PLUS 2D : Nesting Software
File Interface Specification

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Options for DXF, RTF output
MaxSubPlate Size

File Interface specification for PLUS Command line option

Calling procedure

Call the Plus EXE with the command line parameter
PLUS2D.EXE /Solve InputFilename.inp
e.g.

Plus2d.exe /Solve Glass1.inp

The Output will be created in the same directory in which the input file exists.
InputFilename.Out : Contains the output of the layouts :
This gives the details of each layout. For each part in the layout it outputs, the LowerLeft point of the part, and whether the part is rotated or not.
InputFilename.Cut : Contains the output of the CUT instructions

The Layouts drawings are available as Metafiles in the TEMP directory of the PLUS 2D program.

Error codes

The command returns an exit code, which can be verified. 0 is returned on Success.
In addition to the error code, an error description is written into "**PlusError.txt**" file.

0	Success
1	Incorrect parameters, filename missing
2	Specified File does not exist
3	Specified File is not a Proper Input File
4	Wrong Stock Input, Possibly Duplication of Stock Id
5	Wrong Part Input, Possibly Duplication of Part Id
6	Wrong Setting Input, Optimization Setting not within Range
7	Unable to write into Output File
8	Wrong Stock or Part Data, Probably dimension of Stock/Part may be Zero
9	Stock/Part is not Input

Input File Format Description

	Actual Input	Description of Input (All dimensions are in millimeters)
1	"PLUS" 200 1 0 0 0	PLUS : for identifying file type 200: current version number Generate Cut Information File 0/1 [0=> No, 1=> Yes] Show Progress Dialog 0/1 [0=> No, 1=> Yes] Generate DXF files 0/1 [0=> No, 1=> Yes] Generate RTF output 0/1 [0=> No, 1=> Yes]
2	STOCKS	Keyword for STOCKS input
3	3	Number of Stocks
4	"1" 1200 2400 3 288 0 0	Stock name as double quoted string Stock Width Stock Height Stock Quantity available Stock Cost 0 : reserved for future : should always be 0 0 : reserved for future : should always be 0
5	"2" 900 1800 2 162 0 0	
6	"3" 1500 3000 1 450 0 0	
7	PARTS	Keyword for PARTS input
8	4	Number of Parts
9	"1" 345 345 0 12	Part Name as a double quoted string Part width Part height Part rotation 0/1 [0=> Not allowed, 1=> Allowed] Part Quantity required
10	"2" 454 543 1 23	
11	"3" 1200 200 1 24	
12	"4" 100 100 0 45	
13	PROFILES	Keyword for non rectangular parts, if present.
14	2	Number of profiles input
15	"p1" "C:\tmp\p1.dxf" 1 10 1	Profile name, Full file name of DXF file, Part rotation, Part quantity, Allow pairing for part.
16	"p2" "C:\tmp\p2.dxf" 1 12 1	
17	SETTINGS	Keyword for SETTINGS
18	0 0 0 0 10 10 4 0	Part Grinding Margin Saw Width Allow Offcuts 0/1 [0=> No, 1=> Yes] Minimum Offcut Width (relevant only if Allow Offcut is 1) Minimum Offcut Height (relevant only if Allow Offcut is 1) Cut Complexity 0/1/2/3/4 0 : Simple X Cut first 1 : Simple Y Cut first 2 : Simple cut 3 : Three Stage Cut 4 : Complex cuts Optimization Setting : Between (0, 100) : **0 indicates quick results** Use Maximum SubPlate size/MachineBladeLength **0 indicates Ignore the value** **Will try to cut the stock into subplates smaller than the given size**

Note: In the EVAL version, as with the normal User Interface, only the first layout is written into the file when the Optimization Setting is set to "Quick Results" for large problems. For small problems all results will be output. **Therefore please use the last number in the SETTINGS as "0" which corresponds to "Quick Results"**

Sample Input File for the problem in the SAMPLES directory “Glass1.plj”

```
"PLUS"        140    1      1
STOCKS
3
"a"      3660   2250   10      82350   20      1
"b"      3210   2360   10      75756   20      1
"c"      1984   2594   10      51465   20      1
PARTS
13
"a"      1062   2080   1       2
"b"      905    1070   1       4
"c"      885    1075   1       4
"d"      765    2065   1       4
"e"      1180   2070   1       4
"f"      1120   2330   1       3
"g"      1145   2345   1       3
"h"      910    1070   1       14
"i"      1150   2345   1       2
"j"      1257   2280   1       3
"k"      1025   2330   1       3
"l"      1250   2290   1       1
"m"      1040   2330   1       1
PROFILES
2
"p1" "C:\tmp\p1.dxf" 1 10 1
"p2" "C:\tmp\p2.dxf" 1 12 1
SETTINGS
0       0       0       200     200     0       0
```

Output File Format

Output is available in the following formats

1. RTF output (as available in the User Interface version)
2. DXF output (as available in the User Interface version)
3. EMF files for the Layout drawings
4. Extension .OUT file as described below
5. Extension .CUT file as described below

PlusError.txt : file contains Error code and description in case of errors, else empty.

The Results Shown below are Obtained after Optimization of **Glass.plj** file

	Actual Output			**Description of Output (All dimensions in mm)**
1	12			Number of Stock Used
2	89.32			Total Utilization
3	48			Total Parts Required
6	48			Total Parts Nested
7	0			Reusable Offcuts
8	10			Number of Layouts
9	1			Layout No
10	1			Qty. to be cut
11	88.98			Utilization
12	“a”			Stock Sheet Id
13	3660			Stock Sheet Width
14	2250			Stock Sheet Height
15	3			Number of Parts
16	0	0	0	First 2 Values stands for Lower Left Coordinate of part For First Part in Layout X = 0 Y = 0 Rotation = 0
17	1180	0	0	For Second Part X = 1180 Y = 0 Rotation = 0
18	2360	0	0	For Second Part X = 2360 Y = 0 Rotation = 0
19	0			Number of Offcuts in Layout

Cutting Instructions File Format

	Actual Output				**Description of Output (All dimensions are in mm)**
1	10				Number Of Layouts
2	1				Layout Number
3	4				Number of Cutlines
6	0	2070	3660	2070	The First Cut Will be made from (0,2070) to (3660,2070)
7	3540	0	3540	2070	The First Cut Will be made from (3540,0) to (3540,2070)
8	2360	0	2360	2070	The First Cut Will be made from (2360,0) to (2360,2070)
9	1180	0	1180	2070	The First Cut Will be made from (1180,0) to (1180,2070)