

PLUS 2D : Nesting Software **File Interface Specification**

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Options for DXF, RTF output
MaxSubPlate Size

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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
5	"2" 900 1800 2 162 0 0	Stock Width
6	"3" 1500 3000 1 450 0 0	Stock Height Stock Quantity available Stock Cost 0 : reserved for future : should always be 0 0 : reserved for future : should always be 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
10	"2" 454 543 1 23	Part width
11	"3" 1200 200 1 24	Part height
12	"4" 100 100 0 45	Part rotation 0/1 [0=> Not allowed, 1=> Allowed] Part Quantity required
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,
16	"p2" "C:\tmp\p2.dxf" 1 12 1	Part quantity, Allow pairing for part.
17	SETTINGS	Keyword for SETTINGS
18	0 0 0 10 10 4 0 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)