Packmage CAD

http://www.packmage.com

Packmage Introduction

- Packmage CAD is developed by Guangzhou Eprinter Co., Ltd.
- This is an independent software, rather than the form of plug-ins rely on Illustrator, AutoCAD and other software.
- User only need to login http://www.packmage.com and register there to try the free demo.

R & D and application platform

- Packmage CAD is developed on .Net Framework platform。
- It only works on Microsoft PC currently, doesn't support other OS such as Mac OS Linux, Android etc.
- It must work under internet connection, it is convenient for feature update, box templates update and online communication.

Packmage CAD Workflow



Module Feature1: Box templates Library



Module feature2: Parametric design



Module feature 3: CAD Drawing and 3D Definition



Module feature4: 3D Display





Module feature 5: Step and repeat

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Box Design Case

Requirements:

Pharmaceutical box packaging design. drugs with PP material bottles, box size 29.5mm*29.5mm*54mm, common tubetype box, 250 gray cardboard, caliper 0.3mm_o

Step01.Select box template from library

According to requirements, we select FF008b here



Step02_1.Parametric design->Initial value



Step02_2.Parametric design->Parametric analysis

- Packmage uses dieline size as the size of the box structural drawing so we need to calculate both size of the items and the dieline. Given consideration to caliper, the length and width of the dieline need to add the caliper; because there're two dust flaps on the top and bottom of the box, the depth of the box should add 2 times caliper. So the dieline size of the box should be 30mm*30mm*55mm(in order to facilitate the design and production, usually will take up an integer multiple of 0.5)
- Input the parameter values which is critical to the box structure in the main parameters area(unit: mm): Length (1) =30, width (w) =30, depth (d) =55, offset (sty1) =1, dust flaps (sty2) =1, caliper (cal) =0.3, adjust the relevant parameter settings according to requirements.

Step02_3.Parametric design->Secondary parameter settings

t2=10,r2=0,c=10,cr=5,g=9,x1=0, keep other parameters the same. In order to save paper during step and repeat we modify the values of c and g here, modify values of t2, r2, and x1 is to facilitate die cutting.

Default value after input main

Values after secondary

parameter modification

代码	值	代码	值
of1	0.5	of2	0.5
w2	29.5	x4	1.5
y4	1	t3	15
ε	9	gr	0
×1	0	с	10
cr	5	e	6
a	24	s1	0
s2	3.5	xЗ	0
n	3	r2	0
t2	10	x2	1

parameters

代码	值	代码	值
of1	0.5	of2	0.5
w 2	29.5	x4	1.5
y4	1	t3	15
g	13	gr	0
x1	1	с	17
cr	11.5	e	6
a	24	s1	0
s2	3.5	хЗ	0
n	3	r2	8
t2	15	x2	1

Step02_4.Parametric design->The final set of the parameters

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主参:	主参:										
代码		值									
1	ĸ			30							
w	宽			30							
d	高			55							
cal	纸厚			0.3							
sty1	高低位 1有/	′2无		1							
sty2	sty2 防尘翼单双刀 1/2										
sty3	sty3 插舌结构 1/2/3										
sty4	sty4 贴边倒圆角 1有/2无										
副参:	-										
代码	值	代	冯	值							
of1	0.5	of2	0	.5							
w2	29.5	x4	1	.5							
y4	1	t3	1	5							
g	9	ø	0								
×1	x1 0			0							
cr	m 5 e 6										
a	20.5										
s2	3.5	xЗ	0								
n	n 2										
t2	10	x2	1								



Step03. Check 3D blank sample

Click 3D button on the tool bar to login the 3D window, check whether the box shape effect meet the requriements or not, else we can go back to parametric design part adjust related values.



Short-cut key:

- V: unfold
- B: fold
- X: zoom out
- Z: zoom in
- M: automatic folding
- N: automatic rotating
- T: counterclockwise ratation
- Y: clockwise ratation
- R: reset
- F: adjust background
- G: paper color
- F1: help
- F2: full screen
- F4: screenshot
- W、A、S、D: arrow keys

The left mouse button: rorating control

Mouse button: zoom control

The right mouse button: Parallel move control

Step04. Export structural drawing for graphic design

After structural design finishec ->Click "file" ->"Save/save as"

here we choose PDF format.

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	文件名 (M):	FF008a_Test	保存(2)
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		Pdf (*.pdf) CAD Dxf (*.dxf) CAD Script (*.scr) Bitmap (*.bmp) Jpeg (*.jpg) Gif (*.gif) Png (*.png) Wmf (*.wmf) Html (*.html) For SilverLight (*.Pb)	

Step05.Save parametric design information

Close 3D window and come back to the main interface

->Click "file" ->"Save"

We save the file as FF008a_Test.zwBox。

zwbox format is the file format of Packmage, it stores the information of the box template and parametric design which could be recalled during parametric design process.

Step06. Dieline size transformation

We choose Photoshop as the graphic design tool in this case, Because PDF is a vector file, and PS is the matrix file, so the size of the file need to be transformed. Click remark panal on Packmage, check "show box size", get the size of width and hight in the stuctural unfolding drawing are 128.5mm and 135mm.



Step07-1.Graphic design->Size settings

Click new file on photoshop, adjust the size as following:

新建	×
名称(<u>N</u>): FF008a_Test	确定
_ 预设(₽): 自定	取消
宽度(₩): 128.5 毫米 ▼	存储预设(<u>S</u>)
高度(H): 135 毫米 ▼	删除预设(<u>D</u>)
分辨率(<u>R</u>): 300	
颜色模式(M): CMYK 颜色 💌 8 位 💌	
背景内容(<u>C</u>): 白色	图像大小:
≫ 高級	9.23M

Step07-2.Graphic design->import pdf file

Click new file on photoshop, adjust the size as following:

新建	×
名称(<u>N</u>): FF008a_Test	确定
预设(₽): 自定	取消
宽度(<u>W</u>): 128.5 毫米 ▼	_存储预设(<u>S</u>)
高度(日): 135 毫米 ▼	删除预设(<u>D</u>)
分辨率(R): 300 像素/英寸 ▼	
颜色模式(M): CMYK 颜色 ▼ 8 位 ▼	
背景内容(<u>C</u>): 白色	图像大小:
≫ 高級 ─────	9.23M

Step07-3.Graphic design->Import PDF file

- 1) Click"file"->"import" to import the PDF file.
- 2) here we need consider bleed, so we add 3mm on each side of the canvas area.

画布大小	×
当前大小: 9.23M 宽度: 128.52 毫米 高度: 134.96 毫米	确定 取消
新建大小: 10.1M 宽度(<u>W</u>): 134.52 高度(<u>H</u>): 140.96 毫米 マ	
定位:	
画布扩展颜色: 背景	

Step07-4.Graphic design->Final Design

After the graphic design finished we can save the file as JPF format (here we save as "FF008a_平面设计图.jpg") for Packmage 3D simulation。

PS: Only those graphic design formats such as jpg, gif, bmp, png which could work with Packmage 3D.



Step9. Texture

1) Come back to Packmage main interface, click"Open" to open the box template file FF008a_Test.zwBox on the box edit interface.

Step9-2.Texture->Import graphic design Click Texture button to in 幅 "FF008a_平面设计图.jpg" into the ,it will be displayed

on the layers panal。



Step9-3.Texture->Establish relationship between the parts of the box struture drawing and the layers

1) Select all parts in the parts panal (click on part in the parts panal, then press enter+A to select them all);

2) Check layer on the layers panal.



PS: Parts are the closed area in the structure drawing, During Texture process, we can texture different parts with different graphic designs, In this case we textured all the parts with one entire graphic design.

Step9-4.Texture ->Match graphic design with structural design

- 1) Roll the mouse button to adjust the size of the box.
- 2) Check layer on the layers panal to activate it in the edit window.
- 3) Match the graphic design with structural design.



Step9-5.Texture->Select 3D grahic quality

Click the selection box at the right side of the tool bar to select 3D graphic quality, here we choose high texture, then click confirm on the left side of the tool bar to finish the texture work.

PS: different difinition of the texture has different clarity and response speed in the 3D view process $_{\circ}$



Click 3D button in the tool bar login 3D window.

Step10. 3D



- Short-cut key:
- V: unfold
- B: fold
- X: zoom out
- Z: zoom in
- M: automatic folding
- N: automatic rotating
- T: counterclockwise ratation
- Y: clockwise ratation
- R: reset
- F: adjust background
- G: paper color
- F1: help
- F2: full screen
- F4: screenshot
- W_{\smallsetminus} A $_{\backsim}$ S $_{\backsim}$ D: arrow keys

The left mouse button: rorating control

Mouse button: zoom control

The right mouse button: Parallel move control

Step11-1.Step and repeat->Step and repeat calculation

Close 3D window, click Makeup button to login step and the peat window.

input width and height value of the cardboard then click calculate button, Packmage will step and repeat automatically.

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Click Preview button, Packmage will generate step and repeat graphics automatically according to the texture process.



Step11-3.Step and repeat->Output result

Click save button to save die-cut file, step and repeat file as PDF or DXF file.



Step11-4.Step and repeat->extra

The work described above is not enoughto complete an imposition of the work, it also need the help of other tools.

example1: the size of the paper has not been optimized under some circumstance, we need to consider the production situation pull the reference line interface -> use a special cutting tool to cut the size of the cardboard paper in step and repeat interface.

example2: In case the step and repeat result aren't reasonable or there's special requirements in production process, it need to adjust the step and repeat maually.

example3: If there's multiple boxes need to step and repeat on the same cardboard in order to save paper the we need to open the box templates in the main interface then add them to the box list, step and repeat each box template manually.