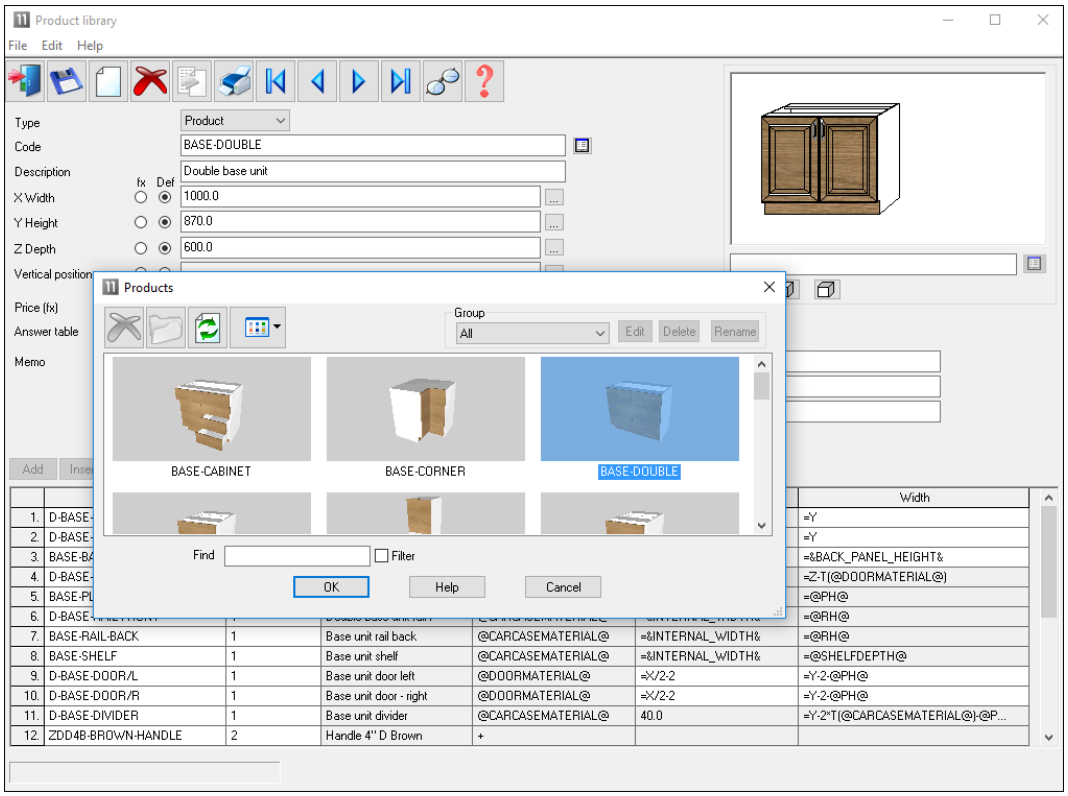
Product requirements import

Once the format is set up RQX files can also be imported directly from the File tree.



Import product requirements - File tree

For a product requirements import to work correctly the product codes in the list must represent products already set up in the product library.



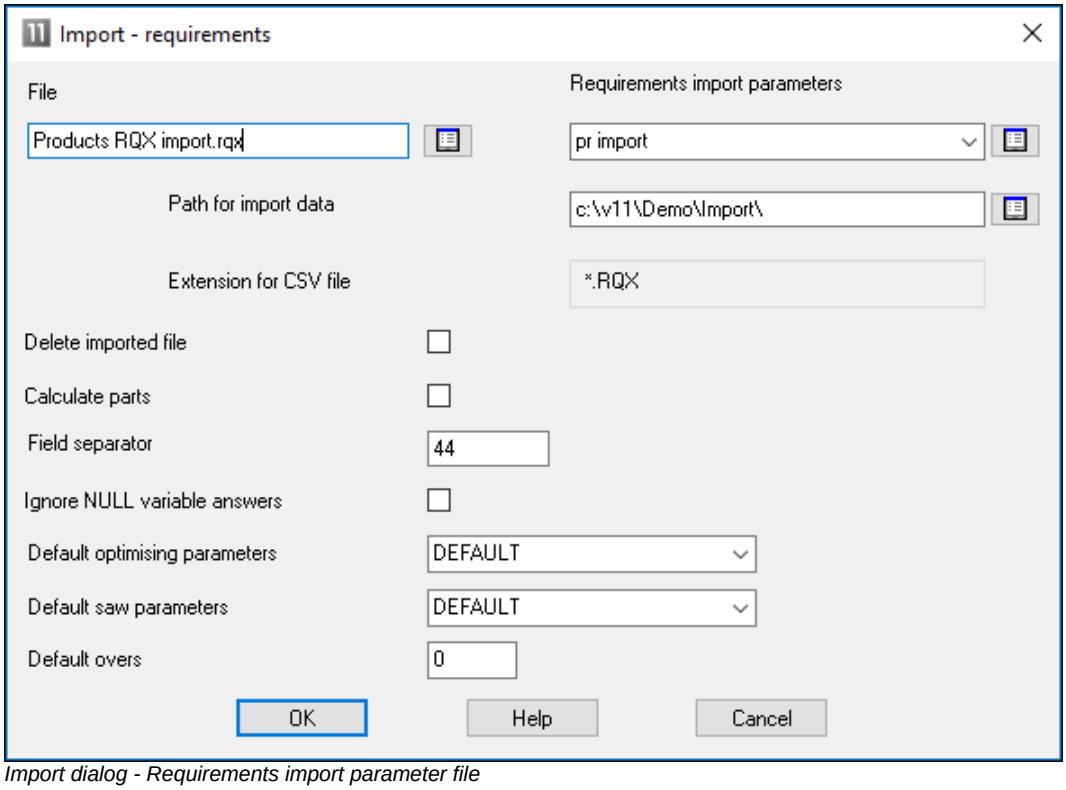
In the above example there are fixed size products and one code represents one product so the import file can be set up quite simply. However, one of the reasons for using a product library is to create 'variable products' where one 'layout' might cover a number of different sizes, colours, and styles of cabinet.

In this case the product requirements list needs to include answers for those variables (e.g.720.0 x 450.0, Teak, Modern) as they vary for each customer or order.

File format for Product requirements import

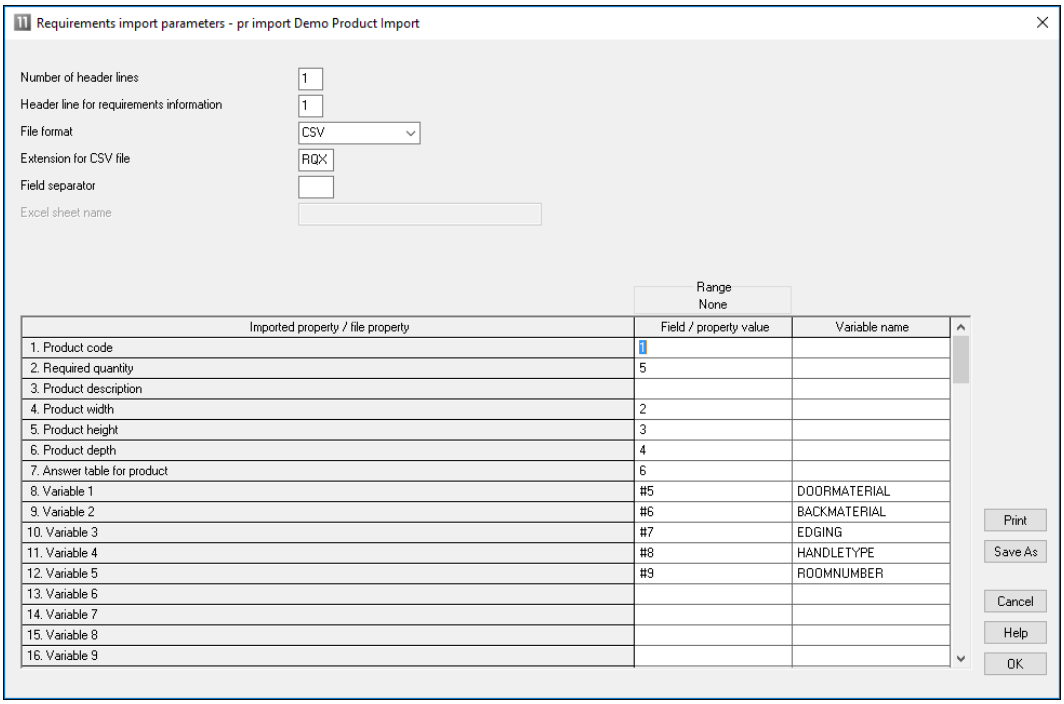
Because the contents of a product requirements file can be so varied and include variables there is no standard format for import. Instead the format is defined by one or more sets of '*Product requirements Import parameters*'.

This is set at the Import dialog.



Import dialog - Requirements import parameter file

The parameter values are set via the option (*Main screen - Parameters - Requirements Import parameters*)



Requirement Import parameters

The left hand column shows the various fields for a product and the middle column sets the position of the field in the import file. The last column is the name of the product variable (where required).

For example, the fields in the file below are: Product code, Product quantity, and Product width

```
KTUNIT,1,1950.0
KTUNIT,3,1750.0
KYUNIT,1,1350.0
```

Parameter values to describe this:-

Parameter	Value	
Product code	1	
Quantity	2	
Description	0	
Width	3	
Height	0	
Depth	0	

Data for variables

More complex products may contain variable data. Variable data is information that changes for each item or customer e.g. the delivery date or type of door handle. If the external file already contains the answers for this variable data this can be specified in remaining variable lines.

```
...Variable 1 ---------------------- #6,DELIVERY
...Variable 2 ---------------------- 9,DOORMATERIAL
...Variable 3 ---------------------- 10,CARCASEMATERIAL
```

The # symbol is used to indicate the item is in the imported header line and the number indicates the position in the header line.

The other items are the fields where the variable answer for each item is located e.g, DOORMATERIAL may be TEAK for one product and OAK for another.

The above values can be used to import the following file:-

```
Import file (complex.txt)
Example1,Week 32/A,standard,single,0,20/12/2015
DRESSER,2,Dressing table,Urgent,Line AS,1000.0,1100.0,600,OAK-
18,OAK-15
WARDROBE,7,Wardrobe - drawer & door,Urgent, Line
AP,1000.0,1800.0,600.0,OAK-18,OAK-15
BATHROOM-CABINET,4,Bathroom cabinet,Priority,Line
AS,700.0,600.0,180.0,MARBLE-15,MEL-15
WARDROBE,4,Wardrobe - drawer & door,Standard,Line
AP,1000.0,1800.0,600.0,TEAK-18,TEAK-15
```

For the import to be correct the relevant products and variables must already be set up in the product library and variables table

Header lines and file Extension parameters

The parameter list contains parameters to set the Header lines and the extension of the import file.

Header lines - describes the number of header lines (any lines before the lines of data) in the import file. This is useful where not all the header line are related to optimising.

Import - header line - specifies which (if any) of the header lines is the header line to import. Only one header line can be imported.

Extension for CSV file - specifies the file extension of the import file - default: RQX.

Field separator - enter an ASCII value for character defining each field e.g. '44'
= comma

In this example below there are four header lines and the header line to import is on line 2.

```
9093:/77/24-002
WK7,ORDERS FOR WEEK 7
BATCH:093221
RX RUN - TY
KTUNIT,1,1950,RED      < Start of product lines
KTUNIT,3,1750,WHITE
KYUNIT,1,1350,GREY
```

The values are:-

Parameter	Value	
Header lines	4	
Import - header line	2	
Extension for CSV file	ASC	

Calculate parts

On import the program can automatically create the list of parts for the product requirements. This avoids the step of moving to the Product requirements screen and optimising from that screen. This allows the parts to be optimised as part of a batch or for the part list to be optimised with a 'stand alone' process.

Import from Excel files

Set the parameter value for 'CSV or Excel' to '1' for Excel. If there are two files with the same name (e.g. IMPORT.XLS and IMPORT.XLSX) the XLSX file is imported.

Answer table

For custom products it may also be necessary to import the answers to product variables. For example, if a customer has ordered RED doors for the product that answer can be imported. It is also possible to import a set of predefined answers for a product (called an answer table), for example, a product with red doors may also include red trims, a certain type of handle ... The field for the name of the answer table is set in the 'Answer table' parameter.

Product requirements data

The information for requirements is outlined below.

Order number or code - Each order or requirements list has a unique number or code. The order code is set to the name of the import file.

Reference - The Reference is a descriptive reference for the requirements list or order which is used as a cross reference by the optimising program. This reference can be printed on product or part labels and other documents.

Optimising parameters - This is the name of the optimising parameter file for this optimisation. Optimising parameters are used to set items such as the saw blade thickness, type of cuts and trims.

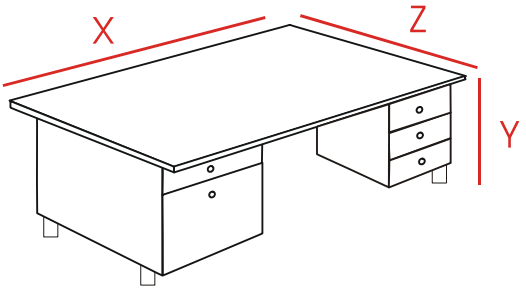
Saw parameters - This is the name of the saw parameter file for this optimisation. Saw parameters set items such as the type of saw, cutting length, stack height and so on.

Overs - This is the percentage of over-production allowed for each product. If it is set it applies to each product line in the requirements list.

Product code - Each product in the product library is identified by a unique code. Note that the same product code can be repeated in the requirements list for example, where the order is for a different customer, or where sizes or other features of the same basic product vary.

Product information - This is extra information about the product. Sometimes this is used for the product description but can be used for other information like a product identity number or details specific to that line of the requirements.

Product width, depth, height



These are the external measurements of each product.

The diagram defines the width X as the leading edge of the product but this is just an example. The width can be assigned to any edge for each product - this is determined by the product formulae and the drawing in the product library. The program always uses X - for Width, Y - for Height, and Z for Depth.

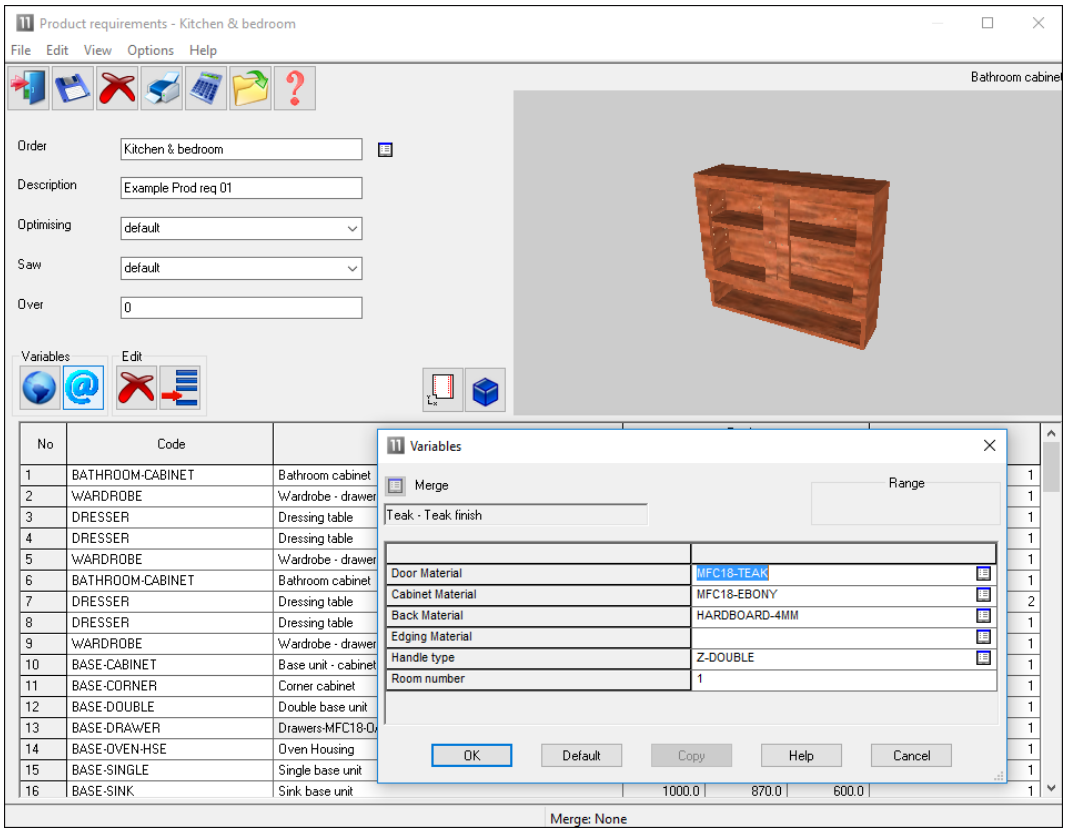
Quantity - quantity required

Product variables

'Product variables' are used to define the portions of a custom product that vary for each customer; items like colour, measurements, number of drawers ...

For custom products the product may contain several ‘product variables’ with each standing for a variable item.

The answers to these variables for each order or customer are entered as a Product requirement.



Product requirements - Product variables

For example, for the Wardrobe the door material is MFC18-BEECH

Where the requirements are imported the answers to the variables for each product can be included in the import file.

There are two sorts of product variables.

- *Global variables* - apply to every item in the list
- *Product variables* - apply to individual products

In the file below the answers for global variables are included in the top line (the header line) and answer for variables for each product and included on each requirements line.

```
WK7,ORDER FOR WEEK 7,STANDARD,SINGLE,W/E 28/07/2006,935-1072/35
UNIT/01,Kitchen cabinet,600.0,720.0,690.0,2,WHITE,GREY,BLACK
UNIT/01,Kitchen cabinet,800.0,6800.0,690.0,5,RED,CREAM,WHITE
```

There are also some fixed fields for the header line:-

File name
Reference
Optimising parameter list name
Saw parameter list name
Overs percentage

The following file contains a header line with fixed information and global data.

```
WEEK7, ORDERS FOR WEEK 7,STANDARD,HOMAGHOLZMA,JONES & SON
KTUNIT,1,1950,450,RED
KTUNIT,3,1750,650,WHITE
KYUNIT,1,1350,450,GREY
```

The values are:-

Parameter	Value	
Product code	1	
Quantity	2	
Description	0	
Width	3	
Height	0	
Depth	4	
Variable 1	#5	CUSTOMER
Variable 2	5	DOORCOLOR

Variable 1 is a global variable named CUSTOMER (the # symbol indicates that it is a global variable and not a product variable) and the data is located in position 5 of the header line (the data that reads ‘Jones & Son’).

For importing answers to variables set the position in the file and give the name of the variable.

Parameter	Value	
Product code	1	
Quantity	2	
Description	0	
Width	3	
Height	0	
Depth	0	
Variable 1	4	DOORCOLOR

The third column contains the variable name (e.g. DOORCOLOR)

Importing variables not set in the requirements parameters

To do this enter the variable name and the answer on the product line.

```
PRODDESK,200,300,400,GREEN,OAK,@PLINTH@,500,@BACKMAT@,TEAK
```

Items up to 'OAK' are defined by the Requirements import parameters and the remaining items are other product variables. Variables must be in the product definition e.g. of PRODDESK.

The variable name must be surrounded by @ symbols and the answer must be in the next field and must not be surrounded by @ symbols. The variable/answer pairs can occur at any point, if necessary.

```
PRODUCT1,@CARCASEMAT@,MDF-15MM,,,110,220,50,15
```

2.3 Import boards

All the information on materials and board (or sheet) sizes is held in the Board library. Typically the Board library is maintained manually or with the Stock control module (SC) stock is updated from optimising and from orders and receipts from suppliers.

With the Bargstedt SQL database and the Stock control module the board library is synchronised automatically with an external database.

There are two main requirements for importing boards.

- Updating the board library from an external file (for example, a list of sizes and costs provided by a supplier)

- Importing boards to a board list (bypassing the Board library)

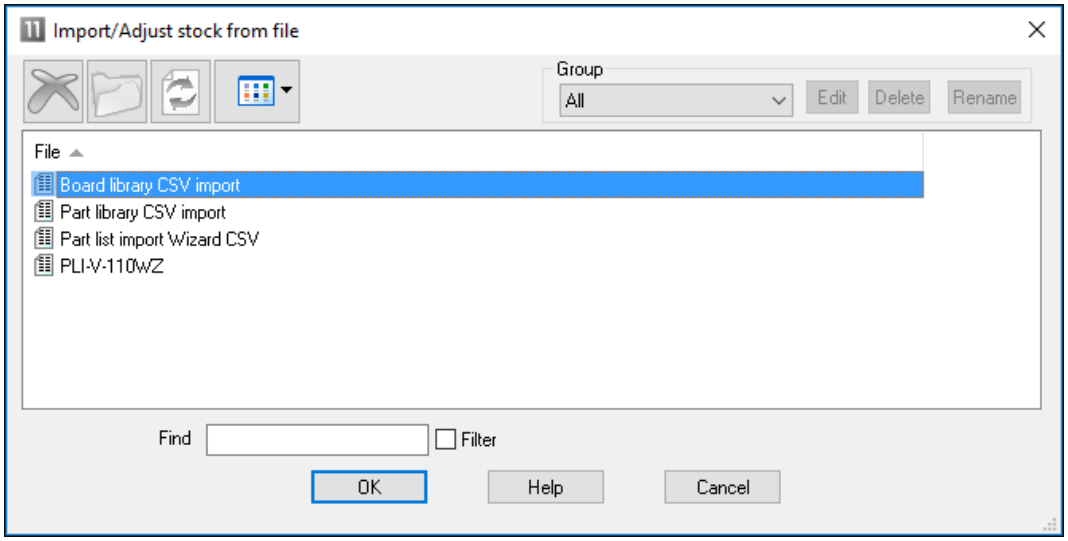
Import boards to Board library

The stock control module (SC) is required for this method

At the main screen:-

- Select: **Stock**
- Select**: Import/Adjust stock from file**

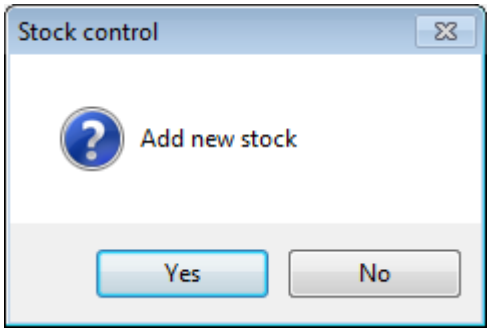
The import dialog is shown.



Import/Adjust stock from file

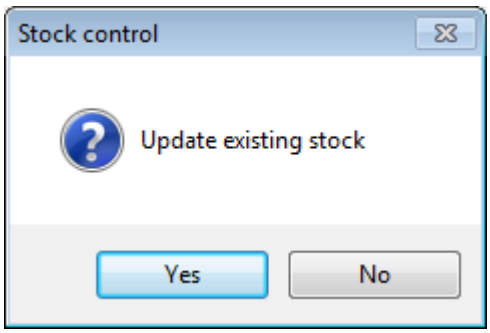
- Select the file to import

The program prompts:-



Sometimes it is useful to ignore new stock as it may not be relevant to the Board library.

The program prompts:-



A file may contain both new items and updates to existing items in the library.

Note - there is also an option at the Main screen: *Stock - Overwrite stock* which overwrites existing stock values rather than adding to them or subtracting from them.

The format for the import file should be one of the following:-

```
Board list (BRD)
ASCII/Unicode CSV (BDX)
User defined format – ASCII/Unicode CSV
User defined format - Excel (XLS)
User defined format - Excel (XLSX)
Bargstedt (BESTAND.STK file)
Bargstedt (SQL Server database)
```

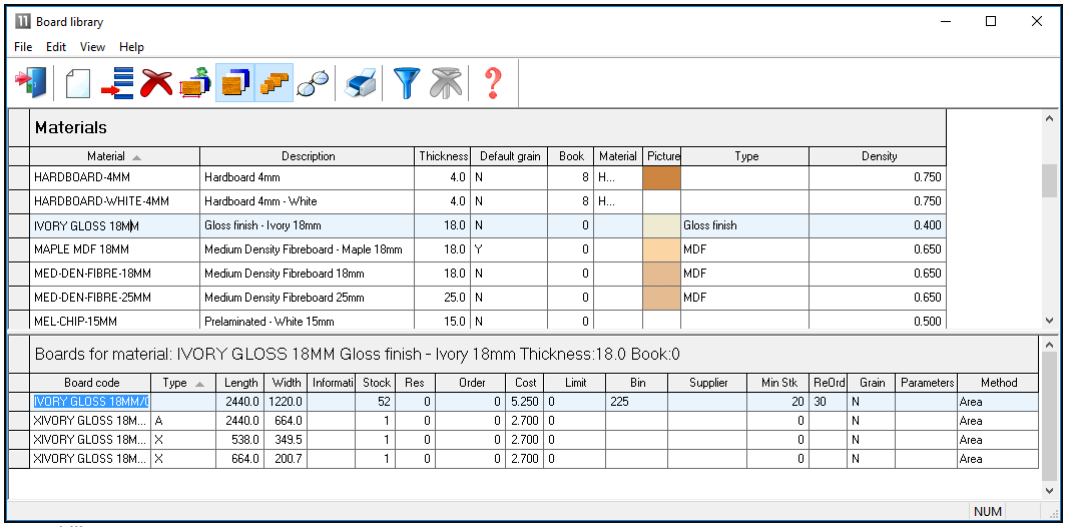
This is set by the System parameter: *Board library import format*

If a ‘User defined’ format is selected also set the name of the Board import parameter file to use. This file is used to define the format of the external file and match up the fields in the external file to the Board library fields.

Use the system parameter: *Parameters for Import* to set the file name.

(See below for details of how to set up the Board library import parameters).

The result is an updated set of materials, boards and quantities in the Board library.



Board library

Board library data

The following sections describe the board library data.

Board code - Each board has unique board code for each board size.

```
3/4V1S-2
1/2PB96x40
MDF18/2
```

Board sizes - are the length and width of the board. The length is normally the longest edge of the board but should follow the grain if the board is grained. The width is normally the shortest edge of the board but should be the edge running against the grain if the board is grained.

Board information - descriptive information about each board

Board quantity - quantity of the board in stock. This is the physical quantity of stock in the board library.

Quantity - reservations - shows the number of boards already reserved. Reservations act as a way of reserving boards for future use because the optimisers work on the physical quantity minus the reservation. This ensures that there are always the correct boards available for jobs that are already optimised and waiting to be cut. *Only available with the Stock Control module*

Quantity - On order - shows the number of boards ‘On order’, that is, boards that have been recorded in the ‘Record orders’ section of the Stock control module. *Only available with the Stock Control module*

Board cost - cost per square area of material, for example, a cost per square foot or a cost per square metre.

Board limit - used to restrict the use of each board when the program produces a set of cutting patterns.

0 - do not exceed the quantity in stock
8 - assume unlimited stock (ignore the quantity in stock)
9 - exceed stock quantity if there are no other boards

The limit is also used to determine the ratio in which boards are used. For example, to use two boards sizes in approximately the same proportion 1:1 or 50:50 enter a figure of ‘1’ as the limit setting against each board type. (1, ratio 1:1, 2, ratio 2;1, 3 ratio 3:1). There are also other settings for sundry or non-optimised parts.

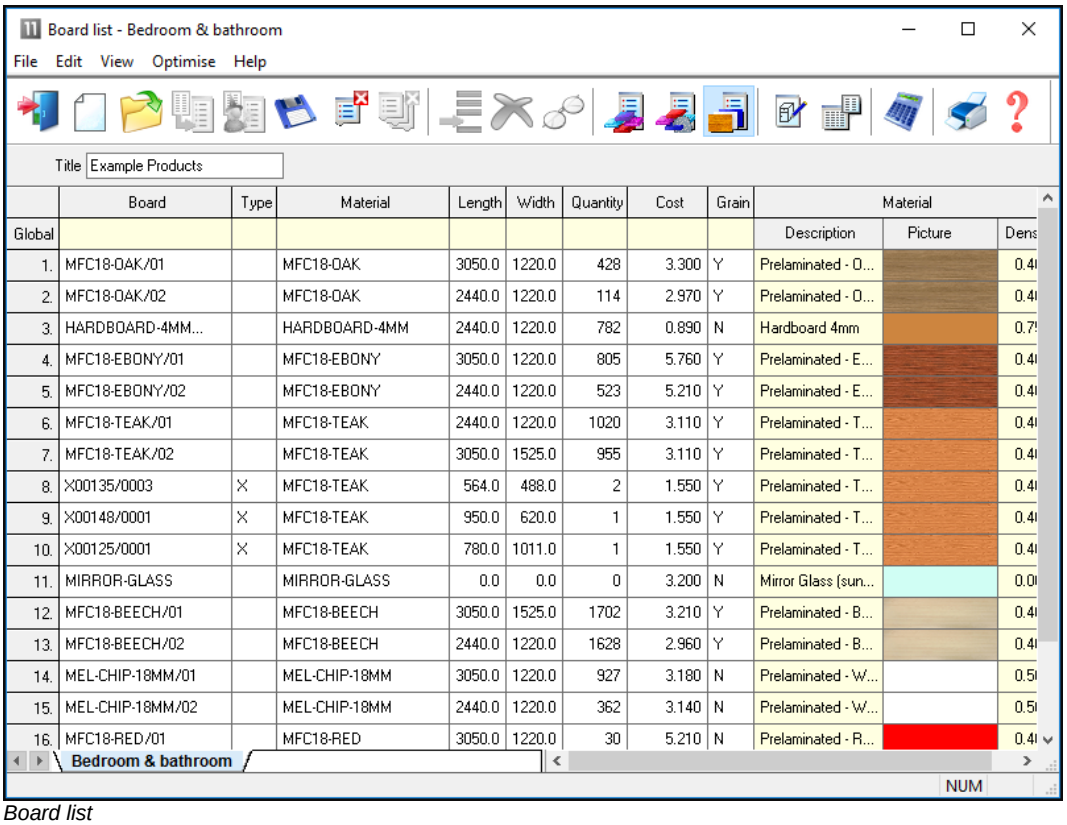
- For NO LIMIT set a value of or quantity of 99999
- Do NOT set a ratio for ONE board ONLY
- Do NOT use ratios for small amounts of stock
- cannot set a limit for an offcut - it is always 0
- cannot use ratios with the small quantity optimiser
- With one dimensional optimisers (2,3) and strip optimiser (6) cannot use the limit values 8 or 9 if ratios set.

Note - the cost is only overwritten if the cost is set to a value greater than zero and is not left blank.

Note - there are other descriptive fields for the Board library, such as 'Bin' and 'Supplier'. These are not used in the BDX format.

Import boards to Board list

A board list is the list of board sizes used for optimising. This is created automatically during optimisation by extracting the materials required for parts from the board library.



	Board	Type	Material	Length	Width	Quantity	Cost	Grain	Material		
Global									Description	Picture	Dens
1.	MFC18-OAK/01		MFC18-OAK	3050.0	1220.0	428	3.300	Y	Prelaminated - O...		0.4
2.	MFC18-OAK/02		MFC18-OAK	2440.0	1220.0	114	2.970	Y	Prelaminated - O...		0.4
3.	HARDBOARD-4MM...		HARDBOARD-4MM	2440.0	1220.0	782	0.890	N	Hardboard 4mm		0.7
4.	MFC18-EBONY/01		MFC18-EBONY	3050.0	1220.0	805	5.760	Y	Prelaminated - E...		0.4
5.	MFC18-EBONY/02		MFC18-EBONY	2440.0	1220.0	523	5.210	Y	Prelaminated - E...		0.4
6.	MFC18-TEAK/01		MFC18-TEAK	2440.0	1220.0	1020	3.110	Y	Prelaminated - T...		0.4
7.	MFC18-TEAK/02		MFC18-TEAK	3050.0	1525.0	955	3.110	Y	Prelaminated - T...		0.4
8.	X00135/0003	X	MFC18-TEAK	564.0	488.0	2	1.550	Y	Prelaminated - T...		0.4
9.	X00148/0001	X	MFC18-TEAK	950.0	620.0	1	1.550	Y	Prelaminated - T...		0.4
10.	X00125/0001	X	MFC18-TEAK	780.0	1011.0	1	1.550	Y	Prelaminated - T...		0.4
11.	MIRROR-GLASS		MIRROR-GLASS	0.0	0.0	0	3.200	N	Mirror Glass (sun...		0.0
12.	MFC18-BEECH/01		MFC18-BEECH	3050.0	1525.0	1702	3.210	Y	Prelaminated - B...		0.4
13.	MFC18-BEECH/02		MFC18-BEECH	2440.0	1220.0	1628	2.960	Y	Prelaminated - B...		0.4
14.	MEL-CHIP-18MM/01		MEL-CHIP-18MM	3050.0	1220.0	927	3.180	N	Prelaminated - W...		0.5
15.	MEL-CHIP-18MM/02		MEL-CHIP-18MM	2440.0	1220.0	362	3.140	N	Prelaminated - W...		0.5
16.	MFC18-RED/01		MFC18-RED	3050.0	1220.0	30	5.210	N	Prelaminated - R...		0.4

Board list

It is sometimes useful to create the board list directly (manually or by import), for example, for 'one-off' jobs where the materials are not in the board library and are not required on a long term basis. Also it is sometimes necessary to make manual changes to the Board list to take account of shortages and bypass the values in the Board library.

The import file can have the following formats:-

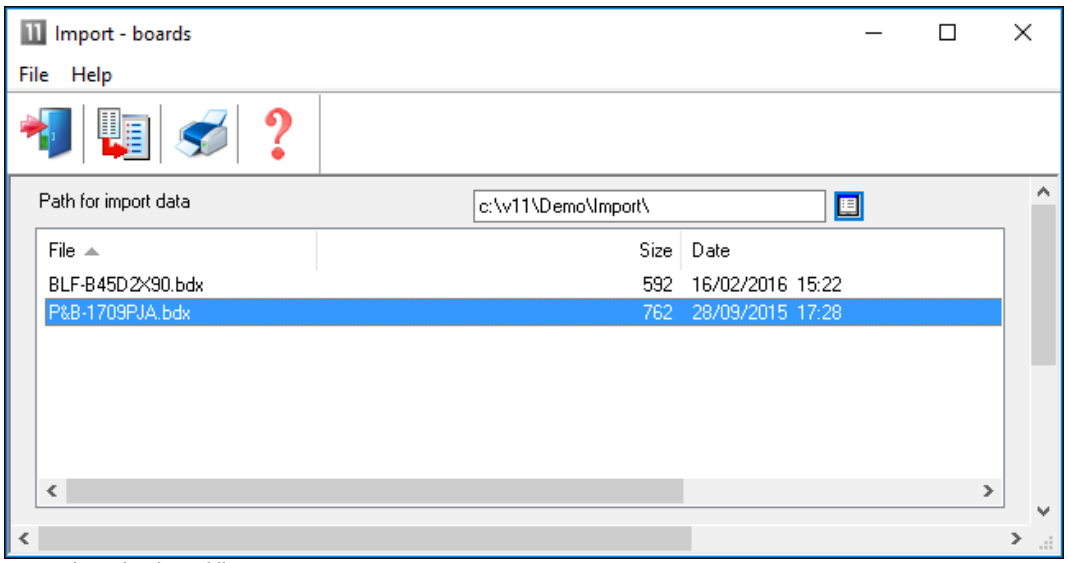
```
Board list (BRD)
ASCII/Unicode CSV (BDX)
```

```
User defined format – ASCII/Unicode CSV
User defined format - Excel (XLS)
User defined format - Excel (XLSX)
```

(The custom format is described by the *Board import parameters*)

To import boards into the board list (NOT into the board library), at the main screen:-

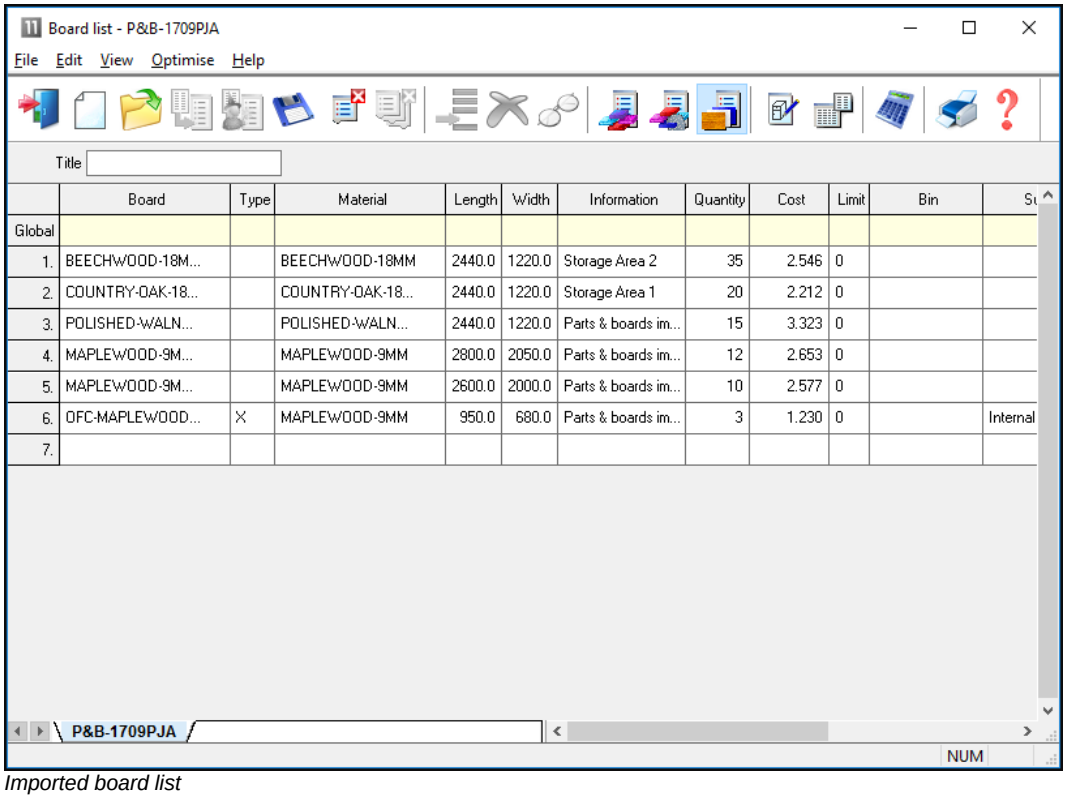
- Select: **File - Import boards**



Import boards - board list

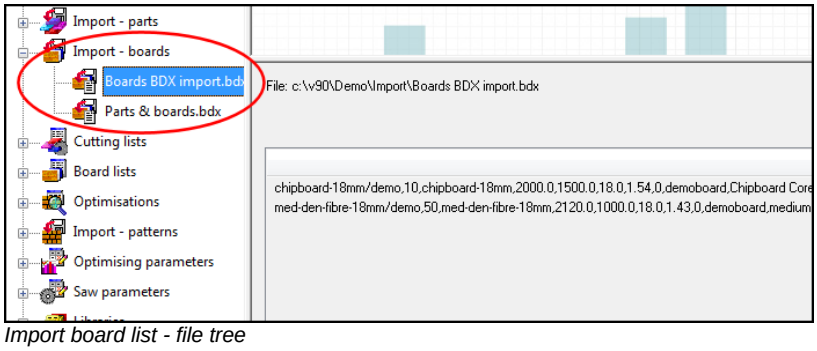
 - Select a file and select the import button

The board list is imported



Imported board list

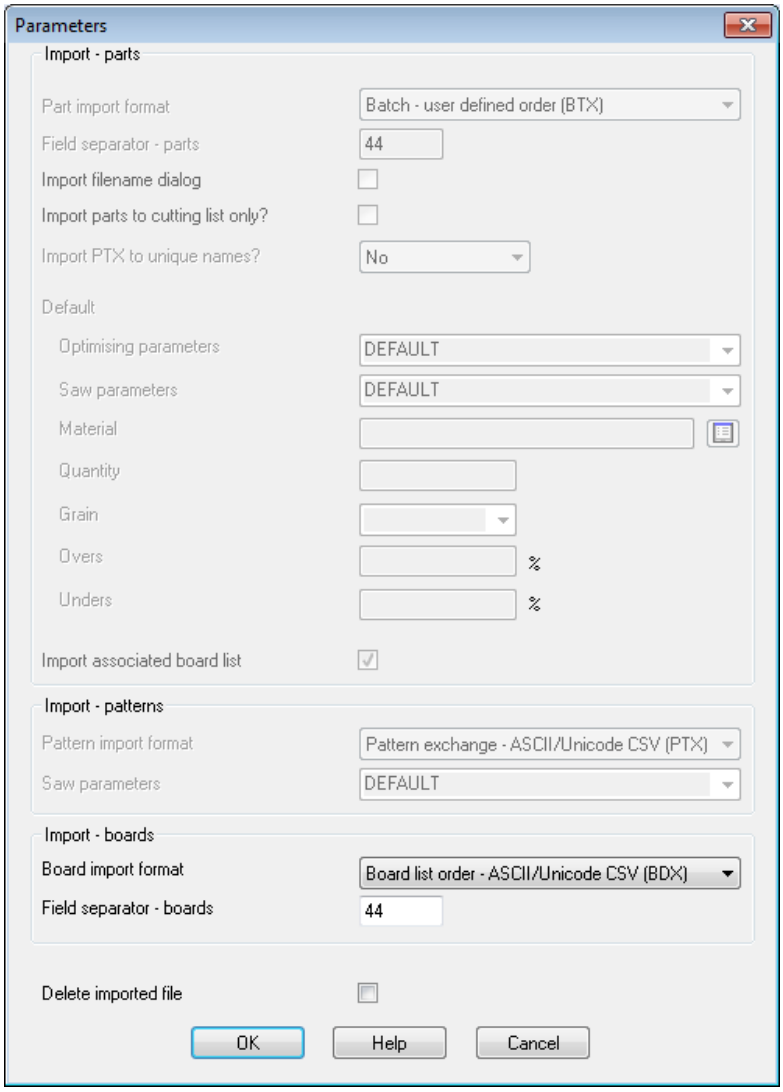
The file can also be imported from the file tree at the main screen.



Import board list - file tree

Board import format

Use the Import parameters to set up the format for the board import file. The Board options are towards the foot of the dialog.



The formats are:-

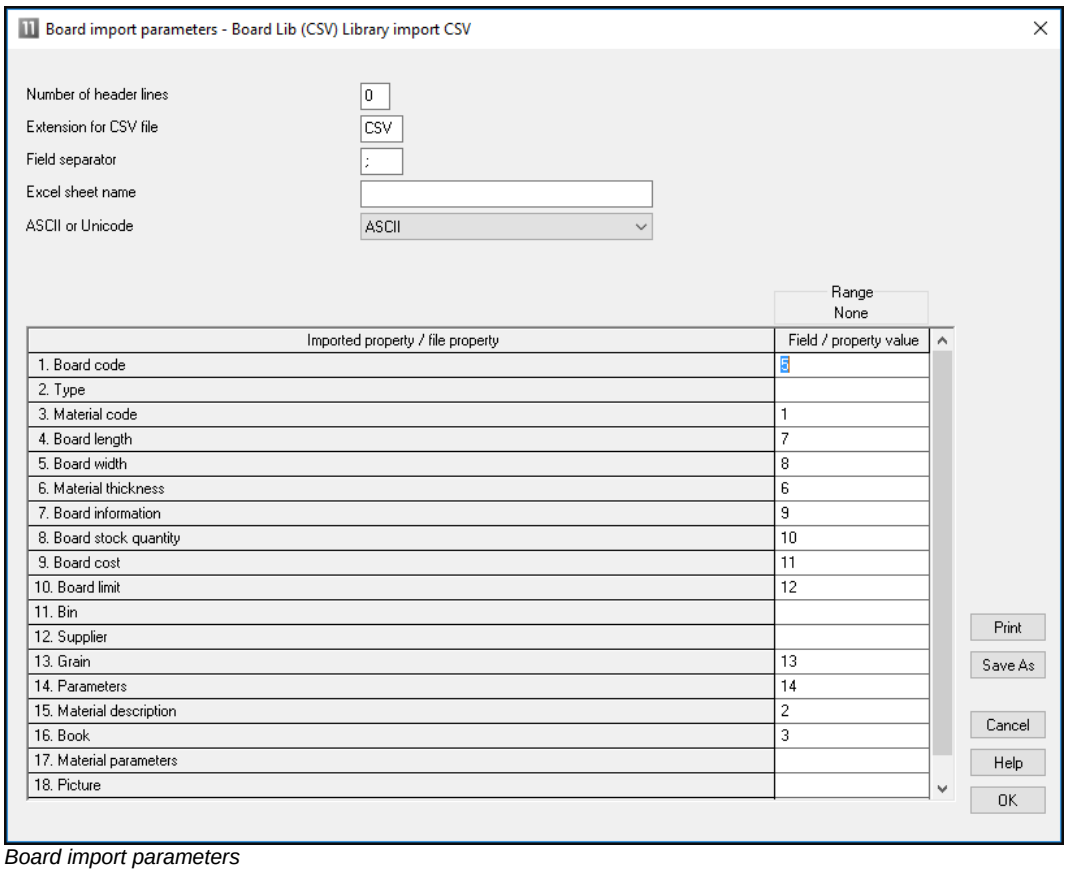
Board list order – ASCII/Unicode CSV (BDX)
User defined order – ASCII/Unicode CSV
User defined order - Excel (XLS)
User defined order - Excel (XLSX)

For the user defined formats the format is set via the Board import parameters (*Main screen - Parameters - Board import parameters*)

Board import parameters

These files define how the fields in the external file to import map on to the board library or board list fields.

It is possible to create as many parameters files as required; for example, separate files for different external file formats. If importing to the Board library and to Board lists different files may be required for each type of import as the external files are likely to be different.



Board import parameters

Use the parameters to describe the format of the external (file to import). A simple ASCII external file is, for example:-

```
BRD1,MFC15,2440.0,1220.0,25,18
BRD2,MDF18,2440.0.0,1220.0,30,15
BRD3,MDF18,1830.0,1230.0,10,18
```

In this example there is one line for each board and the information shown on each

line is:-

- board code
- material code
- length (millimetres)
- width (millimetres)
- quantity
- thickness

This format is described, by the parameters, as follows:-

```
...Code -------------------- 1
...Material ---------------- 2
...Length ------------------ 3
...Width ------------------- 4
...Thickness --------------- 6
...Information ------------- 0
...Quantity ---------------- 5
```

Each parameter is a field in the part list and the parameter value is the position of that field in the external ASCII file. Here is the same data in another format:

```
25,BRD1,MFC15,2440.0,1220.0,18
30,BRD2,MDF18,2440.0.0,1220.0,15
10,BRD3,MDF18,1830.0,1230.0,18
```

This is the same data as the first example but the items are now in a different order:-

- quantity
- board code
- material
- width
- length
- thickness

```
...Code ------------------- 2
...Material ---------------- 3
...Length ------------------ 4
...Width ------------------- 5
...Thickness --------------- 6
...Information ------------- 0
...Quantity ---------------- 1
```

Here is a similar example for importing boards measured in inches.

```
25,BRD1,MFC15,96-1/2,48
30,BRD2,MDF18,96-1/2,48
10,BRD3,MDF18,72,48-3/4

...Extension for CSV file -- BDX
```

Note - at the foot of the list that there is a parameter to specify the extension for the import file; the default is BDX. The path for the file is specified in the program as the Path for Import

Number of header lines - Enter the number of header lines. Default value is 0 and the range is 0-99. Only applies when the Import parameter: *Board import format* is set for user defined formats.

- The value column specifies a field position in the import file. This can be in the range 0 to 200. There are less fields to import than this but in some import files there will be fields that have to be ignored.

- The 'Extension for CSV file' parameter is used to specify the file extension of the files to be imported.

e.g. CSV, BDX, XLS, XLSX

Field separator - enter an ASCII value for character defining each field e.g. '44' = comma

Notes

- When importing to a board list the following fields are not used.

Material description
Maximum book height

Board import file format (BDX)

Board code (50)
Quantity (5)
Material (50)
Length (9)
Width (9)
Thickness (7)
Cost (5)
Limit (1)
Board information (50)
Material description (50)
Grain (1) Yes=1, No=0, 2=X
Maximum book height (4)
Board parameter name (50)
Material density (6)
Board type (1) Stock board=0, Offcut in manual storage area=1, Offcut in automatic storage area=2
Bin (25)
Supplier (50)
Material parameter name (50)
Material picture/colour (50) file name or RGB(###:###:###)

The number in brackets shows the maximum length of each field but each field must also be comma separated and can be shorter than the maximum. Only the first two items (board code and quantity) are essential the other items are optional.

Material parameter name - stored in the Board library on import. Not used when importing boards to a board list.

```
B27/1,250
B28/1,3000
B35/021/009-ASH,-150
B36,0,MFC15,2440.0,1220.0,15.0,42.25,0
SP8,345
```

Note - not all the fields specified in the BDX format are used when importing into a Board list (as these fields are not used in the Board list). The fields NOT imported are:-

```
Material description (extra description field in Board library)
Max book height
Material density
```

These fields must be present where there are following fields.

Import parameter to include the list of boards on import

For the import of external part lists it is sometimes convenient to also import the board list at the same time, Quite often the two lists are created together in the external system. At the import parameters screen:-

- Check the box to also import the board list

The program automatically works out the correct board list name and extension from the settings for the import type for parts and boards and the extension used (this is either implied by the import type or taken from the Board import parameters).

```
Import part format: Part list order – ASCII/Unicode CSV (PNX)
Import board format: Board list order – ASCII/Unicode CSV (BDX)
Part list name: MyBoards.pnx
Board list name: MyBoards.bdx
```

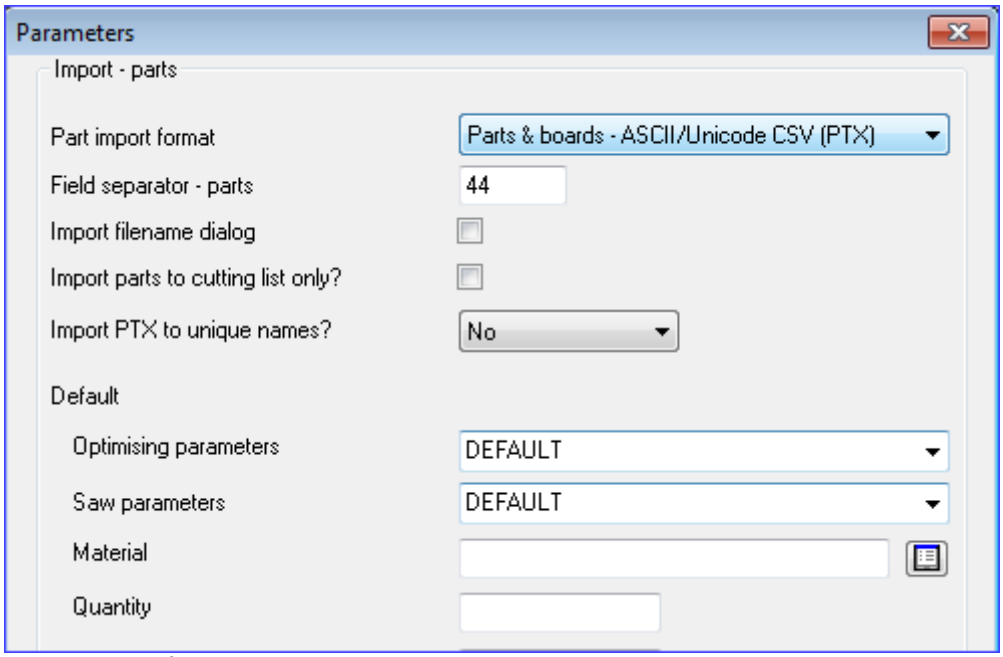
2.4 Import Parts / Boards / Patterns - Pattern Exchange Format (PTX)

The Pattern Exchange format is a standard format for describing parts, boards, patterns and cutting information and can be used for both Import and Export. The file can be either an ASCII file or an Access MDB database file (the full details for the format are in Section 3).

Import Parts and Boards (PTX)

Several manufacturers use the PTX format for exchanging data.

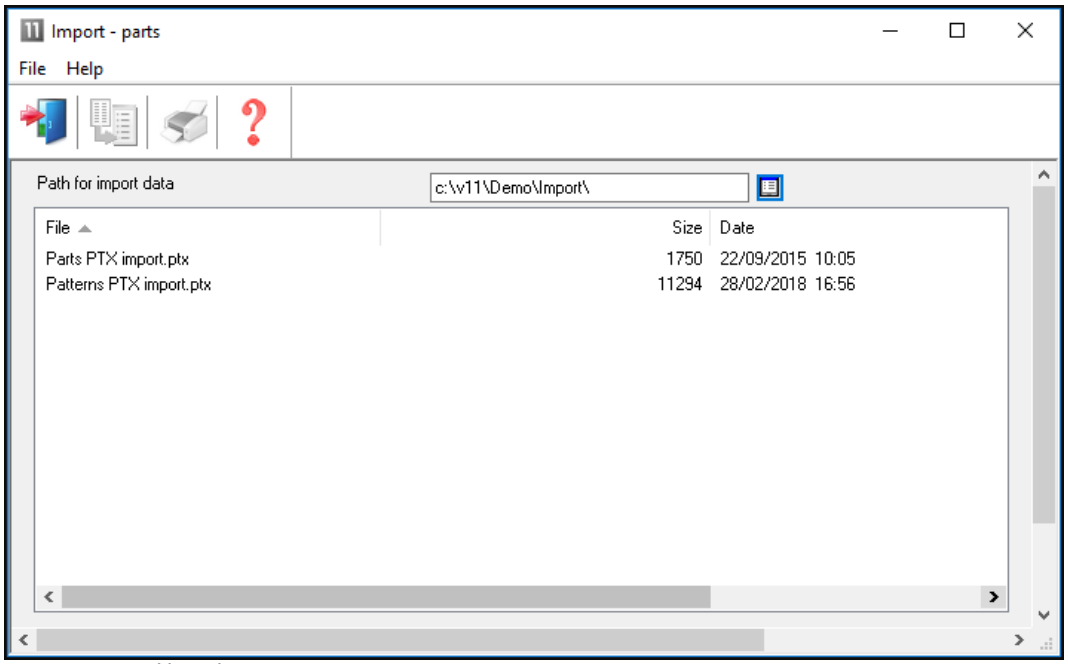
The import format is set at the Import dialog (*Main screen - File - Import parts (boards) - File Parameters*)



Import PTX - set format

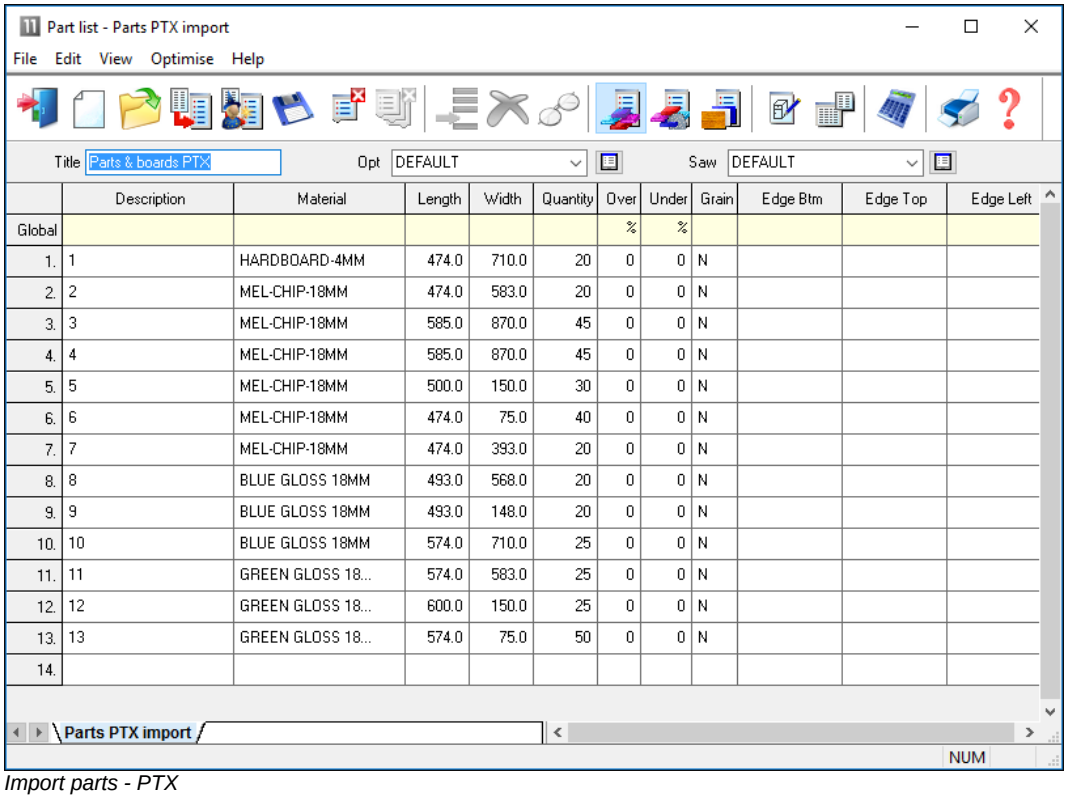
The format for PTX is: Parts & Boards ASCII/Unicode CSV (PTX). The PTX file can contain both parts and boards. To import (once the format is set):-

- Select: **File - Import parts**



Import parts and boards - PTX

The part list and board list are imported.

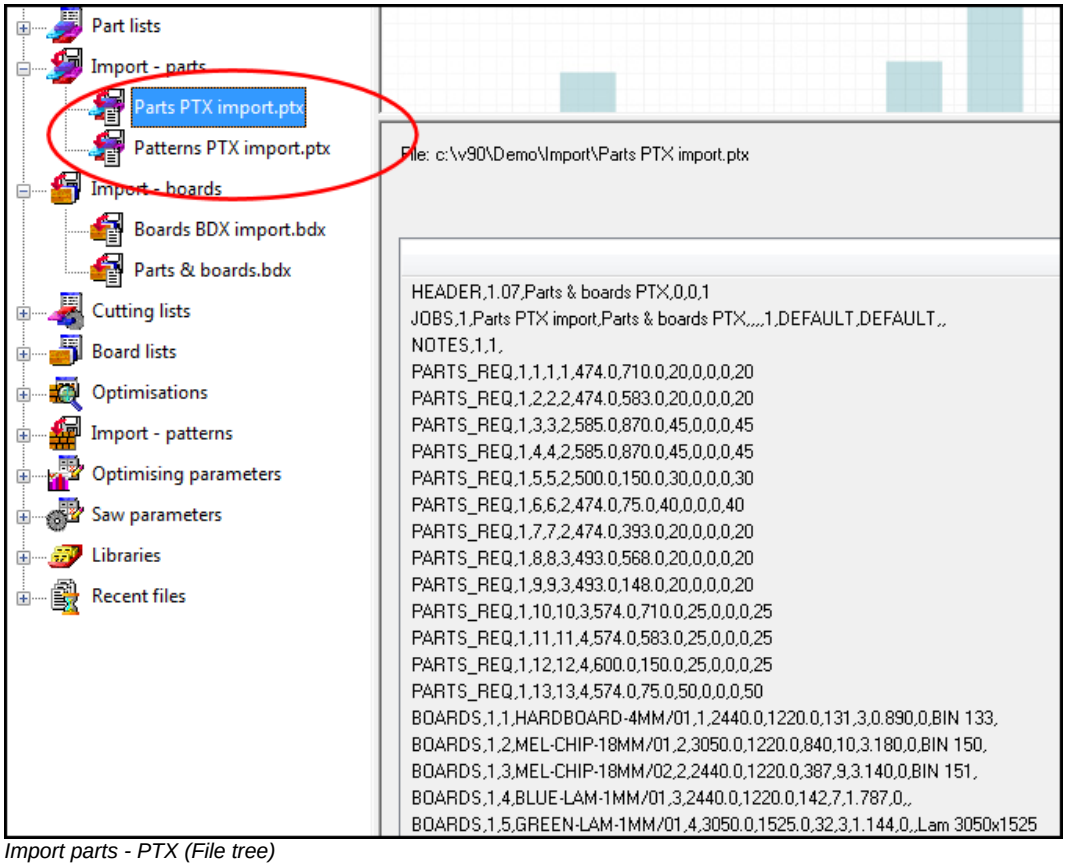


	Description	Material	Length	Width	Quantity	Over	Under	Grain	Edge Btm	Edge Top	Edge Left
Global						%	%				
1.	1	HARDBOARD-4MM	474.0	710.0	20	0	0	N			
2.	2	MEL-CHIP-18MM	474.0	583.0	20	0	0	N			
3.	3	MEL-CHIP-18MM	585.0	870.0	45	0	0	N			
4.	4	MEL-CHIP-18MM	585.0	870.0	45	0	0	N			
5.	5	MEL-CHIP-18MM	500.0	150.0	30	0	0	N			
6.	6	MEL-CHIP-18MM	474.0	75.0	40	0	0	N			
7.	7	MEL-CHIP-18MM	474.0	393.0	20	0	0	N			
8.	8	BLUE GLOSS 18MM	493.0	568.0	20	0	0	N			
9.	9	BLUE GLOSS 18MM	493.0	148.0	20	0	0	N			
10.	10	BLUE GLOSS 18MM	574.0	710.0	25	0	0	N			
11.	11	GREEN GLOSS 18...	574.0	583.0	25	0	0	N			
12.	12	GREEN GLOSS 18...	600.0	150.0	25	0	0	N			
13.	13	GREEN GLOSS 18...	574.0	75.0	50	0	0	N			
14.											

Import parts - PTX

The PTX format can also be imported from an MDB file:*Parts & Boards - Access (MDB)*.

Once the format is set Parts and Boards can also be imported from the file tree.



Import parts - PTX (File tree)

In the example above a section of the ASCII/Unicode PTX file is shown at the right.

Notes

- The File tree extension (PTX) matches the import format setting.
- PTX files can contain more than one part list or board list

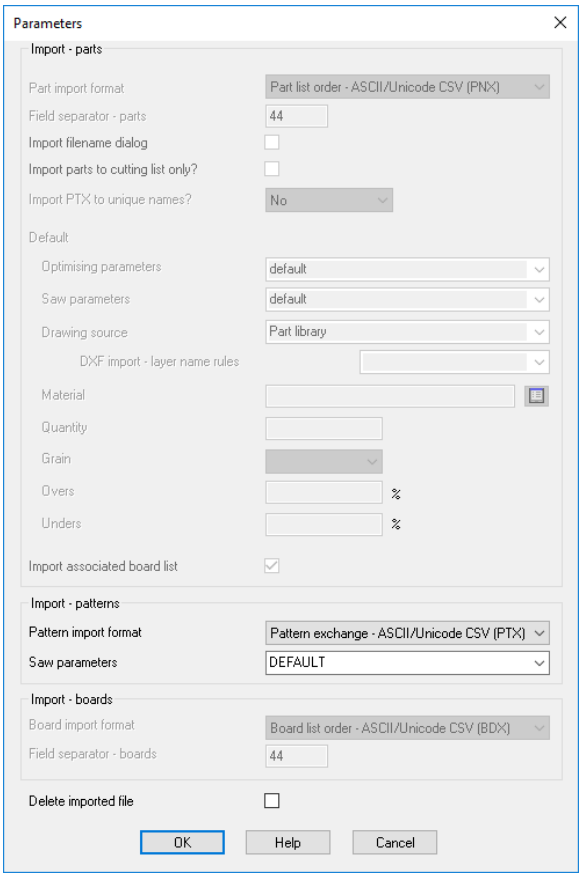
Import patterns - Pattern Exchange Format

The optimising program usually produces patterns so it is rare to need to import patterns to the program.

(The main use for the Pattern Exchange format is to export data for patterns to other systems and machines, or, for manufacturers to use sections of the PTX data for controlling other production processes).

However, in some cases it is useful to import patterns to the Optimising software, for example, where special patterns have been created manually and do not need to be optimised.

Use the Pattern Exchange format for this import (*Main screen - Import patterns - File - Parameters*)



Import parameters - Patterns

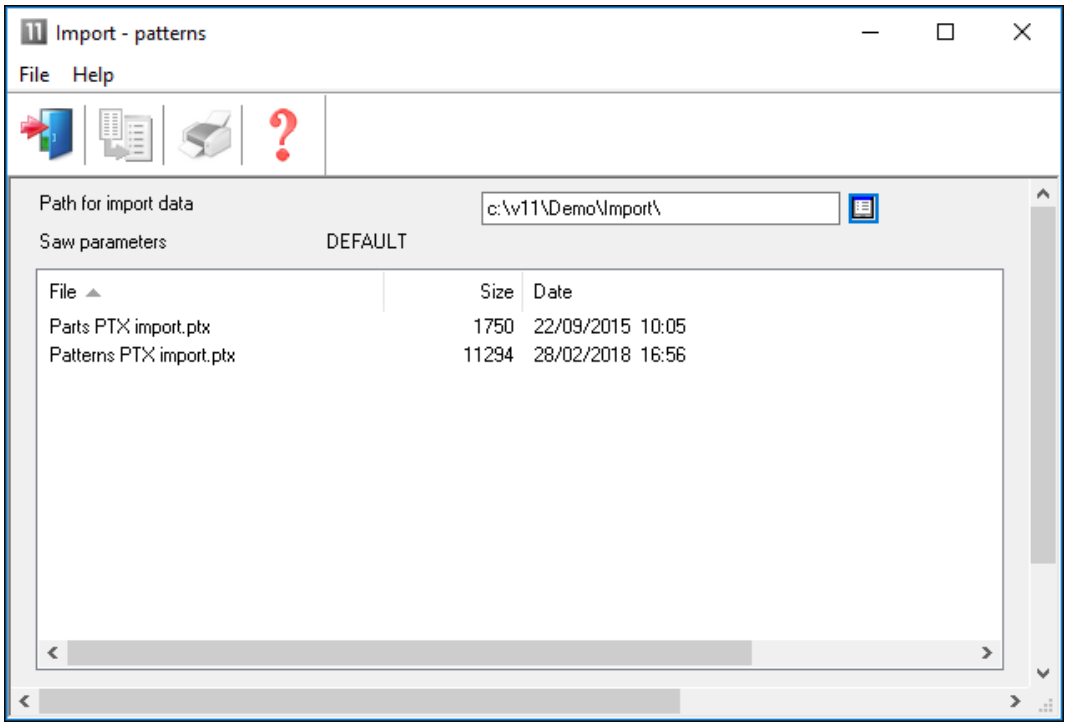
The pattern import parameters are towards the foot of the dialog. Select the one of the pattern exchange formats, for example: Pattern Exchange – ASCII/Unicode CSV (PTX)

(The other options are for special situations where patterns are imported from other systems for further processing).

To import patterns (once the format is set), at the main menu:-

- Select: **File - Import patterns**

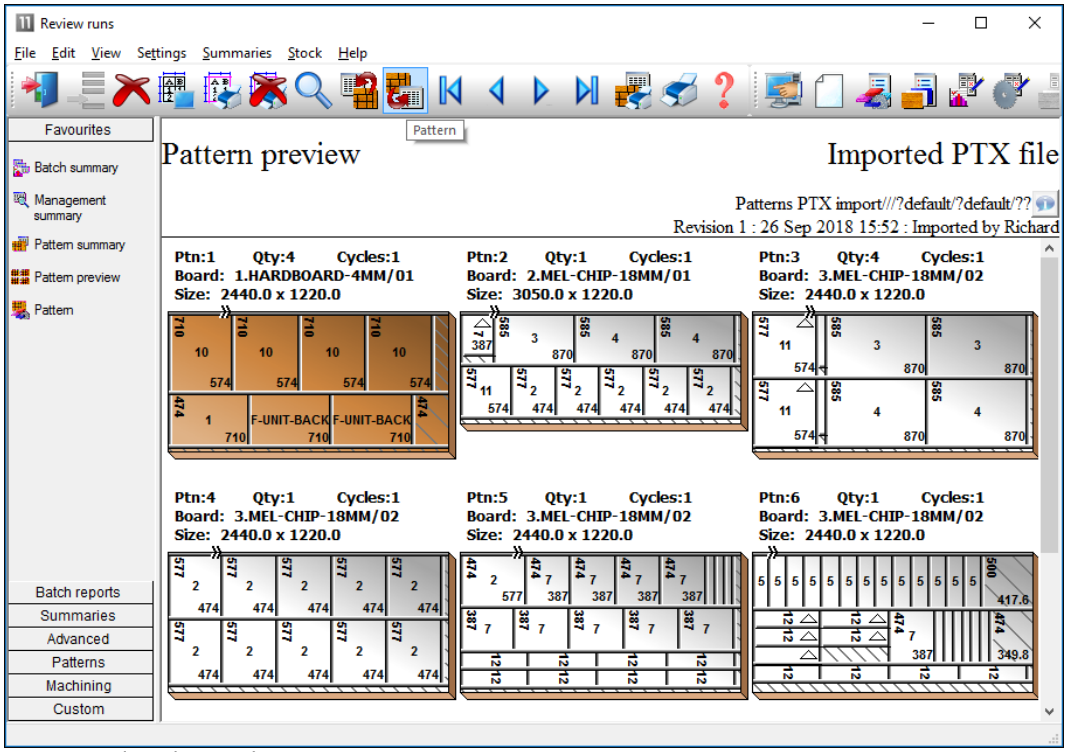
The screen displays an Import dialog select the pattern exchange file (PTX) to import.



Import patterns - PTX

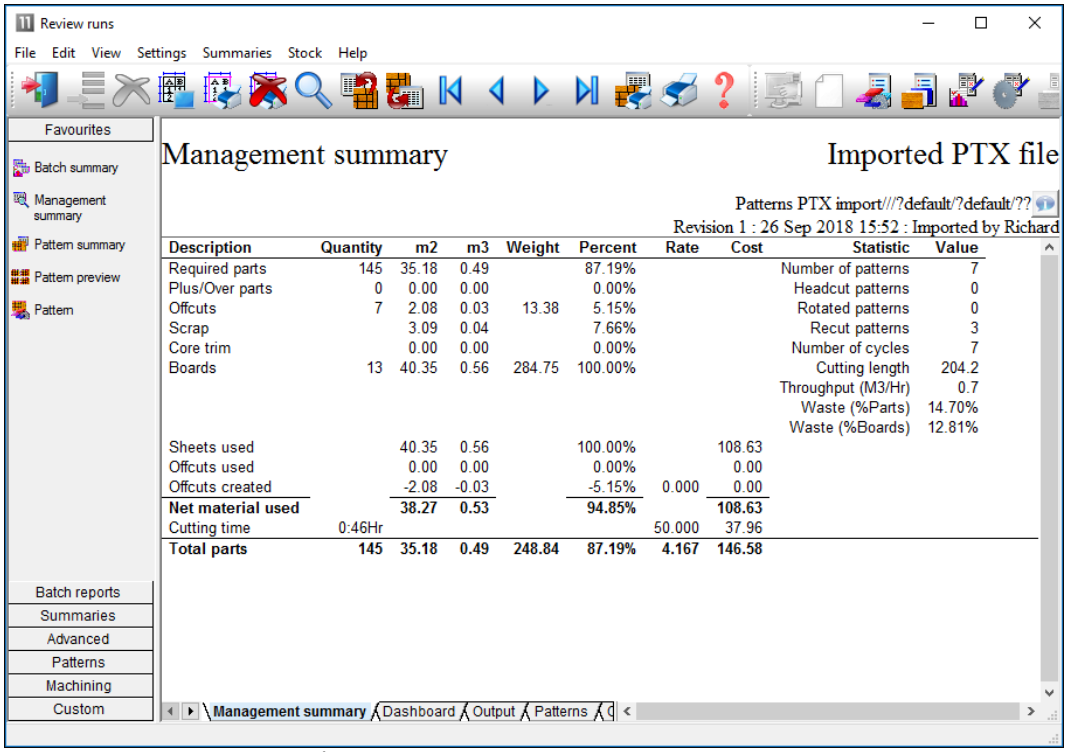
 - Select a file and select the import button

The result is an imported run (set of patterns).



Pattern preview - imported patterns

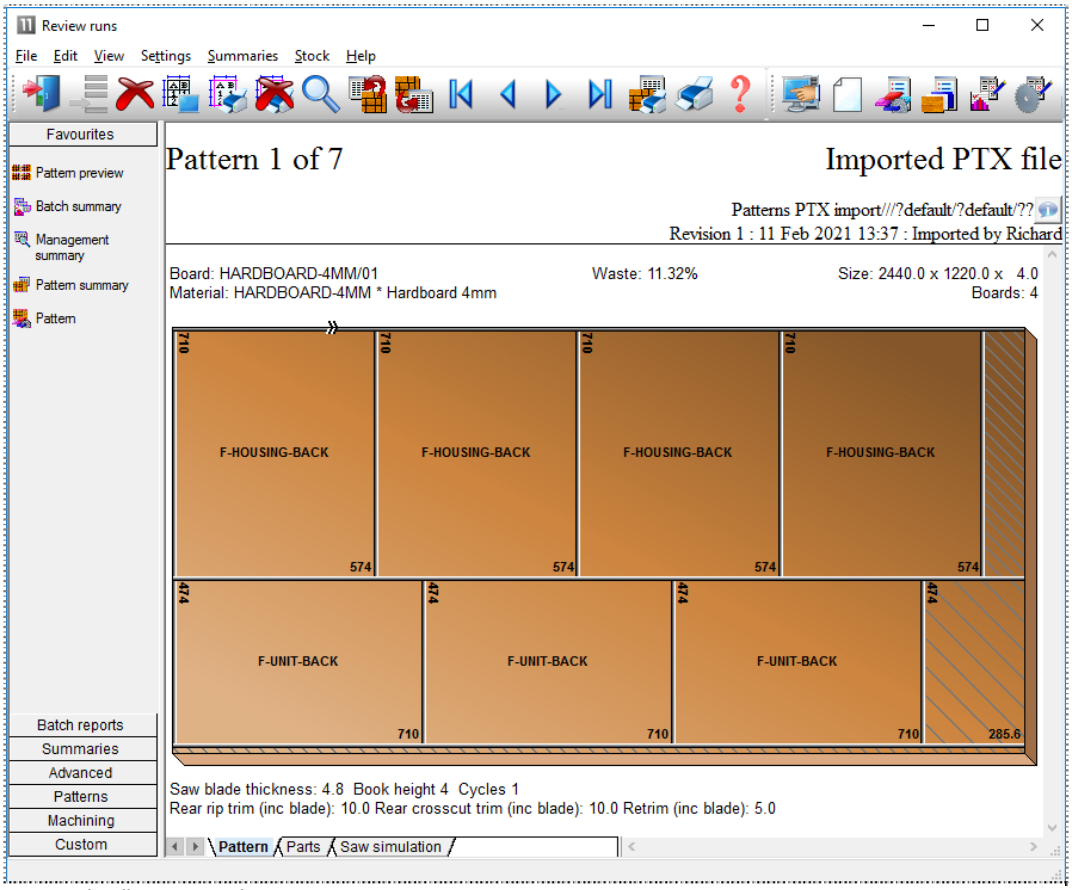
The run is the same as any optimised run with summaries and full pattern details.



Description	Quantity	m2	m3	Weight	Percent	Rate	Cost	Statistic	Value
Required parts	145	35.18	0.49		87.19%			Number of patterns	7
Plus/Over parts	0	0.00	0.00		0.00%			Headcut patterns	0
Offcuts	7	2.08	0.03	13.38	5.15%			Rotated patterns	0
Scrap		3.09	0.04		7.66%			Recut patterns	3
Core trim		0.00	0.00		0.00%			Number of cycles	7
Boards	13	40.35	0.56	284.75	100.00%			Cutting length	204.2
								Throughput (M3/Hr)	0.7
								Waste (%Parts)	14.70%
								Waste (%Boards)	12.81%
Sheets used		40.35	0.56		100.00%		108.63		
Offcuts used		0.00	0.00		0.00%		0.00		
Offcuts created		-2.08	-0.03		-5.15%	0.000	0.00		
Net material used		**38.27**	**0.53**		**94.85%**		**108.63**		
Cutting time	0:46Hr					50.000	37.96		
Total parts	**145**	**35.18**	**0.49**	**248.84**	**87.19%**	**4.167**	**146.58**		

Management summary - Imported patterns

The patterns operate in the normal way.

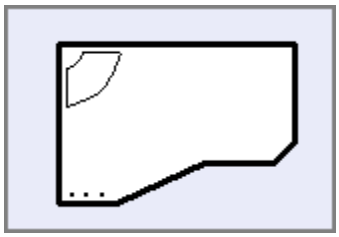


Pattern details - Imported pattern

Note - import patterns also imports the parts and boards as these are needed for the patterns.

File tree - also import patterns by selecting the file at the file tree on the main screen under the branch 'Import patterns'.

2.5 Import/Export DXF drawings for Patterns and Parts



DXF is a common format for part and pattern drawings. To use this format the Optimising program has to import or read part and pattern drawings in the DXF format and after optimisation output patterns and machining instructions to a file in a defined DXF format.

- For import use the 'DXF import - layer name rules' to describe the DXF format (*Main screen - Parameters - 'DXF import - layer name rules*')

- For transfer to a machining centre the program uses a pre-defined DXF format (*Main screen - Machine Interface - 2D DXF Nested Layered*)

The DXF format is essentially a drawing format describing the geometry of a drawing. The information for machining (drilling, routing, etc.) is stored separately in different 'Layers'. Typically there is a layer for drilling, a layer for borders and so on.

Layering **-** Layering is a mechanism in the DXF format which separates the drawing elements into series of layers or overlays. Each layer can be identified and its contents separated from the other layers. The layer names and the layer contents can be chosen by the user so that is a very flexible way of structuring the information in a DXF file. The different layer options available are just the different conventions that manufacturers and users have set up for naming layers and deciding what information is in each layer.

These layers are typically named and defined differently by each user depending the type and quantity of information they use. Within a DXF file there can also be many other 'Layers' containing information on the drawing or the project which are not used by the Optimising program.

Working with DXF based parts

Where parts are based on DXF files there are a number of ways of working.

- Use DXF parts directly in part lists
- Import DXF parts into the Part library
- Import DXF parts into the Machining library

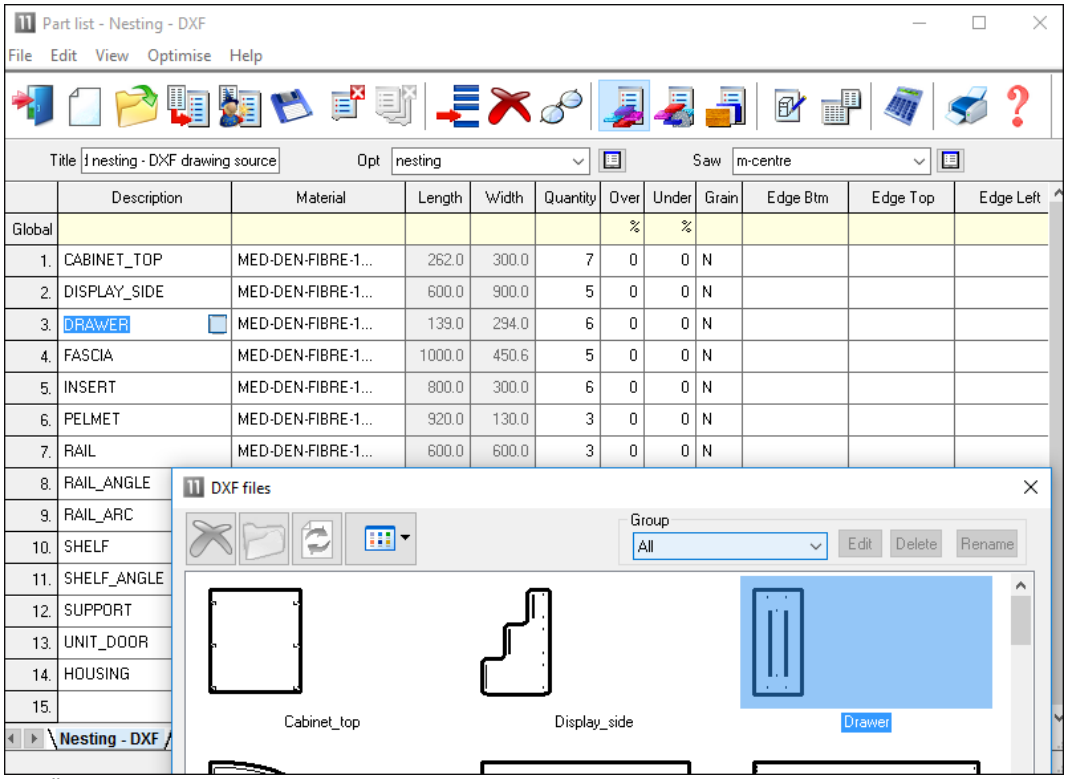
Once the parts are in a part list they can be optimised and transferred to a machining centre in the usual way.

Use DXF parts directly in part lists

- Copy the DXF files to the directory set by the system parameter: *Path for Import data*

- Move to a part list
- Select: *File - Properties*
- Set the drawing source for the part list as: *DXF files* (this can be different for each part list)

At the part list the DXF parts are now available from the selection dialog.



Part list - DXF parts

When using the DXF drawing source (Part list parameters) the setting for *'DXF import - layer name rules'* must also be set to describe the DXF format.

Import DXF parts to the Part library

- Copy the DXF files to the directory set by the system parameter: *Path for Import data*

- Move to the Part library
- Select: *Edit - Import DXF drawings*
- Select the required DXF drawing

The item is now stored in the Part library and there is a drawing in the Machining library.

- Move to a part list
- Select: *File - Properties*
- Set the drawing source for the part list as: *Part library* (this can be different for each part list)

At the part list the DXF parts in the Part library are now available from the selection dialog.

Import DXF parts to the Machining library

- Copy the DXF files to the directory set by the system parameter: *Path for Import data*

- Move to the Machining library
- Select: *File - Merge DXF*
- Choose the directory with the DXF files
- Select the required DXF drawing

The item is now stored in the Machining library.

- Move to a part list
- Select: *File - Properties*
- Set the drawing source for the part list as: Machining libr*ary* (this can be different for each part list)

At the part list the DXF parts in the Machining library are now available from the selection dialog.

Machining instructions

For parts processed at a Machining centre the DXF file also contains machining instructions. This format can be different for each user. Use the *'DXF import - layer name rules'* to describe this format.

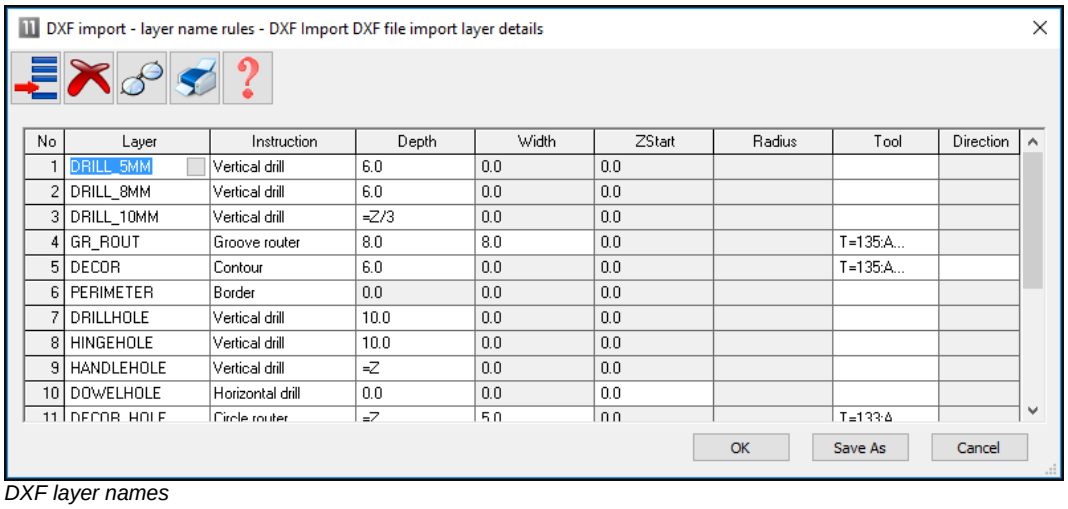
DXF import - layer name rules

Use these parameters to describe the layer structure of a DXF file for machining information. This information is required if DXF files are used as a source for parts, in the part list, part library or machining library.

At the main menu:-

- Select: **Parameters - DXF import - layer name rules**

The program displays a dialog.



DXF layer names

- Enter a layer name
or
- Select a layer name via the list box

(Click on the Layer column to pop up the select button)

Initially the program prompts to select the folder containing the DXF files. Select the required folder. This selection is retained for future sessions.

If no names are available or more layer names are required a list of layer names can be prepared by scanning existing DXF files - for details see: *Scan - DXF.*

Instruction

Enter the type of instruction stored in the layer name. Some examples of available types are:-

```
Vertical drill
Horizontal drill
Saw groove
Circle router
```

```
Groove router
Arc router
End groove
Contour
Text
Border
Safety Border
Free form pocket
```

In the next columns enter the information for Depth, Width, Zstart and Tool where it applies for each instruction type. This is information that is NOT in the DXF layer but needs to be set for Machining.

The information required for each machining type is.

```
Vertical drill:    Depth, Tool
Horizontal drill:  ZStart, Tool
Saw groove:        Width, Depth, Tool
Circle router:     Depth, Width, Tool
Groove router:     Width, Depth, Tool
Arc router:        Width, Depth, Tool
End groove;        Width, Tool
Contour:           Depth
Text:
Border:
```

- At the Tool column click on the button to pop up the tool dialog to enter the Tool information.

Direction of imported contours / free form pockets

The column 'Direction' is for specifying the direction of contours and free form pockets. This is available where the instruction is a contour or a free form pocket. Enter one of the following values:-

Blank - contour/pocket direction depends on the way it was drawn in the original DXF drawing)
CW - contour/pocket is drawn in the machining library in a clockwise direction 
CCW - contour/pocket is drawn in the machining library in a counter clockwise direction 

Notes

- Layer name maximum length is 100 characters
- Up to 100 parameters lines allowed
- Machining centre parameter: *Import - DXF format* must be set to ' Layered - user defined'
- Only layer names that are used for geometry are shown in the selection dialog

- When transferring a machining drawing in 2D DXF nested layered DXF format any fixed pockets (not free form pockets) appear on a layer starting with the text 'POCKET'

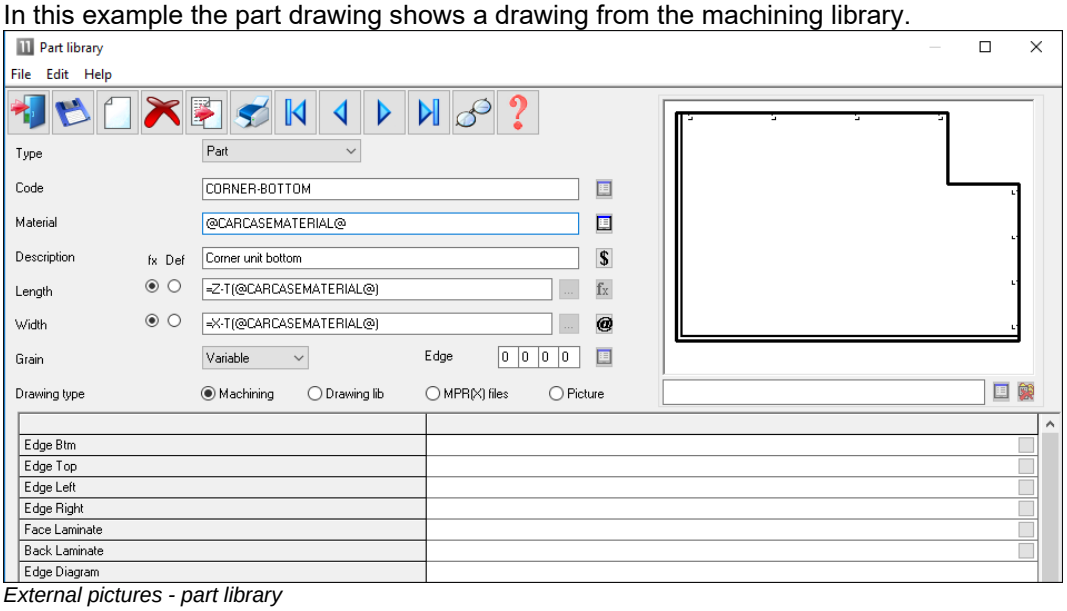
2.6 External drawings - Part library and Product library

For the part library and product library a drawing can be associated with each item. The drawing can be selected from one of several different sources:-

- Machining library
- MPR(X) file
- Drawing library
- External graphics file (BMP, WMF, EMF, JPG)

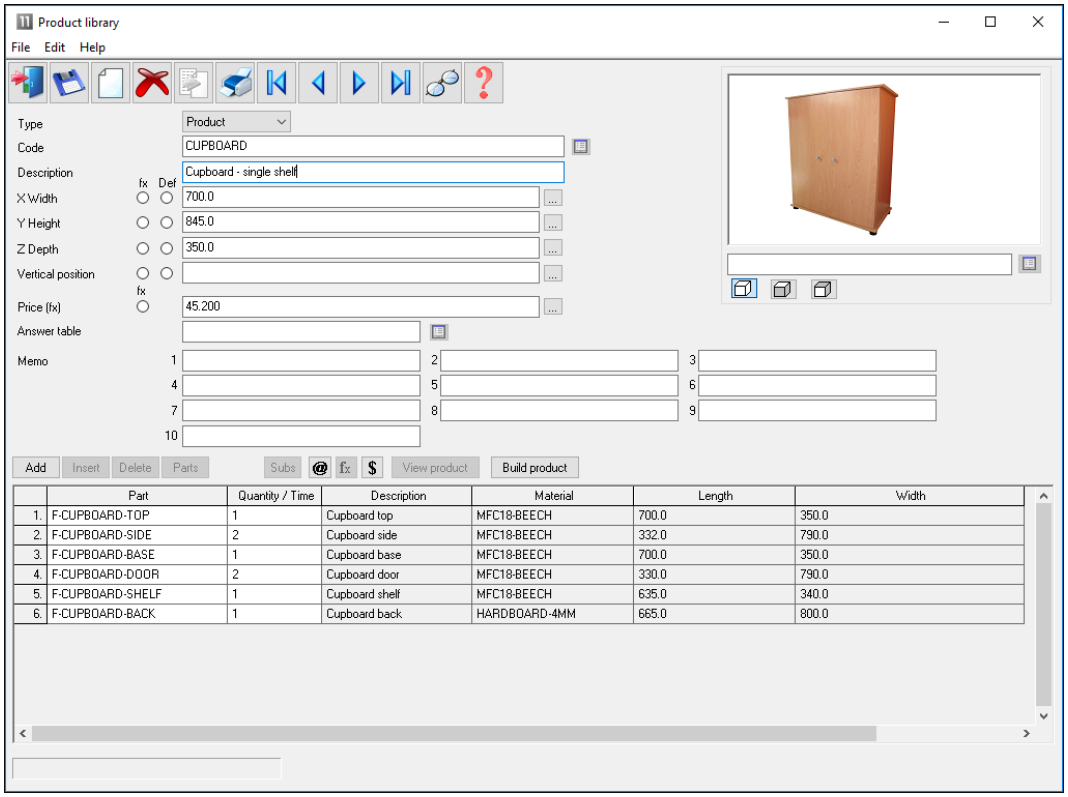
Drawing - part library

In this example the part drawing shows a drawing from the machining library.



External pictures - part library

In this example the product drawing is from an external picture (jpg) file.



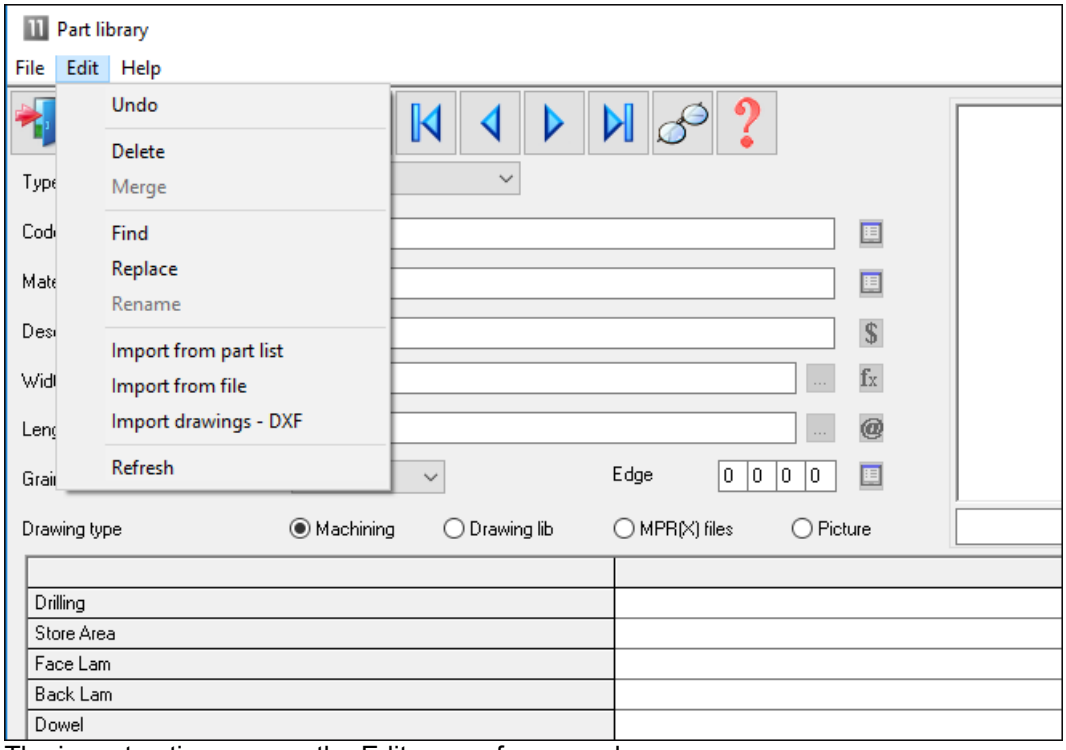
External picture - product library

- External graphics files are placed in directory set by the system parameter: *Path for pictures.* If this path is not set the files are in the directory set by the system parameter: *Path for data*

- MPR(X) files are located in the directory set by the system parameter: *Path for MPR(X) files*

- Different parts can be linked to the same drawing or there can be a one to one link between parts and drawings.

2.7 Import from file - part library



The import options are on the Edit menu, for example:-

- Select: **Edit - Import from file**

The program displays a list of files (from path set by the System Parameter: Path for data'

- Select a part list to import

If a part code already exists in the part library the program prompts to overwrite the code or stop the import.

Setup of External files - The file type can be CSV (ASCII/Unicode text file) or the Excel formats XLS, XLSX; this is set via (Part library screen - File - Parameters). To import an external file directly to the part library the format of the external file must follow a fixed layout.

```
part code
material
description
default length
length
default width
width
grain
quick edge codes
cost
drawing type
drawing code
information boxes
```

Default length?; default width? - used to set the default check box beside the length and width fields at the part library

0 = default box is not set
1 = default box is set

Material code starts with + record is a fitting
Material code starts with - record is an operation

Grain 0=No, 1=Yes, 2=X, 3=Variable

Cost - only applies to fittings and operations

Drawing type - 0=file name, 1=machining library, 2=drawing library

Drawing code - where the drawing type is 0 the drawing code is a file name and extension, otherwise it is a drawing code

Part library - Import part lists

Part lists can also be imported to the part library via the option: **Edit - Import from Part list**

2.8 Import product data

At the product library screen there are several options to export data.

- Import product
- Import library

Import product

The program has an option to export data for a single product to a PLE file. This file can be imported to any product library using this import option.

If the product is BASE-OVEN-HSE the file is typically: BASE-OVEN-HSE.PLE

The PLE format is an internal format.

Import library

This option imports an MDB file and creates the following libraries/tables:

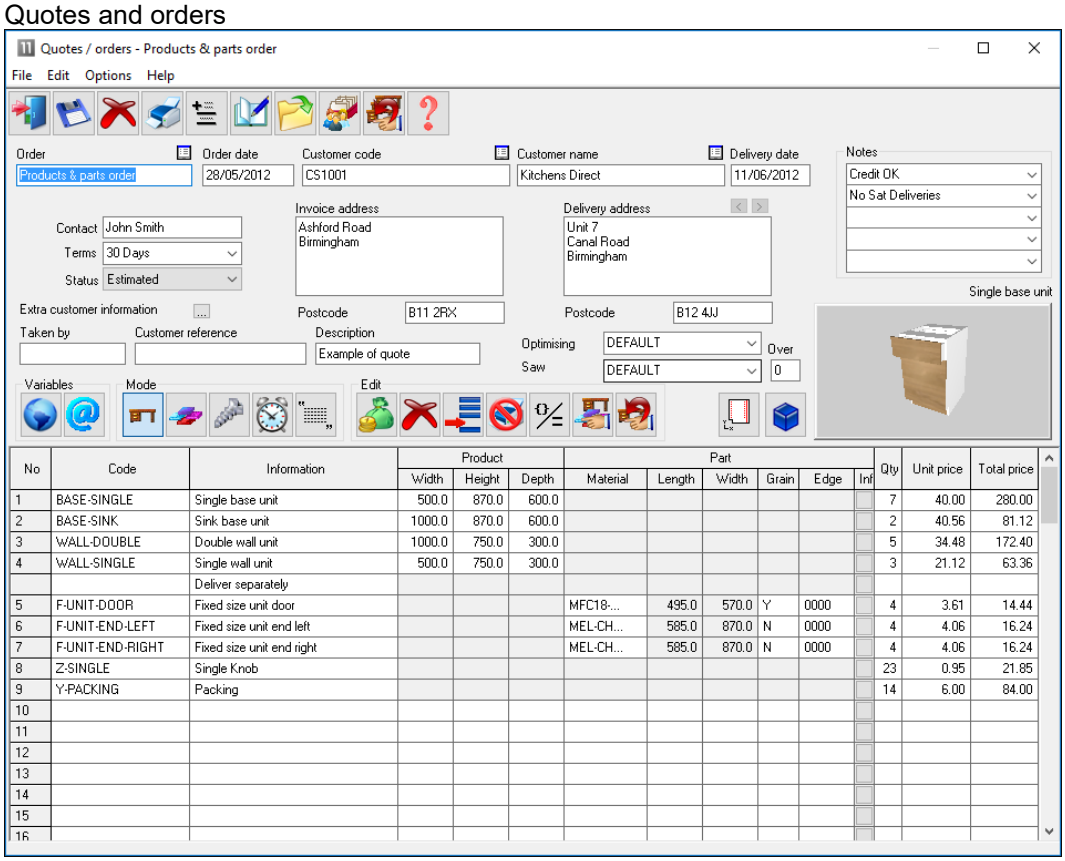
Product library
Part library
Variable table
Lookup table
Formula table

The structure of the MDB file must match the specification for the librar. For details of the format see the section on 'Export product data'.

2.9 Import Quote and Orders

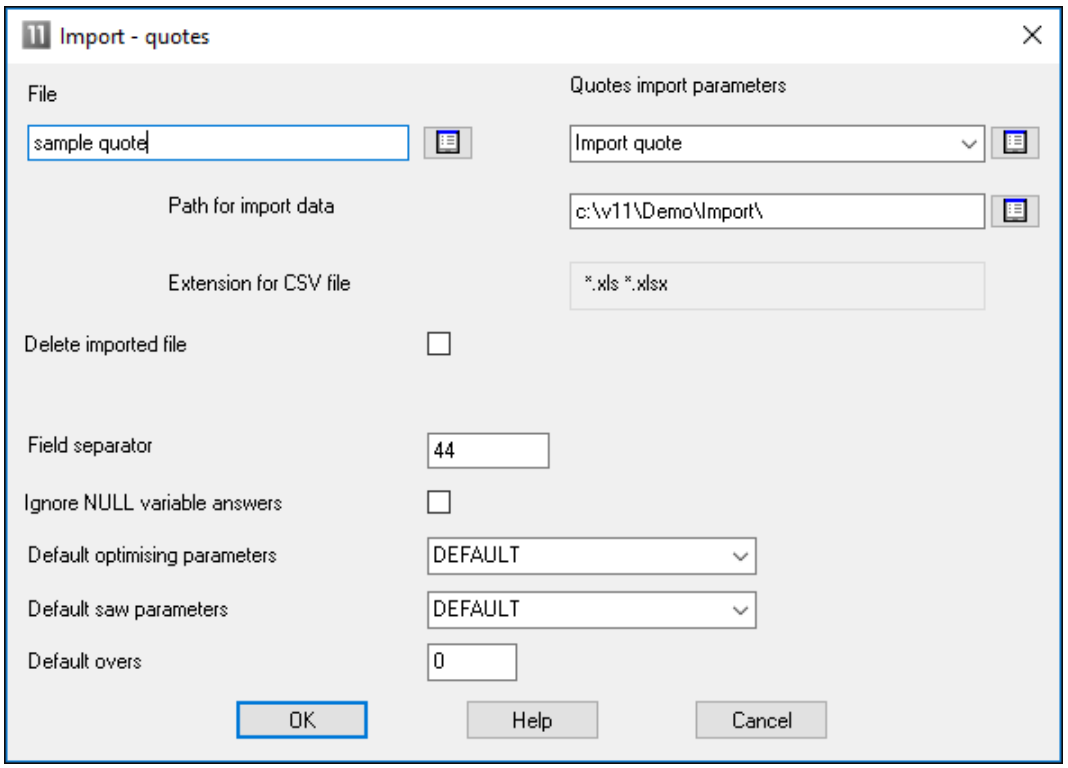
When working with Quotes it can be the case that the data is generated elsewhere, for example in a Sales system.

Quotes and orders



The import process is as follows
At the main screen:-

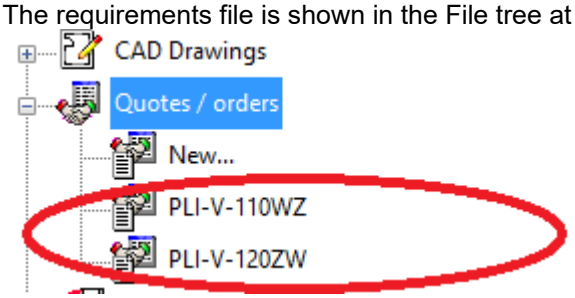
- Select: File – Import - Quote



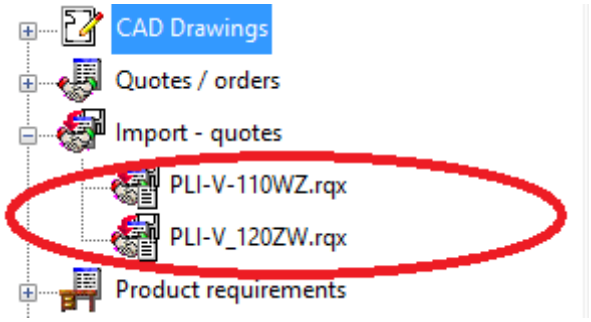
- Select OK to import

(There are settings to control the import, for example, to set the separator character and whether to delete import files after import or not).

The requirements file is shown in the File tree at the main screen.



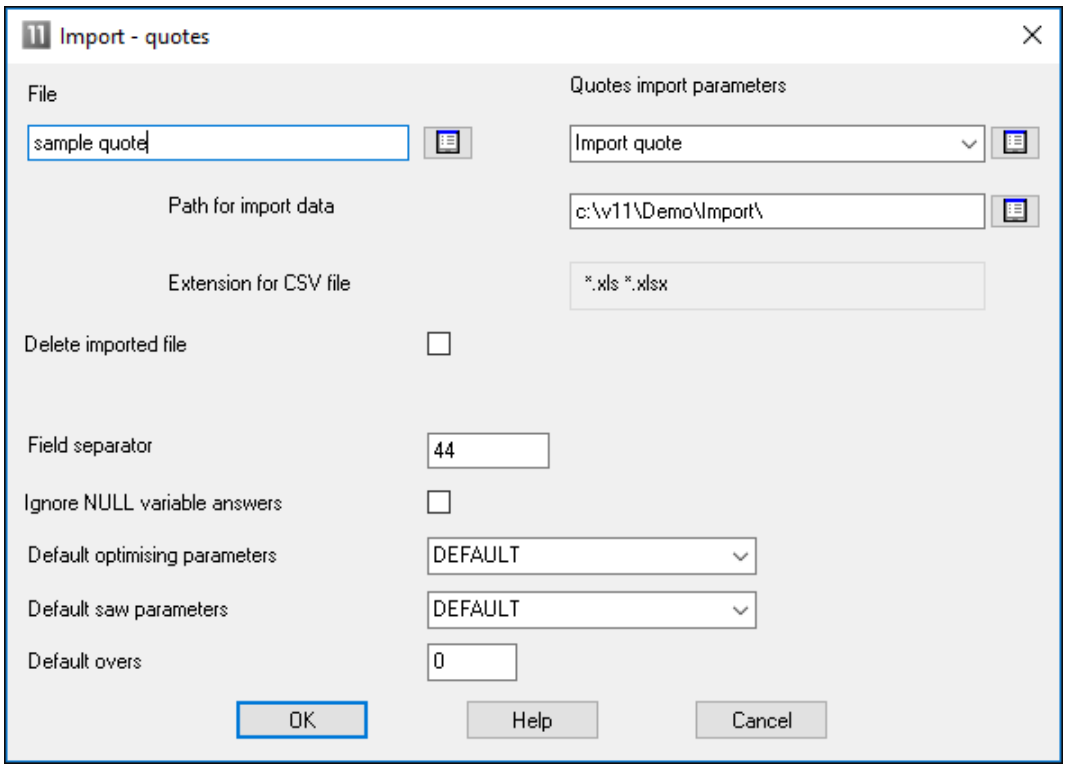
Once the format is set up RQX files can also be imported directly from the File tree.



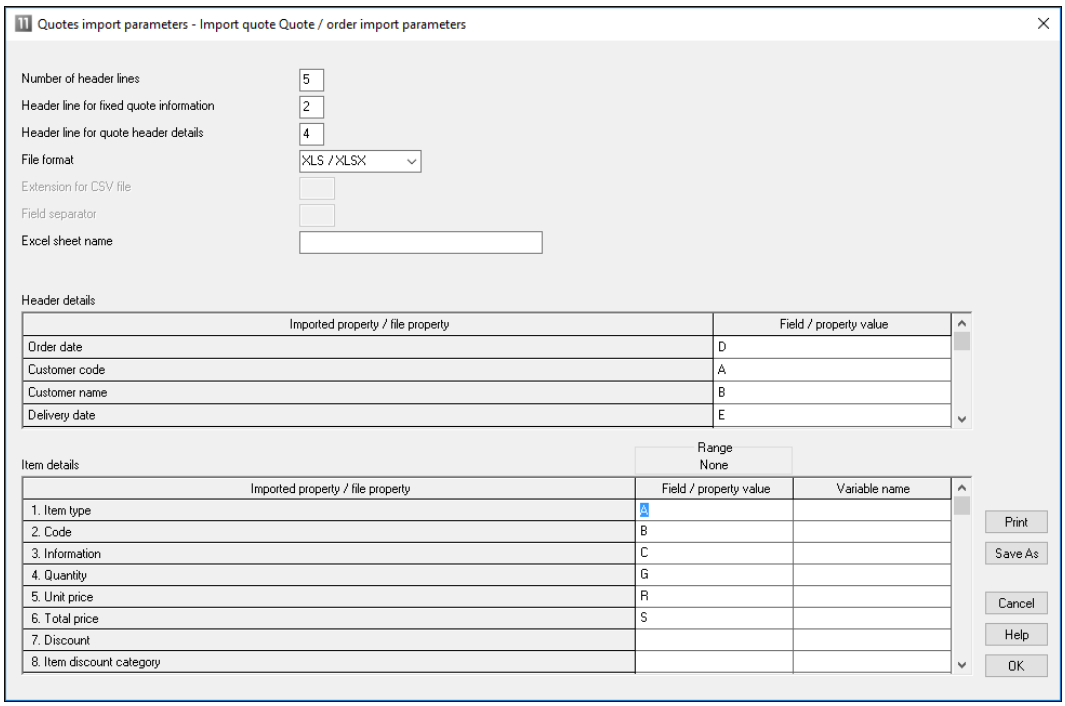
If importing products, the product code must represent products already set up in the product library.

File format for Quote/Orders import

Because the contents of a quote / orders file can be so varied and include variables, information boxes and variable header data, there is no standard format for import. Instead the format is defined by one or more sets of 'Quote requirements Import parameters'.
This is set at the Quote Import dialog.



The parameter values are set via the option (Main screen - Parameters - Quote Import parameters)



There are two main sections to this page. A header section and Item section.

The header section specifies the position in the import files header line, one position for each header item.

The item section specifies the position in the field in the main body of the file.

For example, the following sample has one header line and three items lines. The header line fields are ORDER DATE, CUSTOMER CODE, CUSTOMER NAME, DELIVERY DATE.

The item data is
CODE,ENTRY TYPE, INFORMATION, WIDTH,HEIGHT,DEPTH<QUANTITY

```
28/05/2012,CUS123,test customer 1,28/05/2012
BASE-SINGLE,0,Single base unit,550.0,900,0,600.0,1,
F-UNIT-DOOR,1,Fixed size unit door,500,0,600.0,,4
Z-SINGLE,3,Single Knob,,,,4
```

They type of item loaded depends on the entry type setting. The following values determine the item type

Product = 0
Part = 1
Free_form/phrases = 2
Fitting = 3
Operation =4

3. Pattern Exchange File - Specification - V1.17

1. INTRODUCTION

This document describes a data structure for the exchange of cutting lists and patterns for sheet material between various design programs, optimising packages, and panel saw controllers.

This data structure contains the information that is required for transferring cutting lists to an optimising package and for transferring optimised cutting patterns with label information to a panel saw. The data structure can be created in two formats as follows.

- ASCII comma-separated file
- Access database

The data structure consists of 12 record types each with a number of fields. In the ASCII file each record type is represented by a token which begins each line and in the database each record type is a separate table.

Each record type and each field name are in uppercase and use underscores between separate words. No table name or field name is more than 10 characters.

2. RECORD TYPES & TABLE NAMES

The ‘cutting list’ record types are as follows.

HEADER - general information describing the complete data structure (or file)

JOBS - header data for each job (cutting list or optimised run)

PARTS_REQ - basic requirement details for each item in the cutting list

PARTS_INF - standard information about each part

PARTS_UDI - user-defined information about each part

PARTS_DST - destacking information about each part

BOARDS - information about each item in the board (stock) list

MATERIALS – information about each material type

NOTES - other information for a job

The ‘post-optimisation’ records are:

OFFCUTS - record describing each off-cut produced

PATTERNS - pattern header records - one for each cutting pattern

PTN_UDI - information used to match parts in a strip - one for each strip in the pattern

CUTS - cutting instructions – occur many times per pattern – once for each cut required

VECTORS – vector graphics describing the pattern

3. FORMAT

The ASCII version of the file uses standard comma-separated format, and has the suffix .PTX (PaTtern eXchange). The main part of the filename could be the job/order number or batch name if the file contains multiple jobs.

Examples:-

01234.PTX ABC123-1.PTX

Note that the structure allows for the ASCII file to contain more than 1 cutting list or run if necessary, for example it could contain a batch of runs. Note that there may be restrictions on the file name because some controllers will, for example, only accept 5 digits for the job number.

All normal CSV format conventions apply, including optional use of quotation marks around text data. Leading spaces are ignored. Trailing

commas (separators) are not necessary. Text fields containing commas must be enclosed in quotes.

The format and size restrictions for each field are tabulated in section 18. Note, that the limitations (eg. max length of material code) will vary according to the implementation and specification of the saw.

All 'index numbers' must be integer values, starting at 1 for the first record, and incrementing consecutively up to the maximum specified. Note, in particular that all part, board, pattern and cutting records must contain the appropriate job index number showing which job they relate to.

The Access database version stores each record type in a separate table. The file has the standard extension of MDB.

Examples:

01234.MDB BATCH32.MDB

4. HEADER - GENERAL INFORMATION

HEADER – VERSION, TITLE, UNITS, ORIGIN, TRIM_TYPE

The header record contains descriptive and global information for the job. This record appears as a line in the ASCII file. In the Access database this information will be stored in the database properties.

VERSION - File version (1.08)

TITLE - File title

UNITS - Measurement mode = 0 (metric), 1(decimal inches).

ORIGIN - This field indicates the origin for the VECTOR drawing records. The origin for the CUT records is assumed to be 0 (top left).

0 = top to bottom - left to right
1 = top to bottom – right to left
2 = bottom to top – left to right
3 = bottom to top – right to left

TRIM_TYPE - Indicates whether the waste strip/piece is cut first or last. That is, is the fixed trim done on the leading edge or as a final trim?

0 = trim waste piece first
1 = trim fixed trim first

ASCII & Database examples

```
HEADER,1,‘‘This is an example’’,0,0,1
```

HEADER TABLE

VERSION	TITLE	UNITS	ORIGIN	TRIM_TYPE
1	This is an example	0	0	1

5. JOBS – JOB RECORD

-

JOBS, - JOB_INDEX, NAME, DESC, ORD_DATE, CUT_DATE, CUSTOMER, STATUS, OPT_PARAM, SAW_PARAM, CUT_TIME, WASTE_PCNT

This record contains data about each job contained in the file. These records are optional and in the absence of job records all parts and patterns are assumed to belong to the same job.

JOB_INDEX - Unique index number used to link other records to an appropriate job

NAME - Job number/name – reference for job

DESC - Job description/title - title of job

ORD_DATE – Date of order (DD/MM/YYYY)

CUT_DATE – Date for cutting/delivery (DD/MM/YYYY)

CUSTOMER - Customer code or name

STATUS - Status of the job.

0 - not optimised
1 - optimised
2 - optimise failed

Note: there may be a range of other error codes

OPT_PARAM - Optimising parameter file name

SAW_PARAM - Saw parameter file name

CUT_TIME - Total cutting time for the job in seconds

WASTE_PCNT - Overall percentage waste as a percentage of board area

ASCII & Database examples

```
JOBS,1,ORD1234,SAMPLE JOB - CUSTOMER WOODCO,17/01/1999,
22/01/1999,WOODCO,1,STANDARD,ANGLE,821,12.36
```

JOBS TABLE

JOB_INDEX	NAME	DESC	ORD_DATE	.....
1	ORD1234	SAMPLE JOB - CUSTOMER WOODCO	17/01/1999	.....

6. PARTS_REQ – PART REQUIREMENT RECORD

PARTS_REQ - JOB_INDEX, PART_ INDEX, CODE, MAT_INDEX, LENGTH, WIDTH, QTY_REQ, QTY_OVER, QTY_UNDER, GRAIN, QTY_PROD, UNDER_PROD_ERROR, UNDER_PROD_ALLOWED, UNDER_PROD_PLUSPART

This record contains data about each different size (or line item) in the cutting list. This record is used to provide details about each part (over and above cut sizes).

JOB_INDEX - Index number used to link this record to other records for this job.

PART_INDEX - Index number to link this record with other associated part records

CODE - Part code or description.

MAT_INDEX - Index of material used for this part.

LENGTH - Cut length of part shown in appropriate measurement unit

WIDTH - Cut length of part shown in appropriate measurement unit

QTY_REQ - number of pieces this size

QTY_OVER - allowed over production

QTY_UNDER - allowed under production.

GRAIN –

0 = No grain/part can be rotated,
1 = grain along the length of the board/part cannot be rotated
2 = grain along the width of the board/part must be rotated

QTY_PROD - quantity of parts produced by patterns

UNDER_PROD_ERROR - quantity of parts not produced because of an error

UNDER_PROD_ALLOWED - quantity of parts not produced because of allowed under production

UNDER_PROD_PLUSPART - quantity of plus parts not produced

ASCII & Database examples

```
PARTS_REQ,1,1,SD900X,1,890.0,645.5,50,0,2,0,50,0,0,0
```

PARTS_REQ TABLE

JOB_INDEX	PART_INDEX	CODE	MAT_INDEX	LENGTH	WIDTH	.....
1	1	SD900X	1	890.0	645.5	.....

7. PARTS_INF – STANDARD PART INFO RECORD

PARTS_INF - JOB_INDEX, PART_INDEX, DESC, LABEL_QTY, FIN_LENGTH, FIN_WIDTH, ORDER, EDGE1, EDGE2, EDGE3, EDGE4, EDG_PG1, EDG_PG2, EDG_PG3, EDG_PG4, FACE_LAM, BACK_LAM, CORE, DRAWING, PRODUCT, PROD_INFO, PROD_WIDTH, PROD_HGT, PROD_DEPTH, PROD_NUM, ROOM, BARCODE1, BARCODE2, COLOUR, SECOND_CUT_LENGTH, SECOND_CUT_WIDTH

This optional record contains standard information about each different size (or line item) in the cutting list. One use of this record is to hold data for label printing.

JOB_INDEX - Index number used to link this record to other records for this job.

PART_INDEX - Index number linking this record with other part records.

DESC - A second part description

LABEL_QTY - Number of copies of the label for this part.
0 = no labels for this part
default if not specified =1

FIN_LENGTH - Length of part after edging and trimming

FIN_WIDTH - Width of part after edging and trimming

ORDER - Original order/job/work number which part relates to

EDGE1 - Code or description of edging for bottom (length) edge

EDGE2 - Code or description of edging for top (length) edge

EDGE3 - Code or description of edging for left (width) edge

EDGE4 - Code or description of edging for right (width) edge

EDG_PG1 – Program or operation code for bottom (length) edge

EDG_PG2 - Program or operation code for top (length) edge

EDG_PG3 - Program or operation code left (width) edge

EDG_PG4 - Program or operation code for right (width) edge

FACE_LAM - Code/description of laminate material for face (topside) of part

BACK_LAM - Code /description of laminate material for back (underside) of part

CORE_MAT - Code or description of core material

PALLET – Pallet layout (stacks in length and width)

DRAWING - Name of drawing file, drill program or CNC program for machine centre

PRODUCT - Product or cabinet code or template name to which part belongs

PROD_INFO - Description of product or cabinet

PROD_WIDTH - External dimension of product or cabinet

PROD_HGT - External dimension of product or cabinet

PROD_DEPTH - External dimension of product or cabinet

PROD_NUM - Item number of cabinet in room

ROOM - Room or floor or group item number for cabinet

BARCODE1 - data for 1st barcode – as text string

BARCODE2 - data for second bar code – as text string

COLOUR - The extended colour name.

SECOND_CUT_LENGTH - Length of part prior to second cut

SECOND_CUT_WIDTH - Width of part prior to second cut

ASCII & Database examples

```
PARTS_INF,1,2,BOTTOM,1,690.0,475.0,ORD1234,GREY-1MMPVC,,
GREY-1MMPVC,,Edge PG1,Edge PG2,Edge PG3,Edge PG4,GREYLAM,GREYLAM,
MDF18,2X1,BU-SIDE-CNC,BU4DW,4 Dwr Base Unit,600.0,890.0,570.0,1,1,
0690004750,0012301,WHITE-ASH-325,700.0,485.0
```

PARTS_INF TABLE

JOB_INDEX	PART_INDEX	DESC	LABEL_QTY	FIN_LENGTH	FIN_WIDTH	.....
1	2	BOTTOM	1	690.0	475.0	.....

8. PARTS_UDI - USER DEFINED PART INFO RECORD

PARTS_UDI - JOB_INDEX, PART_INDEX, INFO1, INFO2, …. INFO60

This optional record contains user-defined information about each different size (or line item) in the cutting list. One use of this data is for label printing.

JOB_INDEX - Index number used to link this record to other records for this job.

PART_INDEX - Index number linking this record with other part records

INFO*n*
There are up to 60 information fields. The name of each field is INFO followed by the field number. The fields may be used for any purpose such as customer details, dates, CNC operations, and other items not included in the other part records.

ASCII & Database examples

```
PARTS_UDI,1,3,CNC84,Smith & Co,20-APR-1999
```

PARTS_UDI TABLE

JOB_INDEX	PART_INDEX	INFO1	INFO2	INFO3	.....
1	3	CNC84	Smith & Co	20-APR-1999	.....

9. PARTS_DST - DESTACKING PART INFO RECORD

PARTS_DST - JOB_INDEX, PART_INDEX, PART_LAY_L,PART_LAY_W, PART_LAY_O,STK_HGHT_Q, STK_HGHT_D, STATION, QTY_STACKS, BTM_TYPE, BTM_DESC, BTM_MATL, BTM_LENGTH, BTM_WIDTH, BTM_THICK, OVER_LEN, OVER_WID, BTM_LAY_L, BTM_LAY_W, TOP_TYPE, TOP_DESC, TOP_MATL, TOP_LENGTH, TOP_WIDTH, TOP_THICK, TOP_LAY_L, TOP_LAY_W, SUP_TYPE, SUP_DESC, SUP_MATL, SUP_LENGTH, SUP_WIDTH, SUP_THICK, SUP_LAY_L, SUP_LAY_W,STATION2

This optional record contains destacking information about each different size (or line item) in the cutting list.

JOB_INDEX - Index number used to link this record to other records for this job.

PART_INDEX - Index number linking this record with other part records

PART_LAY_L - Part layout - number of parts per stack in length

PART_LAY_W *- Part layout - number of parts per stack in width*

PART_LAY_O ***-*** *Part layout – orientation*

STK_HGHT_Q – Stack height – quantity of pieces

STK_HGHT_D - Stack height – dimension

STATION - Station number

QTY_STACKS – Total number of stacks (pallets) for this part

BTM_TYPE – Bottom destacking type

BTM_DESC - Bottom description

BTM_MATL – Bottom baseboard material

BTM_LENGTH - Length of bottom baseboard/pallet

BTM_WIDTH - Width of bottom baseboard/pallet

BTM_THICK -Thickness of bottom baseboard/pallet

OVER_LEN *– Overhang/oversize per side in length*

OVER_WID - Overhang/oversize per side in width

BTM_LAY_L - Layout of bottom baseboards/pallets in station in length

BTM_LAY_W - Layout of bottom baseboards/pallets in station in width

TOP_TYPE – *Top cover type*

TOP_DESC - Top baseboard/cover description

TOP_MATL *– Top baseboard material*

TOP_LENGTH - Length of top baseboard/cover

TOP_WIDTH - Width of top baseboard/cover

TOP_THICK -Thickness of top baseboard/cover

TOP_LAY_L - Layout of top baseboards in length

TOP_LAY_W - Layout of top baseboards in width

SUP_TYPE – Support type

SUP_DESC – Support description

SUP_MATL – Support material

SUP_LENGTH – Length of support

SUP_WIDTH - Width of support

SUP_THICK – Thickness of support

SUP_LAY_L – Support layout in length

SUP_LAY_W – Support layout in width

STATION2 - Alternative station number

ASCII & Database examples

```
PARTS_DST,1,3,3,2,1,30,600,…
```

PARTS_DST TABLE

JOB_INDEX	PART_INDEX	PART_LAY_L	PART_LAY_W	PART_LAY_O	.....
1	3	3	2	1	.....

10. BOARDS – BOARD RECORD

-

BOARDS - JOB_INDEX, BRD_INDEX, CODE, MAT_INDEX, LENGTH, WIDTH, QTY_STOCK, QTY_USED, COST, STK_FLAG, INFORMATION, MAT_PARAM, GRAIN, TYPE, BIN, SUPPLIER

These records contain details of the board/sheet sizes to be used; one record for each different size/material.

JOB_INDEX - Index number used to link this record to other records for this job.

BRD_INDEX - index number linking this record with the **PATTERNS** records for this job.

CODE – Board code - usually the stock code for the sheet size.

MAT_INDEX - Index of material used for this part.

LENGTH - Size of sheet in appropriate measurement unit.

WIDTH - Size of sheet in appropriate measurement unit.

QTY_STOCK - Total number of sheets available – default 99999 (0=none)

QTY_USED - Total number of sheets this size used in patterns

COST - Cost per sq. metre or sq. foot according to measurement unit

STK_FLAG – Flag to indicate action if insufficient stock

INFORMATION - Extra descriptive details about the sheet

MAT_PARAM - Material parameters file name

GRAIN –
0 = No grain,
1 = grain along the length of the board
2 = grain along the width of the board

TYPE –
0 = Stock board
1 = Offcut
2 = Automatic offcut

BIN - Board location

SUPPLIER - Board supplier

ASCII & Database examples

```
BOARDS,1,1,WLAM15MM-1,1,2550.0,1525.0,100, 7, 8.50,0
```

BOARDS TABLE

JOB_INDEX	BRD_INDEX	CODE	MAT_INDEX	LENGTH	WIDTH	.....
1	1	WLAM15MM-1	1	2550.0	1525.0	.....

11. MATERIALS – MATERIAL RECORDS

MATERIALS - JOB_INDEX, MAT_INDEX, CODE, DESC, THICK, BOOK, KERF_RIP, KERF_XCT, TRIM_FRIP, TRIM_VRIP,

TRIM_FXCT, TRIM_VXCT, TRIM_HEAD, TRIM_FRCT, TRIM_VRCT, RULE1, RULE2, RULE3, RULE4, MAT_PARAM, GRAIN, PICTURE, DENSITY

These records define the different material types. There should be a least one of these records in data structure. This record is used to pass a detailed material description, the thickness and other parameters which may vary according to material type.

JOB_INDEX - Index number used to link this record to other records for this job.

MAT_INDEX - Unique index of material used to link this record to other records

CODE – Material code

DESC - Material description

THICK - Material thickness in appropriate measurement mode

BOOK - Max sheets per book, reflects cutting height of saw

KERF_RIP - Rip saw kerf (saw blade thickness) – in unit of measurement

KERF_XCT - Crosscut saw kerf (saw blade thickness) – in unit of measurement

TRIM_FRIP - Fixed rip trim – includes saw kerf (saw blade thickness) – amount sheet size is reduced by

TRIM_VRIP - Minimum waste rip trim - minimum size of falling waste including saw kerf (saw blade thickness)

TRIM_FXCT - Fixed crosscut trim – includes saw kerf (saw blade thickness)

TRIM_VXCT - Minimum waste crosscut trim - minimum size of falling waste including saw kerf (saw blade thickness)

TRIM_HEAD - Internal head cut trim – includes saw kerf (saw blade thickness)

TRIM_FRCT - Fixed recut trim – includes saw kerf (saw blade thickness)

TRIM_VRCT - Minimum waste recut trim - minimum size of falling waste including saw kerf (saw blade thickness)

RULE1 - Optimisation rule 1 – cut nesting limit – 1 to 9 (e.g. 3 = allow third phase recuts)

RULE2 - Optimisation rule 2 **–** head cuts allowed (0=No, 1 =Yes)

RULE3 - Optimisation rule 3 – board rotation allowed (short rip) (0=No, 1=Yes)
RULE4 - Optimisation rule 4 – show separate patterns for duplicate parts (0=No 1=Yes)

MAT_PARAM - Material parameters file name

GRAIN –
0 = No grain,
1 = grain along the length of the board
2 = grain along the width of the board

PICTURE - Solid colour (e.g. "RGB(255:0:0)") or image file (e.g. "Teak.bmp")

DENSITY - Material density in metric tons per m3 or pounds per ft3 depending on the current measurement mode.

The saw kerf (saw blade thickness) and trims are optional. Note that it is assumed that one of the two rip trims will be constant and the other rip trim includes the waste strip. Either (a) the leading edge is trimmed and the waste strip comes out last, or (b) the waste strip is removed by the first rip and the last rip is a constant trim. This assumption also applies to cross cut trims and recut trims.

ASCII & Database examples

```
MATERIAL,1,1,WHITE18,"White laminate chipboard 18mm",18,4,4.8,4.8,
10,10,8,8,8,8,8,4,1,1,1,WLAM18,RGB(255:255:255),0.900
```

MATERIALS TABLE

JOB_INDEX	MAT_INDEX	CODE	DESC	THICK	.....
1	1	WHITE18	White Laminate - chipboard 18mm	18	.....

12. NOTES - NOTE RECORDS

NOTES - JOB_INDEX, NOTES_INDEX, TEXT

This record is optional and holds any messages or notes that need to be associated with a job, for example customer details, special instructions, etc, or any details that are job related rather than part or material related. As many lines as required can be stored for each job.

JOB_INDEX - index linking note to job

NOTES_INDEX - index storing order of notes

TEXT - text of note

Maximum length of text field is 250 characters.

ASCII & Database examples

```
NOTES,1,1,''Customer ref. A1234-0987 - Smith Cabinets''
```

NOTES TABLE

JOB_INDEX	NOTES_INDEX	TEXT
1	1	Customer ref. A1234-0987 - Smith Cabinets

13. OFFCUTS – RECORDS FOR OFF-CUTS

OFFCUTS - JOB_INDEX, OFC_INDEX, CODE, MAT_INDEX, LENGTH, WIDTH, OFC_QTY, GRAIN

This record is optional and can occur once for each different off-cut size per material created by the cutting patterns.

JOB_INDEX - Index number used to link this record to other records for this job.

OFC_INDEX - Unique index number of offcut used to link this record to the CUT record.

CODE - Offcut code or description - used to identify offcut.

MAT_INDEX - Index of material used for this offcut. Enables offcuts of similar material composition, thickness and colour, but different size to be grouped together.

LENGTH - Length of offcut in appropriate measurement unit

WIDTH - Width of offcut in appropriate measurement unit

OFC_QTY – Quantity of this size produced

GRAIN –
0 = No grain,
1 = grain along the length of the offcut
2 = grain along the width of the offcut

COST - Cost per sq. metre or sq. foot according to measurement unit

TYPE –
1 = Offcut
2 = Automatic offcut

ASCII & Database examples

```
OFFCUTS,1,1,WHITE15-123,2,1450.0, 425.0,1,0, 8.50,1
```

OFFCUTS TABLE

JOB_INDEX	OFC_INDEX	CODE	MAT_INDEX	LENGTH	.....
1	1	WHITE15-123	2	1450.0	.....

14. PATTERNS – PATTERN RECORDS

PATTERNS - JOB_INDEX, PTN_INDEX, BRD_INDEX, TYPE, QTY_RUN, QTY_CYCLES, MAX _BOOK, PICTURE, CYCLE_TIME, TOTAL_TIME

This record occurs once per pattern. It is used to describe header detail for the pattern, such as board size used, number of sheets to be cut etc.

JOB_INDEX - Index number used to link this record to other records for this job.

PTN_INDEX - Sequential number incrementing by 1 for each pattern record for each job.

BRD_INDEX - Index number from the Boards records.

TYPE - determines the direction of the first cut, and the type of pattern

Fixed Pattern
0 = rip length first – non-head cut pattern
1 = turn board before ripping - non-head cut pattern
2 = head cut pattern – head cut across width
3 = head cut pattern – head cut along length
4 = crosscut only

Template Pattern
5 = Create master part - divide at saw
6 = Create master part - divide at machining centre
7 = Cut parts in main pattern
8 = Cut parts in separate pattern

QTY_RUN - Run quantity – number of sheets to be cut to this pattern

QTY_CYCLES - Number of cycles or books

MAX_BOOK – Maximum number of sheets per book (cutting height)

PICTURE – Name of file containing picture of cutting pattern

CYCLE_TIME - The time in seconds to cut a single cycle

TOTAL_TIME - The total time in seconds to cut all cycles

ASCII & Database examples

```
PATTERNS,1,1,2,0,20,4,5,''Pattern1''
```

PATTERNS TABLE

JOB_INDEX	PTN_INDEX	BRD_INDEX	TYPE	QTY_RUN	QTY_CYCLES
1	1	2	0	20	4

15. PTN_UDI – INFO USED TO MATCH PARTS IN A STRIP

PTN_UDI, JOB_INDEX, PTN_INDEX, BRD_INDEX, STRIP_INDEX, INFO1, INFO2,...INFO99

These records are used to indicate the matching information used when inserting parts in a strip. This record only applies when all parts in the strip must have the same information.

JOB_INDEX - Index number used to link this record to other records for this job.

PTN_INDEX - Sequential number incrementing by 1 for each pattern record for each job.

BRD_INDEX - Index number from the Boards records.

STRIP_INDEX - Strip number (top to bottom, left to right).

INFO*n* - Info fields for matching parts in a strip

16. CUTS - CUTTING INSTRUCTIONS

CUTS - JOB_INDEX, PTN_INDEX, CUT_INDEX, SEQUENCE, FUNCTION, DIMENSION, QTY_RPT, PART_INDEX, QTY_PART, COMMENT

These records define each cut for the saw and determine the parts produced by each cut. This is used, for example, so that the correct labels can be printed at the saw in synchronisation with the cutting.

JOB_INDEX - Index number used to link this record to other records for this job.

PTN_INDEX - Index number used to link this record with pattern records

CUT_INDEX - Sequential index number starting at 1 for each new pattern and incrementing by 1 for each cut

SEQUENCE - Cut sequence number indicating order in which cuts are processed by saw

FUNCTION - The type of cut:
0 = head cut
1 = rip cut
2 = cross cut
3 = 3rd phase / recut
4 = 4th phase /recut
Maximum phase = 9
90,91,92,93 = trim / waste cut corresponding to phase of cut (to override defaults)

DIMENSION - The size of cut in measurement units

QTY_RPT - The repeat quantity for this cut

PART_INDEX - 0 if no part produced or part index number in part or offcut records

QTY_PARTS - Quantity of this part produced by this cut for all cycles of this pattern.

COMMENT - *optional field to store narrative about the cut instruction*

Some points about the cut record

Some cuts produce several parts with different item numbers because although the parts may have the same size they will be labelled uniquely. This occurs when cutting multiple sheets in a book where the parts on different sheets have different item numbers. These duplicate parts are represented with dummy CUTS records showing the part index and part quantity but a zero dimension and zero cut quantity.

When cutting exact fit patterns (e.g. no trims, strip fits exactly in length of the board) some cuts will produce two parts side by side (e.g. the last cross cut in a strip). If this is the case the cut quantity of the last part will be set to zero, the dimension remains unchanged. Note that it is important that these records have a dimension so as to differentiate them from the dummy cut records for duplicate parts.

The Sequence number allows definition of different parts in a stack produced from the same cut. Note, the cuts are not listed in cut sequence because it is necessary to nest the 2nd, 3rd and later phase cuts. The SEQUENCE number is optional, and if not given then the cutting sequence should be determined by the saw or a post-processor.

The PART_INDEX (if not 0) points to the PARTS_REQ records of relevant part or ‘X’ + OFC_INDEX in OFFCUTS records.

The QTY_PARTS field allows for the display of the correct part quantities for duplicate parts. In a pattern with run quantity 20, and cut 6 sheets at a time, then there will be 4 cycles or books (3 with 6 sheets and 1 with 2 sheets). Say the first part in the top left corner is a mixture of 14 parts item 1, and 6 parts item 2. The first book at the appropriate cut will produce quantity 6 labels of item 1, the second book also 6 of 1, the third book will produce 2 labels of item1 and 4 of item 2, and the last book will give 2 of item 2. In this example, the CUTS records would show two cut lines, item 1 quantity 14, and item 2 quantity 6. The saw takes care of counting the cycles.

Note that the Sequence number will increment by the repeat quantity for that cut. In example below, CUTS 1,1,2 has repeat 3, indicating three cuts, so sequence number 4 implies 4/5/6 and the next sequence number is incremented by 3.

ASCII & database example

Notes in italics are for information only and not part of the file

```
CUTS,1,1,1,1,1,500.0,1,0,0,"Job 1 - Ptn 1 – Rip"      - rip 1 strip 500 wide
CUTS,1,1,2,3,2,800.0,3,1,14  - crosscut 500 strip at 800mm x3 > part 1 qty 14
CUTS,1,1,3,0,2,0.0,0,2,1                                  - and part 2  x qty 1
CUTS,1,1,4,2,1,200.0,1,0,0,"Rip"                     - rip 1 strip 200mm wide
CUTS,1,1,5,4,2,1400.0,1,8,5            - crosscut at 1400mm producing part 8
CUTS,1,1,6,0,2,0,0,X3,20                                      - and offcut 3
```

CUTS TABLE

JOB_INDEX	PTN_INDEX	CUT_INDEX	SEQUENCE	FUNCTION	DIMENSION	.....
1	1	1	1	1	500.0	.....
1	1	2	3	2	800.0	.....
1	1	3	0	2	0.0	.....
1	1	4	2	1	200.0	.....
1	1	5	4	2	1400.0	.....
1	1	6	0	2	0.0	.....

17. VECTORS - INSTRUCTIONS FOR PATTERN DRAWING

VECTORS - JOB_INDEX, PTN_INDEX, CUT_INDEX, X_START, Y_START, X_END, Y_END

This table holds an optional description of the pattern as a set of vectors.

JOB_INDEX - Index number used to link this record to other records for this job

PTN_INDEX - This is an index number used to link this to the PATTERN record

CUT_INDEX - This is an index number to relate the vector to the CUT record

X_START - Start co-ordinate of cut in X (always positive)

Y_START - Start co-ordinate of cut in Y (always positive)

X_END - End co-ordinate of cut in X (always positive)

Y_END - End co-ordinate of cut in Y (always positive)

The origin of the drawing is defined in the HEADER record. The x and y positions specify the distance to include the saw kerf (saw blade thickness), away from origin. So, a 10 mm trim would result in a vector at x=10, where if saw kerf (saw blade thickness) is 4.5, then waste removed is 5.5. The position for cuts producing parts must include all saw kerfs. Note that unlike the CUT records where all dimensions are relative, in these records all dimensions are absolute values.

ASCII & Database examples

Notes in italics are for information only and not part of the file.

```
VECTORS,1,1,1,0.0,0.0,3660.0,10.0
VECTORS,1,1,2,0.0,315.0,3660.0,315.0 - rip 300 wide strip -absolute dimension
VECTORS,1,1,5,5.2,10.0,10.0,315.0
```

VECTORS TABLE

JOB_INDEX	PTN_INDEX	CUT_INDEX	X_START	Y_START	X_END	Y_END
1	1	1	0.0	0.0	3660.0	10.0
1	1	2	0.0	315.0	3660.0	315.0
1	1	5	5.2	10.0	10.0	315.0

18. EXAMPLE OF PATTERN EXCHANGE STRUCTURE

The following example relates to example order batch A123 containing one job number 00011 comprising 6 sample patterns for which printouts are included. The patterns are designed to show a variety of different cutting situations in as few patterns as possible, and therefore are unusual and non-optimal rather than typical examples. Text in italics enclosed in square brackets[] is for information only. The fields have been spaced out for ease of reading.

Notes in [] are for information only and not part of the file.

Filename = A123.PTX

[file starts with header record]

```
HEADER,1,''This is a sample PTX file for batch A123'',0,0,1
[version1,   millimetres,…     …top-to-bottom, fixed first trim]


JOBS,1,00010,''Example run 10'',,,,1,1432,16.14

[data for parts - would also include data for label]
PARTS_REQ,1,1,P1,1, 1200.0, 725.0, 9,0,0,0, 9,0,0,0
PARTS_REQ,1,2,P2,1, 1200.0, 725.0, 8,0,0,0, 8,0,0,0
PARTS_REQ,1,3,P3,1, 1272.6, 600.0, 7,0,0,0, 7,0,0,0
PARTS_REQ,1,4,P4,1,  790.0, 450.0, 4,0,0,0, 4,0,0,0
PARTS_REQ,1,5,P5,1,  580.0, 200.0,20,2,0,0,20,0,0,0
PARTS_REQ,1,6,P6,2, 1400.0, 300.0, 5,0,0,0, 5,0,0,0
PARTS_REQ,1,7,P7,2,  650.0, 275.0,14,0,0,0,14,0,0,0
PARTS_REQ,1,8,P8,2,  480.0, 230.0,20,3,0,0,23,0,0,0

PARTS_REQ,1,9,P9,1,  600.0, 200.0, 7,2,0,0, 9,0,0,0
PARTS_REQ,1,10,P10,2,480.0, 400.0, 3,0,0,0, 3,0,0,0

[data for board (sheet) sizes]
BOARDS,1,1,WHLAM15MM-1,1,2550.0,1525.0, 436,6,2.540,0,Bin 1,,0,0,,
BOARDS,1,2,WHLAM15MM-2,1,3660.0,1830.0, 178,1,2.430,0,Bin
1,WLAM15-1,0,0,,
```

```
BOARDS,1,3,MDF18-97,   2,2440.0,1220.0, 371,3,4.320,0,Bin 2,,0,0,,

[definition of materials]
MATERIALS,1,1,WHITE15,''White laminated chipboard 15mm'', 15.0, 4,
4.8,4.8,10.0,0.0,10.0,0.0,5.0,10.0,10.0,4,1,1,0,WLAM15,0,
RGB(255:255:255),0.900
MATERIALS,1,2,MDF18,  ''Medium density fibreboard 18mm'', 18.0, 3,
4.8,4.8,10.0,0.0,10.0,0.0,5.0,10.0,10.0,4,1,1,0,,0,
RGB(220:17:130),0.650

[data for off-cut sizes]
OFFCUTS,1,1, X00010/0001,1,675.8,1830.0,1,0,2.540,1
OFFCUTS,1,2, X00010/0002,1,1140.4,450.0,1,0,2.430,2

[patterns]
PATTERNS,1,1,1,0,2,1,2,83,83   [Job 1, Pattern 1, Board 1, Long
rip, Qty 2]
PATTERNS,1,2,1,1,3,1,3,128,128 [Job 1, Pattern 2, Board 1, Short
rip, Qty 3]
PATTERNS,1,3,1,0,1,1,1,204,204 [Job 1, Pattern 3, Board 1, Long
rip, Qty 1]
PATTERNS,1,4,2,2,1,1,1,414,414 [Job 1, Pattern 4, Board 2, Head
cut, Qty 1]
PATTERNS,1,5,3,2,2,1,2,301,301 [Job 1, Pattern 5, Board 3, Head
cut, Qty 2]
PATTERNS,1,6,3,2,1,1,1,302,302 [Job 1, Pattern 6, Board 3, Head
cut, Qty 1]


[cuts]
CUTS, 1,   1,   1,   0, 0,2550.0,    0,   0,    0,MAIN [cut record for job 1,
pattern 1]
CUTS, 1,   1,   2,   1,91,   5.2,    1,   0,    0
CUTS, 1,   1,   3,   2, 1, 725.0,    1,   0,    0,RIP               [1 rips at
725 mm]
CUTS, 1,   1,   4,   4,92,   5.2,    1,   0,    0              [cross cut trim
5.2 mm]
CUTS, 1,   1,   5,   5, 2,1200.0,    2,   1,    4         [xcut at 1200 producing
part1]
CUTS, 1,   1,   6,   0,92, 130.4,    0,   0,    0       [falling waste length
130.4mm]
CUTS, 1,   1,   7,   3, 1, 725.0,    1,   0,    0,RIP               [1 rip at
725 mm]
CUTS, 1,   1,   8,   4,92,   5.2,    1,   0,    0              [cross cut trim
5.2 mm]
CUTS, 1,   1,   9,   5, 2,1200.0,    2,   1,    4   [crosscuts at 1200 producing
part 1]
CUTS, 1,   1,  10,   0,92, 130.4,    0,   0,    0       [falling waste length
130.4mm]
CUTS, 1,   1,  11,   0,91,  55.4,    0,   0,    0         [falling waste width
```

55.4mm]

CUTS, 1, 2, 1, 0, 0,1525.0, 0, 0, 0,MAIN
CUTS, 1, 2, 2, 1,91, 5.2, 1, 0, 0 *[rip trim]*
CUTS, 1, 2, 3, 2, 1,1200.0, 1, 0, 0,RIP
CUTS, 1, 2, 4, 4,92, 5.2, 1, 0, 0
CUTS, 1, 2, 5, 5, 2, 725.0, 1, 1, 1 *[xcut at 725 producing part 1 x 1…*
CUTS, 1, 2, 6, 0, 2, 0.0, 0, 2, 2 *… and part 2 x 2]*
CUTS, 1, 2, 7, 6, 2, 725.0, 1, 2, 3 *[xcut at 725 producing part 1 x 3]*
CUTS, 1, 2, 8, 0,92, 55.4, 0, 0, 0
CUTS, 1, 2, 9, 3, 1,1272.6, 1, 0, 0,RIP
CUTS, 1, 2, 10, 7,92, 5.2, 1, 0, 0
CUTS, 1, 2, 11, 8, 2, 600.0, 1, 3, 3
CUTS, 1, 2, 12, 9, 2, 725.0, 1, 0, 0
CUTS, 1, 2, 13, 10,93, 5.2, 1, 0, 0
CUTS, 1, 2, 14, 11, 3,1200.0, 1, 2, 3 *[recut to 1200mm producing part 2]*
CUTS, 1, 2, 15, 0,93, 57.8, 0, 0, 0
CUTS, 1, 2, 16, 0,92, 180.4, 0, 0, 0
CUTS, 1, 2, 17, 0,91, 57.8, 0, 0, 0

CUTS, 1, 3, 1, 0, 0,2550.0, 0, 0, 0,MAIN
CUTS, 1, 3, 2, 1,91, 5.2, 1, 0, 0 *[rip trim]*
CUTS, 1, 3, 3, 2, 1, 600.0, 1, 0, 0,RIP
CUTS, 1, 3, 4, 6, 2,1272.6, 1, 3, 1
CUTS, 1, 3, 5, 0, 2,1272.6, 0, 3, 1
CUTS, 1, 3, 6, 3, 1, 450.0, 1, 0, 0,RIP
CUTS, 1, 3, 7, 7,92, 5.2, 1, 0, 0 *[xcut trim]*
CUTS, 1, 3, 8, 8, 2, 790.0, 1, 4, 1 *[cross cut producing part 4 x 1]*
CUTS, 1, 3, 9, 9, 2, 600.0, 1, 0, 0
CUTS, 1, 3, 10, 10,93, 5.2, 1, 0, 0 *[recut trim]*
CUTS, 1, 3, 11, 11, 3, 200.0, 1, 9, 1
CUTS, 1, 3, 12, 12, 3, 200.0, 1, 0, 0
CUTS, 1, 3, 13, 13,94, 5.2, 1, 0, 0 *[4th phase recut trim]*
CUTS, 1, 3, 14, 14, 4, 580.0, 1, 5, 1 *[4th phase cut to produce part 5]*
CUTS, 1, 3, 15, 0,94, 5.2, 0, 0, 0
CUTS, 1, 3, 16, 0,93, 30.4, 0, 0, 0
CUTS, 1, 3, 17, 0, 2,1140.4, 0, X2, 1 *[cut 9 also produces off-cut 2]*
CUTS, 1, 3, 18, 4, 1, 200.0, 1, 0, 0,RIP
CUTS, 1, 3, 19, 15,92, 5.2, 1, 0, 0 *[xcut trim]*
CUTS, 1, 3, 20, 16, 2, 580.0, 4, 5, 4

```
CUTS, 1,   3,  21,   0,92, 200.8,    0,   0,    0
CUTS, 1,   3,  22,   5, 1, 200.0,    1,   0,    0,RIP
CUTS, 1,   3,  23,  15,92,   5.2,    1,   0,    0
CUTS, 1,   3,  24,  16, 2, 580.0,    4,   5,    4
CUTS, 1,   3,  25,   0,92, 200.8,    0,   0,    0
CUTS, 1,   3,  26,   0,91,  45.8,    0,   0,    0

CUTS, 1,   4,   1,   1, 0,2979.4,    1,   0,    0,MAIN
CUTS, 1,   4,   2,   2,91,   5.2,    1,   0,    0
[rip trim]
CUTS, 1,   4,   3,   3, 1, 600.0,    1,   0,    0,RIP
CUTS, 1,   4,   4,   8,92,   5.2,    1,   0,    0
[xcut trim]
CUTS, 1,   4,   5,   9, 2,1272.6,    2,   3,    2          [2 xcuts producing part
3 x 2]
CUTS, 1,   4,   6,  11, 2, 200.0,    2,   9,    2          [2 xcuts producing part
9 x 2]
CUTS, 1,   4,   7,   0,92,   5.0,    0,   0,    0
CUTS, 1,   4,   8,   4, 1, 450.0,    1,   0,    0,RIP
CUTS, 1,   4,   9,  13,92,   5.2,    1,   0,    0
[xcut trim]
CUTS, 1,   4,  10,  14, 2, 790.0,    3,   4,    3          [3 xcuts producing part
4 x 3]
CUTS, 1,   4,  11,  17, 2, 580.0,    1,   0,    0
CUTS, 1,   4,  12,  18,93,   5.2,    1,   0,    0
[recut trim]
CUTS, 1,   4,  13,  19, 3, 200.0,    2,   5,    2    [3rd phase cuts producing part
5 x 2]
CUTS, 1,   4,  14,   0,93,  30.4,    0,   0,    0
CUTS, 1,   4,  15,   0,92,   0.2,    0,   0,    0
CUTS, 1,   4,  16,   5, 1, 200.0,    1,   0,    0,RIP   [first of 3 strips xcut
together]
CUTS, 1,   4,  17,  21,92,   5.2,    1,   0,    0
[xcut trim]
CUTS, 1,   4,  18,  22, 2, 580.0,    3,   5,    3          [3 xcuts producing part
5 x 3]
CUTS, 1,   4,  19,  25, 2, 600.0,    2,   9,    2          [2 xcuts producing part
9 x 2]
CUTS, 1,   4,  20,   0,92,   5.4,    0,   0,    0
CUTS, 1,   4,  21,   6, 1, 200.0,    1,   0,    0,RIP
CUTS, 1,   4,  22,  21,92,   5.2,    1,   0,    0
CUTS, 1,   4,  23,  22, 2, 580.0,    3,   5,    3 [xcuts with same sequence as
record 18]
CUTS, 1,   4,  24,  25, 2, 600.0,    2,   9,    2 [xcuts with same sequence as
record 19] CUTS, 1,   4,  25,   0,92,   5.4,    0,   0,    0
CUTS, 1,   4,  26,   7, 1, 200.0,    1,   0,    0,RIP
CUTS, 1,   4,  27,  21,92,   5.2,    1,   0,    0
CUTS, 1,   4,  28,  22, 2, 580.0,    3,   5,    3 [xcuts with same sequence as
record 18]
CUTS, 1,   4,  29,  25, 2, 600.0,    2,   9,    2 [xcuts with same sequence as
record 18]
CUTS, 1,   4,  30,   0,92,   5.4,    0,   0,    0
CUTS, 1,   4,  31,   0,91, 146.0,    0,   0,    0
CUTS, 1,   4,  32,   0, 0, 675.8,    0,  X1,    1,HEAD                [offcut
```

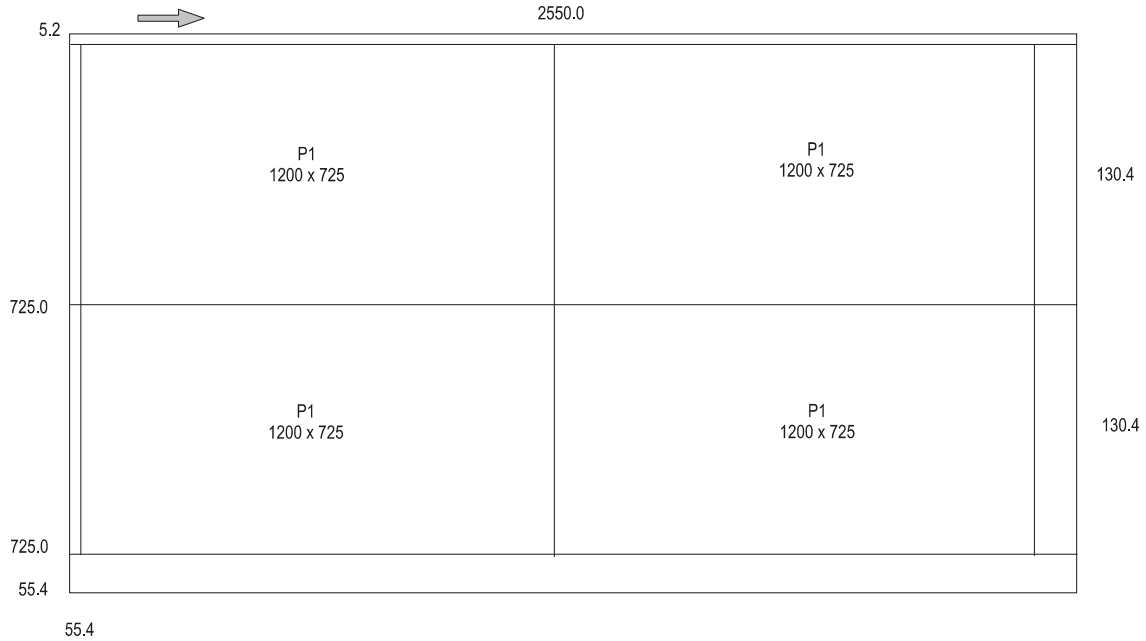
```
produced]

CUTS, 1,   5,   1,   1, 0,1415.0,    1,   0,    0,MAIN              [head cut at
1415.0]
CUTS, 1,   5,   2,   2,91,   5.2,    1,   0,    0
[rip trim]
CUTS, 1,   5,   3,   3, 1, 300.0,    1,   0,    0,RIP   [first of 2 strips xcut
together]
CUTS, 1,   5,   4,   7,92,   5.2,    1,   0,    0
[xcut trim]
CUTS, 1,   5,   5,   8, 2,1400.0,    1,   6,    2
CUTS, 1,   5,   6,   0,92,   0.2,    0,   0,    0
CUTS, 1,   5,   7,   4, 1, 300.0,    1,   0,    0,RIP
CUTS, 1,   5,   8,   7,92,   5.2,    1,   0,    0
[xcut trim]
CUTS, 1,   5,   9,   8, 2,1400.0,    1,   6,    2
CUTS, 1,   5,  10,   0,92,   0.2,    0,   0,    0
CUTS, 1,   5,  11,   5, 1, 275.0,    1,   0,    0,RIP   [first of 2 strips xcut
together]
CUTS, 1,   5,  12,   9,92,   5.2,    1,   0,    0
[xcut trim]
CUTS, 1,   5,  13,  10, 2, 650.0,    2,   7,    4
CUTS, 1,   5,  14,   0,92,  95.4,    0,   0,    0
CUTS, 1,   5,  15,   6, 1, 275.0,    1,   0,    0,RIP
CUTS, 1,   5,  16,   9,92,   5.2,    1,   0,    0
[xcut trim]
CUTS, 1,   5,  17,  10, 2, 650.0,    2,   7,    4
CUTS, 1,   5,  18,   0,92,  95.4,    0,   0,    0
CUTS, 1,   5,  19,   0,91,  40.8,    0,   0,    0
CUTS, 1,   5,  20,   0, 0,1020.2,    0,   0,    0,HEAD           [start of head
section]
CUTS, 1,   5,  21,  12,91,   5.2,    1,   0,    0
[rip trim]
CUTS, 1,   5,  22,  13, 1, 650.0,    1,   0,    0,RIP
CUTS, 1,   5,  23,  16,92,   0.2,    1,   0,    0          [xcut trim…head retrim
– inc. saw blade thickness]
CUTS, 1,   5,  24,  17, 2, 275.0,    3,   7,    6
CUTS, 1,   5,  25,   0,92, 175.8,    0,   0,    0
CUTS, 1,   5,  26,  14, 1, 230.0,    1,   0,    0,RIP
CUTS, 1,   5,  27,  20,92,   0.2,    1,   0,    0
CUTS, 1,   5,  28,  21, 2, 480.0,    2,   8,    4
CUTS, 1,   5,  29,   0,92,  45.6,    0,   0,    0
CUTS, 1,   5,  30,  15, 1, 230.0,    1,   0,    0,RIP
CUTS, 1,   5,  31,  20,92,   0.2,    1,   0,    0
CUTS, 1,   5,  32,  21, 2, 480.0,    2,   8,    4
CUTS, 1,   5,  33,   0,92,  45.6,    0,   0,    0
CUTS, 1,   5,  34,   0,91,  85.6,    0,   0,    0

CUTS, 1,   6,   1,   1, 0,1464.6,    1,   0,    0,MAIN             [head cut at
1464.6]
CUTS, 1,   6,   2,   3,91,   5.2,    1,   0,    0                           [rip
trim]
CUTS, 1,   6,   3,   4, 1, 300.0,    1,   0,    0,RIP               [rip main
300 x 1]
```

```
CUTS, 1,   6,   4,   8,92,   5.2,    1,   0,    0                          [xcut
trim]
CUTS, 1,   6,   5,   9, 2,1400.0,    1,   6,    1
CUTS, 1,   6,   6,   0,92,  49.8,    0,   0,    0
CUTS, 1,   6,   7,   5, 1, 400.0,    1,   0,    0,RIP  [first of 3 strips xcut
together]
CUTS, 1,   6,   8,  10,92,   5.2,    1,   0,    0                          [xcut
trim]
CUTS, 1,   6,   9,  11, 2, 480.0,    3,  10,    3
CUTS, 1,   6,  10,   0,92,   0.2,    0,   0,    0
CUTS, 1,   6,  11,   6, 1, 230.0,    1,   0,    0,RIP
CUTS, 1,   6,  12,  10,92,   5.2,    1,   0,    0
CUTS, 1,   6,  13,  11, 2, 480.0,    3,   8,    3
CUTS, 1,   6,  14,   0,92,   0.2,    0,   0,    0
CUTS, 1,   6,  15,   7, 1, 230.0,    1,   0,    0,RIP
CUTS, 1,   6,  16,  10,92,   5.2,    1,   0,    0
CUTS, 1,   6,  17,  11, 2, 480.0,    3,   8,    3
CUTS, 1,   6,  18,   0,92,   0.2,    0,   0,    0
CUTS, 1,   6,  19,   0,91,  30.8,    0,   0,    0
CUTS, 1,   6,  20,   2, 0, 480.0,    1,   0,    0,HEAD                     [head
section]
CUTS, 1,   6,  21,  14,91,   5.2,    1,   0,    0
[rip trim]
CUTS, 1,   6,  22,  15, 1, 230.0,    5,   8,    5,RIP
CUTS, 1,   6,  23,   0,91,  36.0,    0,   0,    0
CUTS, 1,   6,  24,   0, 0, 485.8,    0,   0,    0,HEAD
CUTS, 1,   6,  25,  20,91,   5.2,    1,   0,    0
CUTS, 1,   6,  26,  21, 1, 480.0,    1,   0,    0,RIP   [first of 2 strips xcut
together]
CUTS, 1,   6,  27,  23, 2, 230.0,    2,   8,    2
CUTS, 1,   6,  28,   0,92,  16.2,    0,   0,    0
CUTS, 1,   6,  29,  22, 1, 480.0,    1,   0,    0,RIP  [second of 2 strips xcut
together]
CUTS, 1,   6,  30,  23, 2, 230.0,    2,   8,    2
CUTS, 1,   6,  31,   0,92,  16.2,    0,   0,    0
CUTS, 1,   6,  32,   0,91, 240.4,    0,   0,    0
```

19. EXAMPLES

PATTERN 1

Board: WHLAM-15MM-1 2550 x 1525 x 15.0 Material: WHITE15 No. of Boards: 2



Saw blade thickness: 4.8 Book Height: 2 Cycles: 1
Rear trim (inc. blade) Rip: 10.0 Cross: 10.0 Retrim (inc. blade):

No	Part	Length	Width	Total Prod	Cut so Far	Qty Brd	Qty Ptn	Still To cut
1.	P1	1200.0	725.0	9	NIL	4	8	1

ADR/PRG: [41]

Cut	Size	Qty	Part	Cut	Size	Qty	Part
MAIN				Trim	5.2	1	
Trim	5.2	1		Cross cut	1200.0	2	P1
Rip	725.0	2					

CUTS, 1, 1, 1, 0, 0,2550.0, 0, 0, 0,MAIN *[cut record for job 1, pattern 1]*
CUTS, 1, 1, 2, 1,91, 5.2, 1, 0, 0

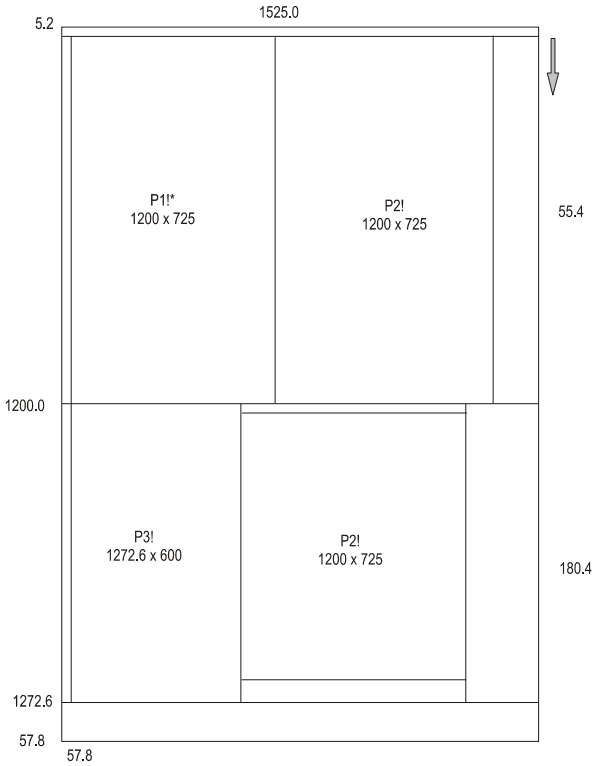
```
CUTS, 1,   1,   3,   2, 1, 725.0,    1,   0,    0,RIP               [1 rips at
725 mm]
CUTS, 1,   1,   4,   4,92,   5.2,    1,   0,    0              [cross cut trim
5.2 mm]
CUTS, 1,   1,   5,   5, 2,1200.0,    2,   1,    4         [xcut at 1200 producing
part1]
CUTS, 1,   1,   6,   0,92, 130.4,    0,   0,    0        [falling waste length
130.4mm]
CUTS, 1,   1,   7,   3, 1, 725.0,    1,   0,    0,RIP               [1 rip at
725 mm]
CUTS, 1,   1,   8,   4,92,   5.2,    1,   0,    0              [cross cut trim
5.2 mm]
CUTS, 1,   1,   9,   5, 2,1200.0,    2,   1,    4   [crosscuts at 1200 producing
part 1]
CUTS, 1,   1,  10,   0,92, 130.4,    0,   0,    0        [falling waste length
130.4mm]
CUTS, 1,   1,  11,   0,91,  55.4,    0,   0,    0          [falling waste width
55.4mm]
```

PATTERN 2

Material: WHITE15

Board: WHLAM15MM-1 1525 x 2550 x 15.0

No. of Boards: 3



Saw blade thickness: 4.8 Book Height: 3 Cycles: 1
Rear trim (inc blade) Rip: 10.0 Cross: 10.0 Retrim (inc blade): 5.0

No	Part	Length	Width	Total Prod	Cut so Far	Qty Brd	Qty Ptn	Still To cut
1.	P1	1200.0	725.0	9	8	-	1	NIL
2.	P2	1200.0	725.0	8	NIL	-	8	NIL
3.	P3	1272.6	600.0	7	NIL	1	3	4

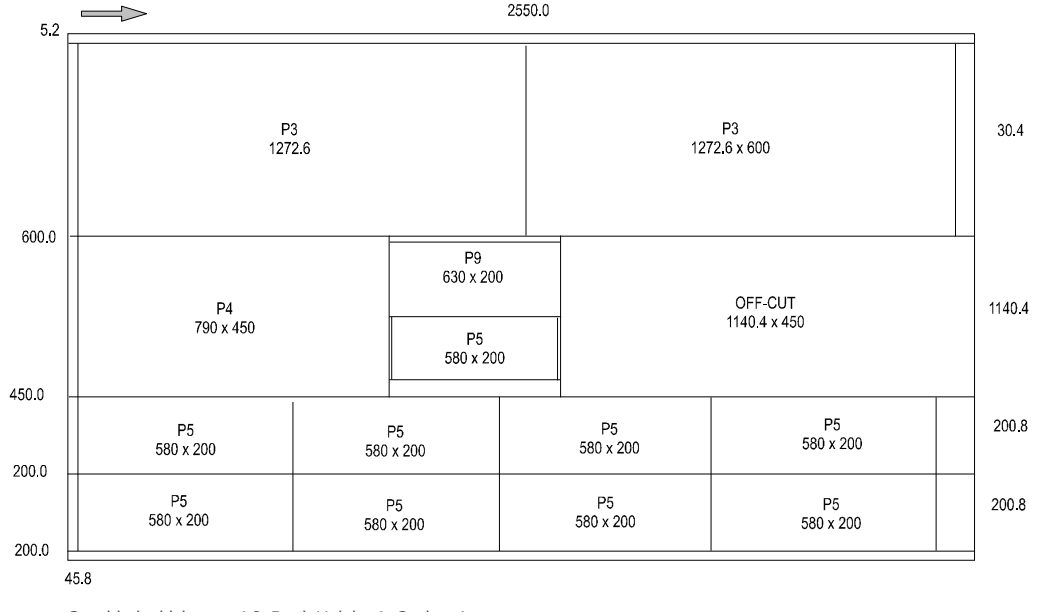
ADR/PRG: [41]

Cut	Size	Qty	Part	Cut	Size	Qty	Part
MAIN				Rip	1272.6	1	
Trim	5.2	1		Trim	5.2	1	
Rip	1200.0	1		Cross cut	600.0	1	P3
Trim	5.2	1		Cross cut	725.0	1	
Cross cut	725.0	1	P1	Recut	5.2	1	

```
  Cross cut  725.0   1  P2       Recut    1200.0   1  P2

CUTS, 1,   2,   1,   0, 0,1525.0,    0,   0,    0,MAIN
CUTS, 1,   2,   2,   1,91,   5.2,    1,   0,    0                              [rip
trim]
CUTS, 1,   2,   3,   2, 1,1200.0,    1,   0,    0,RIP
CUTS, 1,   2,   4,   4,92,   5.2,    1,   0,    0
CUTS, 1,   2,   5,   5, 2, 725.0,    1,   1,    1      [xcut at 725 producing part
1 x 1…
CUTS, 1,   2,   6,   0, 2,   0.0,    0,   2,    2                       … and part
2 x 2]
CUTS, 1,   2,   7,   6, 2, 725.0,    1,   2,    3      [xcut at 725 producing part
2 x 3]
CUTS, 1,   2,   8,   0,92,  55.4,    0,   0,    0
CUTS, 1,   2,   9,   3, 1,1272.6,    1,   0,    0,RIP
CUTS, 1,   2,  10,   7,92,   5.2,    1,   0,    0
CUTS, 1,   2,  11,   8, 2, 600.0,    1,   3,    3
CUTS, 1,   2,  12,   9, 2, 725.0,    1,   0,    0
CUTS, 1,   2,  13,  10,93,   5.2,    1,   0,    0
CUTS, 1,   2,  14,  11, 3,1200.0,    1,   2,    3      [recut to 1200mm producing
part 2]
CUTS, 1,   2,  15,   0,93,  57.8,    0,   0,    0
CUTS, 1,   2,  16,   0,92, 180.4,    0,   0,    0
CUTS, 1,   2,  17,   0,91,  57.8,    0,   0,    0
```

PATTERN 3

Board: WHLAM15MM-1 2550 x 1525 x 15.0 Material: WHITE15 No. of Boards: 1



No	Part	Length	Width	Total Prod	Cut so Far	Qty Brd	Qty Ptn	Still To cut
3.	P3	1272.6	600.0	7	3	2	2	2
4.	P4	790.0	450.0	4	NIL	1	1	3
5.	P5	580.0	200.0	20	NIL	9	9	11
9.	P9	600.0	200.0	7	NIL	1	1	8

ADR/PRG: [41]

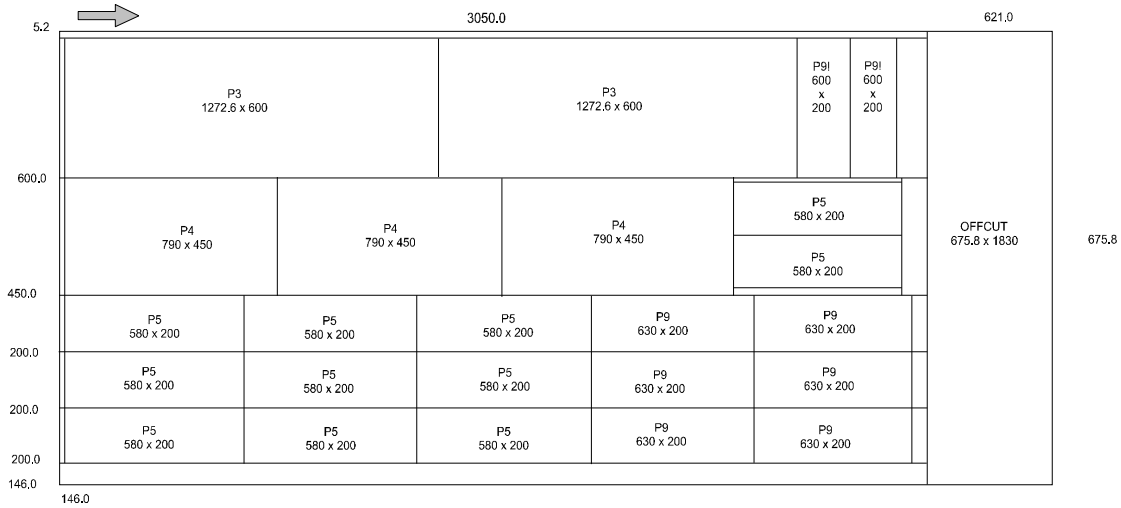
Cut	Size	Qty	Part	Cut	Size	Qty	Part
MAIN				Recut	5.2	1	
Trim	5.2	1		Recut	200.0	1	P9
Rip	600.0	1		Recut	200.0	1	
Cross cut	1250.0	1	P3	Recut	5.2	1	
			P3	Recut	580.0	1	P5
Rip	450.0	1		Rip	200.0	2	
Trim	5.2	1		Trim	5.2	1	
Cross cut	790.0	1	P4	Cross cut	580.0	4	P5
Cross cut	630.0	1					

CUTS, 1, 3, 1, 0, 0,2550.0, 0, 0, 0,MAIN
CUTS, 1, 3, 2, 1,91, 5.2, 1, 0, 0 *[rip trim]*

```
CUTS, 1,   3,   3,   2, 1, 600.0,    1,   0,    0,RIP
CUTS, 1,   3,   4,   6, 2,1272.6,    1,   3,    1
CUTS, 1,   3,   5,   0, 2,1272.6,    0,   3,    1
CUTS, 1,   3,   6,   3, 1, 450.0,    1,   0,    0,RIP
CUTS, 1,   3,   7,   7,92,   5.2,    1,   0,    0                          [xcut
trim]
CUTS, 1,   3,   8,   8, 2, 790.0,    1,   4,    1      [cross cut producing part 4
x 1]
CUTS, 1,   3,   9,   9, 2, 600.0,    1,   0,    0
CUTS, 1,   3,  10,  10,93,   5.2,    1,   0,    0                        [recut
trim]
CUTS, 1,   3,  11,  11, 3, 200.0,    1,   9,    1
CUTS, 1,   3,  12,  12, 3, 200.0,    1,   0,    0
CUTS, 1,   3,  13,  13,94,   5.2,    1,   0,    0               [4th phase recut
trim]
CUTS, 1,   3,  14,  14, 4, 580.0,    1,   5,    1      [4th phase cut to produce
part 5]
CUTS, 1,   3,  15,   0,94,   5.2,    0,   0,    0
CUTS, 1,   3,  16,   0,93,  30.4,    0,   0,    0
CUTS, 1,   3,  17,   0, 2,1140.4,    0,  X2,    1        [cut 9 also produces off-
cut 2]
CUTS, 1,   3,  18,   4, 1, 200.0,    1,   0,    0,RIP
CUTS, 1,   3,  19,  15,92,   5.2,    1,   0,    0                          [xcut
trim]
CUTS, 1,   3,  20,  16, 2, 580.0,    4,   5,    4
CUTS, 1,   3,  21,   0,92, 200.8,    0,   0,    0
CUTS, 1,   3,  22,   5, 1, 200.0,    1,   0,    0,RIP
CUTS, 1,   3,  23,  15,92,   5.2,    1,   0,    0
CUTS, 1,   3,  24,  16, 2, 580.0,    4,   5,    4
CUTS, 1,   3,  25,   0,92, 200.8,    0,   0,    0
CUTS, 1,   3,  26,   0,91,  45.8,    0,   0,    0
```

PATTERN 4

Board: WHLAM15MM-1 3660 x1830 x 15.0 Material: WHITE15 No. of Boards: 1



Sa

Re): 5.0

No	Part	Length	Width	Total Prod	Cut so Far	Qty Brd	Qty Ptn	Still To cut
3.	P3	1272.6	600.0	7	5	2	2	NIL
4.	P4	790.0	450.0	4	1	3	3	NIL
5.	P5	580.0	200.0	20	9	11	11	NIL
9.	P9	600.0	200.0	7	1	8	8	NIL

ADR/PRG: [41]

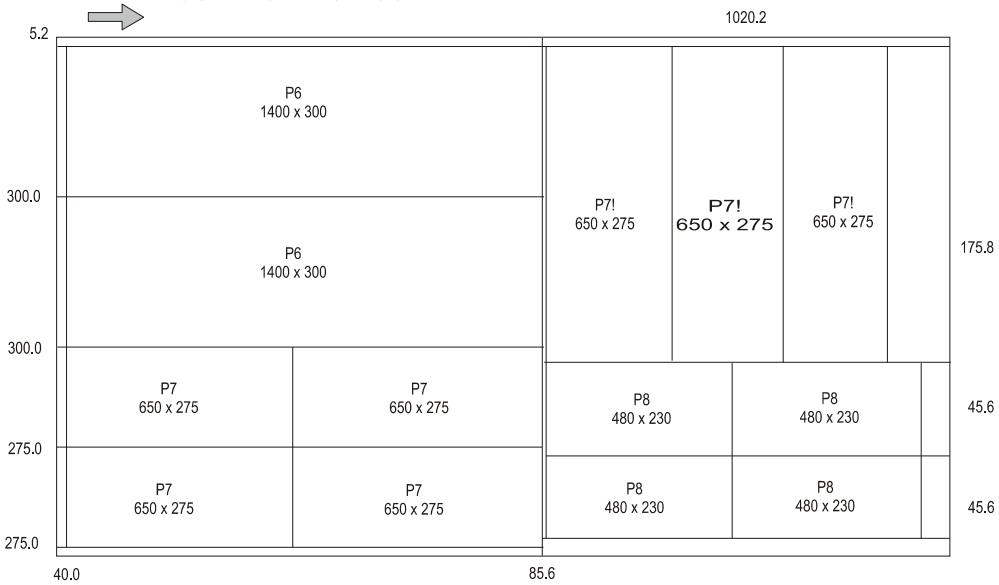
Cut	Size	Qty	Part	Cut	Size	Qty	Part
Head cut	2979.4	1		Cross cut	790.0	3	P4
MAIN				Cross cut	580.0	1	
Trim	5.2	1		Recut	5.2	1	
Rip	600.0	1		Recut	200.0	2	P5
Trim	5.2	1		Rip	200.0	3	
Cross cut	1272.6	2	P3	Trim	5.2	1	
Cross cut	200.0	2	P9	Cross cut	580.0	3	P5
Rip	450.0	1		Cross cut	630.0	2	P9
Trim	5.2	1					

CUTS, 1, 4, 1, 1, 0,2979.4, 1, 0, 0,MAIN
CUTS, 1, 4, 2, 2,91, 5.2, 1, 0, 0
[rip trim]
CUTS, 1, 4, 3, 3, 1, 600.0, 1, 0, 0,RIP
CUTS, 1, 4, 4, 8,92, 5.2, 1, 0, 0
[xcut trim]

CUTS, 1, 4, 5, 9, 2,1272.6, 2, 3, 2 *[2 xcuts producing part 3 x 2]*
CUTS, 1, 4, 6, 11, 2, 200.0, 2, 9, 2 *[2 xcuts producing part 9 x 2]*
CUTS, 1, 4, 7, 0,92, 5.0, 0, 0, 0
CUTS, 1, 4, 8, 4, 1, 450.0, 1, 0, 0,RIP
CUTS, 1, 4, 9, 13,92, 5.2, 1, 0, 0 *[xcut trim]*
CUTS, 1, 4, 10, 14, 2, 790.0, 3, 4, 3 *[3 xcuts producing part 4 x 3]*
CUTS, 1, 4, 11, 17, 2, 580.0, 1, 0, 0
CUTS, 1, 4, 12, 18,93, 5.2, 1, 0, 0 *[recut trim]*
CUTS, 1, 4, 13, 19, 3, 200.0, 2, 5, 2 *[3rd phase cuts producing part 5 x 2]*
CUTS, 1, 4, 14, 0,93, 30.4, 0, 0, 0
CUTS, 1, 4, 15, 0,92, 0.2, 0, 0, 0
CUTS, 1, 4, 16, 5, 1, 200.0, 1, 0, 0,RIP *[first of 3 strips xcut together]*
CUTS, 1, 4, 17, 21,92, 5.2, 1, 0, 0 *[xcut trim]*
CUTS, 1, 4, 18, 22, 2, 580.0, 3, 5, 3 *[3 xcuts producing part 5 x 3]*
CUTS, 1, 4, 19, 25, 2, 600.0, 2, 9, 2 *[2 xcuts producing part 9 x 2]*
CUTS, 1, 4, 20, 0,92, 5.4, 0, 0, 0
CUTS, 1, 4, 21, 6, 1, 200.0, 1, 0, 0,RIP
CUTS, 1, 4, 22, 21,92, 5.2, 1, 0, 0
CUTS, 1, 4, 23, 22, 2, 580.0, 3, 5, 3 *[xcuts with same sequence as record 18]*
CUTS, 1, 4, 24, 25, 2, 600.0, 2, 9, 2 *[xcuts with same sequence as record 19]* **CUTS, 1, 4, 25, 0,92, 5.4, 0, 0, 0**
CUTS, 1, 4, 26, 7, 1, 200.0, 1, 0, 0,RIP
CUTS, 1, 4, 27, 21,92, 5.2, 1, 0, 0
CUTS, 1, 4, 28, 22, 2, 580.0, 3, 5, 3 *[xcuts with same sequence as record 18]*
CUTS, 1, 4, 29, 25, 2, 600.0, 2, 9, 2 *[xcuts with same sequence as record 18]*
CUTS, 1, 4, 30, 0,92, 5.4, 0, 0, 0
CUTS, 1, 4, 31, 0,91, 146.0, 0, 0, 0
CUTS, 1, 4, 32, 0, 0, 675.8, 0, X1, 1,HEAD *[offcut produced]*

PATTERN 5

Board: MDF18-97 2440 x 1220 x 18.0 Material: MDF18 No. of Boards: 2



Saw blade thickness: 4.8 Book Height: 2 Cycles: 1
Rear trim (inc blade) Rip: 10.0 Cross: 10.0 Retrim (inc blade): 5.0

No	Part	Length	Width	Total Prod	Cut so Far	Qty Brd	Qty Ptn	Still To cut
6.	P6	1400.0	300.0	5	NIL	2	4	1
7.	P7	650.0	275.0	14	NIL	7	14	NIL
8.	P8	480.0	230.0	23	NIL	4	8	15

ADR/PRG: [41]

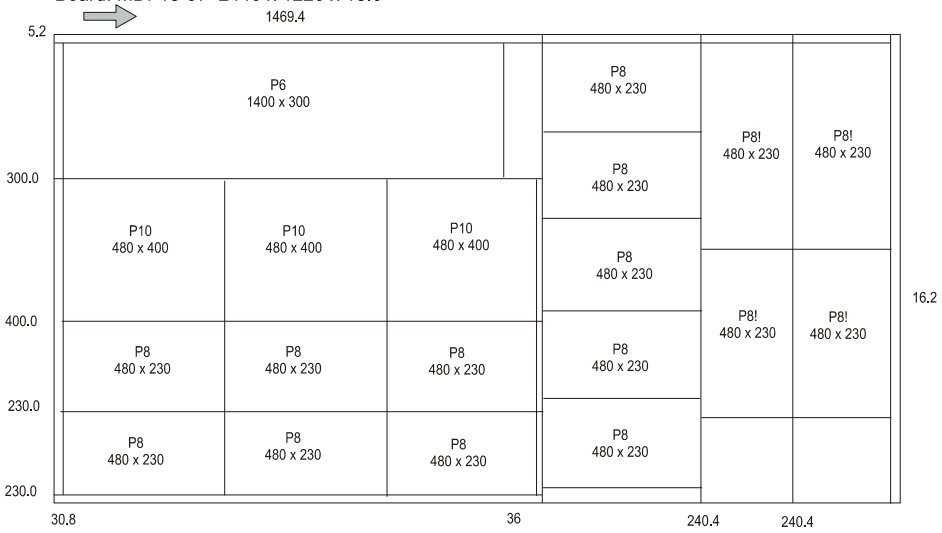
Cut	Size	Qty	Part	Cut	Size	Qty	Part
Head cut	1415.0	1		HEAD 1			
MAIN				Trim	5.2	1	
Trim	5.2	1		Rip	650.0	1	
Rip	300.0	2		Trim	0.2	1	
Trim	5.2	1		Cross cut	275.0	3	P7
Cross cut	1400.0	1	P6	Rip	230.0	2	
Rip	275.0	2		Trim	0.2	1	
Trim	5.2	1		Cross cut	480.0	2	P8
Cross cut	650.0	2	P7				

CUTS, 1, 5, 1, 1, 0,1415.0, 1, 0, 0,MAIN *[head cut at 1415.0]*
CUTS, 1, 5, 2, 2,91, 5.2, 1, 0, 0 *[rip trim]*
CUTS, 1, 5, 3, 3, 1, 300.0, 1, 0, 0,RIP *[first of 2 strips xcut*

```
*together]
CUTS, 1,   5,   4,   7,92,   5.2,    1,   0,    0
*[xcut trim]
CUTS, 1,   5,   5,   8, 2,1400.0,    1,   6,    2
CUTS, 1,   5,   6,   0,92,   0.2,    0,   0,    0
CUTS, 1,   5,   7,   4, 1, 300.0,    1,   0,    0,RIP
CUTS, 1,   5,   8,   7,92,   5.2,    1,   0,    0
*[xcut trim]
CUTS, 1,   5,   9,   8, 2,1400.0,    1,   6,    2
CUTS, 1,   5,  10,   0,92,   0.2,    0,   0,    0
CUTS, 1,   5,  11,   5, 1, 275.0,    1,   0,    0,RIP   *[first of 2 strips xcut
together]
CUTS, 1,   5,  12,   9,92,   5.2,    1,   0,    0
*[xcut trim]
CUTS, 1,   5,  13,  10, 2, 650.0,    2,   7,    4
CUTS, 1,   5,  14,   0,92,  95.4,    0,   0,    0
CUTS, 1,   5,  15,   6, 1, 275.0,    1,   0,    0,RIP
CUTS, 1,   5,  16,   9,92,   5.2,    1,   0,    0
*[xcut trim]
CUTS, 1,   5,  17,  10, 2, 650.0,    2,   7,    4
CUTS, 1,   5,  18,   0,92,  95.4,    0,   0,    0
CUTS, 1,   5,  19,   0,91,  40.8,    0,   0,    0
CUTS, 1,   5,  20,   0, 0,1020.2,    0,   0,    0,HEAD            *[start of head
section]
CUTS, 1,   5,  21,  12,91,   5.2,    1,   0,    0
*[rip trim]
CUTS, 1,   5,  22,  13, 1, 650.0,    1,   0,    0,RIP
CUTS, 1,   5,  23,  16,92,   0.2,    1,   0,    0          *[xcut trim…head retrim
- inc. saw blade thickness]
CUTS, 1,   5,  24,  17, 2, 275.0,    3,   7,    6
CUTS, 1,   5,  25,   0,92, 175.8,    0,   0,    0
CUTS, 1,   5,  26,  14, 1, 230.0,    1,   0,    0,RIP
CUTS, 1,   5,  27,  20,92,   0.2,    1,   0,    0
CUTS, 1,   5,  28,  21, 2, 480.0,    2,   8,    4
CUTS, 1,   5,  29,   0,92,  45.6,    0,   0,    0
CUTS, 1,   5,  30,  15, 1, 230.0,    1,   0,    0,RIP
CUTS, 1,   5,  31,  20,92,   0.2,    1,   0,    0
CUTS, 1,   5,  32,  21, 2, 480.0,    2,   8,    4
CUTS, 1,   5,  33,   0,92,  45.6,    0,   0,    0
CUTS, 1,   5,  34,   0,91,  85.6,    0,   0,    0
```

PATTERN 6

Board: MDF18-97 2440 x 1220 x 18.0 Material: MDF18 No. of Boards: 1



Saw blade thickness: 4.8 Book Height: 1 Cycles: 1
Rear trim (inc blade) Rip: 10.0 Cross: 10.0 Retrim (inc blade): 5.0

No	Part	Length	Width	Total Prod	Cut so Far	Qty Brd	Qty Ptn	Still To cut
6.	P6	1400.0	300.0	5	4	1	1	NIL
8.	P8	480.0	230.0	23	8	15	15	NIL
10.	P10	480.0	400.0	3	NIL	3	3	NIL

ADR/PRG: [41]

Cut	Size	Qty	Part	Cut	Size	Qty	Part
Head cut	1464.6	1		Cross cut	480.0	3	P8
MAIN				Head cut	480.0	1	
Trim	5.2	1		HEAD 1			
Rip	300.0	1		Trim	5.2	1	
Trim	5.2	1		Rip	230.0	5	P8
Cross cut	1400.0	1	P6	HEAD 2			
Rip	400.0	1		Trim	5.2	1	
Trim	5.2	1		Rip	480.0	2	
Cross cut	480.0	3	P10	Cross cut	230.0	2	P8
Rip	*230.0*	*2*					
Trim	5.2	1					

```
CUTS, 1,   6,   1,   1, 0,1464.6,    1,   0,    0,MAIN              [head cut at
1464.6]
CUTS, 1,   6,   2,   3,91,   5.2,    1,   0,    0                            [rip
trim]
CUTS, 1,   6,   3,   4, 1, 300.0,    1,   0,    0,RIP                [rip main
300 x 1]
CUTS, 1,   6,   4,   8,92,   5.2,    1,   0,    0                            [xcut
trim]
CUTS, 1,   6,   5,   9, 2,1400.0,    1,   6,    1
CUTS, 1,   6,   6,   0,92,  49.8,    0,   0,    0
CUTS, 1,   6,   7,   5, 1, 400.0,    1,   0,    0,RIP  [first of 3 strips xcut
together]
CUTS, 1,   6,   8,  10,92,   5.2,    1,   0,    0                            [xcut
trim]
CUTS, 1,   6,   9,  11, 2, 480.0,    3,  10,    3
CUTS, 1,   6,  10,   0,92,   0.2,    0,   0,    0
CUTS, 1,   6,  11,   6, 1, 230.0,    1,   0,    0,RIP
CUTS, 1,   6,  12,  10,92,   5.2,    1,   0,    0
CUTS, 1,   6,  13,  11, 2, 480.0,    3,   8,    3
CUTS, 1,   6,  14,   0,92,   0.2,    0,   0,    0
CUTS, 1,   6,  15,   7, 1, 230.0,    1,   0,    0,RIP
CUTS, 1,   6,  16,  10,92,   5.2,    1,   0,    0
CUTS, 1,   6,  17,  11, 2, 480.0,    3,   8,    3
CUTS, 1,   6,  18,   0,92,   0.2,    0,   0,    0
CUTS, 1,   6,  19,   0,91,  30.8,    0,   0,    0
CUTS, 1,   6,  20,   2, 0, 480.0,    1,   0,    0,HEAD                    [head
section]
CUTS, 1,   6,  21,  14,91,   5.2,    1,   0,    0
[rip trim]
CUTS, 1,   6,  22,  15, 1, 230.0,    5,   8,    5,RIP
CUTS, 1,   6,  23,   0,91,  36.0,    0,   0,    0
CUTS, 1,   6,  24,   0, 0, 485.8,    0,   0,    0,HEAD
CUTS, 1,   6,  25,  20,91,   5.2,    1,   0,    0
CUTS, 1,   6,  26,  21, 1, 480.0,    1,   0,    0,RIP   [first of 2 strips xcut
together]
CUTS, 1,   6,  27,  23, 2, 230.0,    2,   8,    2
CUTS, 1,   6,  28,   0,92,  16.2,    0,   0,    0
CUTS, 1,   6,  29,  22, 1, 480.0,    1,   0,    0,RIP  [second of 2 strips xcut
together]
CUTS, 1,   6,  30,  23, 2, 230.0,    2,   8,    2
CUTS, 1,   6,  31,   0,92,  16.2,    0,   0,    0
CUTS, 1,   6,  32,   0,91, 240.4,    0,   0,    0
```

20. SUMMARY OF DATA STRUCTURE

This section summarises the position and format of each field in each record type. The maximum length of each text field is listed in the comment column. The range of acceptable values for other field types is listed where applicable. Please refer to earlier comments for a fuller explanation of fields.

Each field can be categorised by one of the following types.

DIM Dimension. Number single. When working in millimetres these range from 0.0 to 9999.9. When working in decimal inches dimensions must range from 0.000 to 999.9
FLT Number single. Floating point value.
IDX Index. Number integer. These are integer values which are used to link records. For example all data for a particular job must have the same job index.
INT Number integer.
QTY A long integer used to store quantity. No quantity can be greater than 99999.
TXT A text field used to store information

Note that spaces are not allowed in the material code, and any spaces will be converted to an underscore ('_') on import. Also note that material, part and board codes are converted to upper case on import.

The job records must have unique job index numbers starting at 1, and incrementing consecutively within specified range. The part, board and pattern records must each have their respective index numbers unique within the job, and again be numbered from 1 and incremented consecutively.

'HEADER' RECORD

No.	Name	Description	Type	Comment	MDB
1	VERSION	File version	TXT	Set to 1.06	Text
2	TITLE	File title	TXT	25 chars max.	Text
3	UNITS	Measurement mode	INT	0,1	Number-Integer
4	ORIGIN	Pattern origin	INT	0-3	Number-Integer
5	TRIM_TYPE	Fixed trim front or rear?	INT	0,1	Number-Integer

'JOBS' RECORD

No.	Name	Description	Type	Comment	MDB
1	JOB_INDEX	Job index	IDX	1-250	Number-Integer
2	NAME	Job number/name	TXT	50 chars max.	Text
3	DESC	Job description	TXT	50 chars max	Text
4	ORD_DATE	Date of order	TXT	DD/MM/YYYY	
5	CUT_DATE	Date for cutting	TXT	DD/MM/YYYY	
6	CUSTOMER	Customer code	TXT	100 chars max.	Text
7	STATUS	Job status	INT	0,1,2	Number- Integer
8	OPT_PARAM	Optimising parameters	TXT	50 chars max.	Text
9	SAW_PARAM	Saw parameters	TXT	50 chars max.	Text
10	CUT_TIME	Total cut time	INT		Number-Long Int
11	WASTE_PCNT	Waste percentage	FLT		Number-Single

'PARTS_REQ' RECORD

No.	Name	Description	Type	Comment	MDB
1	JOB_INDEX	Job index	IDX	1-250	Number- Integer
2	PART_INDEX	Part index	IDX	1-9999	Number- Integer
3	CODE	Part code	TXT	50 chars max.	Text
4	MAT_INDEX	Material index	IDX	1-9999	Number- Integer
5	LENGTH	Part length	DIM		Number-Single
6	WIDTH	Part width	DIM		Number-Single
7	QTY_REQ	Number of pieces	QTY	Max 99999	Number-Long Int
8	QTY_OVER	Max over production	QTY	Max 99999	Number-Long Int
9	QTY_UNDER	Max under production	QTY	Max 99999	Number-Long Int
10	GRAIN	Grain	INT	0,1,2	Number-Integer
11	QTY_PROD	Num pieces produced	QTY	Max 99999	Number-Long Int
12	UNDER_PROD _ERROR	Num pieces under produced because of an error	QTY	Max 99999	Number-Long Int
13	UNDER_PROD _ALLOWED	Num pieces under produced because of allowed unders	QTY	Max 99999	Number-Long Int
14	UNDER_PROD _PLUSPART	Num plus part pieces under produced	QTY	Max 99999	Number-Long Int

'PARTS_INF' RECORD

No.	Name	Description	Type	Comment	MDB
1	JOB_INDEX	Job index	IDX	1-250	Number-Integer
2	PART_INDEX	Part index	IDX	1-9999	Number-Integer
3	DESC	Second part desc	TXT	200 chars max	Text
4	LABEL_QTY	Label quantity	TXT	200 chars max	Text
5	FIN_LENGTH	Finished length	TXT	200 chars max	Text
6	FIN_WIDTH	Finished width	TXT	200 chars max	Text
7	ORDER	Original order	TXT	200 chars max	Text
8	EDGE1	Btm length edge code	TXT	200 chars max	Text
9	EDGE2	Top length edge code	TXT	200 chars max	Text
10	EDGE3	Left width edge code	TXT	200 chars max	Text
11	EDGE4	Right width edge code	TXT	200 chars max	Text
12	EDG_PG1	Bottom edge program	TXT	200 chars max	Text
13	EDG_PG2	Top edge program	TXT	200 chars max	Text

14	EDG_PG3	Left edge program	TXT	200 chars max	Text
15	EDG_PG4	Right edge program	TXT	200 chars max	Text
16	FACE_LAM	Face laminate	TXT	200 chars max	Text
17	BACK_LAM	Back laminate	TXT	200 chars max	Text
18	CORE_MAT	Core material	TXT	200 chars max	Text
19	PALLET	Pallet layout	TXT	200 chars max	Text
20	DRAWING	Name of drawing file	TXT	200 chars max	Text
21	PRODUCT	Product code	TXT	200 chars max	Text
22	PROD_INFO	Product description	TXT	200 chars max	Text
23	PROD_WIDTH	Product width	TXT	200 chars max	Text
24	PROD_HGT	Product height	TXT	200 chars max	Text
25	PROD_DEPTH	Product depth	TXT	200 chars max	Text
26	PROD_NUM	Product number	TXT	200 chars max	Text
27	ROOM	Room/group	TXT	200 chars max	Text
28	BARCODE1	Data for first barcode	TXT	200 chars max	Text
29	BARCODE2	Data for second barcode	TXT	200 chars max	Text
30	COLOUR	Extended colour name	TXT	200 chars max	Text
31	SECOND_CUT _LENGTH	Length prior to second cut	TXT	200 chars max	Text
32	SECOND_CUT _WIDTH	Width prior to second cut	TXT	200 chars max	Text

'PARTS_UDI' RECORD

No.	Name	Description	Type	Comment	MDB
1	JOB_INDEX	Job index	IDX	1-250	Number-Integer
2	PART_INDEX	Part index	IDX	1-9999	Number-Integer
3	INFO1	Information field 1	TXT	200 chars max	Text
4	INFO2	Information field 2	TXT	200 chars max	Text
5	INFO3	Information field 3	TXT	200 chars max	Text
6	INFO4	Information field 4	TXT	200 chars max	Text
7	INFO5	Information field 5	TXT	200 chars max	Text
8	INFO6	Information field 6	TXT	200 chars max	Text
9	INFO7	Information field 7	TXT	200 chars max	Text
10	INFO8	Information field 8	TXT	200 chars max	Text
11	INFO9	Information field 9	TXT	200 chars max	Text
12	INFO10	Information field 10	TXT	200 chars max	Text
13	INFO11	Information field 11	TXT	200 chars max	Text
14	INFO12	Information field 12	TXT	200 chars max	Text

15	INFO13	Information field 13	TXT	200 chars max	Text
16	INFO14	Information field 14	TXT	200 chars max	Text
17	INFO15	Information field 15	TXT	200 chars max	Text
18	INFO16	Information field 16	TXT	200 chars max	Text
19	INFO17	Information field 17	TXT	200 chars max	Text
20	INFO18	Information field 18	TXT	200 chars max	Text
21	INFO19	Information field 19	TXT	200 chars max	Text
22	INFO20	Information field 20	TXT	200 chars max	Text
23	INFO21	Information field 21	TXT	200 chars max	Text
24	INFO22	Information field 22	TXT	200 chars max	Text
25	INFO23	Information field 23	TXT	200 chars max	Text
26	INFO24	Information field 24	TXT	200 chars max	Text
27	INFO25	Information field 25	TXT	200 chars max	Text
28	INFO26	Information field 26	TXT	200 chars max	Text
29	INFO27	Information field 27	TXT	200 chars max	Text
30	INFO28	Information field 28	TXT	200 chars max	Text
31	INFO29	Information field 29	TXT	200 chars max	Text
32	INFO30	Information field 30	TXT	200 chars max	Text
33	INFO31	Information field 31	TXT	200 chars max	Text
34	INFO32	Information field 32	TXT	200 chars max	Text
35	INFO33	Information field 33	TXT	200 chars max	Text
36	INFO34	Information field 34	TXT	200 chars max	Text
37	INFO35	Information field 35	TXT	200 chars max	Text
38	INFO36	Information field 36	TXT	200 chars max	Text
39	INFO37	Information field 37	TXT	200 chars max	Text
40	INFO38	Information field 38	TXT	200 chars max	Text
41	INFO39	Information field 39	TXT	200 chars max	Text
42	INFO40	Information field 40	TXT	200 chars max	Text
43	INFO41	Information field 41	TXT	200 chars max	Text
44	INFO42	Information field 42	TXT	200 chars max	Text
45	INFO43	Information field 43	TXT	200 chars max	Text
46	INFO44	Information field 44	TXT	200 chars max	Text
47	INFO45	Information field 45	TXT	200 chars max	Text
48	INFO46	Information field 46	TXT	200 chars max	Text
49	INFO47	Information field 47	TXT	200 chars max	Text
50	INFO48	Information field 48	TXT	200 chars max	Text
51	INFO49	Information field 49	TXT	200 chars max	Text
52	INFO50	Information field 50	TXT	200 chars max	Text
53	INFO51	Information field 51	TXT	200 chars max	Text

54	INFO52	Information field 52	TXT	200 chars max	Text
55	INFO53	Information field 53	TXT	200 chars max	Text
56	INFO54	Information field 54	TXT	200 chars max	Text
57	INFO55	Information field 55	TXT	200 chars max	Text
58	INFO56	Information field 56	TXT	200 chars max	Text
59	INFO57	Information field 57	TXT	200 chars max	Text
60	INFO58	Information field 58	TXT	200 chars max	Text
61	INFO59	Information field 59	TXT	200 chars max	Text
62	INFO60	Information field 60	TXT	200 chars max	Text

'PARTS_DST' RECORD

No.	Name	Description	Type	Comment	MDB
1	JOB_INDEX	Job index	IDX	1-250	Number-Integer
2	PART_INDEX	Part index	IDX	1-9999	Number-Integer
3	PART_LAY_L	Parts per stack length	INT	1-99	Number-Integer
4	PART_LAY_W	Parts per stack width	INT	1-99	Number-Integer
5	PART_LAY_O	Part orientation	INT	0,1 (0=rotated)	Number-Integer
6	STK_HGHT_Q	Stack height - pieces	INT	0-999	Number-Integer
7	STK_HGHT_D	Stack height - dim	INT	0-9999	Number-Integer
8	STATION	Station number	INT	0-99	Number-Integer
9	QTY_STACKS	Total number of stacks	QTY	Max 99999	Number-Long Int
10	BTM_TYPE	Bottom destack type	INT	0,1,2,3,4	Number-Integer
11	BTM_DESC	Bottom description	TXT	25 chars max	Text
12	BTM_MATL	Bottom material	TXT	25 chars max	Text
13	BTM_LENGTH	Baseboard/pallet len	DIM		Number-Single
14	BTM_WIDTH	Baseboard/pallet wid	DIM		Number-Single
15	BTM_THICK	Baseboard/pallet thk	DIM		Number-Single
16	OVER_LEN	Overhang/oversize	DIM		Number-Single
17	OVER_WID	Overhang/oversize	DIM		Number-Single
18	BTM_LAY_L	Bsb/pallets per length	INT	0-99	Number-Integer
19	BTM_LAY_W	Bsb/pallets per width	INT	0-99	Number-Integer
20	TOP_TYPE	Top destack type	INT	0,1,2,3,4	Number-Integer
21	TOP_DESC	Top description	TXT	25 chars max	Text
22	TOP_MATL	Top material	TXT	25 chars max	Text
23	TOP_LENGTH	Baseboard length	DIM		Number-Single
24	TOP_WIDTH	Baseboard width	DIM		Number-Single

25	TOP_THICK	Baseboard thk	DIM		Number-Single
26	TOP_LAY_L	Baseboards per length	INT	0-99	Number-Integer
27	TOP_LAY_W	Baseboards per width	INT	0-99	Number-Integer
28	SUP_TYPE	Support destack type	INT	0,1,2,3,4	Number-Integer
29	SUP_DESC	Support description	TXT	25 chars max	Text
30	SUP_MATL	Support material	TXT	25 chars max	Text
31	SUP_LENGTH	Support length	DIM		Number-Single
32	SUP_WIDTH	Support width	DIM		Number-Single
33	SUP_THICK	Support thickness	DIM		Number-Single
34	SUP_LAY_L	Supports length	INT	0-99	Number-Integer
35	SUP_LAY_W	Supports per width	INT	0-99	Number-Integer
36	STATION2	Alternative station	INT	0-99	Number-Integer

'BOARDS' RECORD

No.	Name	Description	Type	Comment	MDB
1	JOB_INDEX	Job index	IDX	1-250	Number-Integer
2	BRD_INDEX	Board index	IDX	1-5000	Number-Integer
3	CODE	Board code	TXT	50 chars max	Text
4	MAT_INDEX	Material index	IDX	1-9999	Number-Integer
5	LENGTH	Board length	DIM		Number-Single
6	WIDTH	Board width	DIM		Number-Single
7	QTY_STOCK	Number of sheets	QTY	Max 99999	Number-Long Int
8	QTY_USED	Number of sheets used	QTY	Max 99999	Number-Long Int
9	COST	Cost per sq metre/foot	FLT	0-9.99	Number-Single
10	STK_FLAG	Board limit/ratio	INT	0-9	Number-Integer
11	INFORMATION	Board information	TXT	50 chars max	Text
12	MAT_PARAM	Parameter file name	TXT	50 max chars	Text
13	GRAIN	Grain	INT	0,1,2	Number-Integer
14	TYPE	Type	INT	0,1	Number-Integer
15	BIN	Board location	TXT	25 chars max	Text
16	SUPPLIER	Board suppler	TXT	50 chars max	Text

'MATERIALS' RECORD

No.	Name	Description	Type	Comment	MDB
1	JOB_INDEX	Job index	IDX	1-250	Number-Integer
2	MAT_INDEX	Material index	IDX	1-9999	Number-Integer
3	CODE	Material code	TXT	50 chars max	Text
4	DESC	Material description	TXT	50 chars max	Text
5	THICK	Material thickness	DIM		Number-Single
6	BOOK	Max sheets per book	QTY		Number-Long Int
7	KERF_RIP	Saw blade thickness (rip)	DIM		Number-Single
8	KERF_XCT	Saw blade thickness (crosscut)	DIM		Number-Single
9	TRIM_FRIP	Fixed rip trim	DIM		Number-Single

10	TRIM_VRIP	Min waste rip trim	DIM		Number-Single
11	TRIM_FXCT	Fixed crosscut trim	DIM		Number-Single
12	TRIM_VXCT	Min waste crosscut trim	DIM		Number-Single
13	TRIM_HEAD	Internal Head trim	DIM		Number-Single
14	TRIM_FRCT	Fixed recut trim	DIM		Number-Single
15	TRIM_VRCT	Min waste recut trim	DIM		Number-Single
16	RULE1	Optimising rule 1	INT	1-9	Number-Integer
17	RULE2	Optimising rule 2	INT	0,1	Number-Integer
18	RULE3	Optimising rule 3	INT	0,1	Number-Integer
19	RULE4	Optimising rule 4	INT	0,1	Number-Integer
20	MAT_PARAM	Parameter file name	TXT	50 max chars	Text
21	GRAIN	Grain	INT	0,1,2	Number-Integer
22	PICTURE	RGB colour or picture file name	TXT	100 chars max	Text
23	DENSITY	Material density	FLT	0-99.999	Number-Single

'OFFCUTS' RECORD

No.	Name	Description	Type	Comment	MDB
1	JOB_INDEX	Job index	IDX	1-250	Number-Integer
2	OFC_INDEX	Offcut index	IDX	1-7500	Number-Integer
3	CODE	Offcut code	TXT	50 chars max	Text
4	MAT_INDEX	Material index	IDX	1-9999	Number-Integer
5	LENGTH	Offcut length	DIM		Number-Single
6	WIDTH	Offcut width	DIM		Number-Single
7	OFC_QTY	Offcut quantity	QTY	Max 99999	Number-Long Int
8	COST	Cost per sq metre/foot	FLT	0-9.99	Number-Single
9	TYPE	Type	INT	0,1	Number-Integer

'PATTERNS' RECORD

No.	Name	Description	Type	Comment	MDB
1	JOB_INDEX	Job index	IDX	1-250	Number-Integer
2	PTN_INDEX	Pattern index	IDX	1-5000	Number-Integer
3	BRD_INDEX	Board index	IDX	1-5000	Number-Integer
4	TYPE	Pattern type	INT	0-8	Number-Integer
5	QTY_RUN	Run quantity	QTY		Number-Long Int
6	QTY_CYCLES	Cycle quantity	QTY		Number-Long Int
7	MAX_BOOK	Max sheets per book	QTY		Number-Long Int
8	PICTURE	Pattern picture file	TXT	255 chars max	Text
9	CYCLE_TIME	Cycle cut time	INT		Number-Long Int
10	TOTAL_TIME	Total cut time	INT		Number-Long Int

'PTN_UDI' RECORD

No.	Name	Description	Type	Comment	MDB
1	JOB_INDEX	Job index	IDX	1-250	Number-Integer
2	PTN_INDEX	Pattern index	IDX	1-5000	Number-Integer
3	BRD_INDEX	Board index	IDX	1-5000	Number-Integer

4	STRIP_INDEX	Strip number	INT		Number-Integer
5	INFO1	Information field 1	TXT	200 chars max	Text
6	INFO2	Information field 2	TXT	200 chars max	Text
7	INFO3	Information field 3	TXT	200 chars max	Text
8	INFO4	Information field 4	TXT	200 chars max	Text
9	INFO5	Information field 5	TXT	200 chars max	Text
10	INFO6	Information field 6	TXT	200 chars max	Text
11	INFO7	Information field 7	TXT	200 chars max	Text
12	INFO8	Information field 8	TXT	200 chars max	Text
13	INFO9	Information field 9	TXT	200 chars max	Text
14	INFO10	Information field 10	TXT	200 chars max	Text
15	INFO11	Information field 11	TXT	200 chars max	Text
16	INFO12	Information field 12	TXT	200 chars max	Text
17	INFO13	Information field 13	TXT	200 chars max	Text
18	INFO14	Information field 14	TXT	200 chars max	Text
19	INFO15	Information field 15	TXT	200 chars max	Text
20	INFO16	Information field 16	TXT	200 chars max	Text
21	INFO17	Information field 17	TXT	200 chars max	Text
22	INFO18	Information field 18	TXT	200 chars max	Text
23	INFO19	Information field 19	TXT	200 chars max	Text
24	INFO20	Information field 20	TXT	200 chars max	Text
25	INFO21	Information field 21	TXT	200 chars max	Text
26	INFO22	Information field 22	TXT	200 chars max	Text
27	INFO23	Information field 23	TXT	200 chars max	Text
28	INFO24	Information field 24	TXT	200 chars max	Text
29	INFO25	Information field 25	TXT	200 chars max	Text
30	INFO26	Information field 26	TXT	200 chars max	Text
31	INFO27	Information field 27	TXT	200 chars max	Text
32	INFO28	Information field 28	TXT	200 chars max	Text
33	INFO29	Information field 29	TXT	200 chars max	Text
34	INFO30	Information field 30	TXT	200 chars max	Text
35	INFO31	Information field 31	TXT	200 chars max	Text
36	INFO32	Information field 32	TXT	200 chars max	Text
37	INFO33	Information field 33	TXT	200 chars max	Text
38	INFO34	Information field 34	TXT	200 chars max	Text
39	INFO35	Information field 35	TXT	200 chars max	Text
40	INFO36	Information field 36	TXT	200 chars max	Text
41	INFO37	Information field 37	TXT	200 chars max	Text
42	INFO38	Information field 38	TXT	200 chars max	Text

43	INFO39	Information field 39	TXT	200 chars max	Text
44	INFO40	Information field 40	TXT	200 chars max	Text
45	INFO41	Information field 41	TXT	200 chars max	Text
46	INFO42	Information field 42	TXT	200 chars max	Text
47	INFO43	Information field 43	TXT	200 chars max	Text
48	INFO44	Information field 44	TXT	200 chars max	Text
49	INFO45	Information field 45	TXT	200 chars max	Text
50	INFO46	Information field 46	TXT	200 chars max	Text
51	INFO47	Information field 47	TXT	200 chars max	Text
52	INFO48	Information field 48	TXT	200 chars max	Text
53	INFO49	Information field 49	TXT	200 chars max	Text
54	INFO50	Information field 50	TXT	200 chars max	Text
55	INFO51	Information field 51	TXT	200 chars max	Text
56	INFO52	Information field 52	TXT	200 chars max	Text
57	INFO53	Information field 53	TXT	200 chars max	Text
58	INFO54	Information field 54	TXT	200 chars max	Text
59	INFO55	Information field 55	TXT	200 chars max	Text
60	INFO56	Information field 56	TXT	200 chars max	Text
61	INFO57	Information field 57	TXT	200 chars max	Text
62	INFO58	Information field 58	TXT	200 chars max	Text
63	INFO59	Information field 59	TXT	200 chars max	Text
64	INFO60	Information field 60	TXT	200 chars max	Text
65	INFO61	Information field 61	TXT	200 chars max	Text
66	INFO62	Information field 62	TXT	200 chars max	Text
67	INFO63	Information field 63	TXT	200 chars max	Text
68	INFO64	Information field 64	TXT	200 chars max	Text
69	INFO65	Information field 65	TXT	200 chars max	Text
70	INFO66	Information field 66	TXT	200 chars max	Text
71	INFO67	Information field 67	TXT	200 chars max	Text
72	INFO68	Information field 68	TXT	200 chars max	Text
73	INFO69	Information field 69	TXT	200 chars max	Text
74	INFO70	Information field 70	TXT	200 chars max	Text
75	INFO71	Information field 71	TXT	200 chars max	Text
76	INFO72	Information field 72	TXT	200 chars max	Text
77	INFO73	Information field 73	TXT	200 chars max	Text
78	INFO74	Information field 74	TXT	200 chars max	Text
79	INFO75	Information field 75	TXT	200 chars max	Text
80	INFO76	Information field 76	TXT	200 chars max	Text
81	INFO77	Information field 77	TXT	200 chars max	Text

82	INFO78	Information field 78	TXT	200 chars max	Text
83	INFO79	Information field 79	TXT	200 chars max	Text
84	INFO80	Information field 80	TXT	200 chars max	Text
85	INFO81	Information field 81	TXT	200 chars max	Text
86	INFO82	Information field 82	TXT	200 chars max	Text
87	INFO83	Information field 83	TXT	200 chars max	Text
88	INFO84	Information field 84	TXT	200 chars max	Text
89	INFO85	Information field 85	TXT	200 chars max	Text
90	INFO86	Information field 86	TXT	200 chars max	Text
91	INFO87	Information field 87	TXT	200 chars max	Text
92	INFO88	Information field 88	TXT	200 chars max	Text
93	INFO89	Information field 89	TXT	200 chars max	Text
94	INFO90	Information field 90	TXT	200 chars max	Text
95	INFO91	Information field 91	TXT	200 chars max	Text
96	INFO92	Information field 92	TXT	200 chars max	Text
97	INFO93	Information field 93	TXT	200 chars max	Text
98	INFO94	Information field 94	TXT	200 chars max	Text
99	INFO95	Information field 95	TXT	200 chars max	Text
100	INFO96	Information field 96	TXT	200 chars max	Text
101	INFO97	Information field 97	TXT	200 chars max	Text
102	INFO98	Information field 98	TXT	200 chars max	Text
103	INFO99	Information field 99	TXT	200 chars max	Text

'CUTS' RECORD

No.	Name	Description	Type	Comment	MDB
1	JOB_INDEX	Job index	IDX	1-250	Number-Integer
2	PTN_INDEX	Pattern index	IDX	1-5000	Number-Integer
3	CUT_INDEX	Cut index	IDX	1-5000	Number-Integer
4	SEQUENCE	Cut sequence	INT		Number-Integer
5	FUNCTION	Cut type	INT	0-9, 90-99	Number-Integer
6	DIMENSION	Size of cut	DIM		Number-Single
7	QTY_RPT	Cut quantity	QTY		Number-Long Int
8	PART_INDEX	Part/Offcut Index	TXT	1-9999 or X1-X7500	Text
9	QTY_PARTS	Total part quantity	QTY	Max 99999	Number-Long Int
10	COMMENT	Additional comment	TXT	100 chars max	Text

4. Export data

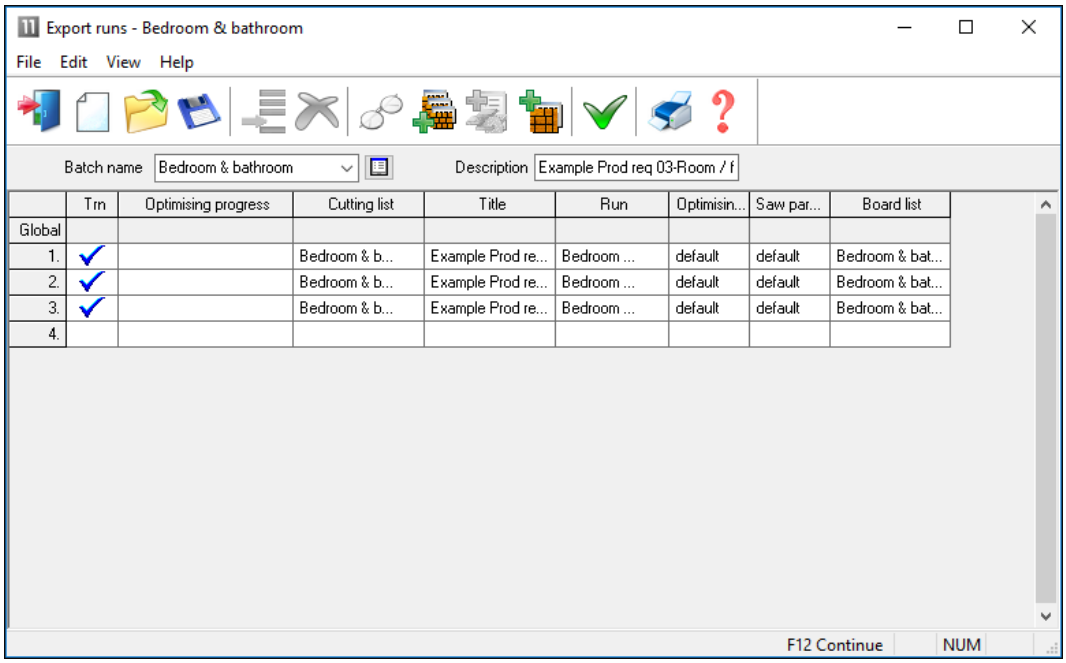
The main use for export is to send results (optimisations) to an external file or system. Individual reports (for example, Pattern summary) can be exported at the screen view or a complete set of results can be exported. Other typical exports are:-

- Job and product costing reports
- Fittings and operations
- Cutting lists

4.1 Export runs

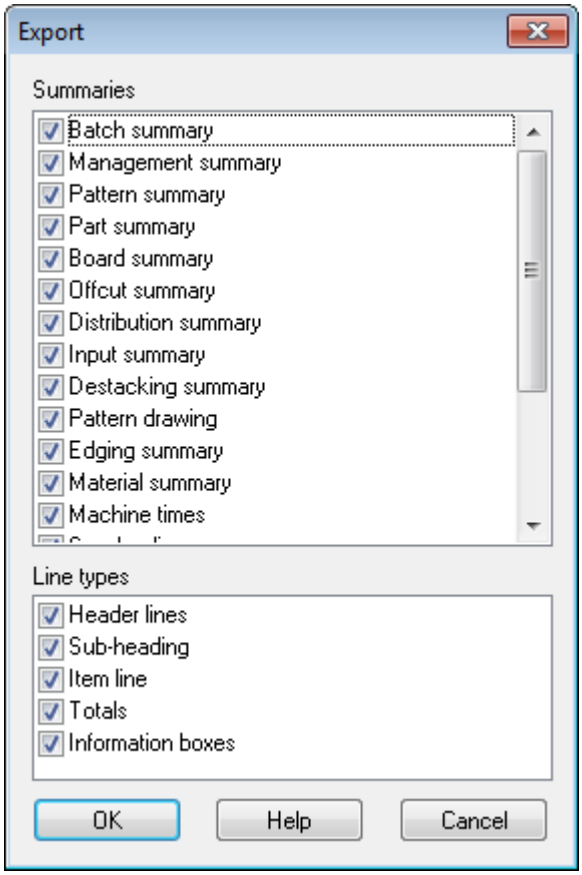
To export runs (optimisations), at the main screen:-

- Select: **File- Export runs**
- Choose the export format (ASCII/Unicode, MDB, XLS, XLSX)



Export runs

The program prompts for the summaries to export and also the type of data to include.

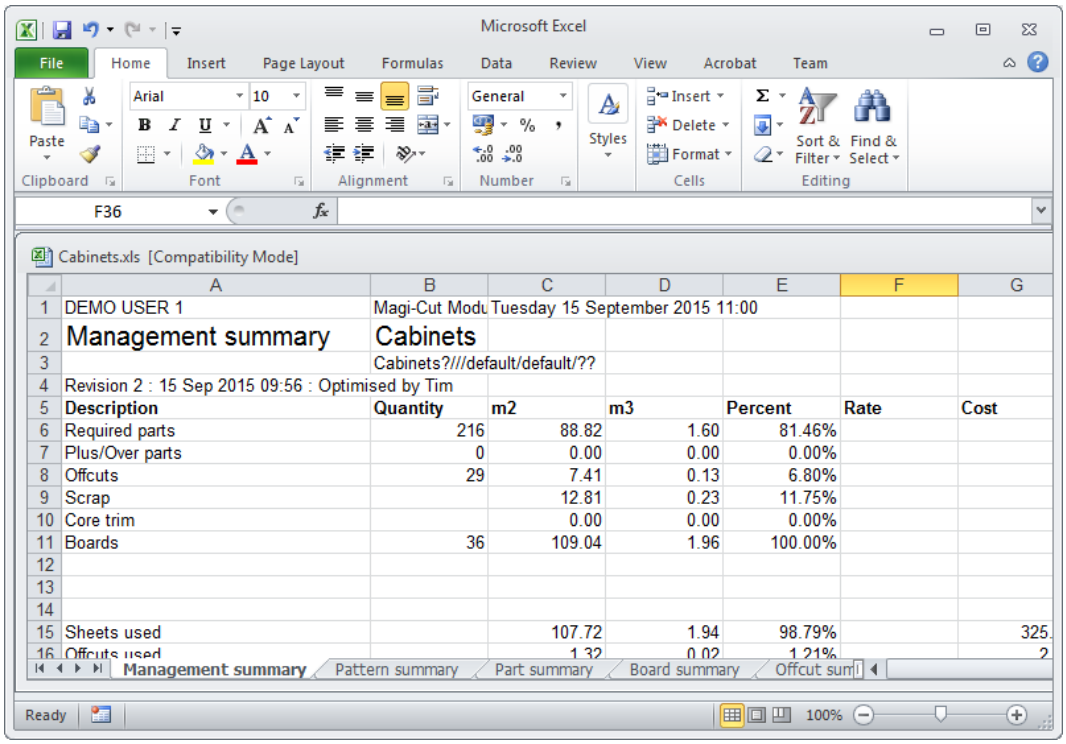


Summaries to Export

In some cases items such as the headings, sub headings and Totals are not required - these can be easily excluded.

The data is sent to the *Path for Export data*

In the case of Excel, for example, the reports are sent to a single file with each summary on a separate spread sheet tab.



	A	B	C	D	E	F	G
1	DEMO USER 1	Magi-Cut Modu	Tuesday 15 September 2015 11:00				
2	**Management summary**	**Cabinets**					
3		Cabinets?///default/default/??					
4	Revision 2 : 15 Sep 2015 09:56 : Optimised by Tim						
5	**Description**	**Quantity**	**m2**	**m3**	**Percent**	**Rate**	**Cost**
6	Required parts	216	88.82	1.60	81.46%		
7	Plus/Over parts	0	0.00	0.00	0.00%		
8	Offcuts	29	7.41	0.13	6.80%		
9	Scrap		12.81	0.23	11.75%		
10	Core trim		0.00	0.00	0.00%		
11	Boards	36	109.04	1.96	100.00%		
12							
13							
14							
15	Sheets used		107.72	1.94	98.79%		325
16	Offcuts used		1.32	0.02	1.21%		2

Export data - Excel

For Export to an ASCII file each report is sent to a separate ASCII file with the data types identified by a token at the start of each line. Here is an example of the board summary data.

```
%1,DEMO USER 1,Modular V11.0,Friday 23 November 2018
%1,Board summary,Kitchen layout
%1,,00009/BSR CD-81/BSR CD-81/?DEFAULT/?DEFAULT/5
%1,No,Board,Length,Width,Information,Qty in Stock,Qty Used,Length m,Area m2,Cost
Rate,Total Cost
%2,HARDBOARD-4MM* Hardboard 4mm Thickness  4.0 Book 8 Parameters HBD04
%3,1.,HARDBOARD-4MM/01,2000.0,1000.0,Spec. Order,795,2,,4.00,0.890,3.56
%3,2.,HARDBOARD-4MM/02,2440.0,1220.0,BIN 133,131,6,,17.86,0.750,13.40
%4,,,,,,,8,,21.86,,16.96
%2,MED-DEN-FIBRE-18MM Medium Density Fibreboard 18mm Thickness 18.0 Book 5
%3,3.,MED-DEN-FIBRE-18MM/01,3660.0,1550.0,BIN 127,1090,2,,11.35,4.500,51.06
%3,4.,MED-DEN-FIBRE-18MM/02,2440.0,1220.0,BIN 128,767,12,,35.72,4.350,155.39
```

```
%4,,,,,,14,,47.07,,206.45
%2,MFC18-OAK Prelaminated - Oak 18mm Thickness 18.0 Book 5
%3,6.,MFC18-OAK/02,2440.0,1220.0,,111,6,,17.86,2.970,53.05
%4,,,,,,,6,,17.86,,53.05
%2,WHITE-ACRYLIC-12MM Acrylic - White 12mm (sundry) Thickness 12.0 Book 8
%3,7.,WHAC12/01,,,,436,36,,,1.320,47.52
%4,,,,,,,36,,,,47.52
%4,Total,,,,,,64,,86.79,,323.97
```

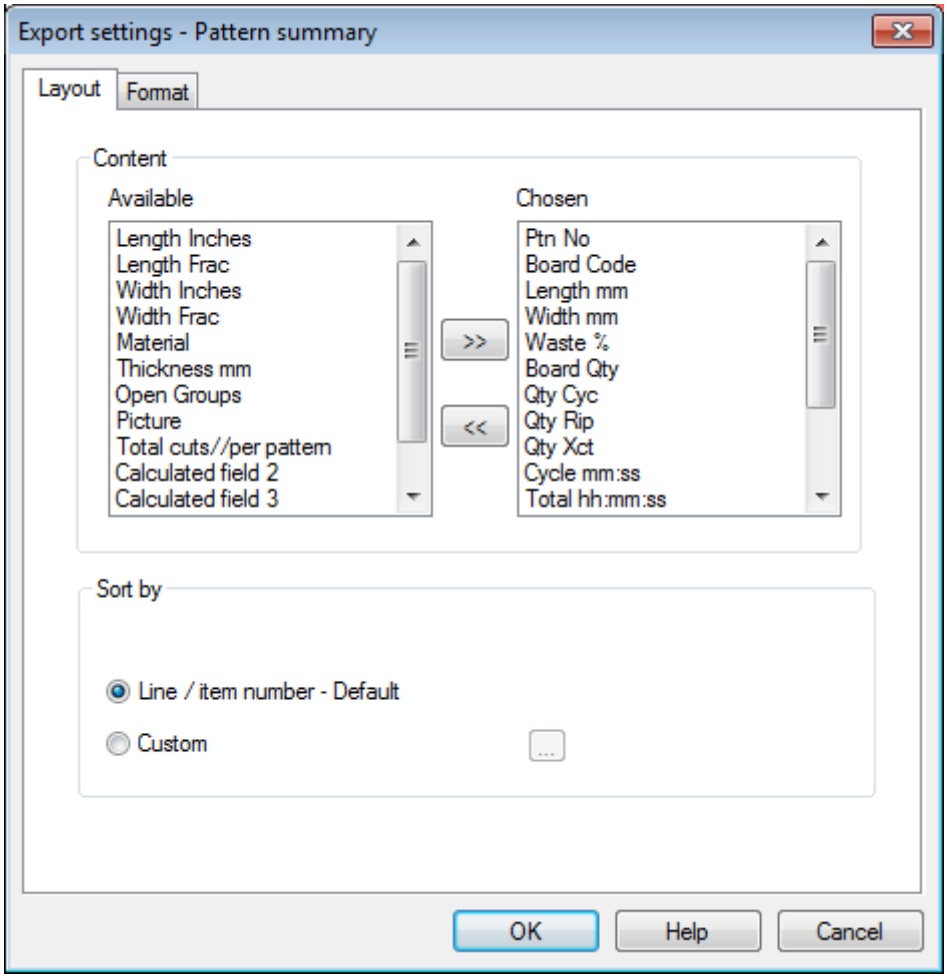
The export choices can be set at the Review runs parameters dialog.

At any Review runs screen:-The data to export for each report can be customised for each report (*Review Runs – Settings – Export settings*). With these options you can design a specific layout and set of data for the exported report which can be different to the report on-screen.

There is also an option on the File menu to select a default set of reports to export (very often you do not need to export all the available reports.

- Locate the report
- Select: **Settings - Export settings**

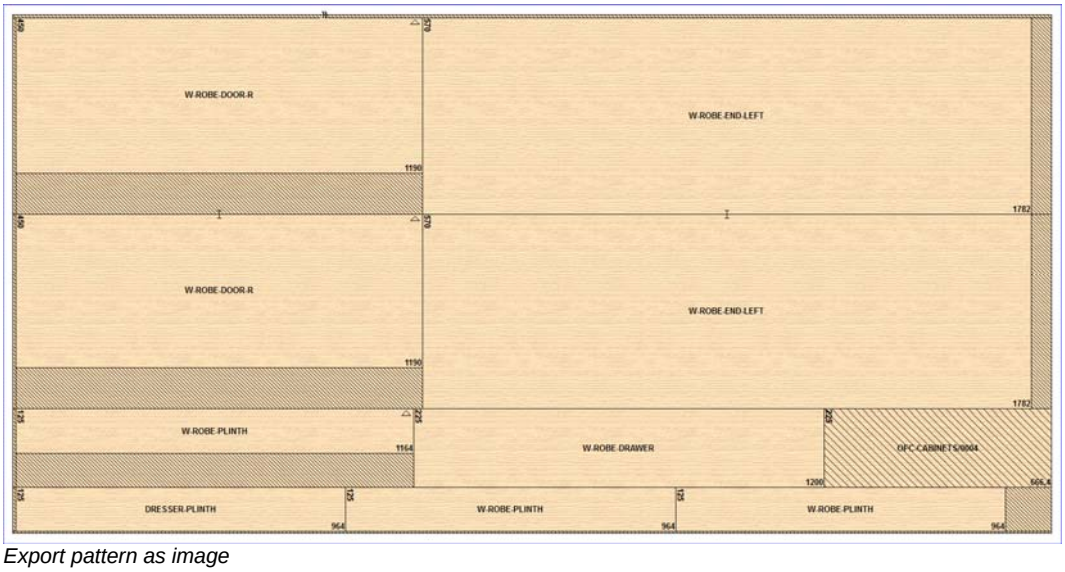
This shows the Export settings dialog.



The above example shows fields for the Part summary.

Pattern images - at any on-screen pattern there is an option to export the pattern image. The formats available are:-

```
Windows Bitmap (.bmp)
Windows Metafile (.wmf)
Windows Enhanced metafile (.emf)
```



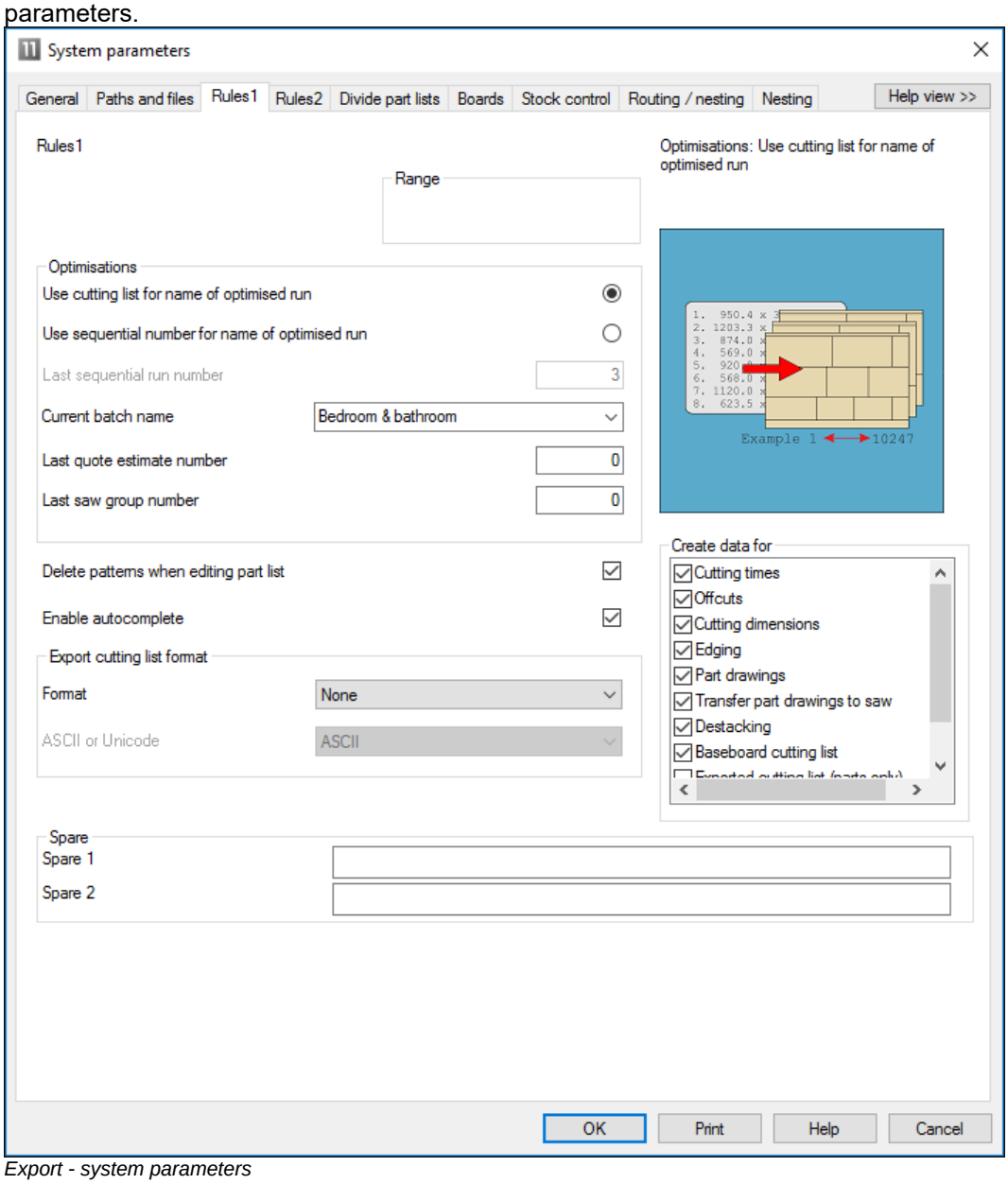
Export pattern as image

There are also options to export non run based reports:-

Part costing
Product costing
Fittings
Operations
Board library data
Part library data

It is sometimes useful to export the cutting list (for example where it is changed for edging and laminating and the sizes are used elsewhere in production).

This export is included in the optimisation provided the option is chosen in system parameters.



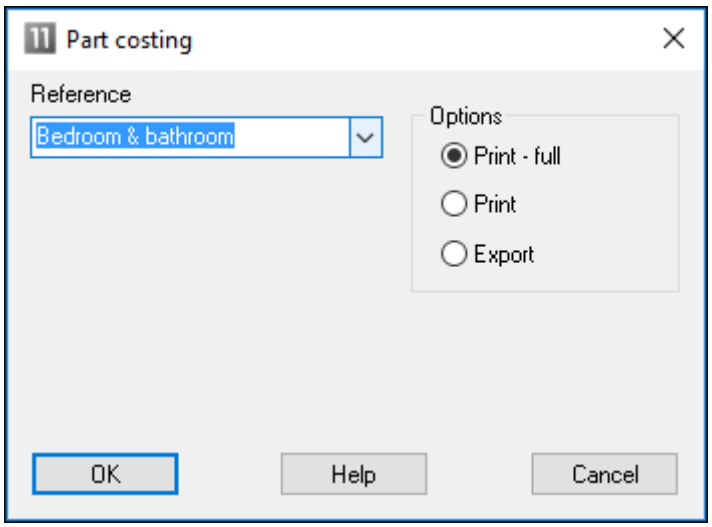
Export - system parameters

The program creates files in the PNX and BDX (for board sizes) formats.

4.2 Export Part and Product costing reports

To export the part costing or product costing summary to an external file. Select:-

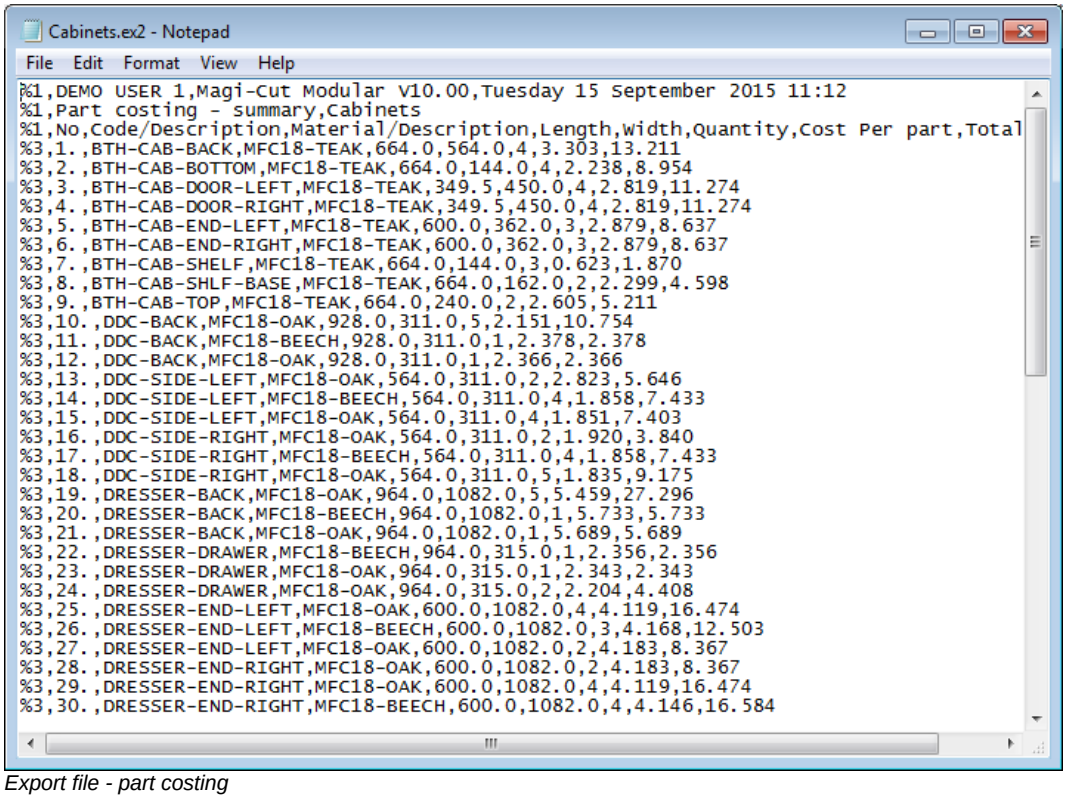
- Print
- Part costing (or Product costing)



Export part costing

Select the part list and the Export option and select OK. An export file is created, for example:-

Edging and laminates.EX2



Export file - part costing

Product costing exports a file with the extension: EX1
Part costing exports a file with the extension EX2

The export files are placed in the directory set by the System parameter: *Path for Export data*

The export file can contain three types of data:

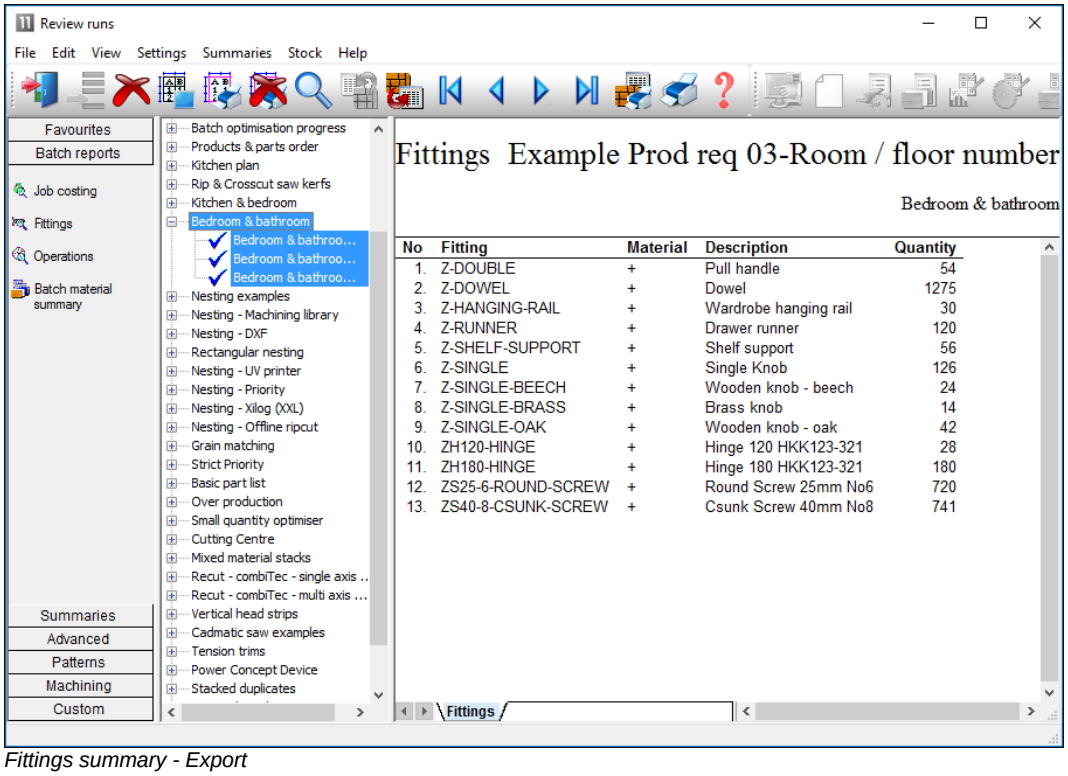
```
1 - header line (no comma separated fields)
3 - data line with comma separated fields
4 - total line with comma separated fields
```

The data type for each line in the export file is shown by a % and number at the beginning of each line. Select which data types to export in the *Review runs parameters*.

If errors occur during export, no export file is produced.

4.3 Export fittings and operations

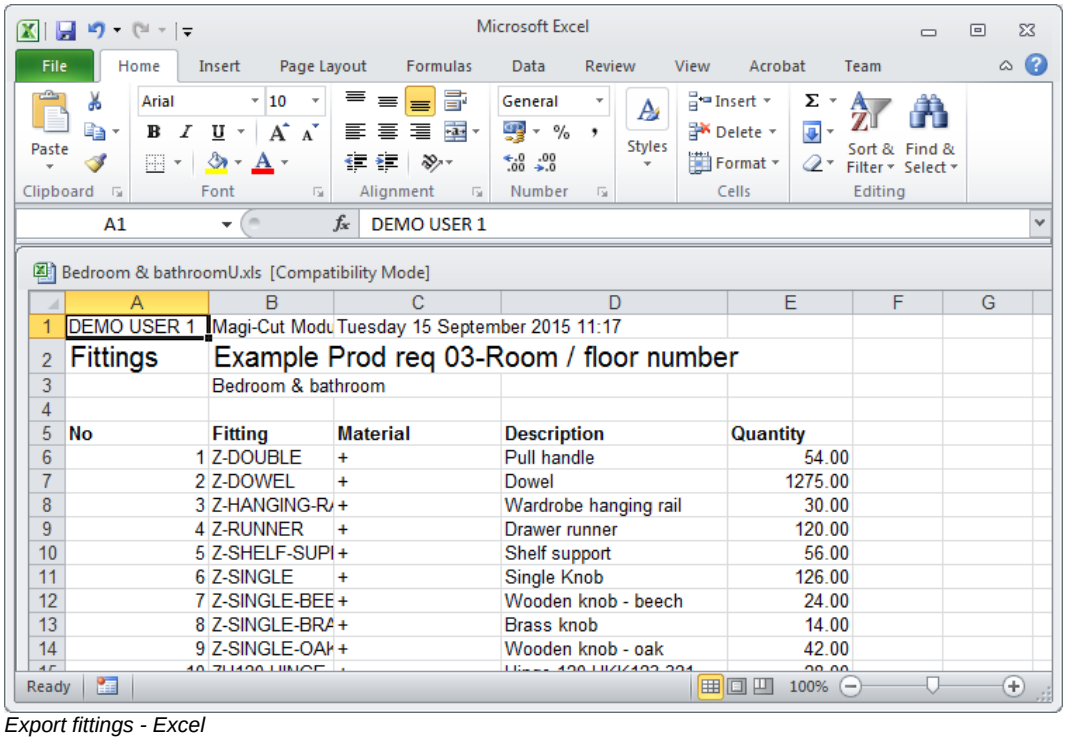
Export fittings or operations reports for any optimisation (run). Move to the fittings or operations report in Review runs.



Fittings summary - Export

- Select: **File - Export**
- Select the export format

The Excel formats (XLS and XLSX) export to an Excel file.



Export fittings - Excel

ASCII export - the data is exported to a file with the same name as the fitting or operations list with the report letter appended and extension exd (e.g. BSR81-CDU.exd for fittings).

The export files are placed in the directory set by the System parameter: *Path for Export data*

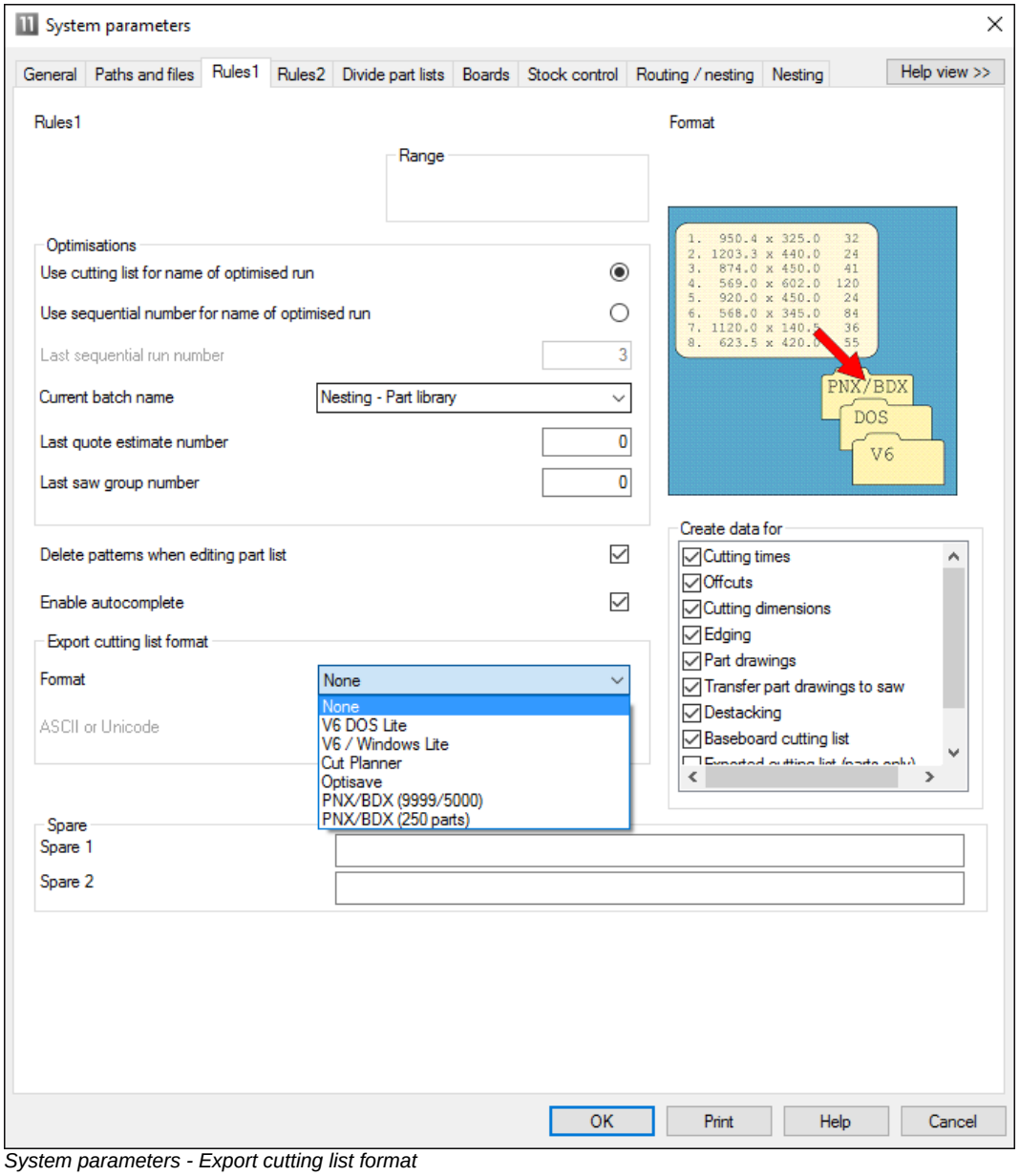
4.4 Export cutting lists

Export cutting lists and boards lists as part of the optimisation or recalculation process.

To do this set the System parameter: *Create data for* to create to one of the following:-

Exported cutting list - parts only
Exported cutting list - parts and boards

Also set System parameter: *Export cutting list format*



System parameters - Export cutting list format

PNX/BDX (2000 parts)
PNX/BDX (250 parts)

These options produce cutting lists and/or board lists in an ASCII/Unicode format. This is useful if the lists are going to be used by other systems.

The export occurs automatically when the part list is optimised. The ASCII/Unicode format is the PNX and/or BDX format.

```
Kitchen layout
DEFAULT
DEFAULT
BASE-BACK,HARDBOARD-4MM,976.000000,735.000000,1,0,0,0,0,0,0,0,,,,,,,976.0 x
735.0,00000449*
BASE-BACK,HARDBOARD-4MM,476.000000,735.000000,1,0,0,0,0,0,0,0,,,,,,,476.0 x
735.0,00000450*
BASE-BACK,HARDBOARD-4MM,876.000000,735.000000,1,0,0,0,0,0,0,0,,,,,,,876.0 x
735.0,00000451*
BASE-BACK,HARDBOARD-4MM,976.000000,735.000000,1,0,0,0,0,0,0,0,,,,,,,976.0 x
735.0,00000452*
BASE-BACK,HARDBOARD-4MM,976.000000,735.000000,1,0,0,0,0,0,0,0,,,,,,,976.0 x
735.0,00000453*
BASE-BACK,HARDBOARD-4MM,476.000000,735.000000,1,0,0,0,0,0,0,0,,,,,,,476.0 x
735.0,00000454*
BASE-BACK,HARDBOARD-4MM,976.000000,735.000000,1,0,0,0,0,0,0,0,,,,,,,976.0 x
735.0,00000455*
BASE-BACK,HARDBOARD-4MM,976.000000,735.000000,1,0,0,0,0,0,0,0,,,,,,,976.0 x
735.0,00000456*
BASE-BACK,HARDBOARD-4MM,476.000000,735.000000,1,0,0,0,0,0,0,0,,,,,,,476.0 x
735.0,00000457*
BASE-BACK,HARDBOARD-4MM,476.000000,735.000000,1,0,0,0,0,0,0,0,,,,,,,476.0 x
735.0,00000458*
BASE-BOTTOM,MED-DEN-FIBRE-18MM,564.000000,581.000000,3,0,0,0,0,0,0,0,OAK-TAPE-
22MM,,,,,,564.0 x 582.0,00000459*
BASE-BOTTOM,MED-DEN-FIBRE-18MM,464.000000,581.000000,1,0,0,0,0,0,0,0,OAK-TAPE-
22MM,,,,,,464.0 x 582.0,00000460*
BASE-BOTTOM,MED-DEN-FIBRE-18MM,464.000000,581.000000,1,0,0,0,0,0,0,0,OAK-TAPE-
22MM,,,,,,464.0 x 582.0,00000461*
BASE-BOTTOM,MED-DEN-FIBRE-18MM,464.000000,581.000000,1,0,0,0,0,0,0,0,OAK-TAPE-
22MM,,,,,,464.0 x 582.0,00000462*
BASE-BOTTOM,MED-DEN-FIBRE-18MM,464.000000,581.000000,1,0,0,0,0,0,0,0,OAK-TAPE-
22MM,,,,,,464.0 x 582.0,00000463*
BASE-CABINET-BOTTOM,MED-DEN-FIBRE-18MM,864.000000,581.000000,1,0,0,0,0,0,0,0,OAK-
TAPE-22MM,,,,,,864.0 x 582.0,00000464*
BASE-CABINET-DIVIDER,MED-DEN-FIBRE-
18MM,559.000000,533.250000,1,0,0,0,0,0,0,0,,,OAK-TAPE-22MM,,,,560.0 x
533.3,00000465*
BASE-CABINET-DOOR,MFC18-OAK,398.000000,554.750000,1,0,0,2,0,0,0,0,OAK-TAPE-
22MM,OAK-TAPE-22MM,OAK-TAPE-22MM,OAK-TAPE-22MM,,,,400.0 x 556.8,00000466*
.....
```

```
HARDBOARD-4MM/01,795,HARDBOARD-4MM,2000.000000,1000.000000,4.000000,0.890000,9
HARDBOARD-4MM/02,131,HARDBOARD-4MM,2440.000000,1220.000000,4.000000,0.750000,0
MED-DEN-FIBRE-18MM/01,1090,MED-DEN-FIBRE-
18MM,3660.000000,1550.000000,18.000000,4.500000,0
MED-DEN-FIBRE-18MM/02,767,MED-DEN-FIBRE-
18MM,2440.000000,1220.000000,18.000000,4.350000,0
MFC18-OAK/01,430,MFC18-OAK,3050.000000,1220.000000,18.000000,3.300000,0
MFC18-OAK/02,111,MFC18-OAK,2440.000000,1220.000000,18.000000,2.970000,0
WHAC12/01,436,WHITE-ACRYLIC-12MM,2440.000000,1220.000000,12.000000,1.320000,4
```

The other options for 'Export cutting list format' are for special situations where part list are exported after processing to other systems.

4.5 Export - Pattern Exchange Format

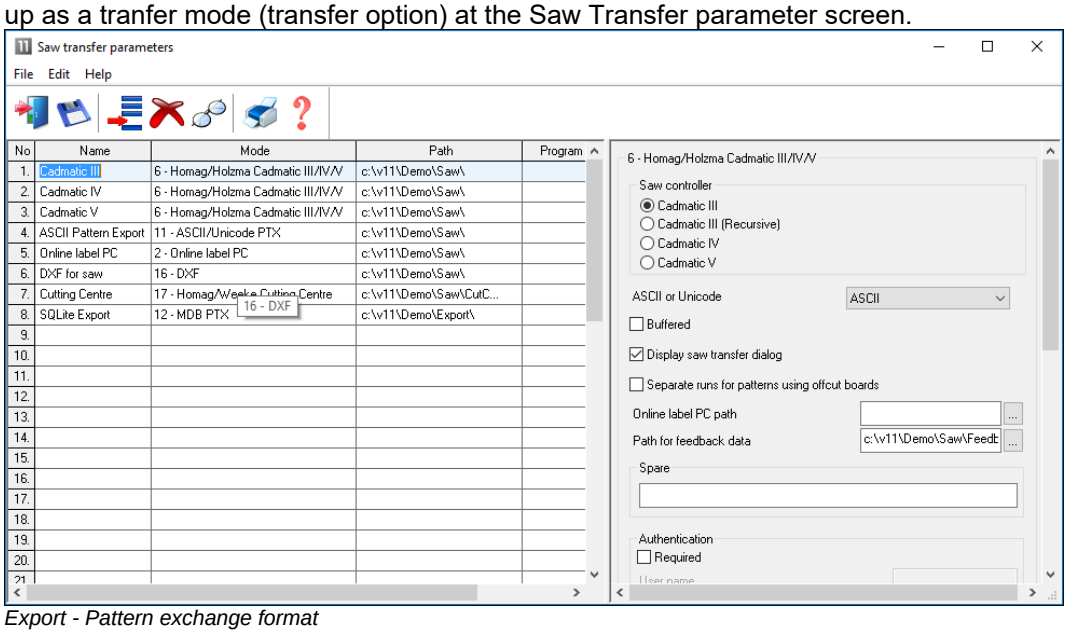
The Pattern exchange format contains all the part sizes, board sizes, parameter settings, cutting instructions and drawing information for a run and most of the summary data. Use this to export optimisations (runs) for use by other systems such as a spread sheet, database, or report generator.

This is the program's proprietary format for patterns (results). It is used by several manufacturers where they want pick up information from the optimisation results (cutting patterns).

It is a public format and fully described in Section 3 (above).

All the pattern data and structure is contained in the file in ASCII/Unicode or MDB database format - so it is very useful where custom changes are needed for controlling specific machines or external systems. For example, to update stock control systems, use a special post processor to transfer to a saw.

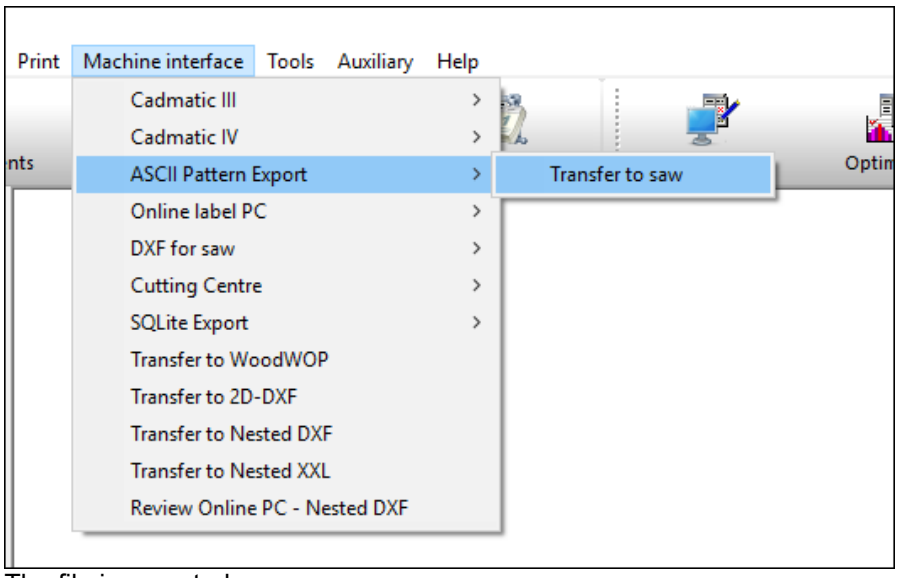
In this case the ‘export’ occurs as part of the saw or machine transfer process. This is set up as a tranfer mode (transfer option) at the Saw Transfer parameter screen.



Export - Pattern exchange format

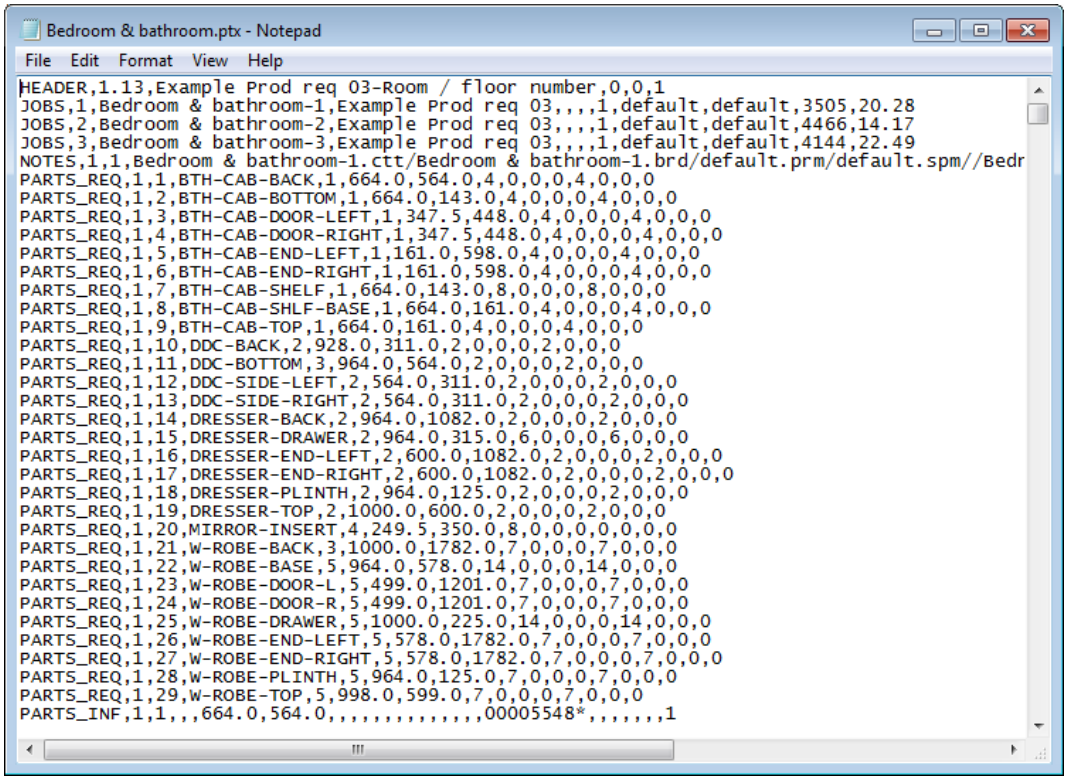
Quite often both the standard .saw file and the .ptx file are used by a manufacturer. In this case both files can be exported in a single command by grouping This option is also available for transfer to Machining centres.

At the main screen select the Run to transfer and then the transfer method.



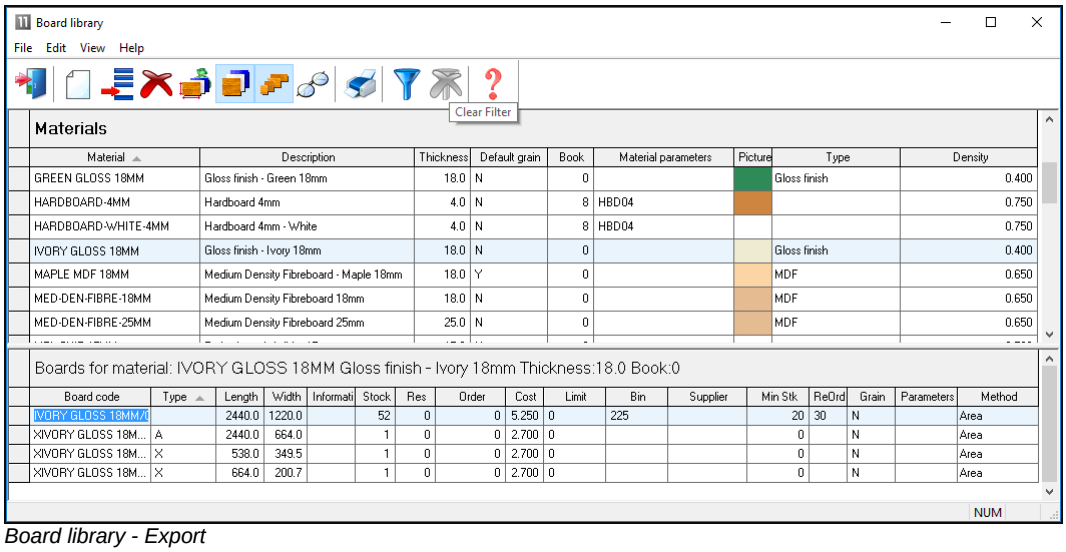
The file is exported.

In this case the file is located in the ‘Path for Saw data’.



4.6 Export - Board library data

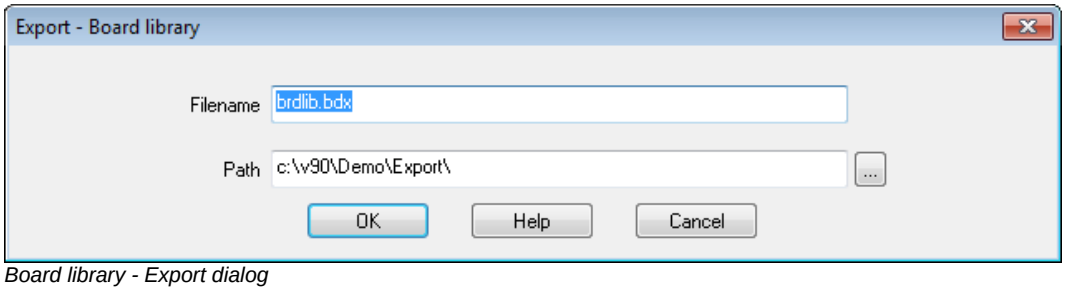
It is sometimes useful to export the entire contents of the board library to an external file, for example, to update a supporting system. At the Board library screen:-



Board library - Export

- Select: **File - Export**

The program prompts for a path and file name.



Board library - Export dialog

BDX format

This is a special format for Boards; one line per board including material information. It can be useful for external processing and data can also be re-imported to the Board library via the Import options with this format. BDX is the current format.

The data can either be exported to a Fixed file (BRDLIB.BDX) in the directory set by the System parameter: *Path for export data* or to a selected file path and name.

(*See section 2.3 above for details of the BDX format*).

4.7 Export - Part library data

It is sometimes useful to export all the Part library data, for example, for updating external systems. At the Part library screen:-

Select: **File - Export**

The library data is exported to a comma separated value file with a fixed name. PARTLIB.CSV

The file is located in the folder set by the System parameter: *Path for Export data*

If the parameter setting is blank or there is some other problem with the file an error is reported.

File format

Each line contains a record from the part library. The order of the fields is as follows:-

```
Code
Material
Description
Length
Width
Grain
Edge
Cost
Drawing code
Information boxes
Notes
```

- Grain values in the file are:-

```
0=No
1=Yes
2=X
3=Variable
```

- Quick/Short edge codes are exported as one 4 digit field (e.g. 0000)

- Grain and edge fields are blank for fitting and operations and the cost field is blank for parts.

4.8 Export - Product data

At the product library screen there are several options to export data.

- Export product
- Export library
- Export product list

Export product

The export product option is used to export a single product from the library, which includes the part details and any variables, formulae or lookups used.

When the option is selected a .PLE file is created in the path for export data based on the name of the currently selected product.

e.g. If the current product is BASE-OVEN-HSE the file is:BASE-OVEN-HSE.PLE

This file can then be subsequently imported into another user profile or into the same user profile if the product is modified and needs to be reset.

The PLE format is an internal format.

Export library

The export is to an 'Access' MDB format database

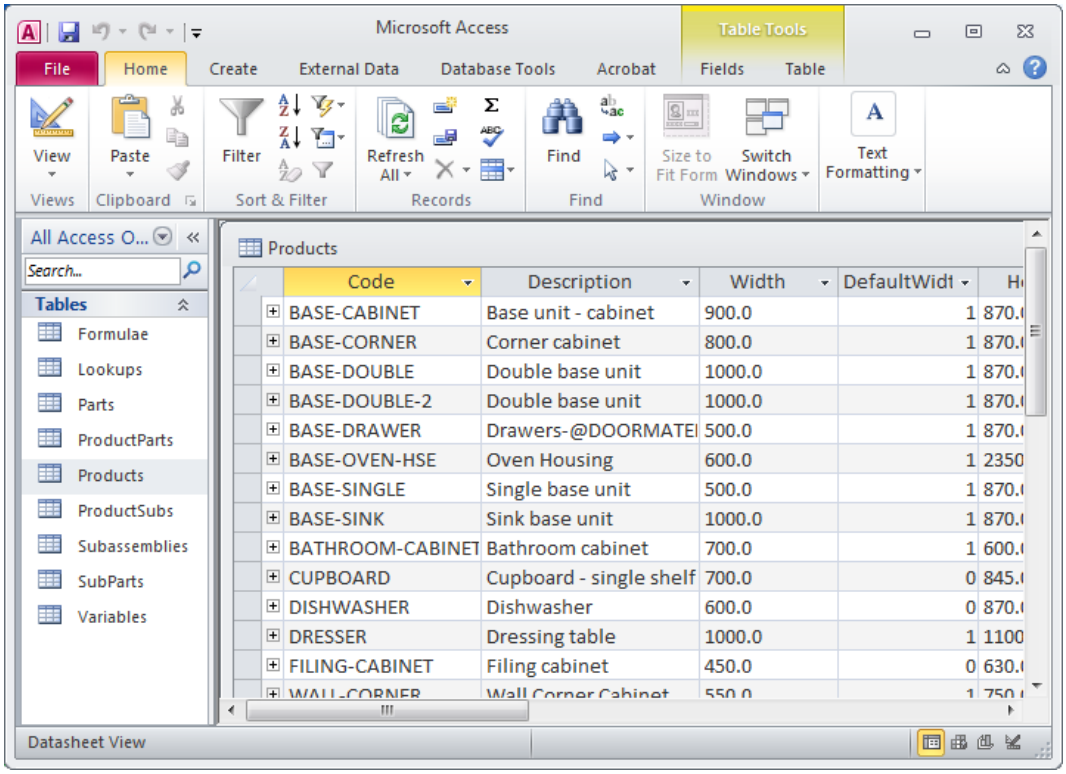
There are 9 tables named as follows:

Products - Contains product details (not the part grid at the bottom of product library)
Subassemblies - Contains the subassembly details (not the part grid information)

Parts - Contains the part details from the part library

ProductParts - Contains which parts appear in which products (part grid information)
ProductSubs - Contains which subassemblies appear in which products (part grid inf.)
SubParts - Contains which parts appear in which subassemblies (part grid inf.)

Variables - Contains the variable table details
Formulae - Contains the formulae table details
Lookups - Contains the lookup table details



The fields for each table are:-

Products

Code, Description, Width, Default width, Height, Default height, Depth, Default depth, VerticalPos, DefaultVerticalPos, Drawing, Planview, Elevationview, Price, AnswerTable, Memo1 to Memo10

Subassemblies

Code, Description, Width, Default width, Height, Default height, Depth, Default depth, Drawing

Parts

Code, Material, Description, Length, DefaultLength, Width, DefaultWidth, Grain, Edging, DrawingType, Drawing, Cost, Infobox1 to Infobox99

Productparts

Product, Part, Qty/time, Material, Length, Width

ProductSubs

Product, Subassembly, Qty/time, Material, Length, Width

SubParts

Subassembly, Part, Qty/time, Material, Length, Width

Variables

Name, Format, Directory, Type, InformationBox, Description, Default, Range

Formulae

Name, Description, Formula

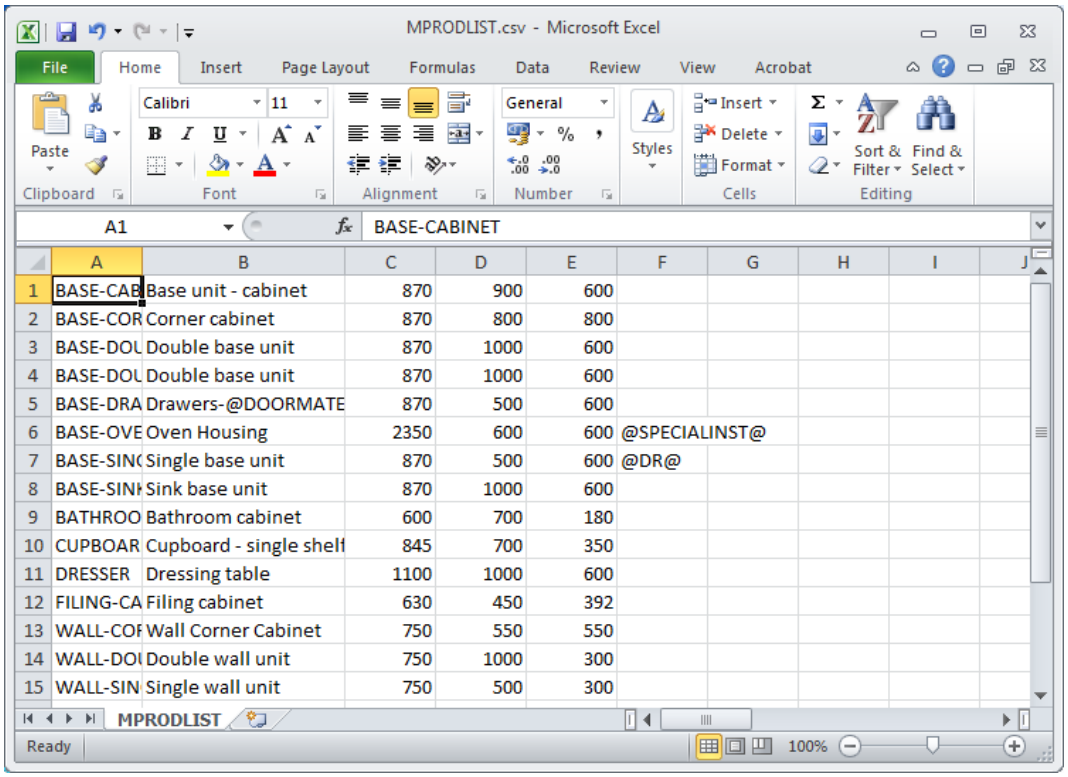
Lookups

Name, Description, Value

Export product list

This creates a file: MPRODLIST.csv (for millimeters) or IPRODLIST.CSV (for inches).

The file is located in the 'Path for Export'.



	A	B	C	D	E	F
1	BASE-CAB	Base unit - cabinet	870	900	600	
2	BASE-COR	Corner cabinet	870	800	800	
3	BASE-DOU	Double base unit	870	1000	600	
4	BASE-DOU	Double base unit	870	1000	600	
5	BASE-DRA	Drawers-@DOORMATE	870	500	600	
6	BASE-OVE	Oven Housing	2350	600	600	@SPECIALINST@
7	BASE-SIN	Single base unit	870	500	600	@DR@
8	BASE-SIN	Sink base unit	870	1000	600	
9	BATHROO	Bathroom cabinet	600	700	180	
10	CUPBOAR	Cupboard - single shelf	845	700	350	
11	DRESSER	Dressing table	1100	1000	600	
12	FILING-CA	Filing cabinet	630	450	392	
13	WALL-COR	Wall Corner Cabinet	750	550	550	
14	WALL-DOU	Double wall unit	750	1000	300	
15	WALL-SIN	Single wall unit	750	500	300	

A line is produced for each product in the library with the fields in the following order:

Code, Description, Height, Width, Depth, Memo1, Memo2, Memo3, Memo4, Memo5,Price,Drawing name,Variable1,default answer1,Variable2,default answer 2...

The drawing name field contains the sketch name, not the plan or elevation names. This field can be blank (empty) but there may still be a product drawing which matches the product name.

The product variables and default answers repeat as many times as required. Default answers are taken from the variables table. If there is no default answer, the answer field is blank (e.g. @variable1@,,@variable2@...). Global variables will appear in the list against each product.

If a product contains parts / machine drawings which have variables, these variables also appear in the list. This also applies to variables which occur in formulae or look-ups which occur in the product, parts or machine drawings.

Sub-assemblies and accessories are not exported. The list of parts that comprise a product are also not exported.

4.9 Export variables deployment list

This option lists where variables names are used across the product library, part library, machining library and drawing library. At the main screen:-

- Select: File - Export variables deployment list
- Select the file format for the file.

CSV
XLS
XLSX

If the file already exists the program prompts to overwrite the file.

The file is located in the 'Path for Export data' the file name is based on the date.
e.g. VARDEPLIST 2015-11-19 1420.xls

The file line of the file contains the following 5 text headings:

Product, Part, Machining, Drawing, Variable

The following lines list all the places where a variable is used, for example:-

1. BASE-CABINET,,, BCAB1

This means the variable BCAB1 is used in the product BASE-CABINET (and not in any part, machining or drawing)

2. BASE-CABINET,BASEPART1,,BCAB2

This means variable BCAB2 is used in product BASE-CABINET and part BASEPART1, but not in a machining item or drawing.

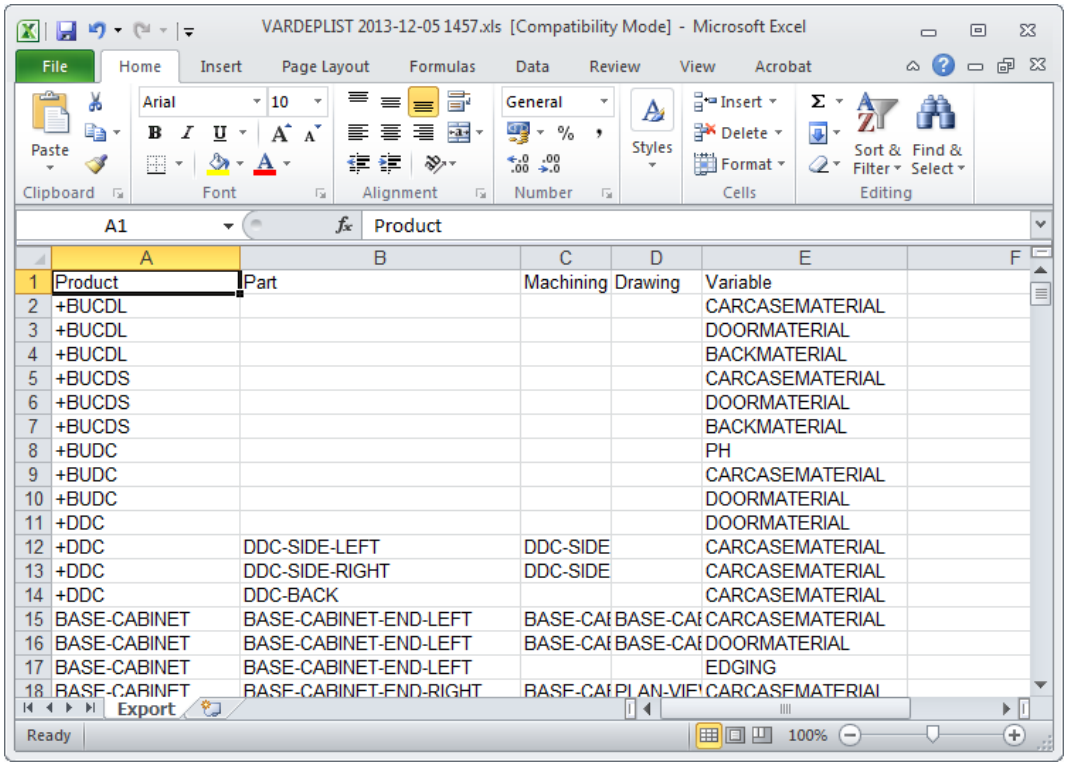
3. BASE-CABINET,,MCH1,,BCAB3

This means variable BCAB3 is used in product BASE-CABINET and machining drawing MCH1, but not in a part or a drawing

4. ,TPART1,,,VAR2

This means the variable VAR2 is not in any product, machining item or drawing but is used in part TPART1.

The first items in the file are based on product variables and below (parts belonging to the product and associated drawings), then variables used for any remaining unused parts and below, next any remaining machining drawing and finally any remaining drawing library items.



	A	B	C	D	E
1	Product	Part	Machining	Drawing	Variable
2	+BUCDL				CARCASEMATERIAL
3	+BUCDL				DOORMATERIAL
4	+BUCDL				BACKMATERIAL
5	+BUCDS				CARCASEMATERIAL
6	+BUCDS				DOORMATERIAL
7	+BUCDS				BACKMATERIAL
8	+BUDC				PH
9	+BUDC				CARCASEMATERIAL
10	+BUDC				DOORMATERIAL
11	+DDC				DOORMATERIAL
12	+DDC	DDC-SIDE-LEFT	DDC-SIDE		CARCASEMATERIAL
13	+DDC	DDC-SIDE-RIGHT	DDC-SIDE		CARCASEMATERIAL
14	+DDC	DDC-BACK			CARCASEMATERIAL
15	BASE-CABINET	BASE-CABINET-END-LEFT	BASE-CAI	BASE-CAI	CARCASEMATERIAL
16	BASE-CABINET	BASE-CABINET-END-LEFT	BASE-CAI	BASE-CAI	DOORMATERIAL
17	BASE-CABINET	BASE-CABINET-END-LEFT			EDGING
18	BASE-CABINET	BASE-CABINET-END-RIGHT	BASE-CAI	PLAN-VIE	CARCASEMATERIAL

5. Stand alone operation

It is sometimes useful to run portions of the Optimising software as ‘stand alone’ programs. For example, to automate the process of importing and optimising or to automate a stock update or to interface with other systems.

Optimising program setup - stand alone operation is a way of running the program with no operator input *BUT a lot of information still comes from the Optimising program which has to be set up in the usual way*. That is, parameters set and co-ordinated, boards and materials available in the Board library, drawings available in the Machining library etc.

Make sure that the operations work using the FULL program before attempting to create the stand alone operation

Instructions - these are specific for each stand alone item so follow the examples carefully .

Running the Import program - example

A typical task is to import parts from a PTX file as a stand alone operation. Run the program IMPORT.EXE from a user profile. This can be from a batch file or from a shortcut or by using the Windows option Start - Run. For example, using a Windows batch file the commands are:-

```
..\import job32.ptx /format:8
```

User profile - It is important to run the program from a user profile to locate the system parameter settings for paths and other values required.

Errors - when a program runs in 'silent' mode this means that the usual method of reporting errors is not available because the on-screen list of errors cannot be displayed. Any errors are stored in the file IMPORT.ERR

5.1 Import parts / boards / patterns - stand alone

Using program Import services with other systems via the command line or a batch file

Use the program: IMPORT

```
IMPORT [filename] [/FORMAT:nn] [/OVERWRITE] [/RENAME] [/DELETE]
[/NOWRTBRD] [/UDF] [/SEP] [/UTF-8|/UFT-16LE]
```

filename - path and name of the file to import

The stand alone import mode of the import program allow users to specify Unicode format files by using /UTF-8 or /UTF-16LE on the command line

e.g. IMPORT c:\importdir\files\parts.pnx /FORMAT:3 /UTF-8

Format

Set the import type

`/FORMAT:nn`

The import types for parts and boards are as follows:-

0 - Part list order – ASCII/Unicode CSV (PNX)
1 - Cabinet Vision format
2 - Product Planner format
3 - Code and quantity – ASCII/Unicode CSV (PNX)
4 - Batch - part list order (BTX & PNX)
5 - Batch - Code and quantity (BTX & PNX)
6 - User defined order – ASCII/Unicode CSV (PNX)
7 - Batch - user defined order (BTX)
8 - Parts & boards – ASCII/Unicode CSV (PTX)
9 - Parts & boards - Access (MDB)

10 - Cut Planner format
11 - MSS/Keytrix format
12 - Giben Optisave AC & AD files
13 - Pattern exchange – ASCII/Unicode CSV (PTX)
14 - Pattern exchange - Access (MDB)
15 - Giben Optisave - AC file only

16 - BDX format
17 - Board list - User defined order ASCII/Unicode CSV

20 - XLS parts
21 - XLSX parts
30 - XLS boards
31 - XLSX boards

For example:

```
IMPORT c:\importdir\files\parts.pnx /FORMAT:3
IMPORT jobs.ptx /FORMAT:13
```

When using /FORMAT the program runs in silent mode (same as /AUTO) and any errors are sent to a .ERR file.

Delete

Delete original files

```
/DELETE
```

Overwrite

Overwrite or replace existing files

```
/OVERWRITE
```

Only applies to types 12 and 15. /OVERWRITE command means overwrite all existing files.

Rename

```
/RENAME
```

Batch name is allocated a unique number from the same series as quotes/requirements (sonumber.ctl). The part list names are created by using the first five digits of the batch number and the first 3 characters of the job list name.

e.g. BRJOB.PTX contains jobs WRK and NST

```
IMPORT BRJOB.PTX /RENAME /PARTS /AUTO
```

Batch file created:-

```
    00004.BTC
       00004WRK.PRL
       00004NST.PRL
```

It is important to ensure that, when using this option, the first three characters of each job name are unique within that PTX file. You cannot have, for example, 'BSR10' and 'BSR15' as job names unless these are placed in separate PTX files.

Silent

Run without prompts etc.

```
/AUTO
```

Alternative commands

```
/PARTS /BOARDS /PATTERNS
```

These commands can be used as an alternative to the FORMAT command. When using these commands the relevant import parameter is used for the import format and the System parameter: *Path for import data* must be set

Errors **-** When you work with a command like '/AUTO' so that a program runs in 'silent' mode this means that the usual method of reporting errors is not available because the on-screen list of errors cannot be displayed. Any errors are stored in the file IMPORT.ERR

Delete product requirement import files **-** these can be deleted after import. This is done at the Import - Requirements dialog box. Check the box 'Delete files after import'.

Import files can also be deleted when running the program in the stand-alone mode. Use argument /DELETE to give the command line:

```
PRODIMP.EXE ["file name.ext"] [/QUOTE] [/AUTO] [/DELETE]
```

Omit /DELETE if deletion is not required
Quotation marks are not needed if the file name does not contain spaces
Use /AUTO for stand-alone operation.
/QUOTE – necessary for importing quotes, otherwise this program will start in import requirement mode

User defined

```
/UDF
```

Where there is an import parameter for user defined parts or boards the parameter file can be specified on the command line with the UDF option.

```
IMPORT.EXE TESTFILE.IMP /FORMAT:6 /UDF:Myparts
```

Where the file name includes spaces the name must be enclosed in quotes.

```
IMPORT.EXE TESTFILE.IMP /FORMAT:6 /UDF:"My parts"
```

The /UDF argument only applies if /FORMAT:6 or /FORMAT:7 are also set.

The /UDF argument is only followed by the file name.

Separator

```
/SEP:<separator>
```

Specify the separator for the file. e.g.

```
/SEP:58
/SEP:":"
```

The separator is either the decimal Ascii number or the character enclosed in quotes

The separator can be any ASCII code between 32 and 127 except the following (0 to 9, A to Z or a to z).

If the separator is not valid an error is reported.

Existing board list

```
/NOWRTBRD
```

Only applies to part list import

Stops the program deleting the existing board list - this allows the program to re-use a board list.

5.2 Export reports - stand alone

Using program Output services via the command line or a batch file to print or export data

Use program: OUTPUT

This allows printing or export of runs / summaries. There are several different options available:-

```
/PRINT          - print
/EXPORT         - export to ASCII files
/EXPORT /MDB    - export to Access database
```

Printing

```
/PRINT=<printername>      - specify the printer
/REPORTS=<reportletters>  - set the reports to print
/RUN=<runumber>           - set the run name / number
```

Reports are specified with a report letter (see below).

For example:-

```
OUTPUT /PRINT /REPORTS=BCE
OUTPUT /PRINT=\\SERVER\LASERJET4 /RUN=00027 /REPORTS=BCE
```

Export to ASCII file(s)

```
/EXPORT                   - export to ASCII files
/REPORTS=<reportletters>  - set the reports to print
/RUN=<runumber>           - set the run name / number
```

Reports are specified with a report letter (see below).

For example:-

```
OUTPUT /EXPORT /REPORTS=BCE
OUTPUT /EXPORT /RUN=00027 /REPORTS=BCE
```

Export to MDB file

```
/EXPORT /MDB              - export to Access database
/REPORTS=<reportletters>  - set the reports to print
/RUN=<runumber>           - set the run name / number
```

Reports are specified with a report letter (see below).

For example:-

```
OUTPUT /EXPORT /MDB /REPORTS=BCE
OUTPUT /EXPORT /MDB /RUN=00027 /REPORTS=BCE
```

Export to XLS/XLSX

```
/EXPORT /XLS             - export to Excel
/EXPORT /XLSX            - export to Excel
```

Errors

Any errors are sent to a .ERR file.

Report letters (not all reports can be exported)

```
A Batch Summary
B Management Summary
C Pattern Summary
D Part Summary
E Board Summary
F Offcut summary
G Distribution summary
H Input summary
I Destacking summary
J Pattern drawing
K Part sizes for pattern
L Cutting dimensions
M Pattern preview
N Edging summary
O Material summary
P Machine times
Q Saw loading summary
R Station summary
T Job costing
U Fittings
V Operations
Y Sundry parts
1 Nested Preview
2 Nested Drawings
3 Saw simulation
4 Nested pieces
5 Nested parts
6 Batch material summary
```

Override export path

The location of exported files can be temporarily overridden when exporting review

runs data by using the OUTPUT program in stand alone mode.

The command line argument is /EXPORTPATH followed by the path for export data. This path can also be a UNC path, for example:-

```
..\OUTPUT.EXE /EXPORT /REPORTS=J /EXPORTPATH=O:\EXPORT\
..\OUTPUT.EXE /EXPORT /REPORTS=J /EXPORTPATH=\\SERVER\EXPORT\
```

If a path contains spaces then the path must be surrounded with quotes, for example:

```
..\OUTPUT.EXE /EXPORT /REPORTS=BCD /EXPORTPATH="O:\SPACED PATH\"
```

If the path specified is not valid the export does not take place

Send to PDF

Send to PDF

Create a printout as a PDF file. Use the /PDF argument:-

```
..\OUTPUT.EXE /PDF /REPORTS:BC
```

'/PRINT' is not needed if '/PDF' is used. To use PDF there must be at least one printer driver installed on the system.

Running the Output program - example

A typical task is to export some of the reports to an ASCII file Run the program OUTPUT.EXE from a user profile. This can be from a batch file or from a shortcut or by using the Windows option Start - Run. For example, using a Windows batch file the commands are:-

```
..\output /export /reports=CD
```

In this example the reports exported are the Pattern Summary (C) and the Part summary (D). The current run is used unless the /RUN option specifies a different run.

User profile - It is important to run the program from a user profile to locate the system parameter settings for paths and other values required.

Errors - when a program runs in 'silent' mode this means that the usual method of reporting errors is not available because the on-screen list of errors cannot be displayed. Any errors are stored in the file OUTPUT.ERR

Note - If these commands are to be run from the Auxiliary menu then the equals sign should be replaced with a colon.

```
..\OUTPUT.EXE /PDF /REPORTS:BC
```

5.3 Export Library data - stand alone

Board library

Use the program: BOARD

BOARD [/BDX]

This creates the file brdlib.bdx in the path set by the system parameter: *Path for Export data*

```
..\BOARD /BDX
```

The program should be run from a 'User profile' either by running the program from that profile (with the Windows Run command or a Batch file) or by setting the 'Start in' option on a shortcut.

An example of a batch file is the following.

```
CD \USER1
C:\USER1\BOARD.EXE /BDX
```

Export part and product library data

Stand alone options to export the full libraries

Part library

Use the /EXPORT command line argument. This creates a file: PRTLIB.csv

```
c:\v11\PARTS.EXE /EXPORT
```

The file is located in the 'Path for Export'.

Product library

Use the /EXPORT command line argument. This creates a file: MPRODLIST.csv (for millimeters) or IPRODLIST.CSV (for inches).

```
c:\V11\PRODLIB.EXE /EXPORT
```

The file is located in the 'Path for Export'.

5.4 Batch operations - stand alone

Many operations such as optimising work as a batch operation - even if, for example, only one cutting list is optimised.

For stand alone operation you often need to run the batch process - the following are the instructions to achieve this.

The program for batch operations is BATCH.EXE. The command syntax is as follows.

```
BATCH [filename] [/AUTO] [/OPTIMISE]
```

filename - the name of the file to apply batch operations to. Batch file (*filename*.BTC), part list (*filename*.PRL), or cutting list (*filename*.CTT).

Square brackets [ ] indicate that the command is optional. If no filename is specified the current batch is used.

Note - option '/OPTIMISE' can also be spelt as '/OPTIMIZE'

For example:-

```
BATCH DEMO1.PRL /AUTO /OPTIMISE
```

(Optimises the part list DEMO1).

/AUTO - silent operation - no dialogs or error messages are displayed.

/OPTIMISE - optimisation of the named file

The /AUTO argument is needed with /OPTIMISE.

For example:

A batch file to import parts from a pattern exchange file (ptx) , optimise the batch and transfer information to the saw and machining centre.

```
..\IMPORT %1 /AUTO /PARTS
-..\BATCH /AUTO /OPTIMISE
..\SAWLINK /AUTO /1
..\MCHLINK
```

Note - during optimisation any cutting lists or board lists that do not exist are automatically created.

If no name is specified for a batch optimisation (e.g. BATCH.EXE /AUTO /OPTIMISE), the current batch is used and any cutting lists that do not exist for the batch are created.

If a filename is specified for a batch optimisation but there is no file extension the program looks for <filename>.BTC first, <filename>.CTT next and <filename.PRL last. If none of these exists, an error message is placed in the error file (!.ERR)

The system of automatically dividing cutting lists that apply when optimising from the part list program also applies for BATCH.EXE standalone optimising. This is based on the 'Optimise options' and 'Category for part list divide' system parameters.

To perform the auto-divide the command line for BATCH.EXE needs the file name with extension

e.g.
```
BATCH.EXE 84326.CTT /AUTO /OPTIMISE
```

If no file is specified the optimisation uses the current batch which is created by the import process and this is not divided. If no extension is specified (e.g. “84326”) the optimisation will also read and optimise the batch file (btc) with that name and will not auto-divide.

The above assumes that the cutting lists exists, if it does not then the extension PRL should be used

e.g.
```
BATCH.EXE 84326.PRL /AUTO /OPTIMISE
```

Import user defined parts **-** import parameter file for user defined parts can be specified on the command line. This is handled with the /UDF command line argument.

```
IMPORT.EXE TESTFILE.IMP /FORMAT:6 /UDF:02
```

This uses the user defined format 02 which has .IMP as its file extension. Errors are output if the user defined format file does not exist.

The /UDF argument only applies if /FORMAT:6 or /FORMAT:7 is used, any other format will generate an error message.

Import user defined product requirements - The /UDF command line argument can also be used to specify the product requirement import parameter file when import products.

Remaining parts - in /AUTO mode there is no dialog to save any remaining or invalid parts (if they exist). Invalid parts are reported in the error file.

- For stand alone operation - the parameter 'Prompt before modifying existing list' parameter is ignored and all board lists are updated if possible.

Example using batch operations

A Windows batch file to import parts from a pattern exchange file (ptx) , optimise the batch and transfer information to the saw and machining centre.

```
..\IMPORT %1 /FORMAT:8
..\BATCH /AUTO /OPTIMISE
..\SAWLINK /AUTO /1
```

Note - during optimisation any cutting lists or board lists that do not exist are automatically created.

%1 is the usual Windows batch command line variable which is a place holder for the file name.

User profile - It is important to run the programs from a user profile to locate the system parameter settings for paths and other values required

Errors - when a program runs in 'silent' mode this means that the usual method of reporting errors is not available because the on-screen list of errors cannot be displayed. Any errors are stored in the file !.ERR

Ignore errors

```
/IGNOREBRDERR
```

The optimisation may report errors but continues.

```
BATCH DEMO1.PRL /AUTO /OPTIMISE /IGNOREBRDERROR
```

This can be useful where the list contains boards of zero dimension (0 x 0) which remain in the board list, for example, when using combination materials.

5.5 Stock update and stock issue - stand alone

Using program Stock control services via the command line / batch file

Use program: STOCK

There are several different options available:-

```
/IMPORTSTOCK    - import stock
/OVERWRITESTOCK - overwrite stock
/ISSUESTOCK     - issue stock
/ALLOCSTOCK     - reserve stock
/RESET          - month/year end report
/UDF            - user defined import
/UTF-8           - unicode format 8 import file
/UTF-16LE        - unicode format 16LE import file
```

These are separate options for the Stock program.

Import stock

```
STOCK <filename> /IMPORTSTOCK [/FORMAT:n] [/UPDATEEXISTING]
[/ADDNEWSTOCK] [/SEP:<separator>]
```

filename - file with stock information. This must include the correct file extension.

```
STOCK MyBoards.bdx /IMPORTSTOCK
```

The basic operation is to add incoming values to existing ones.

```
Import file
MFC15-03   2440 x 1220    98
MFC15-04   3660 x 1830    15
```

```
MFC15-05   2010 x 1680    61

Board library          BEFORE                          AFTER
MFC15-03   2440 x 1220   320     MFC15-03   2440 x 1220   418
MFC15-04   3660 x 1830    26     MFC15-04   3660 x 1830    41
```

The Unicode format of files can be configured for stock import into the board library by using either /UTF-8 or /UTF-16LE on the command line.

e.g. STOCK MyBoards.bdx /IMPORTSTOCK /UTF-8

The format can be set via the System parameters in the user profile or via the /FORMAT switch. The format must match the file name extension.

```
STOCK MyBoards.bdx /IMPORTSTOCK /FORMAT:1
```

The numbers for the /FORMAT switch are:-

0 - BRD format
1 - BDX format
2 - Bargstedt stock file BESTAND.STK
3 - External SQL database
4 - User defined order – ASCII/Unicode CSV
5 - User defined order - Excel XLS
6 - User defined order - Excel XLSX

To also add any new stock (Board and offcuts) use the /ADDNEWSTOCK switch.

```
STOCK MyBoards.bdx /IMPORTSTOCK /FORMAT:1 /ADDNEWSTOCK

Import file
MFC15-03   2440 x 1220    98
MFC15-04   3660 x 1830    15
MFC15-05   2010 x 1680    61

Board library          BEFORE                          AFTER
MFC15-03   2440 x 1220   320     MFC15-03   2440 x 1220   418
MFC15-04   3660 x 1830    26     MFC15-04   3660 x 1830    41
                                 MFC15-05   2010 x 1680    61
```

To increase / decrease any existing stock values with those in the import file use the /UPDATEEXISTING switch

```
STOCK MyBoards.bdx /IMPORTSTOCK /FORMAT:1 /ADDNEWSTOCK /UPDATEEXISTING
```

```
Import file
MFC15-03   2440 x 1220    98
MFC15-04   3660 x 1830    15
MFC15-05   2010 x 1680    61

Board library          BEFORE                          AFTER
MFC15-03   2440 x 1220   320     MFC15-03   2440 x 1220    98
MFC15-04   3660 x 1830    26     MFC15-04   3660 x 1830    15
                                 MFC15-05   2010 x 1680    61
```

For the BDX format only - a separator can be specified; this is useful where the BDX fields are separated by a character other than a comma, for example a colon.

```
STOCK MyBoards.bdx /IMPORTSTOCK /FORMAT:1 /SEP:":"
```

The separator can be specified as a character or a number e.g. /SEP:58 or /SEP:":"

Overwrite stock

```
STOCK <filename> /OVERWRITESTOCK [/FORMAT:n] [/OVERWRITEEXISTING]
[/SEP:<separator/]
```

filename - file with stock information. This must include the correct file extension.

```
STOCK MyBoards.bdx /OVERWRITESTOCK
```

The basic operation is to add new stock (Boards and offcuts) to the library.

```
Import file
MFC15-03   2440 x 1220    98
MFC15-04   3660 x 1830    15
MFC15-05   2010 x 1680    61

Board library          BEFORE                          AFTER
MFC15-03   2440 x 1220   320     MFC15-03   2440 x 1220   320
MFC15-04   3660 x 1830    26     MFC15-04   3660 x 1830    26
                                 MFC15-05   2010 x 1680    61
```

The format can be set via the System parameters in the user profile or via the /FORMAT switch. The format must match the file name extension

```
STOCK MyBoards.bdx /OVERWRITESTOCK /FORMAT:1
```

The numbers for the /FORMAT switch are:- 0 - BRD format, 1 - BDX format, 2 - Bargstedt

stock file BESTAND.STK.

To overwrite the quantities of existing board codes use the /OVERWRITEEXISTING switch.

```
STOCK MyBoards.bdx /OVERWRITESTOCK /FORMAT:1 /OVERWRITEEXISTING

Import file
MFC15-03   2440 x 1220    98
MFC15-04   3660 x 1830    15
MFC15-05   2010 x 1680    61

Board library          BEFORE                          AFTER
MFC15-03   2440 x 1220   320     MFC15-03   2440 x 1220    98
MFC15-04   3660 x 1830    26     MFC15-04   3660 x 1830    15
                                 MFC15-05   2010 x 1680    61
```

For the BDX format only - a separator can be specified; this is useful where the BDX fields are separated by a character other than a comma, for example a colon.

```
STOCK MyBoards.bdx /OVERWRITESTOCK /FORMAT:1 /SEP:":"
```

The separator can be specified as a character or a number e.g. /SEP:58 or /SEP:":"

Can also include the /BOARDOPTIONS and /OFFCUTOPTIONS commands to control the overwrite process. e.g.

```
STOCK.EXE /OVERWRITESTOCK /BOARDOPTIONS:1  /OFFCUTOPTIONS:0
```

The options are:-

0 = do nothing
1 = clear quantities
2 = remove items

Import or Overwrite stock from external SQL database

This follows the rules in the above sections. An example is:-

```
STOCK /IMPORTSTOCK /FORMAT:3 /UPDATEEXISTING /ADDNEWSTOCK
STOCK /OVERWRITESTOCK /FORMAT:3
```

The relevant system parameters must be set to make the link to the external database.

Issue stock

```
STOCK /ISSUESTOCK
```

This issues stock for the current run. This can also include the command: /OPT to control the stock update, e.g.

```
STOCK /ISSUESTOCK /OPT:23
```

Options are:-

1 - Adjust boards
2 - Adjust offcuts
3 - Add offcuts
4 - Adjust edging
5 - Adjust fittings
6 - Adjust monthly summary

Reserve stock

```
STOCK /ALLOCSTOCK
```

Reservation records are assigned the current date in the 'cut date' field.

This reserves stock for the current run.

Reset Transactions

```
STOCK /RESET
```

Produces the End of Month / Year report. Stock transactions (audit trail) are automatically exported to an external file. The external file is located in the: Path for Stock libraries (if set) other it is located in the Path for library data. For example:-

```
Transactions 2015-09-25 1305.csv
```

Import stock from file in user defined format

/UDF
Example: /UDF:"board import"

The default extension is ubx. If the file name is not set the program uses the file

specified in system parameters.

Other options are:

[/UPDATEEXISTING] [/ADDNEWSTOCK] [/SEP:<separator>]

The /SEP option takes precedence over the separator specified in the board import parameters.

Notes

- separator can be any ASCII code between 32 and 127 except the following (0 to 9, A to Z or a to z).

- for /FORMAT the program runs in silent mode and any errors are sent to a .ERR file.

Stand alone Minimum free stock report

Use program: STOCK

```
STOCK /MINFREESTOCK
```

The output defaults to all materials rather than prompting for a range. The minimum free stock report appears on screen and may be printed in the usual way.

5.6 Import product requirements - stand alone

Use program: PRODIMP

```
PRODIMP [filename] [/AUTO] [/DELETE] [/UDF:<parameter filename>]
/[SEP:<separator] [/CALCPARTS] [/IGNORENULL]
```

filename - file with requirements information

/AUTO - silent running

/DELETE - delete import file

User defined

Import stock from file in user defined format.

```
/UDF
```

Example: /UDF:"board import"

The /UDF argument is only followed by the file name.

The default extension is ubx. If the file name is not set the program uses the file specified in system parameters.

Other options are:

```
[/UPDATEEXISTING] [/ADDNEWSTOCK] [/SEP:<separator>]
```

The /SEP option takes precedence over the separator specified in the board import parameters.

Separator

```
/SEP:<separator>
```

Specify the separator for the file.

```
/SEP:58
/SEP:":"
```

The separator is either the decimal ASCII number or the character enclosed in quotes. The separator can be any ASCII code between 32 and 127 except the following (0 to 9, A to Z or a to z).

If the separator is not valid an error is reported.

Calculation of parts

```
/CALCPARTS
```

Creates the part list and cutting list automatically

Ignore Null variable answers

/IGNORENULL

If this is used then any NULL values in the file will not be used to blank out variable answers during the import process.

Errors

Any errors created during import and generation of the product requirement file, part list and cutting list files are placed in the PRODIMP.ERR file.

Note

/CALCPARTS can only be used in standalone mode and therefore needs to be run with the /AUTO command.

5.7 Saw transfer - stand alone

Use the program: SAWLINK

```
SAWLINK [/Switches]
```

Use the various switch options to specify the details of the transfer, for example:-

```
..\sawlink /AUTO
..\sawlink /AUTO /SAWPATH="c:\Saw transfer" /TRANSMODE=6 /CADMATIC=CAD4
```

Switches

NB /AUTO is mandatory for stand alone operation.

Switch	*Options*	*Example*	*Default*
/SAWPATH=*name*	Full path name	/SAWPATH="c:\saw transfer"	current directory
/TRANSMODE=*number*	Saw transfer mode number (2 - 14)	/TRANSMODE=3	6 (CADmatic 3)
/WARNING=*number*	Retransfer warning level (1 or 2)	/WARNING=1	0 (not set)
/ONLINEPATH=*name*	Full path for online data	/ONLINE=c:\MySawData	blank (no path set)
/LOGIN=*number:name:password*	Authentication required User name Password	/LOGIN=1:userjones:dfxgy	0 (login not used)
/SAFE=n*umber:value:value*	Safe transfer enabled (0-1) Timeout 1 Timeout 2	/SAFE=1:3:5	0 (not used)
/SPARE=text			blank
/PTXOPTIONS=*command*	P - prompt before overwrite R - one file per run Q - SQLite output format S – Include tables for cutting times	/PTXOPTIONS=P /PTXOPTIONS=PR /PTXOPTIONS=Q /PTXOPTIONS=S	blank (not set)

	simulators		
/CPOUT=*number*	Cpout naming method (0-1)	/CPOUT=1	0
/CPOUTUDF=parameter name	CPOUT import/export parameter name	/CPOUTUDF="Custom CPOUT"	Blank (not set)
/ILENIA=number Ilenia controller	Use Ilenia controller (0-1)	/ILENIA=1	0
/CADMATIC=*code*	Type of CADmatic CADR - CADmatic 3 recursive CAD4 - CADmatic 4	/CADMATIC=CAD4	blank (CADmatic 3)
/IMAGE=*format code,color code*	Colour codes (BMPM,BMP24,BMP, BMP16,BMP256,WMF,EMF,JPG,JPEG) Use colour (0-1)	/IMAGE=BMP256,1	blank (not set)
/ALPHA=number	Allow alphanumeric runs for CADmatic 1/2 (0-1)	/ALPHA=1	0 (not set)
/COMMSPORT=port code	Communication port for saw	/COMMSPORT=COM1	blank (not set)
/GROUP=number	Transfer to group (group number)	/GROUP=1	blank (not set)
/RUN-name	Run number to use	/RUN=10023	current batch
/AUTO	Stand alone (silent) operation	/AUTO	
/DXFOPTIONS	Specify output format for DXF files	/DXFOPTIONS=1:0:1:1	1=include 0=do not include
/DELETE	Delete runs after transfer	/DELETE	
/*number*	Saw number (line number of saw transfer parameters (0-6)	/1	
/TRANSDRW	Transfer Part drawings to Saw	/TRANSDRW=1	0
/TRANSDEST	Create destack data for CADmatic	/TRANSDEST=1	0

Refer to the Saw transfer parameters for full details of each option

Notes

- For file names and commands with spaces use quotation marks to enclose the text

- Specifying a run to transfer. The run can be either a name or a run number:-

```
/RUN=00001
/RUN="Week 1"
```

If any run files are missing an error is reported

- The format of the commands reflects the usage in the previous *Options* command

- /GROUP - this refers to the number of the group in the saw transfer parameter list. The first group in the list is group 1 and the next group 2 etc.

Previous commands

- /AUTO, /DELETE, and /number are the previous commands - these can still be used in the same way. But do NOT use with any of the other commands; in this case /number means that any other command options are ignored. This also applies to the new /GROUP command.

/AUTO automatic and silent transfer of files

'Automatic and silent' - means that the transfer program does not use screen displays or report prompts and errors on screen. Transfers the current batch of runs.

/DELETE - remove original files

Run files are deleted from the directory set by the System parameter: Path for data, when the whole batch is successfully transferred to the saw. Only files associated with the current batch are deleted (<run>.*).

/n saw number

The 'n' stands for the number of the item in the saw transfer parameter list.

e.g. ..\SAWLINK /AUTO /1 /delete

Previously for saw transfer the /DELETE option also deleted any parameter files associated
with run. This is no longer done. The files deleted are:-

Run name.* - any file matching the run name in the Path for data
Cutting list (.ctt) - from 'Path for part lists' if set or 'Path for data' otherwise
Part list (.prl) - from 'Path for part lists' if set or 'Path for data' otherwise
Board list (.brd) - board list associated with the run
Batch file (.btc)

- CADmatic saws in a group must all use the same controller
- Machines using PTX transfer must export the same pattern image format

Separate offcut patterns

Use this switch for stand alone saw transfer to separate offcut patterns to a different run (/SEPARATEOFCRUNS=1).

```
..\sawlink /AUTO /SAWPATH="c:\Saw transfer" /TRANSMODE=6
/CADMATIC=CAD4 /SEPARATEOFCRUNS=1
```

Saw transfer to DXF

The DXF saw transfer options can be specified as a command line option for stand alone operation.

/DXFOPTIONS=1:0:1:1

The four digits correspond to the for layers so in the above example the BOARD layer and OFFCUT layer would be included in the DXF files and the PART and CUT layers would not. By default if no DXF options are specified then all layers are generated.

Lite

The following arguments are used:

Sawlink /AUTO /SAWPATH=path /DELETE

5.8 Back up User profile - stand alone

Take a copy of a user profile.

The backup process can also be activated from the command line. Program must run from a User profile

BACKUP /AUTO /PATH=<path name>

/AUTO - silent operation (any errors are stored in a backup.err file in the user profile).

/PATH - override current System parameter: Path for backup and place the backup file in a different directory/folder

```
BACKUP /AUTO /PATH=E:\BACKUPS
```

If no path specified or invalid path and error is reported

5.9 Stand alone operation - examples

Example of stand alone operation - 1

In this example a Windows batch file is used to control the process of importing a part list from a pattern exchange file and optimising the part list.

The batch file (example2.bat) contains:-

```
..\import %1 /format:8
..\batch %1 /optimise /auto
```

It is located in a user profile (in this case V11demo).

%1 is the usual Windows batch file place holder

The batch file example2.bat is run from a Windows shortcut which provides the name of the file to import.

The 'Start in' box is important since the batch file must be located in or start in the V11 user profile.

Errors - if an error occurs .ERR files are created in the user profile, for example, IMPORT.ERR. These are text files and can be viewed with any Windows text editor or Word processor.

Example of stand alone operation - 2

In this example a part list is imported from a pattern exchange file, optimised and the Board summary exported to a spread sheet. The batch file (example4.bat) contains:-

```
..\import %1 /format:8
..\batch %1 /optimise /auto
..\output /export /reports=E

copy ..\V11demo\import\%1e.exd ..\V11demo\import\%1e.csv
"c:\program files\Microsoft office\office10\excel.exe" ..\V11demo\import\%1e.csv
```

The last two lines copy the resulting EXD file to CSV and load it into a spread sheet. The spread sheet commands will vary depending on the system used.

The batch file is located in a user profile (in this case V11demo).

%1 is the usual Windows batch file place holder

Note - the second value of the system parameter: *Run - last, use part list* must be set so that the output files (ptn and exd) have the same name as the part list that is imported and optimised.

The batch file example4.bat is run from a Windows shortcut which provides the name of the file to import.

In this case the file extensions are not used (they are not needed) as they would clash with the operation of the batch file.

The result is the board summary data loaded into a spread sheet ready for use.

Other stand alone options

There are various stand alone options for the Online label PC, the Saw Queue, and Saw Simulation programs but these are part of the operation of the programs themselves and are covered in the Help.

Most of the portions of the Optimising software can be run directly from the command line but there is not really any purpose in this and it is safer to run the full program in the usual way. To restrict access to some parts of the program use System parameters or purchase security keys with a restricted set of modules available e.g. Parts Only.

Use the Auxiliary menu on the main menu screen to set up links to other programs. This is usually a better method than using a batch file to achieve the same result.

5.10 CADLink program

Stand alone program for direct conversion from Pattern Exchange to CADmatic 3/4/5 (recursive)

- To install - copy the *cadlink.exe* program to the required location
- Check the CADlink security key is plugged in.

The format of the command line for CADlink is:-

```
cadlink filename [destination] [/options]
```

filename - argument to specify the input file(s) (e.g. `c:\V11\import\week1.ptx`)

Input files are Pattern exchange files (.ptx .mdb)
Wildcards can be included (e.g. `c:\V11\import\*.mdb`)
If only name and extension are used (e.g. `week3.ptx`)program assumes current directory as the location
If including a path do not use the relative path format (e.g. `..\`)
[ ] - indicates an optional value or argument

Maximum length for *filename:* 150 characters - within this the name has a maximum length of 50 characters (e.g. `c:\V11\import\`**`job325-exchangefile-01`**`.ptx`)

There are several different types of path:-

Mapped drive - c:\V11\user1
UNC (Universal naming convention) - \\mainsrv\N\V11\user1
Relative path - ..\V11\user1

The program and most dialogs for paths support all these types of path specification. There are restrictions on the overall length of the path and some characters are not allowed in path names. Paths can include spaces and dots.

```
\\Testbed09\os (c)\V11.gt6\V11.exe
```

destination - argument to specify the path where .saw files are created (e.g. `c:\cadv40\data\saw`)

Specify path only
Trailing '\' is not required
If no destination is specified the same directory as the input files is assumed
Do not use the relative path format (e.g. `..\`)
Program creates path specified if it does not exist
Maximum length for *destination*: 150 characters
Destination argument is optional

CPOUT import parameters *– parameter files to control CPOUT import/export*

CADlink has also been updated to allow the use of CPOUT import/export parameters when working with CPOUT files. The parameter file name to be used should be specified after the /IMPORT_CPOUT command line option separated by a colon

New options available in cadlink.ini / command line arguments are:

```
/IMPORT_CPOUT ; Import from CPOUT format rather than PTX
/CAD3         ; CADmatic 3 (non recursive)
/CAD3R        ; CADmatic 3 (recursive)
```

Examples:

```
cadlink /IMPORT_CPOUT=Default CPOUT.*

cadlink /IMPORT_CPOUT="My params" *.cpo
```

If the name of the CPOUT file does not match the format specified in the parameters, it will not be imported.

options - settings to control CADlink operation.

Only specify the options required (if any).

/BACKGROUND[:*n*]
/DELETE
/HIDE
/RESULT=[*path*]
/INF=[*n-m*]

/UDI=[*n-m*]
/IMPORT_CPOUT=[*filename*]
/CAD3
/CAD3R
/CAD4
/CAD5

[ ] - indicates an optional value or argument

The following can also be used as an alternative to the *filename* and *destination* arguments.

/FILENAME=*filename*
/DESTINATION=*destination*

See below for full details for each option.

Example

```
cadlink c:\V11\import\week1.ptx c:\cadv40\data\saw /BACKGROUND:10
/DELETE
```

Note

If no options are used program looks for '*.ptx' in the current working directory. This allows the program to run just by double-clicking in Windows Explorer.

. is allowed - this means *.ptx and *.mdb

CADlink initialisation errors

Irrespective of foreground / background mode, the program must pass certain tests before it can begin processing files. If these tests fail the program terminates with one of the following (negative) exit codes.

-1 No security key
-2 Access denied to source path (read)
-3 Access denied to destination path (write)
-4 Program initialisation error

CADlink error return / result files

When converting a single pattern exchange file CADlink returns the result in the program exit code. The exit code is zero for a successful import or non zero to indicate an error.

If a wildcard is used (e.g. *.ptx) then for each pattern exchange file which matches the wildcard pattern the program creates a result file (<ptx name>.rlt).

A result file is created even if an import is successful.

If all imports are successful, the program exits with code zero otherwise the exit code is the first error encountered. Pattern exchange files which already have a result file in the destination path are ignored.

If the program is running in background mode result files are always created / checked since the program has no exit code. The existence of the .rlt file prevents the program from continuously importing a bad pattern exchange file.

The result file (.rlt) contains three lines as follows:

ASCII/Unicode PTX
[error number]
[field number]
[line number]

MDB PTX
[error number]
[field number]
[table name]

Successful imports have zeros on all three lines. A line number or table name may not always be applicable, in which case these fields will be zero.

List of error numbers

-1 - No security key
-2 - Access denied to source path (read)
-3 - Access denied to destination path (write)
-4 - Program initialisation error
 0 - Import successful
 1 - File not found
 2 - Bad format (General catch-all)
 3 - Too many jobs

4 - Duplicate jobs
5 - Too many part types
6 - Too many board types
7 - Too many patterns
8 - Too many cuts
9 - Illegal part index
10 - Illegal board index
11 - Illegal pattern index
12 - Illegal cut index
13 - Illegal Offcut index
14 - CADplan - Too many parts to optimise
15 - CADplan - Too many boards to optimise
16 - CADplan - Optimiser fatal error
17 - Illegal material index
18 - CADmatic 3 - Job name not valid (contains spaces or > 8 chrs)
19 - CADmatic 3 - Part, board or material code too long (> 25 chrs)
20 - CADmatic 3 - Illegal pattern type (no templates allowed)
21 - CADmatic 3 - Illegal recuts. Pattern number in field value

Job naming / multiple jobs

The PTX format allows for multiple jobs so more than one .saw file may be created. Job names are listed in the JOBS record and these names are used to name the saw files.

Note - the program does not attempt to split runs for the saw.

Options

Input files (/FILENAME)

Full path to the input file(s). Format is:-

/FILENAME=*filename*

```
/FILENAME=c:\V11\import\week1.ptx
```

Format and restrictions the same as the *filename* argument (see above)

Input files (/IMPORT_CPOUT)

Use CPOUT files as the input files rather than PTX

Examples:

```
cadlink /IMPORT_CPOUT CPOUT.*

cadlink /IMPORT_CPOUT *.cpo
```

When the CPOUT naming convention is used (cpout.nnn or cpout.nnnnn), the result (.rlt) and .saw files are named after the extension.

For example:

CPOUT.005 → 005.rlt, 005.saw

Location for .saw files (/DESTINATION)

Location where .saw files are created. Format is:-

/DESTINATION=*destination*

```
/DESTINATION=c:\cadv40\data\saw
```

Format and restrictions the same as the *destination* argument (see above)

CADmatic 3 saw files mode (/CAD3 or /CAD3R)

Mode to produce either CAD3 or CAD3R saw files rather than the default CAD4 saw files

Examples:

```
cadlink /CAD3 *.ptx

cadlink /CAD3R *.ptx
```

Additional errors may occur in the result file (.rlt) when exporting to CADmatic 3 formats.

CADmatic 4 saw files mode (/CAD4)

Mode to produce CADmatic 4 format saw files (note that if no mode is entered the program uses this mode as the default)

Examples:

```
cadlink /CAD4 *.ptx
```

CADmatic 5 saw files mode (/CAD5)

Mode to produce CADmatic 5 format saw files

Examples:

```
cadlink /CAD5 *.ptx
```

Background mode (/BACKGROUND)

In this mode the program does not terminate. It periodically checks the specified path for PTX files which match and automatically converts new files as they are found. To ensure that CADlink does not consume too much of the processor time there is a configurable 'sleep' time between checks (n seconds). Format is:-

/BACKGROUND[*:n*]

```
/BACKGROUND
/BACKGROUND:10
```

If no value follows the /BACKGROUND option the program assumes a default of 5 seconds.

Delete (/DELETE)

Delete successfully imported PTX files. Format is:-

/DELETE

This option also deletes any results (rlt) files matching the pattern exchange files.

Results file (/RESULT)

Specify the location for the results (.rlt) file(s). Format is:-

/RESULT=[*path*]

e.g.

/RESULT
/RESULT=c:\ResultsFiles

If this option is not set the results files are created in the same location as the input files. If the option is set but no path is specified this forces the program to create results files (in the same location as the Input files).

Note - where a single named file is imported the results file is not automatically created as the results are returned in the exit codes (see above).

Run hidden (/HIDE)

Running CADlink with the /HIDE option runs the program in hidden mode. If CADlink is also running in background mode (/BACKGROUND) then it can only be terminated via the Windows Task Manager. Format is:-

/HIDE

Order and range of information boxes (/INF /UDI)

The pattern exchange format has two forms of part information box:

PARTS_UDI = 60 user defined information boxes
PARTS_INF = 28 fixed fields of information

When V11 imports the PTX, information box parameters allow the fields in PARTS_INF to be directed to nominated information boxes. These then take precedence over fields in the PARTS_UDI which would otherwise populate that box.

CADlink does not have the information box settings required to map PARTS_INF fields to specific information boxes. Instead this is done by the following options.

/INF=n-m
/UDI=n-m

Where n=1st field, m = last field

Note - these options also appear in cadlink.ini

The relative order of these commands is important, whether they appear in the .ini file or on the command line. They can be mixed with other arguments but if /INF comes before /UDI then this dictates the order in the final information boxes in the .SAW file.

The internal default is /UDI /INF, so this results in 60 PARTS_UDI fields followed by 28 PARTS_INF.

Note - if no options are specified this results in 60 PARTS_UDI fields followed by 28 PARTS_INF

Examples for /INF and /UDI

```
/INF /UDI           - all 28 PARTS_INF followed by all PARTS_UDI
(88 boxes in total)
/INF                - all 28 PARTS_INF, no PARTS_UDI
/INF=1-10 /UDI=5-60 - first 10 PARTS_INF followed by PARTS_UDI fields 5-60
(65 boxes in total)
/INF=9 /UDI         - PARTS_INF field 9 (only) followed by all PARTS_UDI
(61 boxes in total)
```

Unicode

The "/UNICODE=" option can be used in the cadlink.ini file or as a command line argument to configure the generation of Unicode files. Valid settings are "UTF8" and "UTF16LE".

e.g.
/UNICODE=UTF8
/UNICODE=UTF16LE

Allow options to be entered in cadlink.ini

As an alternative to running with command-line arguments the options can be set up in a file: *cadlink.ini*. This feature allows CADlink to run from Windows Explorer.

If the program finds *cadlink.ini* in the program directory (folder containing cadlink.exe), it ignores any command-line options and uses this instead.

Lines in the file are identified by the relevant option keyword (e.g. /FILENAME) and can be in any order.

Each option must occupy a different line in the file.

/FILENAME=*filename*
/DESTINATION=*destination*
/BACKGROUND[:*n]*
/DELETE
/HIDE
/RESULT=[*path]*
/INF=[*n-m*]
/UDI=[*n-m*]

An example *cadlink.ini* file is shown below:

```
/FILENAME=c:\import\*.*
/DESTINATION=z:\cadpool\online
/BACKGROUND:15
/DELETE
/HIDE
```

Notes

Passing supplementary optimising, saw, and destacking parameters to the .saw file

Only a few parameters are given in the .ptx file format (mainly in the MATERIALS record). These are passed directly to the CADmatic in the .saw file but the saw controller may need additional optimising, saw, and destacking parameters in order to obtain finer control over the cutting patterns and destacking functions.

To facilitate this, if optimising, saw and material parameter filenames are specified in the PTX file, the program searches for these files in the program directory (the folder containing cadlink.exe). Values from these files are passed to the .saw file.

If no parameters are specified in the PTX (the files do not exist or fail to be read) default values are used.

Parameters in the PTX take precedence over supplementary parameters.

Similarly the program attempts to read destacking parameters from the program directory if they are available.

File type Extension / name
Optimising parameters .prm
Saw parameters .spm
Material parameters .mpm

Destacking parameters mdestack.ctl (metric) idestack.ctl (inches)

Supported keys

CADlink can run with the CADplan key. The full list of supported keys is:- CADlink, CADplan, Modular (SI module) and Master keys. Single keys or network keys are supported.

Tension trims

Specify rip tension trims by using function code '81' in the CUTS record of a PTX file. The dimension specified in these records represents the tension trim dimension (less saw blade thickness) output to the CAD4 SAW file.

e.g. saw blade thickness = 4.8mm, overall width of tension trim = 30mm

```
CUTS,  1,   1,   1,   0, 0,2550.0,    0,    0,    0,MAIN
CUTS,  1,   1,   2,   5,91,   5.2,    0,    0,    0
CUTS,  1,   1,   3,   5, 1, 725.0,    1,    0,    0,RIP
CUTS,  1,   1,   4,  11,92,   5.2,    0,    0,    0
CUTS,  1,   1,   5,  10, 2,1200.0,    2,    1,    2
CUTS,  1,   1,   6,   9,92, 130.4,    1,    0,    0
CUTS,  1,   1,   7,   4, 1,  20.4,    1,    0,    0,TENSION TRIM
CUTS,  1,   1,   8,   3, 1, 600.0,    1,    0,    0,RIP
CUTS,  1,   1,   9,   8,92,   5.2,    0,    0,    0
CUTS,  1,   1,  10,   7, 2,1250.0,    2,    2,    2
CUTS,  1,   1,  11,   6,92,  30.4,    1,    0,    0
CUTS,  1,   1,  12,   2, 1,  20.4,    1,    0,    0,TENSION TRIM
CUTS,  1,   1,  13,   1,91, 130.0,    1,    0,    0
```

5.11 Quotes and Orders Import – Stand alone

Use the program Import services for quotes and orders with other systems via the command line or batch file.

It is sometimes useful, especially for processes that are commonly repeated, to use them in a link with other programs.

The stand alone options are used for this. Quotes/Orders import can be used in this way.

Use program: PRODIMP

```
PRODIMP [filename][/QUOTE] [/AUTO] [/DELETE] [/UDF:<parameter
filename>] [/SEP] [/FORMAT:nn] [/IGNORENULL]
```

`Filename` – file with the requirements information

`/QUOTE` – necessary for importing quotes, otherwise this program will start in import requirement mode

`/AUTO` – silent running

`/DELETE` – delete import file

User defined

`/UDF`

Where there is an import parameter for user defined parts the parameter file can be specified on the command line with the UDF option.

```
PRODIMP testfile /AUTO /DELETE /UDF:prodprm
```

The /UDF argument is only followed by the file name.

Separator

`/SEP:<separator>`

Specify the separator for the file.

e.g.

`/SEP:58`

`/SEP:″:″`

The separator is either the decimal ASCII number or the character enclosed in quotes.

The separator can be any ASCII code between 32 and 127 except the following (0 to 9, A to Z or a to z).

If the separator is not valid an error is reported.

File format

```
/FORMAT:nn
```

0 – CSV
1 – XLS
2 – XLSX

```
e.g. /FORMAT:1
```

Ignore Null variable answers

```
/IGNORENULL
```

If this is used then any NULL values in the file will not be used to blank out variable answers during the import process.

Errors

Any errors created during the import and generation of the product requirement file, part list and cutting list files are placed in the QUOTEIMP.ERR file.

5.12 V11 Standalone shell

This update introduces a new script driven shell (V11Shell.exe) which provides an alternative to calling standalone V11 programs from a batch file.

A typical script contains a set of commands very similar to the set of standalone calls made at present, but provides these benefits:

(a) Control of security key checks to avoid the issue where the first call (eg import) finds a licence,
but the next call (eg optimise) finds no licence available.

(b) Error handling - all error messages are sent to a single error file in a specified path.

(c) Status file - indicates if errors have occurred or all processes completed.

(d) Control the timeouts in the event that one of the programs hangs

(e) Use of direct interprocess communication between the shell and individual applications.

The V11Shell program is activated by:

V11 Master keys
V11 Modular network keys (full)
V11 Modular network keys (metered)

Use of V11 User profiles

The V11Shell program is designed to make use of V11 user profiles which have been created and set up (paths etc). The program must have exclusive use of the user profile: it must exist and is locked for the duration of the script.

It is the caller's responsibility to manage the user profiles and allocate them to different instances of V11Shell.

Network keys - nethasp.ini

To work reliably with a network key, a nethasp.ini file is normally required in the program folder. This should target the key's host IP address and have broadcast turned off. In the absence of a nethasp.ini file, the error 'No network key licences available' may not be reported correctly.

V11Shell Overview

V11Shell is driven by a combination of command line arguments and the contents of a script file. The full path of the script file is the first command line argument.

Environment variables can be used (but not set) in the script lines.

The script does not allow other types of batch / script commands like defining variables, for loops, if-then-else tests etc.

The shell calls each line in the script sequentially and waits for the process to complete. It then looks for error files before continuing with the next.

It is not necessary to give the full path of V11 executables if they are in the same location as the V11Shell.exe - just the program name and its arguments.

Extra command line arguments (and / or script header lines) tell the shell:

- Which user profile to use (path)
- The path of a unique error file to append to
- The path of a status file to modify (completed, error etc)
- Timeout interval for any one app (optional - see later section).
- Override for network key timeout (optional - see later section).

When the shell terminates, the final status is recorded in the status file (detailed in a later section). The main status code number is also returned in the V11Shell.exe exit code.

When the shell runs, it creates the status file (or overwrites it if it already exists) and outputs a status code 0 (meaning ‘In progress’). The specified error file is deleted if it already exists.

The calling process can abort the script by deleting the status file.

V11Shell runs hidden by default but it also has a visible diagnostic mode for testing (see later section).

Command-line arguments / script header files

The first argument to the shell is the path of the script file:

```
v11shell <path of script file>
```

e.g

```
v11shell c:\Scripts\00001.txt
```

Script header lines

Script header lines can be passed on the command line or stored in the script file. These have the form:

HDRn=<setting>

Where the <setting> field contains spaces, the command-line version must be enclosed in quotes.
(e.g “HDR1=C:\User Profiles\User 1”)

Command line settings take precedence over those in the script file.

Possible values are:

```
HDR1=<Path of a user profile to use>                    (Required)
HDR2=<Path of a unique error file to append to>         (Required)
HDR3=<Path of the unique status file>                   (Required)
HDR4=<Timeout interval for a V11 standalone app - mins> (Optional)
HDR5=<Timeout interval for network licence - mins>      (Optional)
```

The ‘Required’ script header lines generate a fatal error if they are not provided (see later table).

Script user defined arguments (max 99)

Form:

ARGn=<setting>

Where the <setting> contains spaces, the command-line version must be enclosed in quotes.
(e.g “ARG1=Value with spaces”)

This argument is then referred to in the script by: %n.

Command line arguments for HDRn and ARGn can be in any order but the script name is always the first argument.

Examples

Example 1: all information in script file (eg created at runtime)

```
v11shell c:\Scripts\00001.txt
```

[c:\Scripts\00001.txt]

```
HDR1=c:\V11\UserProfiles\UserProfile1
HDR2=c:\Errors\00001.err
HDR3=c:\Status\00001.sts
```

```
batch.exe 00001 /AUTO /OPTIMISE
sawlink /AUTO /1
```

Example 2: all information passed on command line

```
v11shell c:\Scripts\00001.txt HDR1=… HDR2=… HDR3=…
```

[c:\Scripts\00001.txt]

```
batch.exe 00001 /AUTO /OPTIMISE
sawlink /AUTO /1
```

Example 3: User defined arguments

```
v11shell c:\Scripts\Template1.txt ARG1=Job00001 ARG2=Profile1
```

[c:\Scripts\Template1.txt]

```
HDR1=c:\V11\UserProfiles\%2
HDR2=c:\Errors\%1.err
HDR3=c:\Status\%1.sts
batch.exe %1 /AUTO /OPTIMISE
sawlink /AUTO /1
```

This is evaluated to:

```
HDR1:c:\V11\UserProfiles\Profile1
HDR2=c:\Errors\Job00001.err
HDR3=c:\Status\Job00001.sts
batch.exe Job00001 /AUTO /OPTIMISE
sawlink /AUTO /1
```

Status file format

The status file is created by V11Shell if it does not already exist.

The file has three lines:

Line 1: Current / final status code (numeric)
Line 2: Additional status information
Line 3: Additional status text

Line1: Current / final status code (numeric)

Single numeric value. Possible values:

0 = In progress
1 = Completed (no errors)
2 = Completed (with warnings - see error file)
3 = Terminated with errors
4 = Terminated by calling process (status file deleted)

The final status code is also returned to the caller in V11Shell's exit code.

Lines 2 & 3: Additional status information

The content of the additional status lines depends on whether the script is still in progress or has terminated / completed (see previous section).

Script In progress

The status file is updated every time a new command is executed in the script file.
The content of the status file is as follows:

Line 1: 0 - in progress
Line 2: n - line number in original script file
Line 3: cmd - command currently executing

The command (cmd) is the actual command (after arguments and environments have been substituted). This line starts with the date & time that the command was executed and it contains the full path to the exe.

Example script:

```
HDR1=UserProfiles\%2
HDR2=Errors\%1.err
HDR3=Status\%1.sts
IMPORT.EXE %INPUT% /AUTO /PARTS /FORMAT:8 /NOWRTBRD /OVERWRITE
BATCH.EXE %INPUT% /AUTO /OPTIMISE
SAWLINK.EXE /AUTO /SAWPATH=C:\Temp\ /TRANSMODE=11 /CADMATIC=CAD5
SAWLINK.EXE /AUTO /SAWPATH=C:\Temp\ /TRANSMODE=6 /CADMATIC=CAD5
OUTPUT.exe /EXPORT /REPORTS=J /EXPORTPATH=C:\Temp\
```

When executing the line in **bold**, the status file might be:

```
0
4
20-Jan-20, 17:21:46 (506), c:\v11Shell\programs\IMPORT.EXE "Parts PTX import" /AUTO /PARTS /FORMAT:8 /NOWRTBRD
/OVERWRITE
```

Script completed / terminated

Lines 2 & 3 act as a further explanation of an error condition (i.e code 3 in status line 1).

Line 2: Single numeric value
Line 3: Content depends upon line 2

Ranges for values in line 2 are:
0 - 99 V11Shell initialisation errors / script errors
100+ Child application errors

Status line 2	Error	Status line 3 (optional)
0	Key not found	
1	Key not supported	
2	No network key licences available	
3	Script file not specified (must be 1st argument)	
4	Script file does not exist	
5	Bad argument ARGn (e.g n > 99, blank value)	Argument text
6	Bad script header HDRn (e.g n > 5, blank value)	Header text
7	No user profile specified (HDR1)	
8	User profile not valid / does not exist (HDR1)	User profile path
9	User profile is already in use (HDR1)	User profile path [User name]
10	Status file not specified (HDR3)	
11	Status file cannot be created (HDR3)	Status path
12	Status file has been deleted	Status path
13	Error file not specified (HDR2)	
14	Error file path not valid / cannot be created (HDR2)	Error file path
15	User defined argument used in script has not been passed	[Line]:%n
16	Undefined environment variable used in script	[Line]:%NAME%
17	Invalid program timeout interval (HDR4) - must be 1-999	
18	Invalid network licence timeout (HDR5) - must be 2-99	
19	Child program not found	[Line]:<contents>
100	Child program terminated with error	[Line]:<contents>
101	Child program timeout	[Line]:<contents>
102	Key not found by child program	[Line]:<contents>
103	Key / modules not accepted by child program	[Line]:<contents>
104	Initialisation failure (child program)	[Line]:<contents> [extra error code]

[Line] = Line number in script file
<contents> = Contents of script line

Program timeout

Default program timeout is 30 mins to allow for large optimisations.
This can be modified by setting a value in:

HDR4=nn (values: 1 - 999 mins)

Network licence timeout

This is the time taken for a network licence to become re-available in the event that an application stops responding. The default for this is 5 minutes.

This can be modified by setting a value in:

HDR5=nn (values: 2 - 99 mins)

Diagnostic mode

V11Shell runs hidden by default but it also has a visible diagnostic mode for testing.

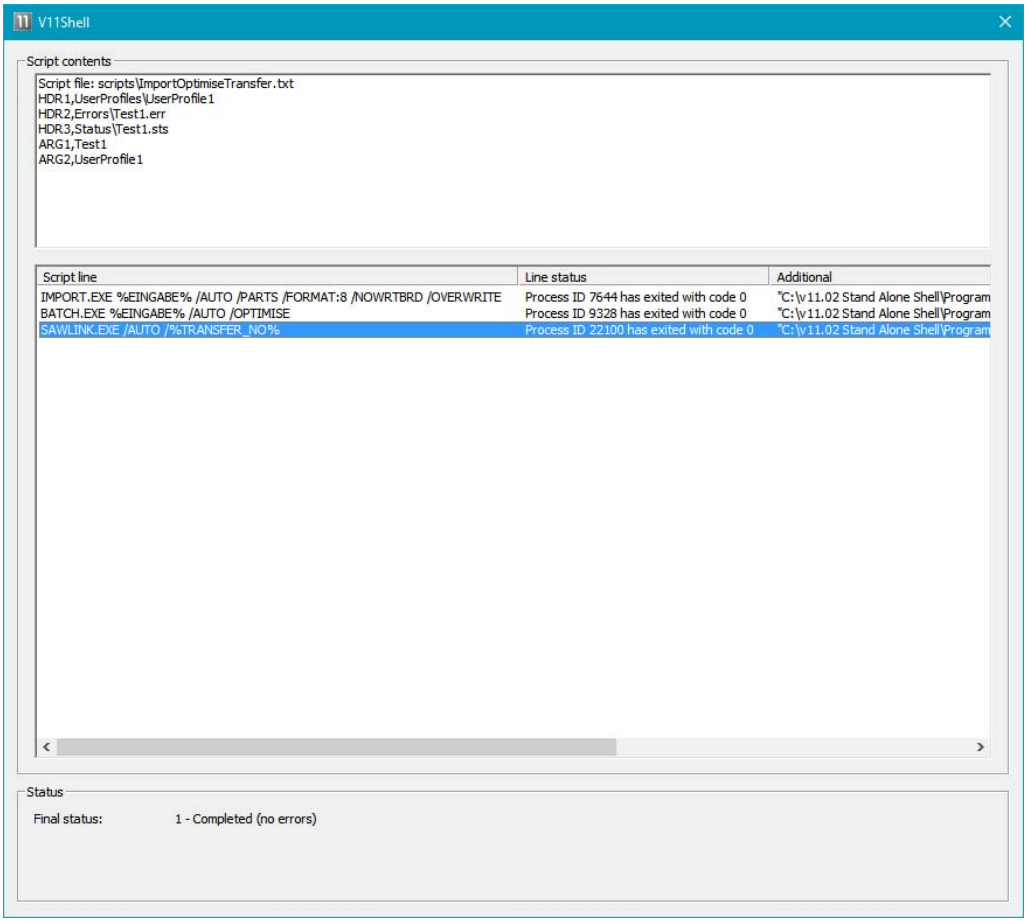
Diagnostic mode is activated by the /DIAG argument which can appear anywhere on the command line. For example:

```
v11shell c:\Scripts\00001.txt /DIAG
```

In diagnostic mode, the program displays the script header lines and command line arguments, the script contents (with a highlight to indicate the current line) and the current progress / final status.

When running in diagnostic mode V11Shell must be closed manually (X) when the script terminates.

An example is shown below.



The ‘Line status’ column shows information about each line in the script as it executes / completes.

The ‘Additional’ column shows the script line with any arguments / environment variables substituted.

The text on the diagnostic dialog appears in English by default. To display text from a named language file, add the name of the language file (without extension) to the /DIAG argument as shown in the following examples.

6. Useful system and other parameters

This is a brief overview of parameters that are important for stand alone, import or export operations. Full details of each parameter are available in the on-screen help.

Even when parts of the program are running in 'stand alone' mode the parameters must be set up in the same way as for the full program. So System parameters, Import parameters, Machine centre parameters etc. must be set for the stand alone options to operate correctly.

System parameters

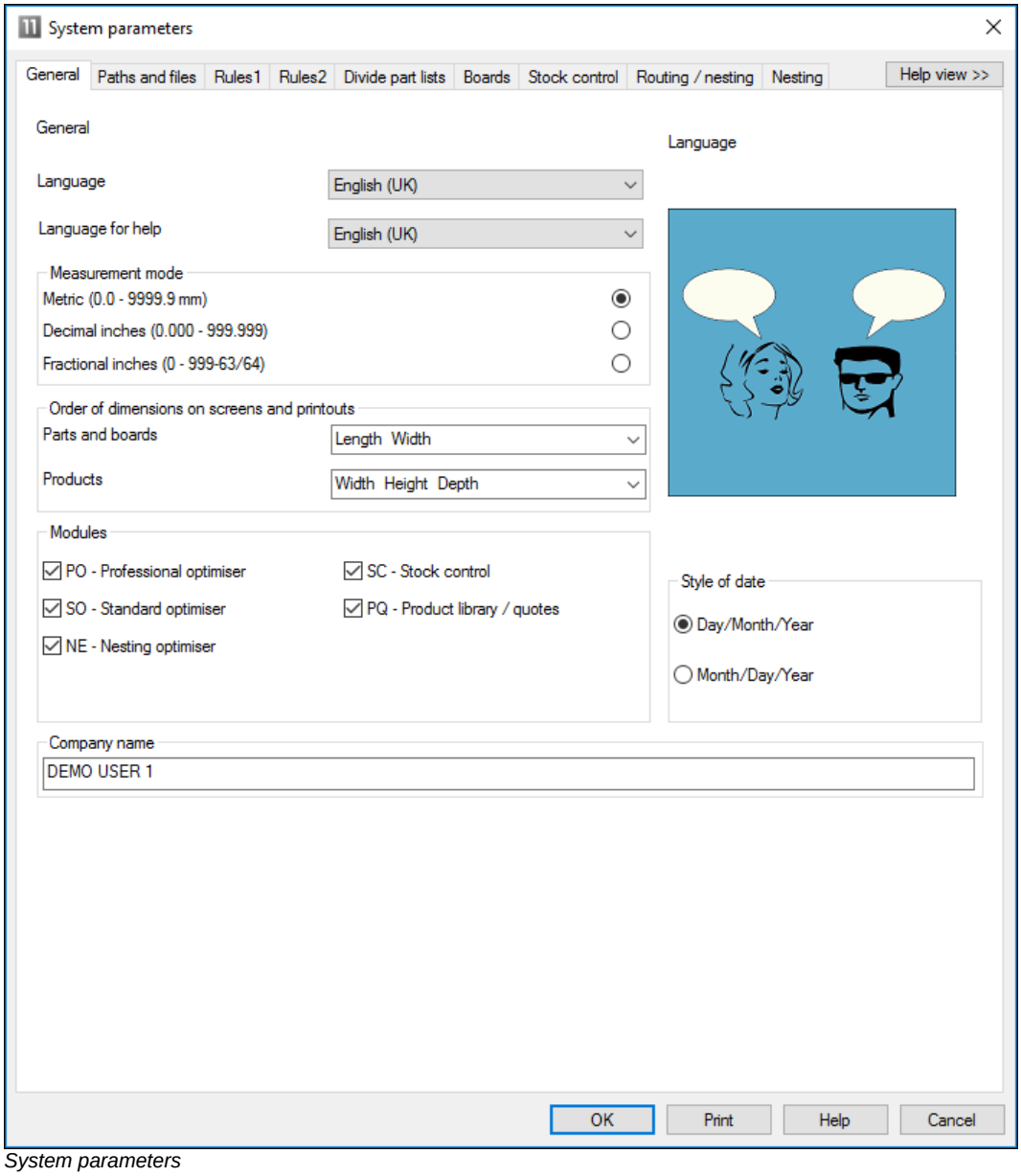
For any import, export or stand alone option to work correctly set up the relevant system parameters. The sub-sets described in this section are the ones that typically require attention.

To locate the system parameters select the following at the main screen.

- Parameters - System parameters
- System parameters

There is just one set of system parameters for each User profile.

The settings apply to all the data and operations in a user profile.



System parameters

Important parameters for the Interface guide are listed below.

Measurement mode

- millimetres
- decimal inches
- fractional inches

Millimetres are the standard metric measure to one decimal place. e.g.1230.5mm 96.5mm

Decimal inches are inches expressed as decimals. e.g. 60.125 in. 12.500 in.

Fractional inches are inches expressed as imperial fractions. e.g. 3-1/4 in. 25-3/16 in.

Enter fractional inches in the style 99-99/99.

The measurement mode is usually the same measurement mode as the saw, machining centre or other machinery.

Path for import data

System parameter to set directory containing data for import

For example:- C:\VER\IMPORT

If the path does not exist the program prompts to create the path.

Note - if the path contains names of two or more directories that do not exist the program does not create the directories

Typical data to import are part lists, board lists and product requirements.

Path for Export data

System parameter to set directory used by program for exporting data to

For example:-

C:\VER\EXPORT

If the path does not exist the program prompts to create the path

Note - if the path contains names of two or more directories that do not exist the program does not create the directories

Data available for export:-

Summaries
Part and product costing data
Operations and fittings
Cutting list

There are separate paths for import and export so files can be imported from one directory and exported to another.

- The choice of layout and data exported are set in the *Review runs - Parameters* ('Exported' button)

Create data for

Generate extra data for reports

Some data and reports are only available with the appropriate module

- no extra data
- cutting times
- offcuts
- cutting dimensions
- edging
- part drawings
- transfer part drawings to saw
- destacking
- baseboard cutting list
- exported cutting list (parts only)

- exported cutting list (parts and boards)
- convert destack data for CADmatic (BSB/SDS)

The program uses the extra data when producing reports, such as, the offcut, edging, and destacking summaries. Only select those items you need as this speeds up the operation of the program. For example, if not making use of offcuts there is no need to create the data for the offcut report.

- Check all the options required

Note - For cutting length value on the Management summary select *Cutting times*

Order of dimensions

Length	Width	Width	Length
540.0	345.5	345.5	540.0
240.0	682.0	682.0	250.0
921.0	750.0	750.0	821.0

The part 'Dimensions' are the Length and Width of the part. Set this parameter to choose which order the length and width columns appear on the screen.

- Length Width
- Width Length

In Europe most lists of sizes appear in the order Length-Width but the order Width-Length is more frequently used in the USA and Canada.

The order applies wherever the part length and width are displayed e.g. Board library, Part list, Review runs reports.

Export cutting list format

Set the format for exported cutting lists.

The formats available are.-

Export format	Max parts	Max boards
DOS Lite	60	50
V6 / Windows Lite	250	200
Cut Planner	100	20
Optisave	225	20
PNX/BDX	2000	200
PNX/BDX	250	200

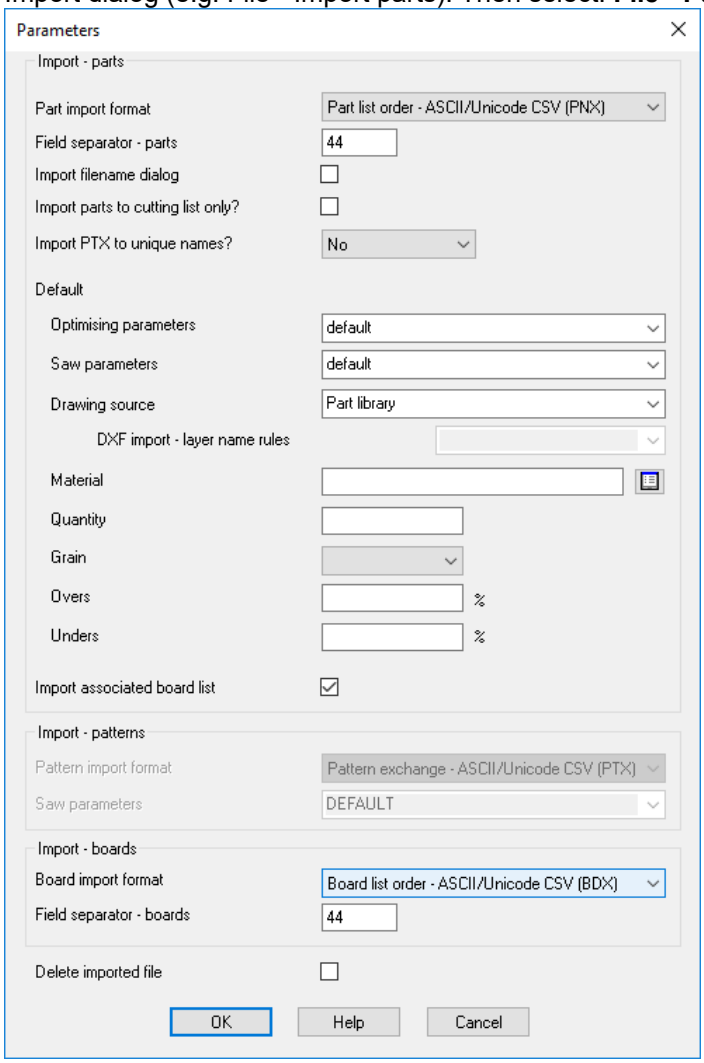
The columns 'Max. Parts' and 'Max. Boards' show the maximum values for part and board lists for each format. The software automatically divides lists that have more than the maximum parts into smaller units. Control the maximum number of board types by editing the board list or board library.

- For the 'Optisave' format the length of each information box is limited to 30 characters.

Also set the System parameter: *Create data for* so that exported data is created. If lists are divided the type of division is set in: *System parameters*

Import parameters

These control the type of import for parts, patterns and boards. They are available at the Import dialog (e.g. File - Import parts). Then select: **File - Parameters.**



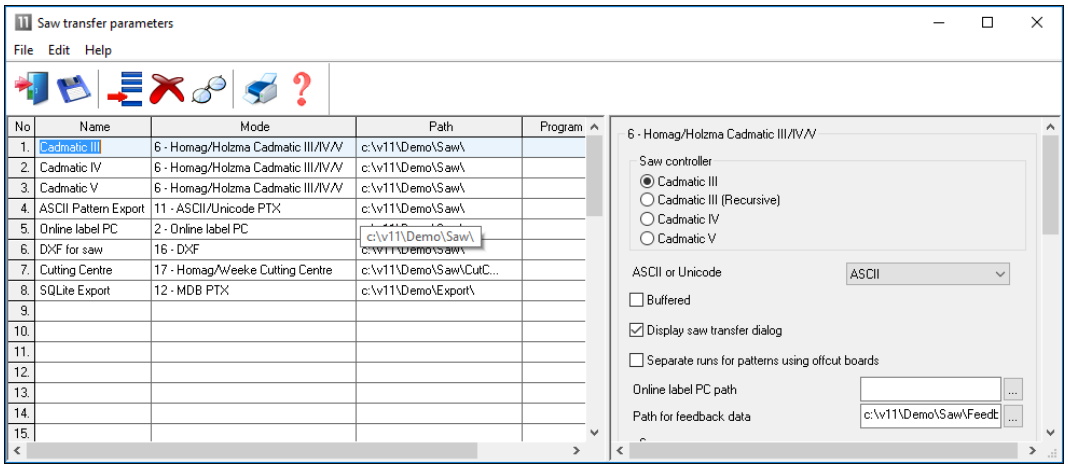
Import parameters

These can be used to, for example, set the type of Import (e.g. from PTX) and specify the separator used between fields.

Saw transfer parameters

For transfer to the saw set the saw transfer parameters for each saw.

- Parameters
- Saw transfer parameters



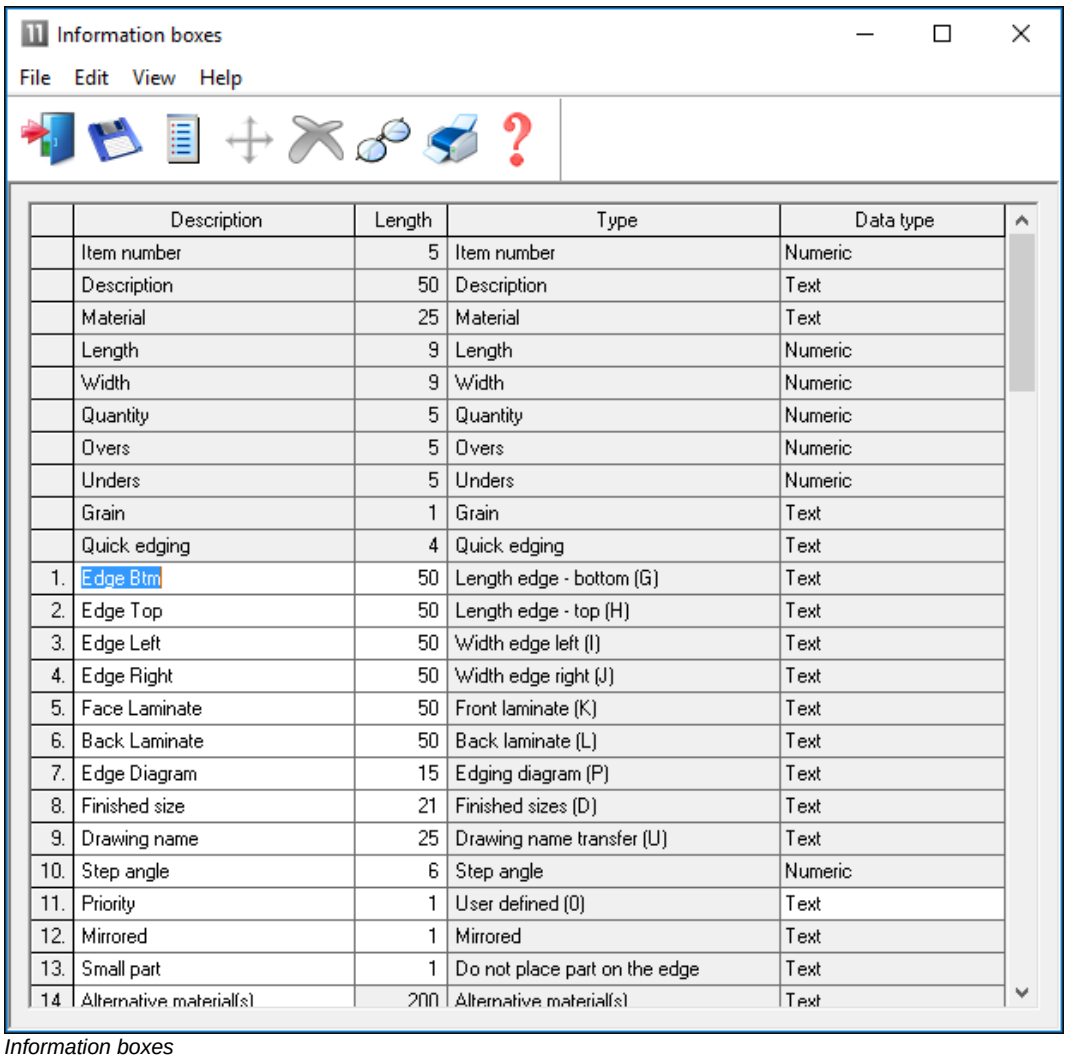
Saw transfer parameters

Make sure the 'Path' and 'Mode' are correct for the saw.

Information boxes

Where the data for parts includes extra information such as detailed edging data, tracking numbers, finished sizes etc. make sure that the Information boxes are correctly set up to cope with the incoming data for import.

Use the Information box parameters for this. Add pre-defined or user defined boxes as necessary.



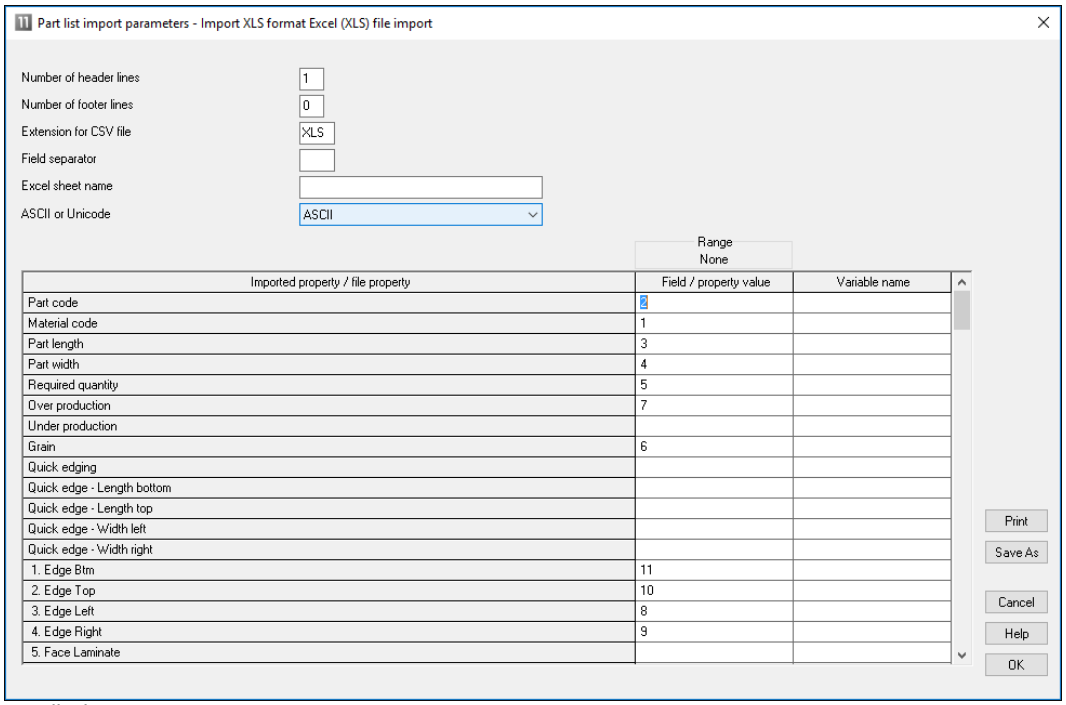
	Description	Length	Type	Data type
	Item number	5	Item number	Numeric
	Description	50	Description	Text
	Material	25	Material	Text
	Length	9	Length	Numeric
	Width	9	Width	Numeric
	Quantity	5	Quantity	Numeric
	Overs	5	Overs	Numeric
	Unders	5	Unders	Numeric
	Grain	1	Grain	Text
	Quick edging	4	Quick edging	Text
1.	Edge Btm	50	Length edge - bottom (G)	Text
2.	Edge Top	50	Length edge - top (H)	Text
3.	Edge Left	50	Width edge left (I)	Text
4.	Edge Right	50	Width edge right (J)	Text
5.	Face Laminate	50	Front laminate (K)	Text
6.	Back Laminate	50	Back laminate (L)	Text
7.	Edge Diagram	15	Edging diagram (P)	Text
8.	Finished size	21	Finished sizes (D)	Text
9.	Drawing name	25	Drawing name transfer (U)	Text
10.	Step angle	6	Step angle	Numeric
11.	Priority	1	User defined (0)	Text
12.	Mirrored	1	Mirrored	Text
13.	Small part	1	Do not place part on the edge	Text
14.	Alternative material(s)	200	Alternative material(s)	Text

Information boxes

Take care when changing these parameters since they apply to all part lists. It is often OK to add new items but deleting or changing an existing item may cause a problem with part lists already using that item.

Part list import parameters

Where data is imported from an external file use the 'Part list import' parameters to define that file format so that it can be correctly imported by the program.

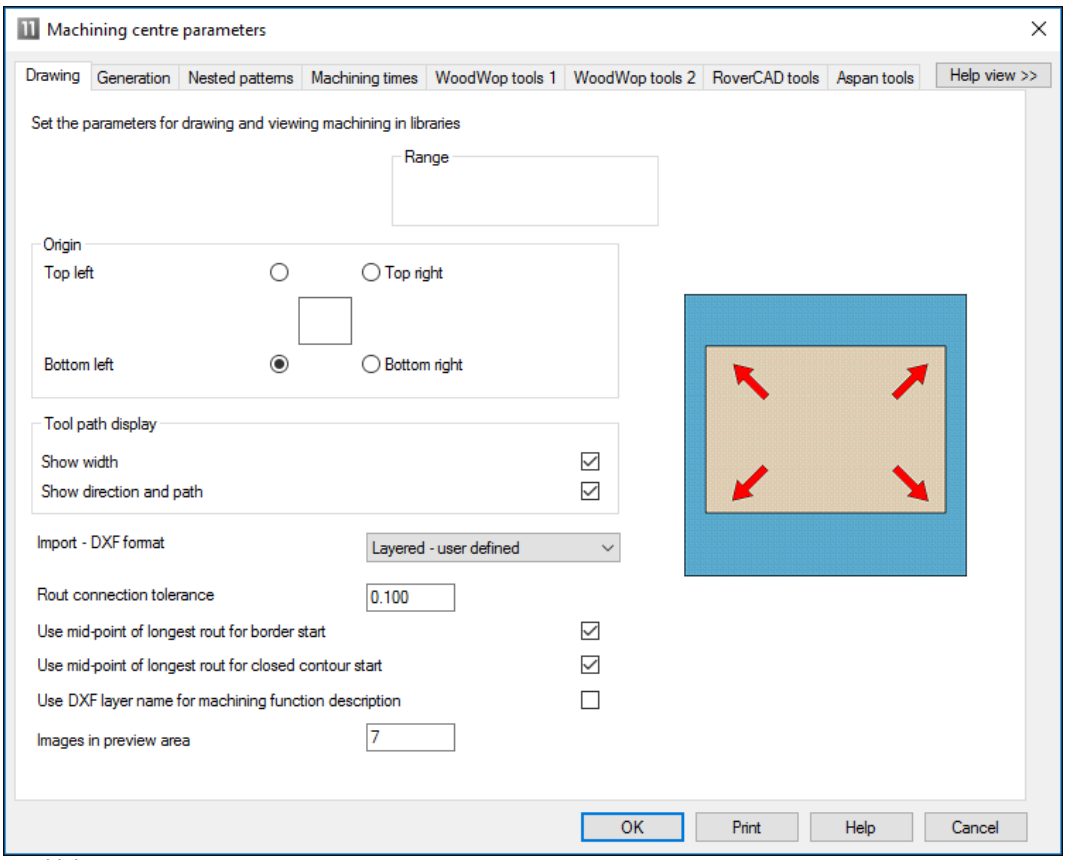


Part list import parameters

This sets up the link between the fields in the external file and the fields in the part list including information boxes.

Machining centre parameters

Where transfer to a machining centre is involved make sure that the Machining centre is correctly described in the Machining centre parameters (*Main screen - Parameters - Machining centre parameters*)

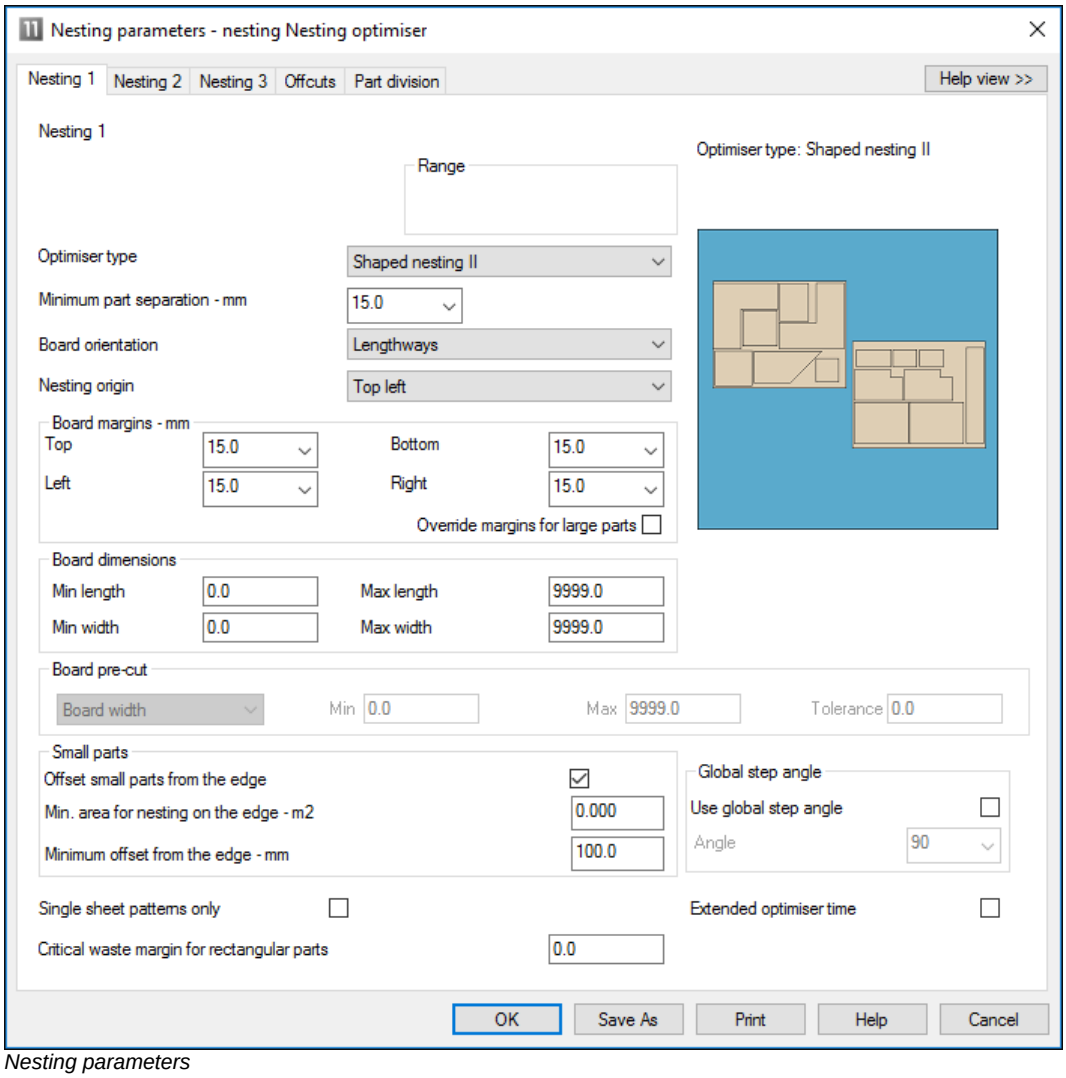


Machining centre parameters

Click on a tab for each set of parameters.

Nesting parameters

These are used with the Nesting optimisers. They describe the constraints on the nesting machinery and operation.



Nesting parameters

These are used instead of the Optimising parameters for the Nesting optimisers. There are also some System parameters that need to be set for Nesting.

Nesting also uses the Machining centre parameters to describe the Machining centre.

Limits and maximum sizes

The following list shows the most important limits on list sizes, field lengths etc. These limits apply to the Professional Optimiser.

Item	*Limit*
Max items in part list	20000
Max items in cutting list	20000
Max items in board list	5000
Max items in cutting list per optimization (saw)	9999
Max items in cutting list per optimization (nesting)	4000
Max items in board list per optimization (saw)	5000
Max items in board list per optimization (nesting)	2000
Max material types per run(saw)	5000
Max material types per run(nesting)	2000
Max offcuts in run	7500
Max patterns in run (saw)	5000
Max patterns in run (nesting)	2000
Max dimension for parts and board (mm)	9999
Max parts in a pattern (saw)	5000
Max shapes in a nested pattern	1000
Max value for quantity part / board list	99999
Max run quantity per pattern	99999
Max runs in batch	250
Max length of product code	25
Max length of part code	50
Max length of material code	50
Max length of material code (edging library)	50
Max length of board code	50
Max length of edge code	50
Max length of destacking code	50
Max length of machining code	50
Max length of drawing code	25
Max length of pattern code	25
Max length of machine drawing file ref	9
Max length of run number	50
Max length of Order or Reservation code	50
Max length for Stock order number	50
Max length of variable name	25
Max length of formula name	25
Max length of part description (part library)	25
Max length of product description (prod. library)	25
Max length of memo field (product library)	100
Max. records in product library	99999

Max. records in material library	Access mdb
Max. capacity of Board library	Access mdb
Max. records in order library	99999
Max. records in stock reservations library	99999
Max. records in edging library.	99999
Max. records in destacking library	99999
Max. records in part library	99999
Max items in variables table	2000
Max items in formula table	5000
Max items in lookup table	5000
Max items in product definition.	500
Max sub-assembly items in product (inc above)	
Max variables in product definition	500
Max global variables in product definition.	100
Max length of product inf. in req. list	50
Max number of information boxes	99
Max length of information box data	200
Max length of information box title	30
Max length of formula - general	80
Max length of formula - formula table	300
Max length of file names	50
Max items in Quotes/Orders list	999
Max items in Requirements list	999
Max length of path	150
Max length of file extension	4