

## Destacking and Palletisation

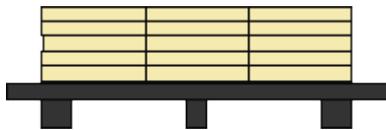
### *Efficient offstacking and faster through flow*

Destacking requires the optimising module: PO

This provides for the set up and planning of the destacking process so that parts are distributed to pallets or baseboards efficiently after cutting.

Parts can be destacked manually or with specialised destacking equipment. It is flexible enough to cope with many destack situations including the use of automatic machinery.

A straightforward example is where parts are manually destacked on to fixed size pallets around the saw.



*Destacking*

Each location around the saw is a 'Station'.

The optimisation takes account of the destacking requirements and parts are only destacked to stations that are large enough. The required quantity of each part is completed before the station is cleared ready for the next part.



### Destacking parameters

The destacking parameters are used to describe the number, size, and type of each station. Typically there might 4 or 5 stations available.

	Value		
1. Size of station 1	3000.0	3000.0	A
2. Size of station 2	3000.0	3000.0	A
3. Size of station 3	6500.0	6500.0	A
4. Size of station 4	6500.0	6500.0	A
5. Size of station 5	1000.0	1000.0	M
6. Size of station 6	4000.0	4000.0	M
7. Size of station 7	6500.0	6500.0	S
8. Size of station 8	6500.0	6500.0	
9. Size of station 9	6500.0	6500.0	
10. Size of station 10	6500.0	6500.0	
11. Size of station 11	6500.0	6500.0	
12. Size of station 12	6500.0	6500.0	
13. Size of station 13	6500.0	6500.0	

*Destacking parameters*

The destacking layout to use is set by information in the Part list (Part list information boxes).

### Destacking library

The layout for destacking on to a pallet or baseboard is at its simplest the number in the length and the number in the width, for example, 3 x 3 or 2 x 1.

The styles to use are defined in the Destacking library. In this example there are different styles for baseboards and pallets.

Reference	Type	Pallet/Baseboard/Runners						Part stack					
		Material	Thk	Length	Width	Layout	Per stk	Max no	Max ht	Over-ln	Over-wd	Layout	LW'
BASEBOARD_01	1	MEL-CHIP-15MM	15.0	2000.0	2000.0	1x1	1	40	1000.0	0	0	2x2	L
BASEBOARD_02	1	MED-DEN-FIBRE-25MM	25.0	3500.0	3000.0	1x1	2	100	3000.0	10	10	4x4	W
PALLET_1000x1000	0	CHIPBOARD-18MM	18.0	1000.0	1000.0	1x1	0	50	1500.0	0	0	1x1	
PALLET_2020x2020	0	CHIPBOARD-18MM	18.0	2020.0	2020.0	1x1	0	45	1500.0	5	0	2x3	L
PALLET_3020x3200	0	CHIPBOARD-18MM	18.0	3020.0	3200.0	1x1	1	50	2000.0	0	0	3x3	

Destacking library

The library can hold many hundreds of styles but typically only a handful of styles are required. They can be set to match your requirements for stacking and processing.

### Optimising and Destacking

The Destacking calculations are part of the optimising process and all the information is calculated during optimisation.

The destacking style to use for each part is set at the Part list using extra fields (Part list information boxes).

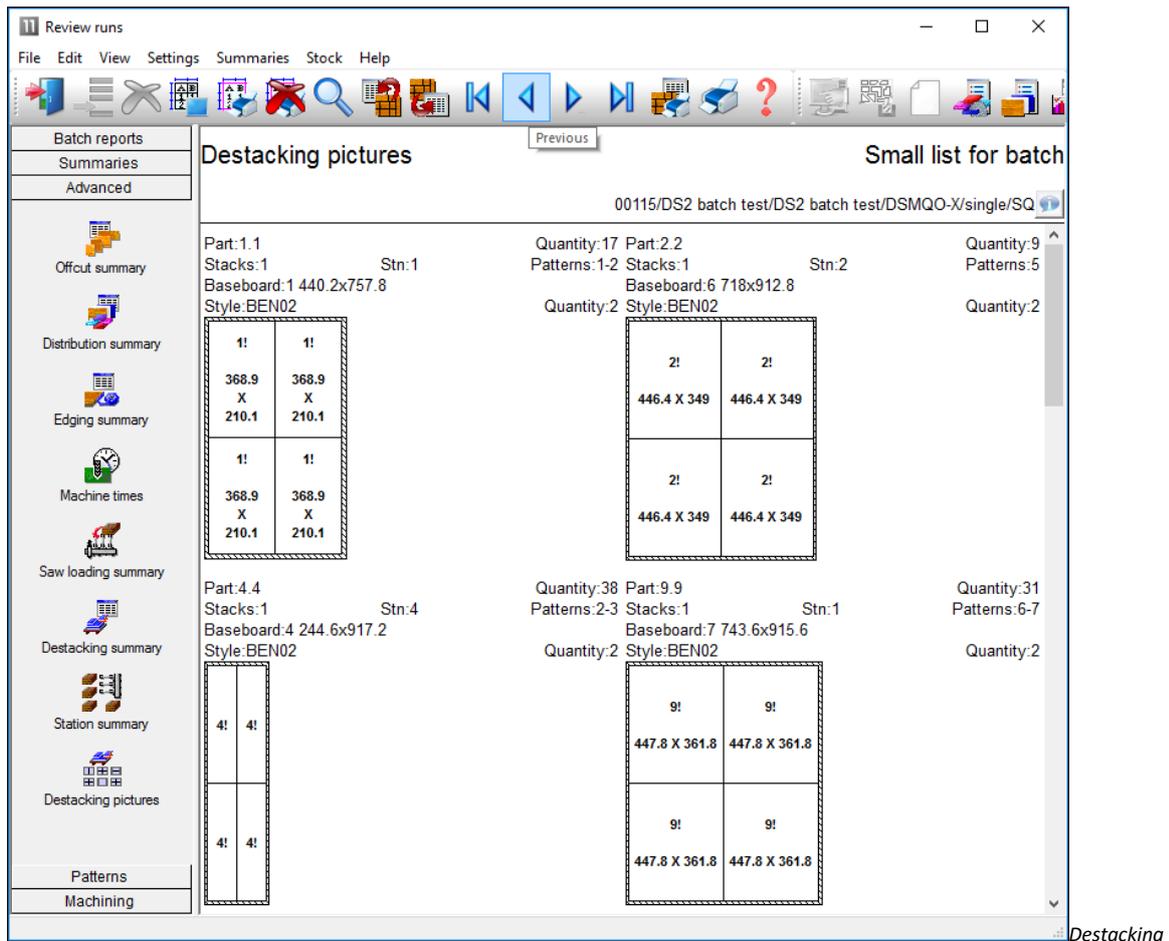
	Description	Material	Length	Width	Quantity	Over	Under	Grain	Edge
Global						%	%		
1.	1	MFC18-EBONY	368.9	210.1	17	0	0	Y	0000
2.	2	PARTICLBRD-25MM	446.4	349.0	9	0	0	N	0000
3.	3	SUNDRY-UNIT	268.6	293.2	28	0	0	X	0000
4.	4	MFC18-EBONY	448.6	112.3	38	0	0	X	0000
5.	5	SUNDRY-LINEAR	323.5	260.6	5	0	0	X	0000
6.	6	SUNDRY-LINEAR	291.1	110.4	25	0	0	N	0000
7.	7	SUNDRY-AREA	327.6	397.1	32	0	0	N	0000
8.	8	#TEAK-FOIL	563.9	350.4	7	0	0	X	0000
9.	9	MEL-CHIP-18MM	447.8	361.8	31	0	0	X	0000
10.	10	SUNDRY-UNIT	273.5	352.2	10	0	0	X	0000
11.	11	WHITE-LAM-1MM	273.9	133.9	21	0	0	Y	0000
12.	12	OAK-BEAM	518.6	198.4	3	0	0	N	0000
13.	13	#TEAK-FOIL	329.5	195.6	47	0	0	N	0000
14.	14	EBONY-LAM-1MM	554.2	295.3	48	0	0	X	0000
15.	15	HARDBOARD-4MM	392.8	116.1	21	0	0	X	0000

Destacking - part list

In this example several different pallet layouts are used. In many cases it may be necessary to specify different layouts for different parts, for example, it may dangerous to stack very small parts in a 4 x 4 layout.

The part list is optimised in the usual way. The Destacking information is shown in the 'Review runs summaries'. The optimisation automatically includes an advanced algorithm that ensures optimisation takes account of the stations sizes set in the Destacking parameters.

The Destacking pictures show the layout for each part.



pictures

These can be used for controlling and checking the destack process.

Two other reports are available:-

### **Station summary**

This shows how each station is loaded and the order of parts arriving at each station.

Review runs											
File Edit View Settings Summaries Stock Help											
Batch reports											
Summaries											
Advanced											
00115/DS2 batch test/DS2 batch test/DSMQO-X/single/SQ											
Bsb No	Length mm	Width mm	Bsb Qty	Part No	Part / Description	Part Qty	Part Ln	Part Wd	Part Orientation	Part	Part
<b>Station number 1</b>											
Bsb 1	440.2	757.8	2	1. 1		17	2	2		!	10
Bsb 5	338.8	1014.8	2	17. 17		29	2	2		!	10
Bsb 7	743.6	915.6	2	9. 9		31	2	2		!	10
Bsb 10	430.5	145.9	1	23. 23		6	1	1			1
Bsb 11	610.6	1128.4	2	14. 14		48	2	2		!	10
Bsb 13	642.4	882.8	2	16. 16		26	2	2		!	10
Bsb 14	271.6	1335.0	2	21. 21		2	2	2		!	10
			<b>13</b>			<b>159</b>					
<b>Station number 2</b>											
Bsb 2	735.0	1268.8	2	19. 19		27	2	2		!	10
Bsb 6	718.0	912.8	2	2. 2		9	2	2		!	10
Bsb 8	287.8	567.8	2	11. 11		21	2	2		!	10
Bsb 9	416.8	1057.2	2	12. 12		3	2	2		!	4
			<b>8</b>			<b>60</b>					
<b>Station number 3</b>											
Bsb 3	653.0	1211.8	2	25. 25		37	2	2		!	10
			<b>2</b>			<b>37</b>					
<b>Station number 4</b>											
Bsb 4	244.6	917.2	2	4. 4		38	2	2		!	10
			<b>2</b>			<b>38</b>					
<b>Station number 5 Manual</b>											
Bsb 12	392.8	116.1	1	15. 15		21	1	1			5
Bsb	650.9	372.5	0	20. 20		5	1	1			4
			<b>1</b>			<b>26</b>					

Station summary

### Destacking Summary

This shows for each cutting pattern how the parts are produced and the sequence they arrive at stations.

Ptn	Open Parts	No	Part / Description	Length mm	Width mm	Stn	Qty	Group / Pictures
1	3	1.	1	368.9	210.1	1	9	2 2 !
		19.	19	624.4	357.5	2	18	2 2 !
		25.	25	595.9	316.5	3	36	2 2 !
2	4	1.	1	368.9	210.1	1	8*	2 2 !
		4.	4	448.6	112.3	4	3	2 2 !
		19.	19	624.4	357.5	2	9*	2 2 !
		25.	25	595.9	316.5	3	1*	2 2 !
3	1	4.	4	448.6	112.3	4	35*	2 2 !
4	1	17.	17	497.4	159.4	1	28	2 2 !
5	2	2.	2	446.4	349.0	2	9*	2 2 !
		17.	17	497.4	159.4	1	1*	2 2 !
6	1	9.	9	447.8	361.8	1	24	2 2 !
7	1	9.	9	447.8	361.8	1	7*	2 2 !
8	1	11.	11	273.9	133.9	2	21*	2 2 !
9	2	12.	12	518.6	198.4	2	3*	2 2 !
		23.	23	430.5	145.9	1	6*	1 1
10	1	14.	14	554.2	295.3	1	40	2 2 !
11	1	14.	14	554.2	295.3	1	8*	2 2 !
12	1	15.	15	392.8	116.1	5	21*	1 1
13	1	16.	16	431.4	311.2	1	24	2 2 !
14	1	16.	16	431.4	311.2	1	2*	2 2 !
15	1	20.	20	640.9	372.5	5	3	1 1
16	1	20.	20	640.9	372.5	5	2*	1 1
17	1	21.	21	657.5	125.8	1	2*	2 2 !

Destacking summary

### Using Destacking information

- All the reports can be easily printed and used at the Destacking area or for planning.
- For Homag/Holzma/Homag Automation destacking machinery the destacking information can be downloaded (via the Saw interface) for use by automatic destacking machinery.
- Labels for each pallets and/or each stack can be printed in the office.

### Baseboards

Many customers offstack to cut to size baseboards rather than pallets. Destacking can be set up for this (or a mixture of both).

Part list - BSR50

File Edit View Optimise Help

Title AUTOMATIC DESTACKING Opt DESTACK Saw SINGLE

	Description	Material	Length	Width	Quantity	Over	Under	Grain	Edge	Destacking Style	Destacking Mode	Ir ^
Global						0 %	0 %					
1.	BU05HK-BACK	HARDBOARD-4MM	474.0	710.0	20	0	0	N	0000	BASE_1	S	
2.	BU05MB-BASE	MEL-CHIP-18MM	474.0	585.0	20	0	0	N	ww00	BASE_1	A	
3.	BU05ME/LEFT	MEL-CHIP-18MM	585.0	870.0	45	0	0	N	00w0	BASE_1	A	
4.	BU05ME/RIGHT	MEL-CHIP-18MM	585.0	870.0	45	0	0	N	000w	BASE_1	A	
5.	BU05MP-PLINTH	MEL-CHIP-18MM	500.0	150.0	20	0	0	N	0000	BASE_1	A	
6.	BU05MR-RAIL	MEL-CHIP-18MM	474.0	75.0	40	0	0	N	0000	BASE_1	A	
7.	BU05MS-SHELF	MEL-CHIP-18MM	474.0	395.0	20	0	0	N	ww00	BASE_1	A	
8.	BU05wD-WHITE-D...	WHITE-LAM-1MM	495.0	570.0	20	0	0	N	www	BASE_1	A	
9.	BU05wW-WHITE...	WHITE-LAM-1MM	495.0	150.0	20	0	0	N	www	BASE_1	A	
10.	HU06HK-BACK	HARDBOARD-4MM	574.0	710.0	25	0	0	N	0000	BASE_2	A	
11.	HU06MB-BASE	MEL-CHIP-18MM	574.0	585.0	25	0	0	N	ww00	BASE_2	M	
12.	HU06MP-PLINTH	MEL-CHIP-18MM	600.0	150.0	25	0	0	N	0000	BASE_2	M	
13.	HU06MR-RAIL	MEL-CHIP-15MM	574.0	75.0	50	0	0	N	0000	BASE_2	M	
14.	SU05HK-BACK	HARDBOARD-4MM	998.0	745.0	30	0	0	N	0000	BASE_1	S	
15.	SU05MB-BASE	MEL-CHIP-18MM	964.0	595.0	30	0	0	N	ww00	BASE_1	S	
16.	SU05ME/LEFT	MEL-CHIP-18MM	580.0	870.0	60	0	0	N	00w0	BASE_2	A	
17.	SU05ME/RIGHT	MEL-CHIP-18MM	580.0	870.0	60	0	0	N	00w0	BASE_1	M	
18.	SU05MF-FASCIA	MEL-CHIP-18MM	1000.0	180.0	15	0	0	N	00ww	BASE_1	M	

BSR50 / NUM

Destacking with Baseboards

The destacking pictures show the layout for each part on the baseboards.

Review runs

File Edit View Settings Summaries Stock Help

Batch reports  
Summaries  
Advanced

Offcut summary  
Distribution summary  
Edging summary  
Machine times  
Saw loading summary  
Destacking summary  
Station summary  
Destacking pictures  
Patterns  
Machining

### Destacking pictures

AUTOMATIC DESTACKING  
00002/BSR50/BSR50/?DESTACK/?SINGLE/M1

<p>Part:1.BU05HK-BACK Stacks:1 Stn:2 Baseboard:948x1420 Style:BASE_1</p> <p>474 X 710 474 X 710</p> <p>474 X 710 474 X 710</p>	<p>Quantity:20 Part:2.BU05MB-BASE Patterns:3-4 Stacks:1 Stn:1 Baseboard:948x1170 Style:BASE_1</p> <p>BU05MB-BASE BU05MB-BASE 474 X 585 474 X 585</p> <p>BU05MB-BASE BU05MB-BASE 474 X 585 474 X 585</p>	<p>Quantity:20 Part:3.BU05ME/LEFT Patterns:10 Stacks:1 Stn:1 Baseboard:1170x1740 Style:BASE_1</p> <p>585 X 870 585 X 870</p> <p>585 X 870 585 X 870</p>	<p>Quantity:45 Part:4.BU05ME/RIGHT Stacks:1 Stn:2 Baseboard:1170x1740 Style:BASE_1</p> <p>585 X 870 585 X 870</p> <p>585 X 870 585 X 870</p>
<p>Quantity:45 Part:5.BU05MP-PLINTH Patterns:10-11 Stacks:1 Stn:2 Baseboard:1000x300 Style:BASE_1</p> <p>BU05MP-PLINTH BU05MP-PLINTH 500 X 150 500 X 150</p> <p>BU05MP-PLINTH BU05MP-PLINTH 500 X 150 500 X 150</p>	<p>Quantity:20 Part:6.BU05MR-RAIL Patterns:7 Stacks:1 Stn:2 Baseboard:948x150 Style:BASE_1</p> <p>BU05MR-RAIL BU05MR-RAIL BU05MR-RAIL BU05MR-RAIL</p>	<p>Quantity:40</p>	<p>Quantity:1</p>

Destacking pictures - Baseboards

The program also provides a cutting list for the Baseboards ready for optimising.

	Description	Material	Length	Width	Quantity	Over	Under	Grain	Edge	Destacking Style	Destacking Mode	Ir ^
Global						0 %	0 %	N	0000			
1.	20	MEL-CHIP-15MM	948.0	1480.0	1	0	0	N	0000			
2.	14	MEL-CHIP-15MM	1996.0	1490.0	1	0	0	N	0000			
3.	1	MEL-CHIP-15MM	948.0	1420.0	1	0	0	N	0000			
4.	10	MED-DEN-FIBRE-2...	2860.0	2316.0	2	0	0	N	0000			
5.	7	MEL-CHIP-15MM	948.0	790.0	1	0	0	N	0000			
6.	15	MEL-CHIP-15MM	1928.0	1190.0	1	0	0	N	0000			
7.	17	MEL-CHIP-15MM	1160.0	1740.0	1	0	0	N	0000			
8.	3"	MEL-CHIP-15MM	1170.0	1740.0	2	0	0	N	0000			
9.	11	MED-DEN-FIBRE-2...	2360.0	2316.0	2	0	0	N	0000			
10.	5	MEL-CHIP-15MM	1000.0	300.0	1	0	0	N	0000			
11.	16	MED-DEN-FIBRE-2...	3500.0	2340.0	2	0	0	N	0000			
12.	19	MEL-CHIP-15MM	2000.0	300.0	1	0	0	N	0000			
13.	6	MEL-CHIP-15MM	948.0	150.0	1	0	0	N	0000			
14.	12	MED-DEN-FIBRE-2...	620.0	2420.0	2	0	0	N	0000			
15.	2	MEL-CHIP-15MM	948.0	1170.0	1	0	0	N	0000			
16.	18	MEL-CHIP-15MM	2000.0	360.0	1	0	0	N	0000			
17.	8	MEL-CHIP-15MM	990.0	1140.0	1	0	0	N	0000			
18.	9	MEL-CHIP-15MM	990.0	300.0	1	0	0	N	0000			

Destacking - Baseboard picking list

*Note* - the baseboard cutting list has the same name as the part list with a hyphen added. e.g. 'Cabinets', 'Cabinets-'. This list is found in the 'Cutting list' section.

### **Flexible Destacking**

The destacking options are very flexible and can be set up for:-

- Offstacking to the floor (no station sizes)
- Offstacking to a mix of automatic and manual stations
- Offstacking to include one or more 'Overflow' stations
- Use of 'Pallet groups'

### **Pallet groups**

The program also includes more general options to take account of Pallet groups. For example, a field (information box) is available at the part list to set a pallet group number for each part.

This ensures the optimisers arrange the pattern layouts so parts in the same pallet group are finished before considering parts from other pallet groups. This speeds up later production and assembly operations and helps with delivery times for specific parts.

For example, a customer recently needed to set up their system to produce 1 job at a time and used the Pallet group option for this. The flexibility of the optimisers also allowed 'changeover' patterns where one group finished and the next started so waste was minimised.

### **Summary of Destacking**

Destacking requires the optimising module: PO

	Destacking
Maximum items in library	9999
Maximum number of stations	20
Automatic machinery	•
Manual destacking	•
Allow overflow stations	•
Pallet groups	•
Fixed pallets	•
Baseboards	•
Destack to floor	•
Labels for stacks or pallets	•
Destack pictures	•
Destack Summary	•
Station summary	•
Download to destack machinery	•