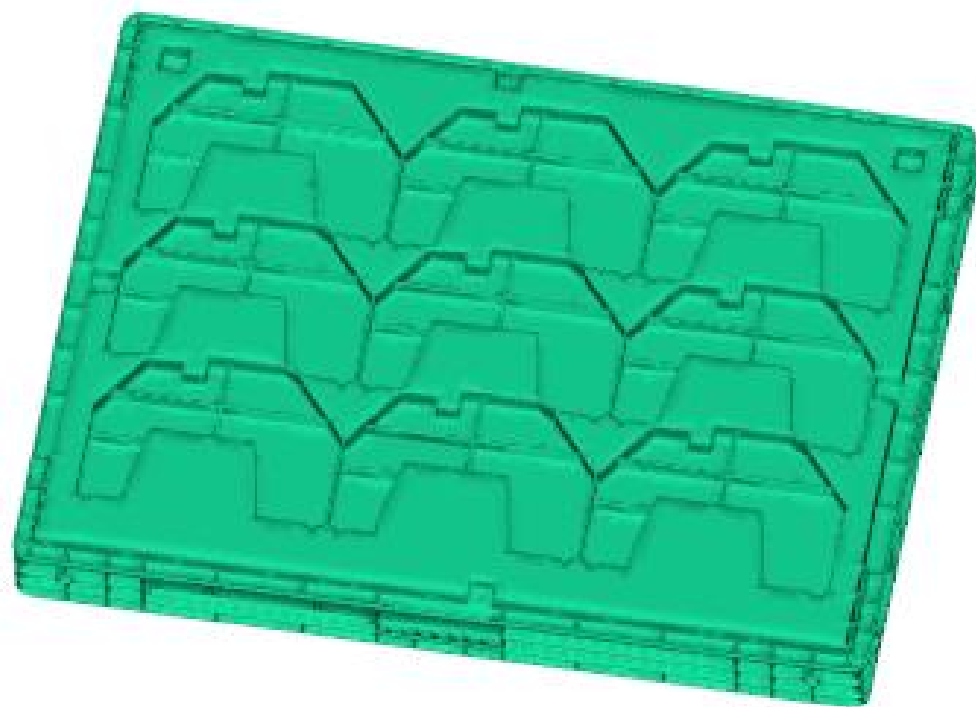


模流分析报告(Mold flow Analysis Report)



分析记录(Change Records)

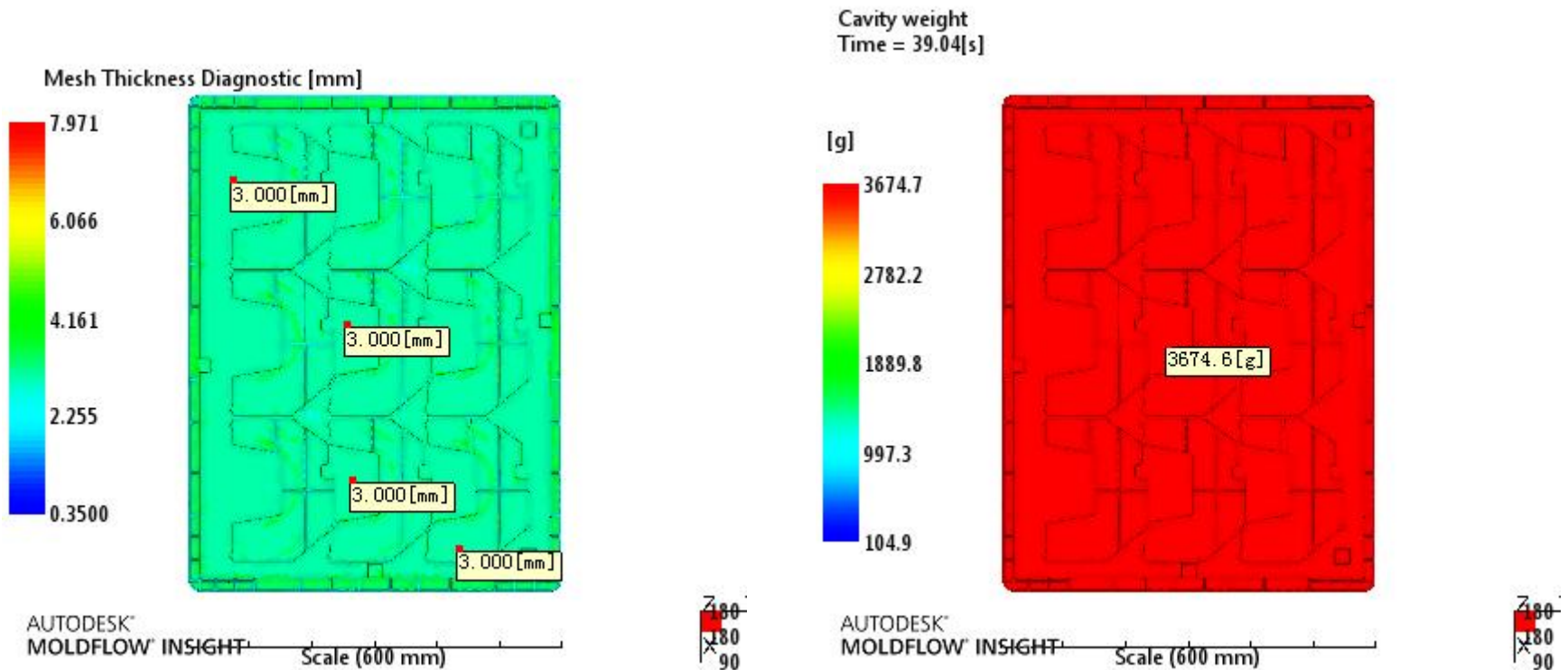
Consistence Technology

版本号 (Version number)	分析时间 (Analysis date)	分析内容 (Analysis content)	分 析 (Analysis)	备 注 (Remark)
0	2023.11.07	新分析(New analysis)-流 动(Flow)+翘曲(Warp)		

产品模型介绍(Introduction of Product Model)

➤ 壁厚(Thickness)

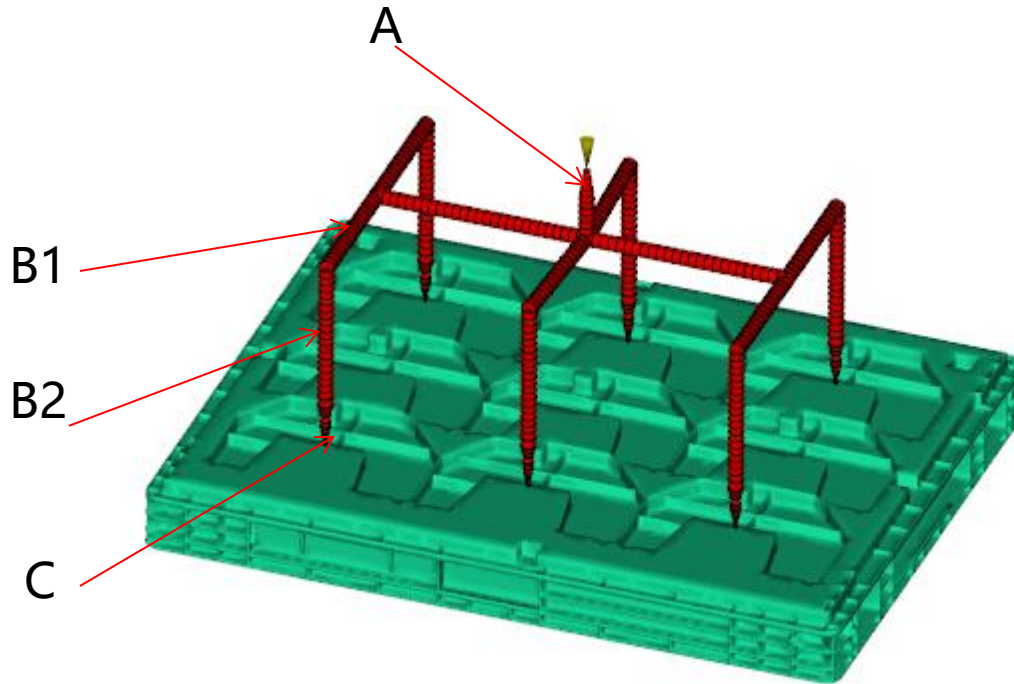
➤ 产品重量(Part weight)



产品重量(Part weight)(g)	3674.7
产品尺寸(The size of part-A)(mm)	792.07*594.31*80.12
投影面积 (Total projected area)(cm^2)	5670.8
模穴数(Number of cavity)	1X1
主壁厚(Average thickness)(mm)	3.0

浇注系统(Runner system)

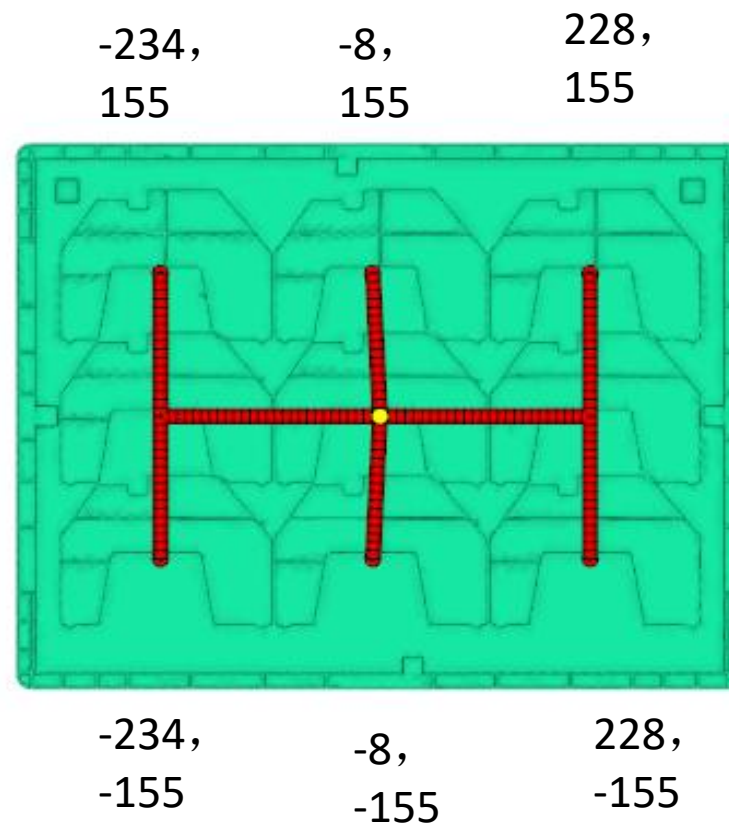
Consistence Technology



热流道系统(Hot runner system):TGP18VVT				
A-主射咀 (sprue)(mm)	B1-热流道(hot runner)(mm)	B2-热流道(hot runner)(mm)	C-热浇口(hot gate)(mm)	阀针 (Pin)(mm)
Ø8	Ø18	Ø18	Ø4.0	Ø6
热流道体积(The volume of hot runner)(cm ³)		632.7	冷流道体积(The volume of cold runner)(cm ³)	/

热 咀 位 置(The location of Nozzle)

Consistence Technology

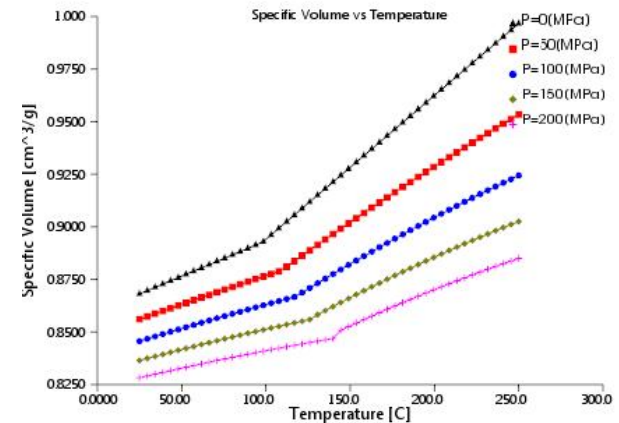
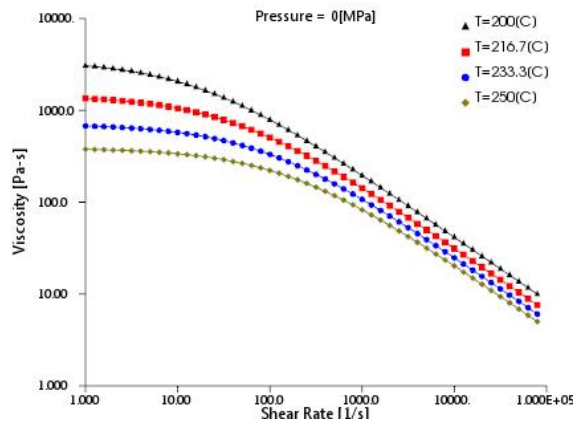


进胶位置是否和客户提供的位置一致(The gate location is same or not with the gate location provided by customer)

Yes

材 料(Material)

Family name	ACRYLONITRILE COPOLYMERS (ABS,	Mold surface temperature	60	C	Viscosity	
Trade name	AF385F	Melt temperature	225	C	Default viscosity model	Cross-WLF View
Manufacturer	LG Chemical	Mold temperature range (recommended)				Plot V
Link		Minimum	40	C	Juncture loss method coefficients	
Family abbreviation	ABS	Maximum	80	C	c1	0.00014 Pa^(1-c2)
Material structure	Amorphous	Melt temperature range (recommended)			c2	1.9
Data source	Autodesk Moldflow Plastics Lab	Minimum	200	C	Transition temperature	
Date last modified	16-APR-14	Maximum	250	C	Ttrans	97 C
Date tested	16-APR-14	Absolute maximum melt temperature	300	C		View t
Data status	Non-Confidential	Ejection temperature	89	C	Moldflow Viscosity Index	VI (224)0123
Material ID	23730				Melt mass-flow rate (MFR)	
Grade code	MAT5439				Temperature	220 C
Supplier code	LGCHEM	Maximum shear stress	0.3	M	Load	10 Kg
Fibers/fillers	Unfilled	Maximum shear rate	50000	1	Measured MFR	70 g/10min



客户是否提供材料的物性表或是牌号或是UDB文件(If they provided the trade name or properties table or UDB file)

No

是否使用代替材料分析(Whether to choose replaced material analysis)

Yes

工艺设置(Processing conditions)

➤ 充填条件(Filling Conditions)

模具温度(Mold temperature):

前模(Cavity) **60.00 C**

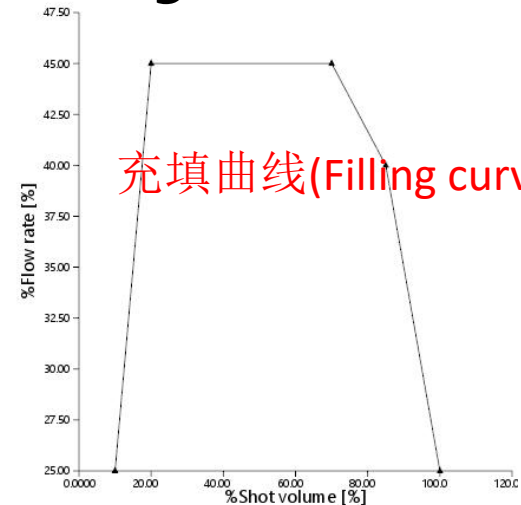
后模(Core) **60.00 C**

参考冷却分析结果(See the analysis results of cooling)

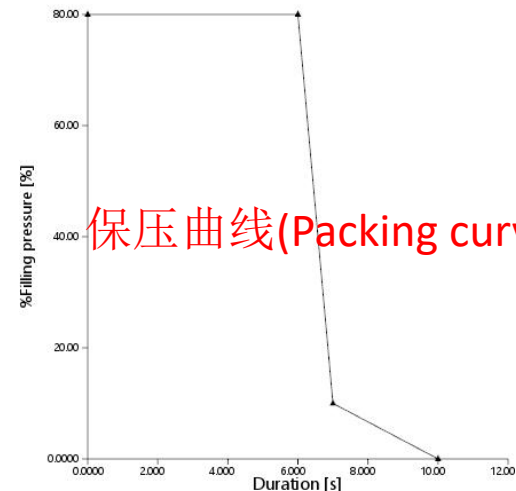
料温(Melt temperature): **225.00 C**

充填时间(Injection time): **7.4 S**

➤ 充填和保压曲线(Filling and Packing curve)



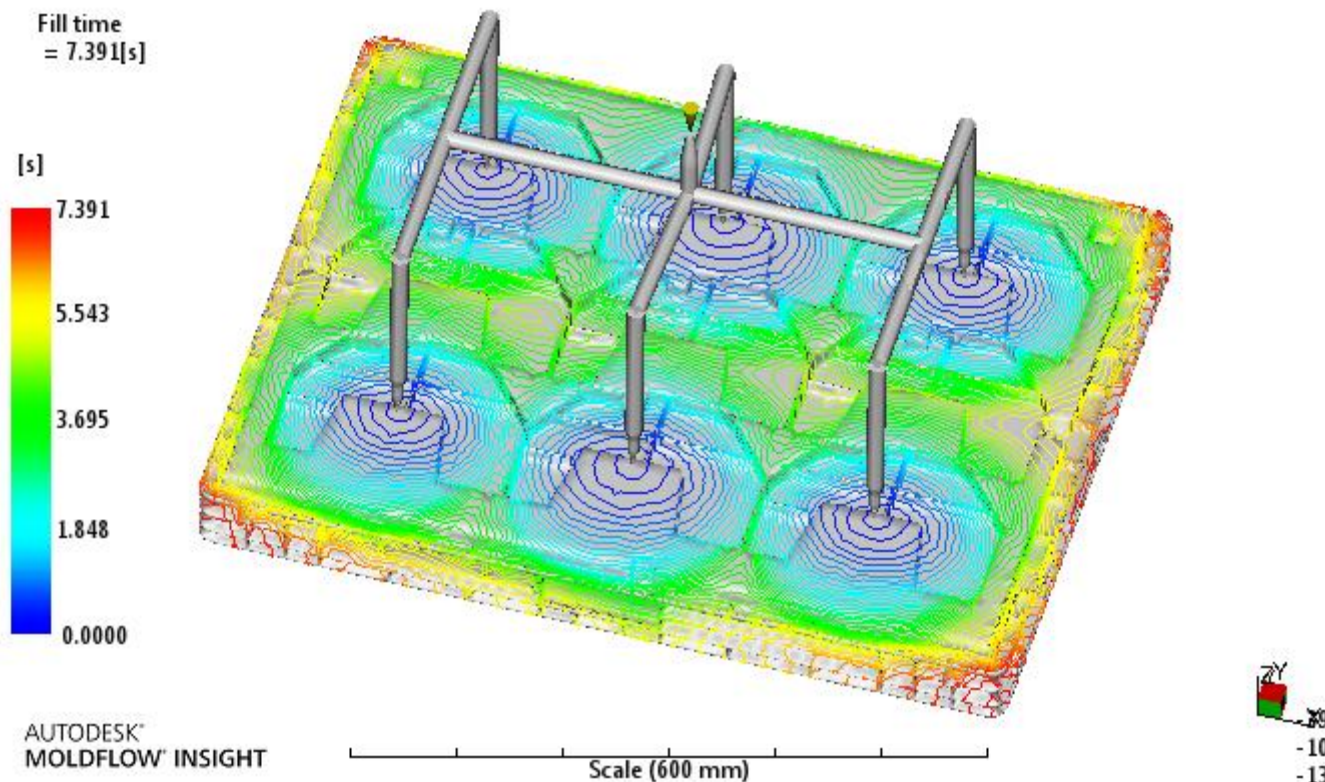
充填曲线(Filling curve)



保压曲线(Packing curve)

充填时间-等值线 (Fill time-contour)

Consistency Technology



充填时间(Fill time)(sec)

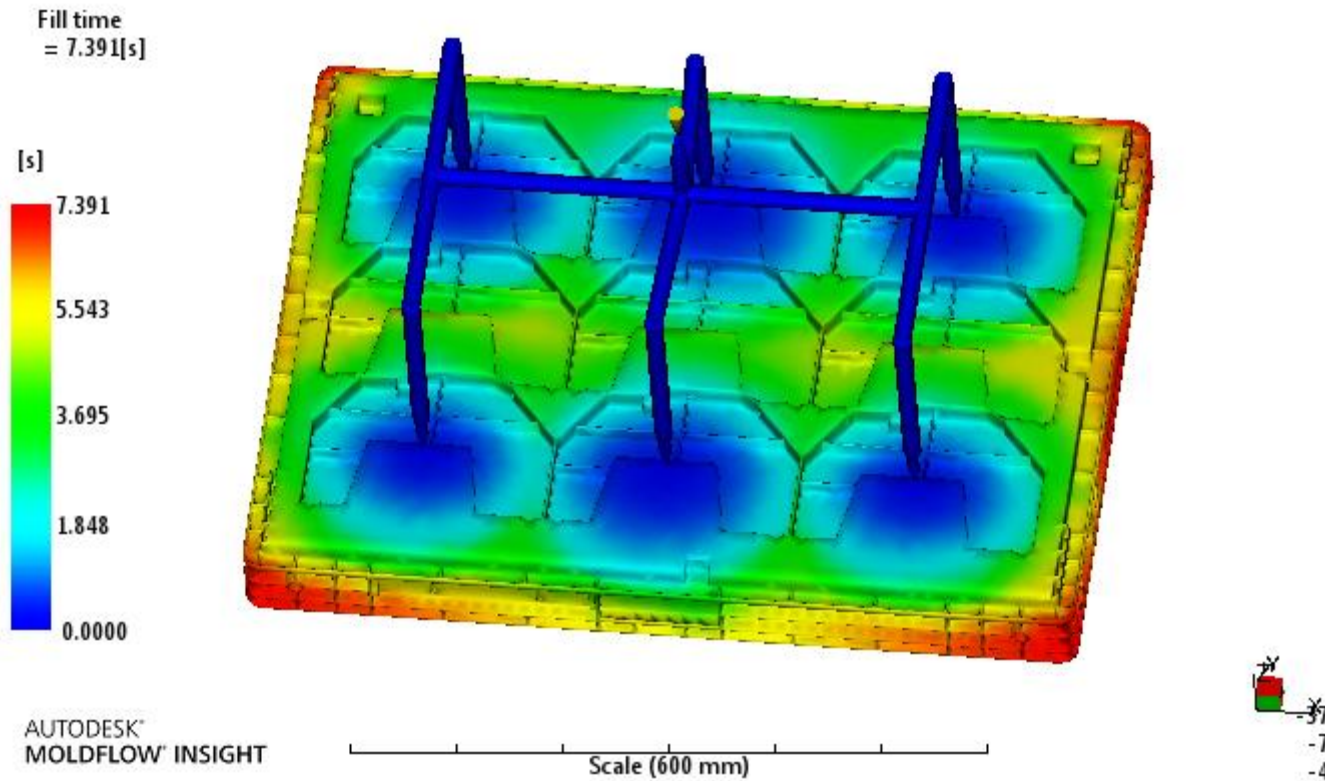
7.4

是否有明显的迟滞(Whether there is clear hesitation)

No

充填时间(Fill time)

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是否有短射(Whether there is Short shot)

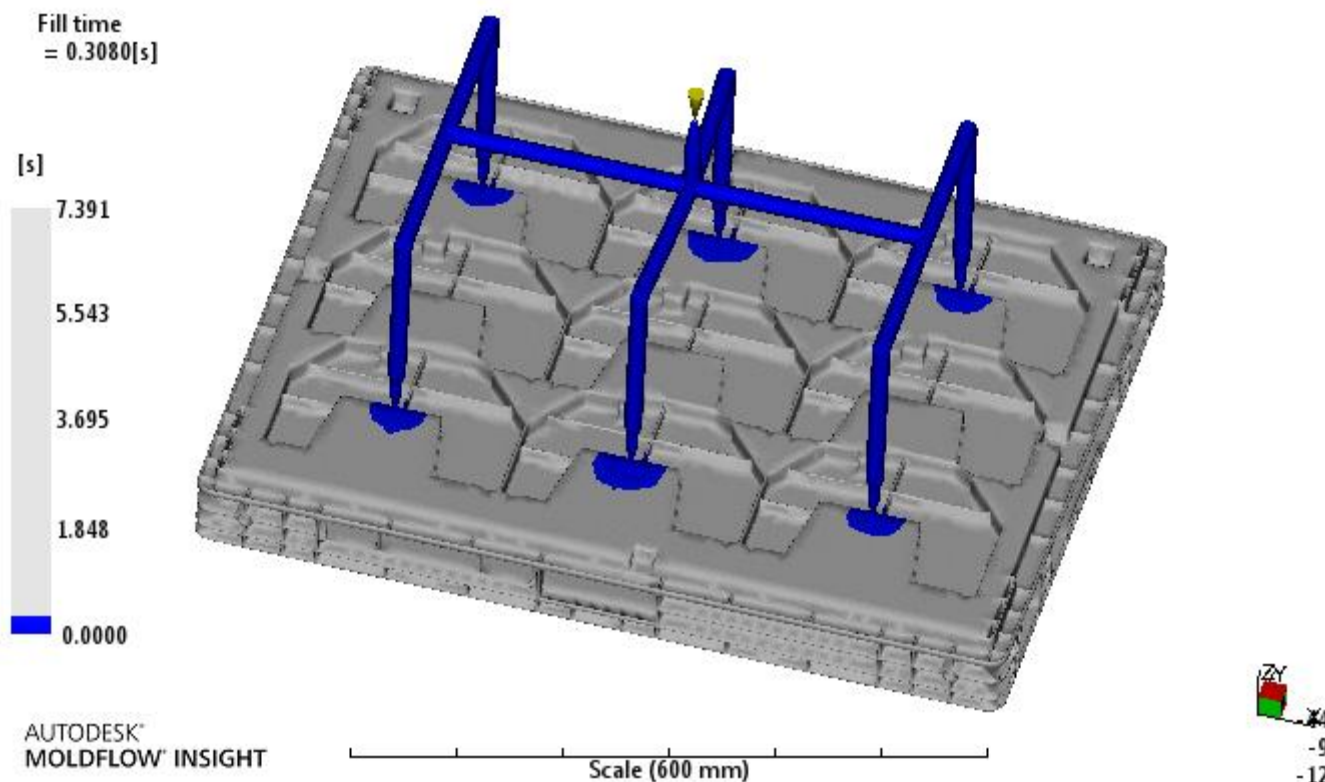
No

充填是否平衡(The degree of balance)

YES

充填时间-动画 (Fill time-Animation)

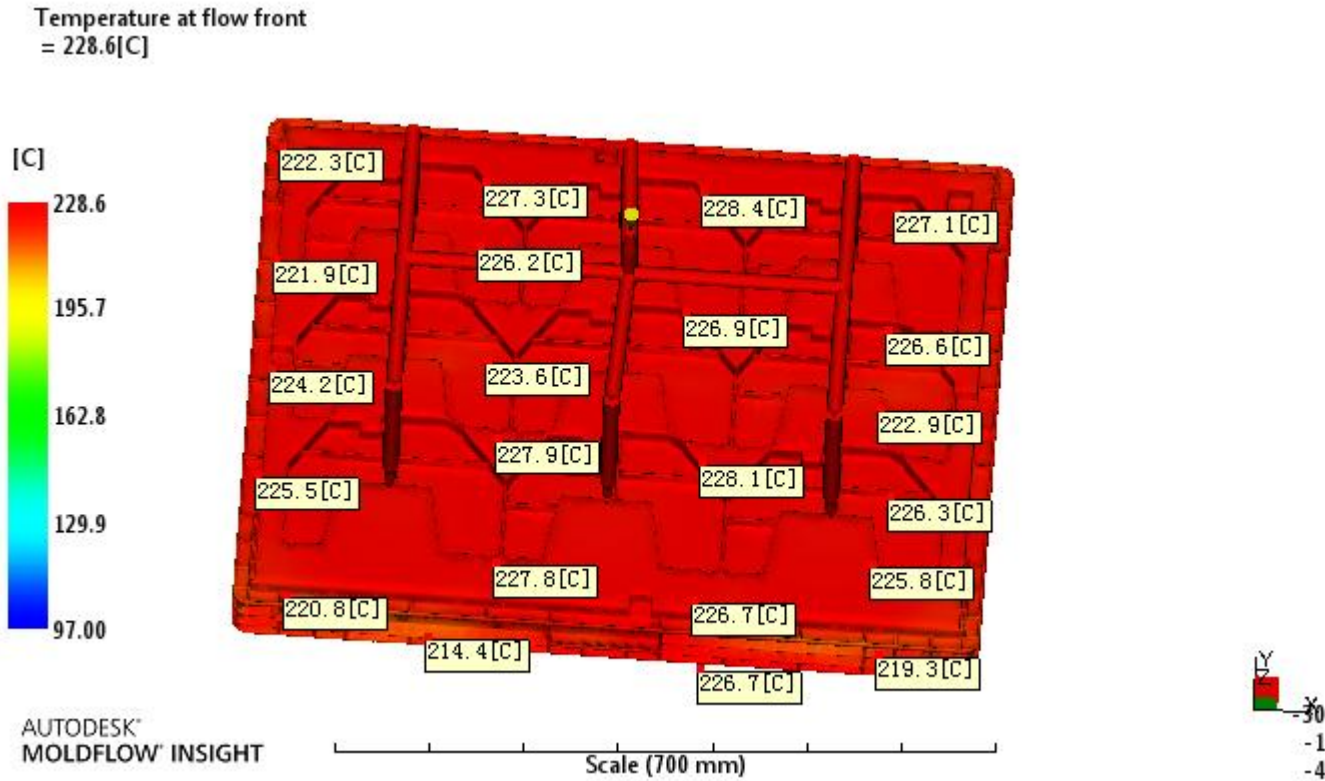
Consistent Technology



按 shift+F5 全屏观看动画(Press shift+F5 to watch animation)

波前温度(Temperature at the flow front)

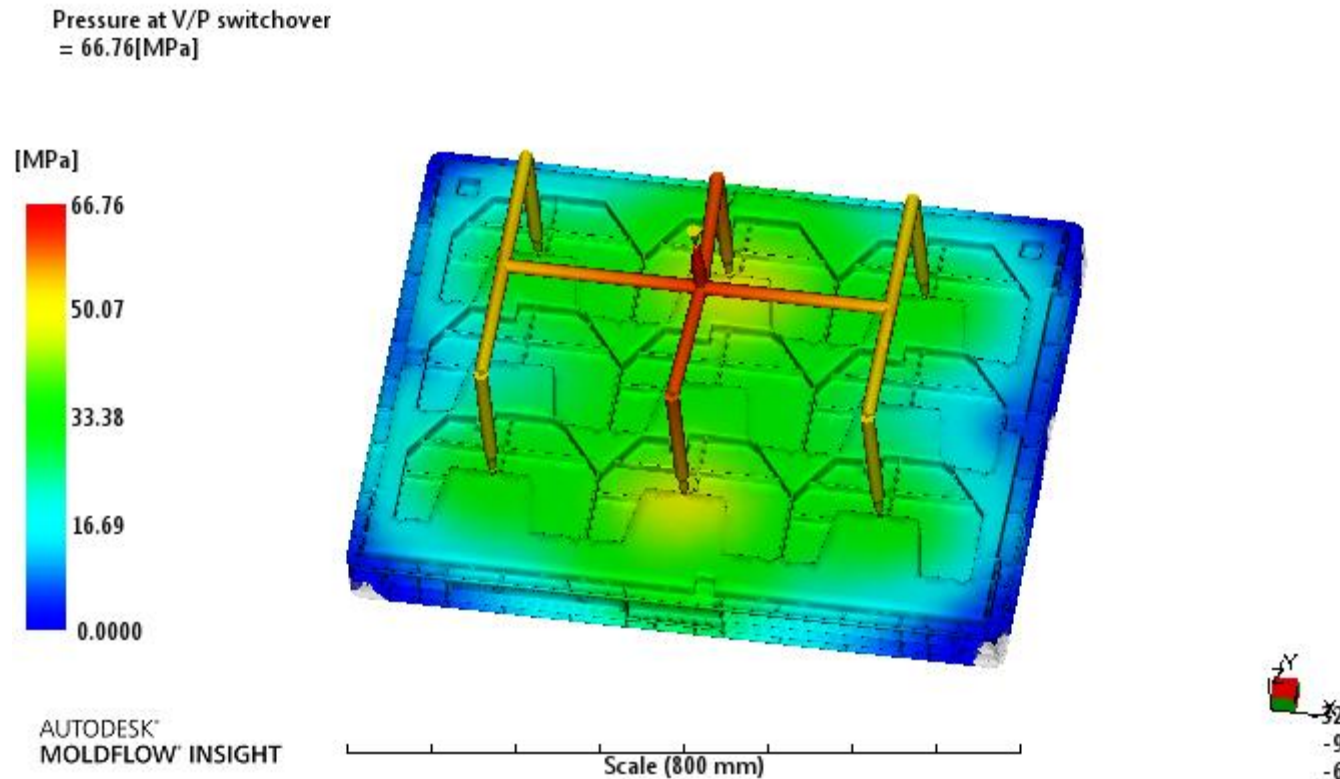
Consistency Technology



分析中用的料温(Melt temperature used in analysis)(°C)	225	主表面的波前温度差(Temperature difference at the flow front in main surface)(°C)	12
材料推荐的料温范围(Melt temperature range)(°C)	200-250	是否能接受此温度差(accept or not)	Yes

V/P 切换时的压力(Pressure at V/P switchover)

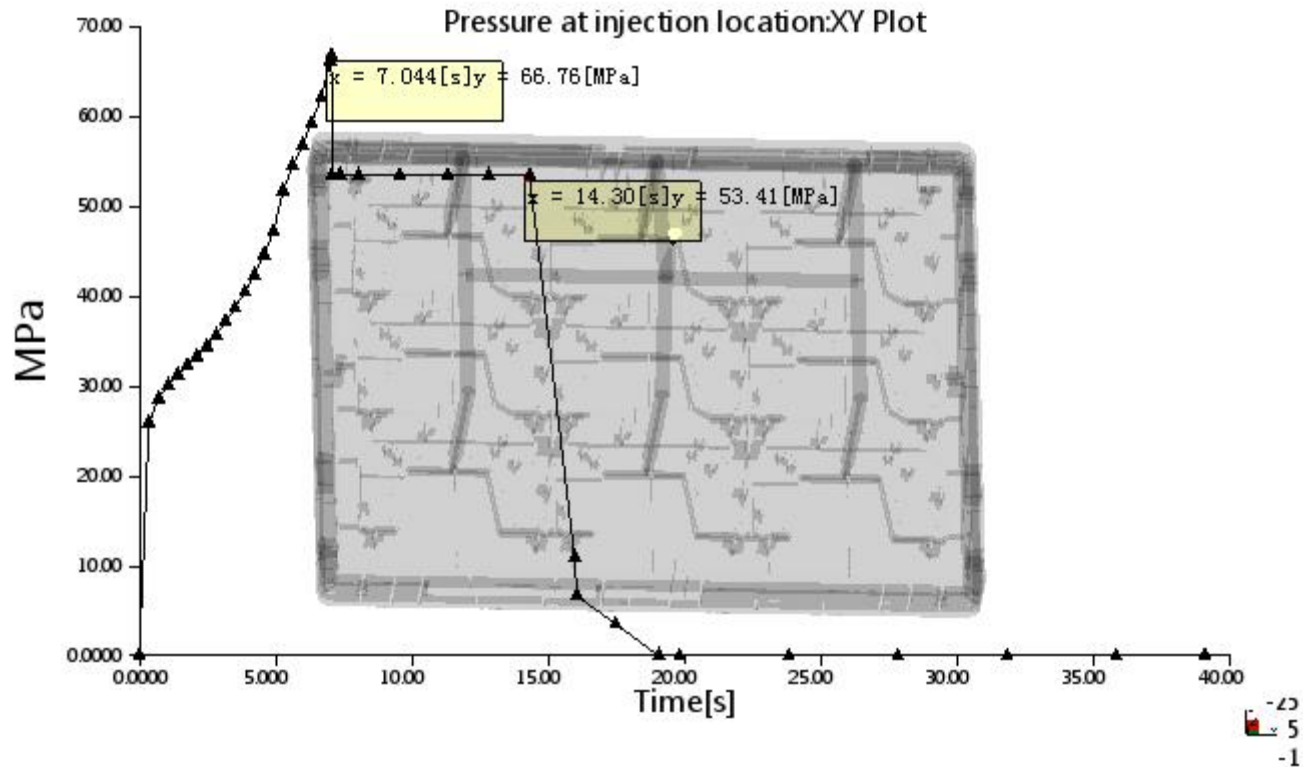
Consistence Technology



V/P切换时的压力(The pressure at v/p switchover)(Mpa)	66.8
热流道系统压力损失 (The pressure drop of hot runner system)(Mpa)	30

压力曲线(Pressure at injection location)

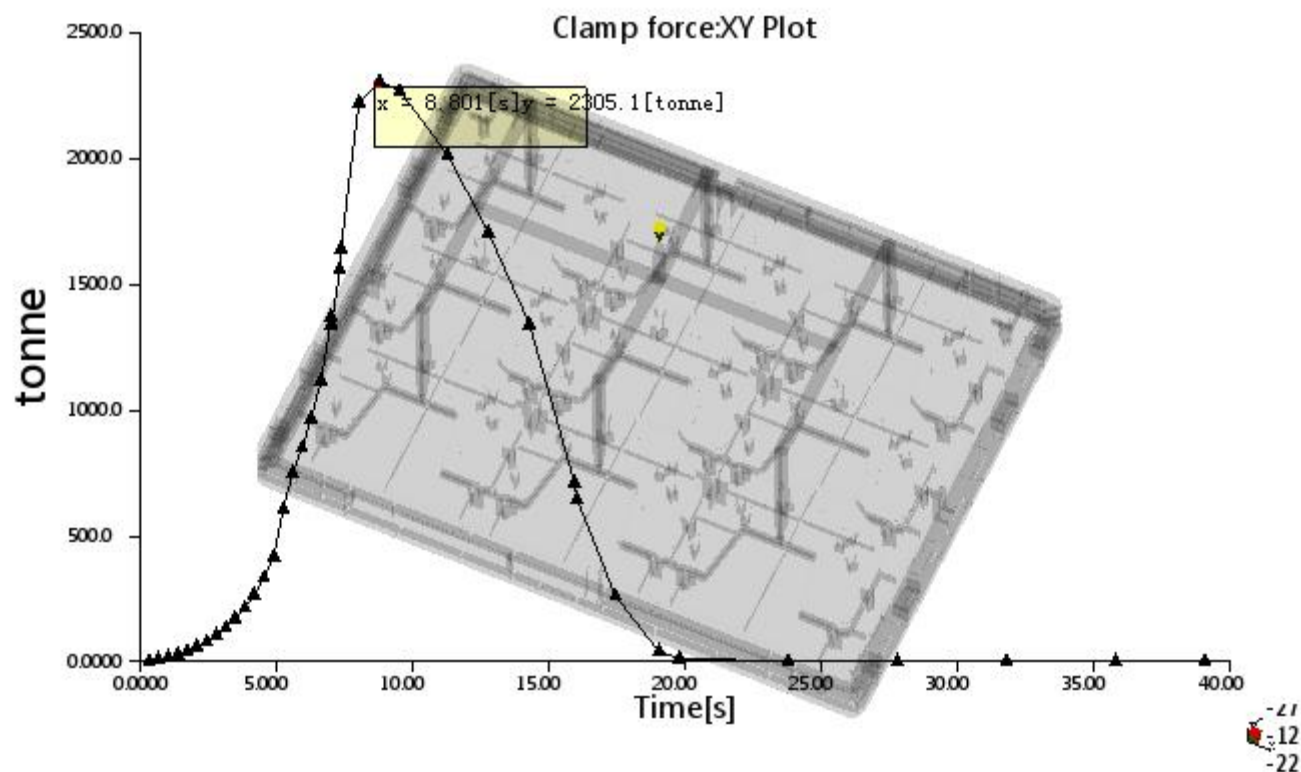
Consistence Technology



最大压力值(The max. pressure value)(Mpa)	66.8
最大压力值是否合理(Max. pressure value is or not reasonable)	accept

锁模力 XY 曲线(Clamp force: XY Plot)

Consistence Technology

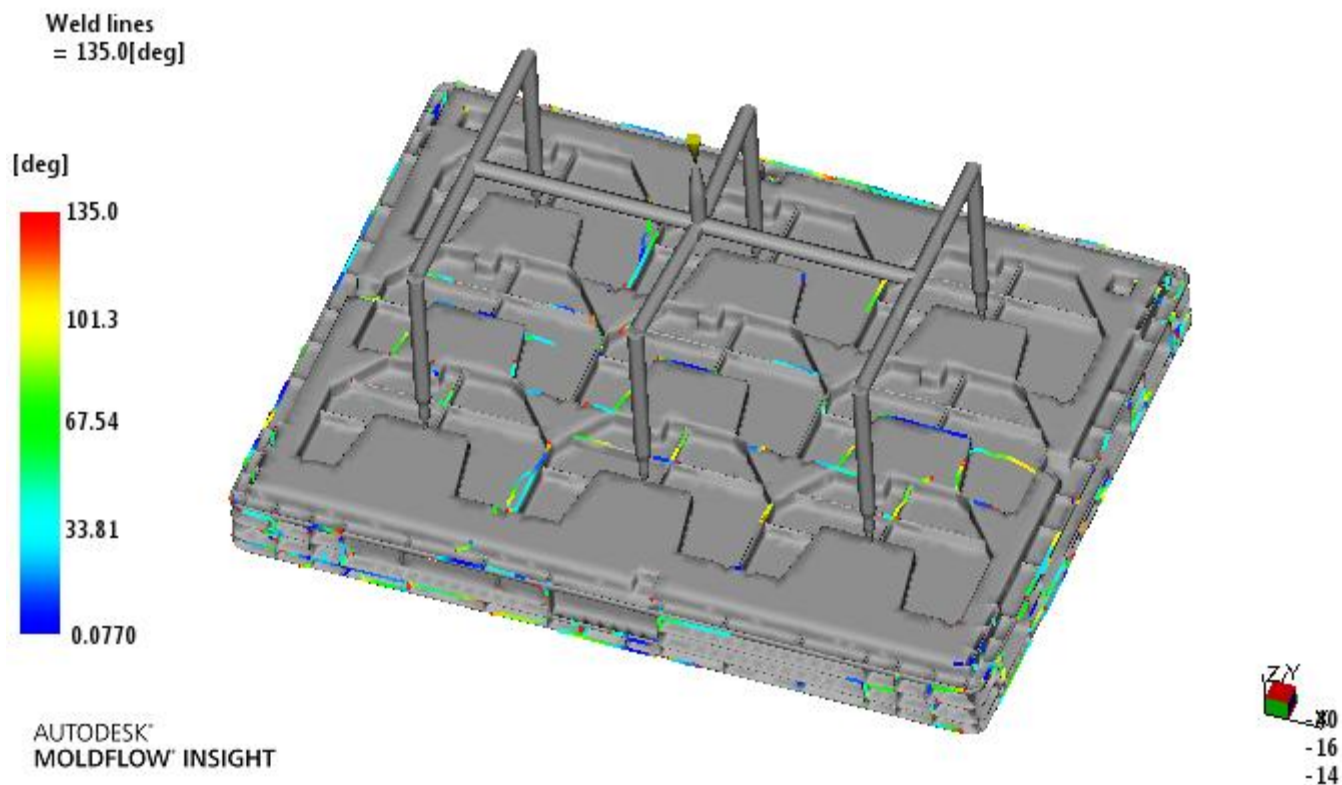


最大锁模力值(The max. Clamp force value) (tonne)

2305T

结合线 (Weld lines)

Consistency Technology



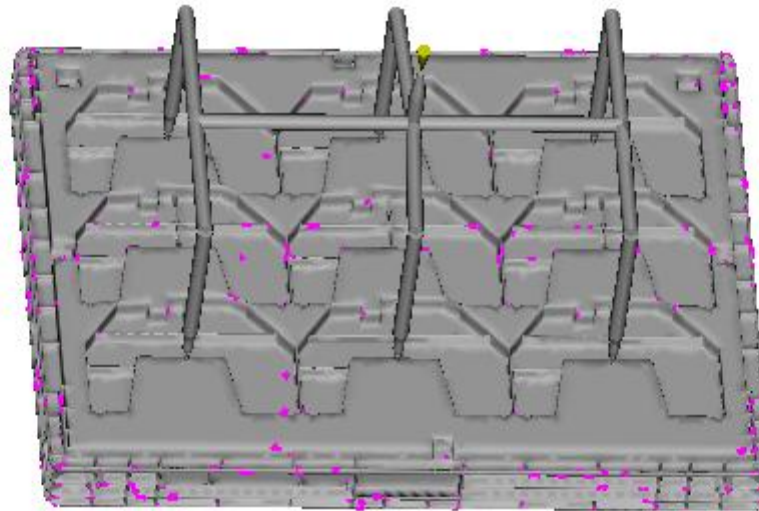
外观处结合线是否明显 (Have or not clear weld lines at appearance surface)

Yes

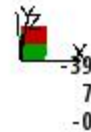
气 穴 (Air traps)

Consistency Technology

Air traps



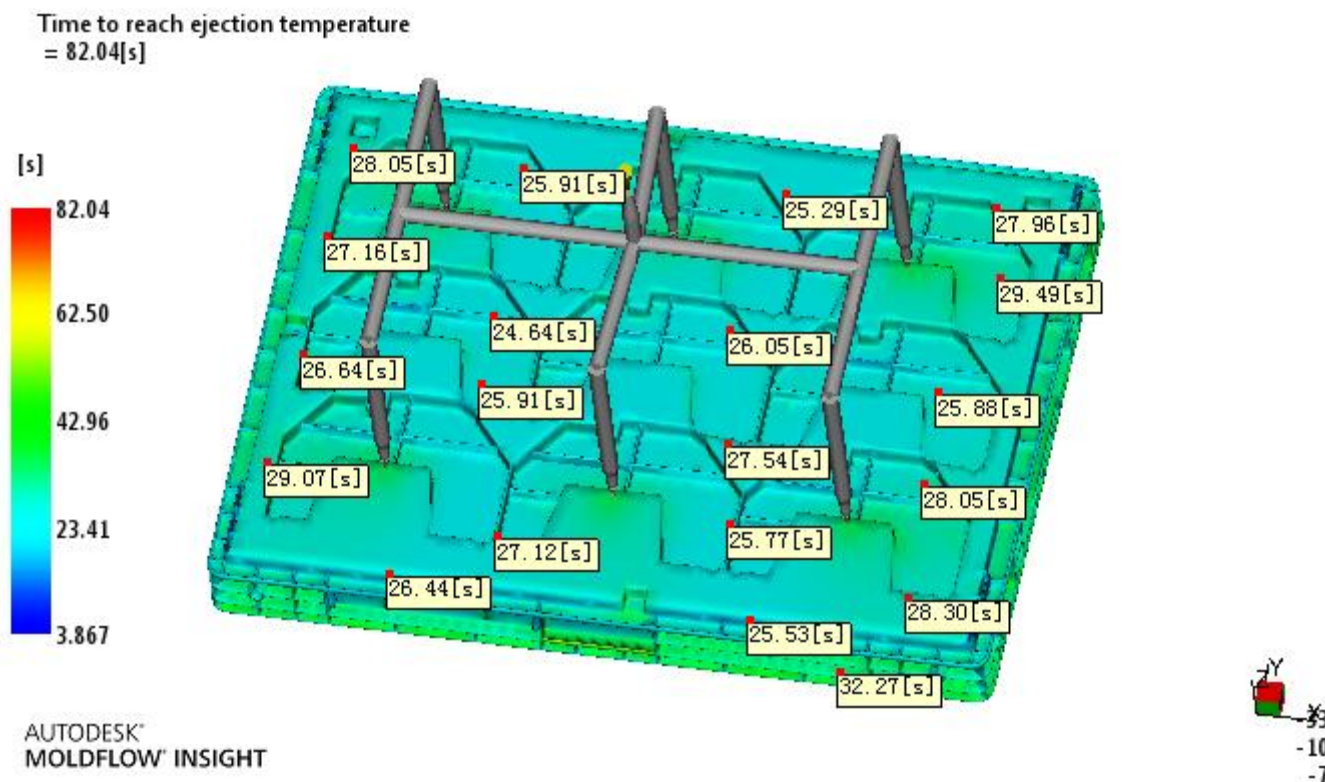
AUTODESK®
MOLDFLOW® INSIGHT



充填末端和结合线位置需要设置排气(Must make exhaust where have weld line and the end of filling).	
是否有严重困气(Serious air traps or no)	No

时间-到达顶出温度(Time to reach ejection temperature)

Consistency Technology

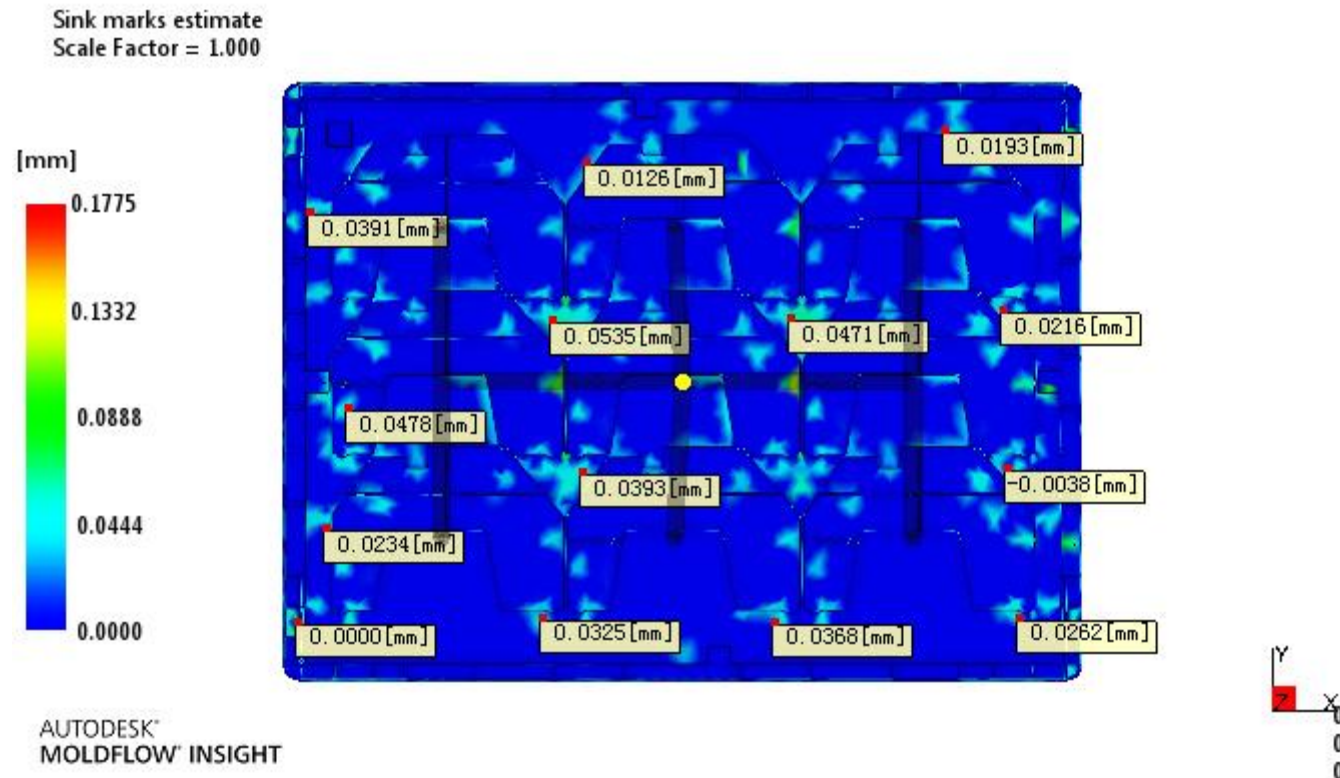


产品到达顶出温度的时间(The time of part to reach ejection temperature)(sec)

33

缩痕深度估算(Sink marks estimate)

Consistence Technology



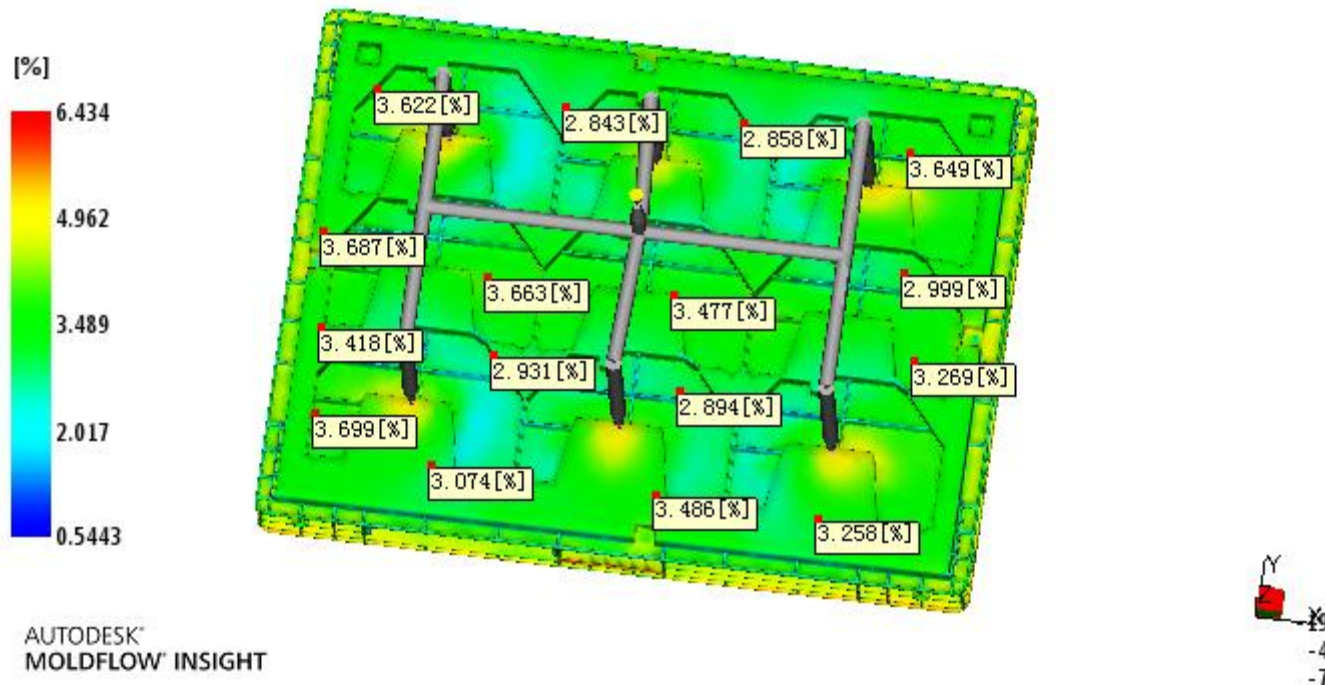
主表面是否有明显的缩痕(Whether there are clear sink mark at main surface).

Yes

体 积 收 缩(Volumetric shrinkage)

Consistent Technology

Volumetric shrinkage at ejection
= 6.434[%]



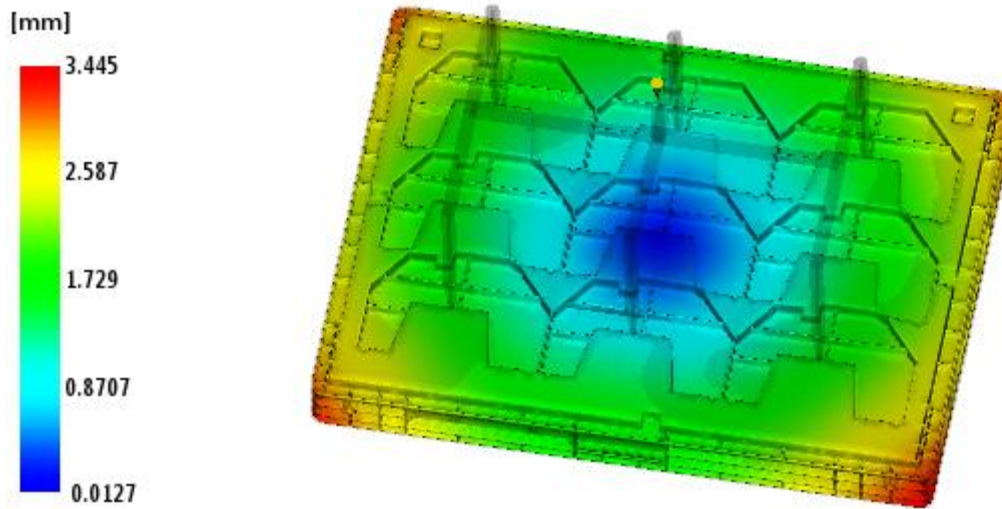
产品上的体积收缩是否均匀(Whether the volumetric shrinkage of part is uniform)

Yes

整体变形(Deflection, all effects : Deflection)

Consistency Technology

Deflection, all effects:Deflection
Scale Factor = 1.000



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变形结果包含均匀的收缩(The deflection include uniform shrinkage).

变形放大比例(The scale of deflection)

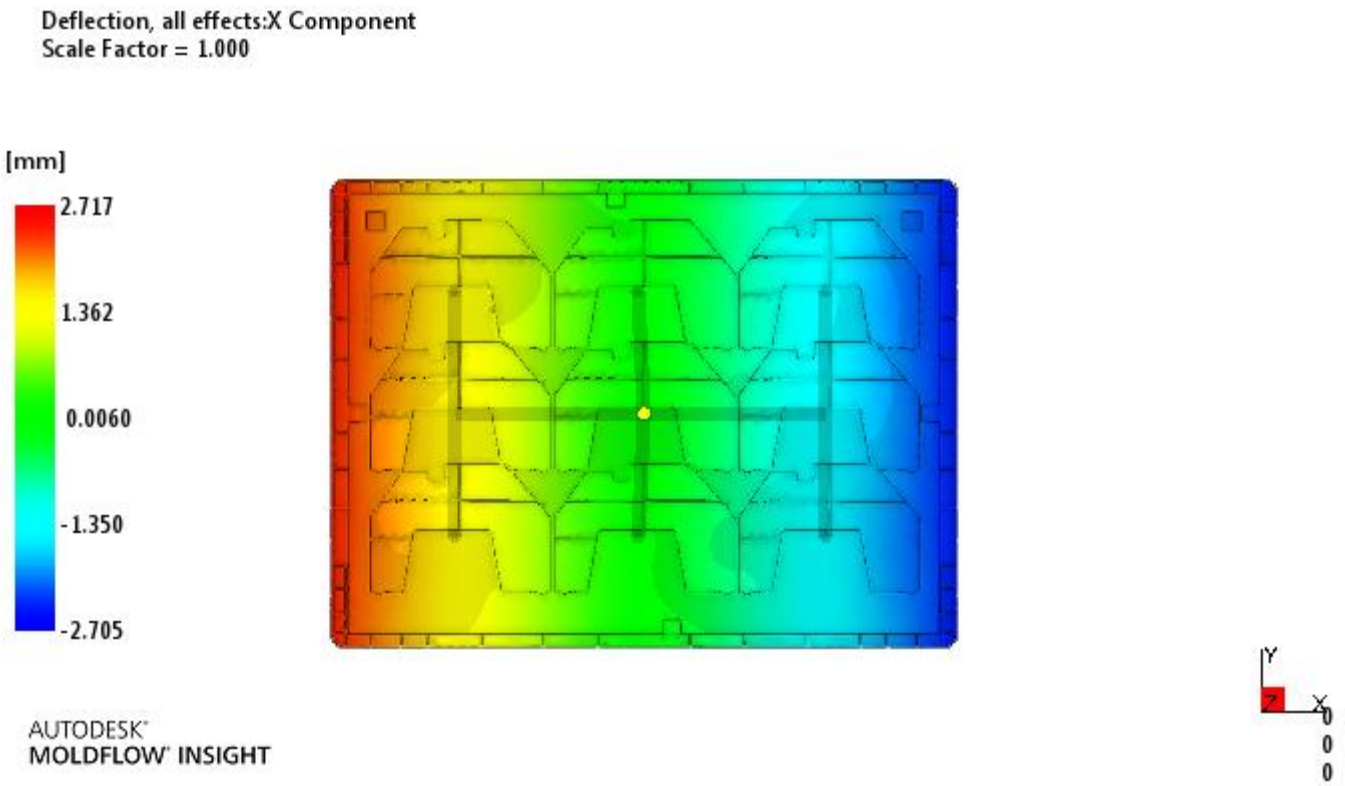
1

整体变形值(Total deflection value)(mm)

3.4

X 向 变 形(Deflection, all effects : X Component)

Consistency Technology

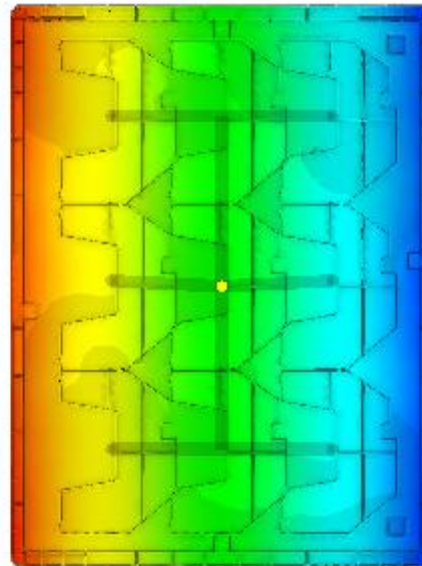
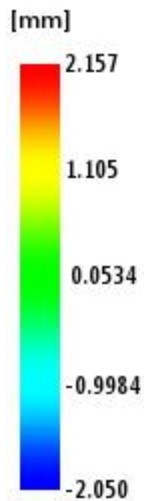


变形结果包含均匀的收缩(The deflection include uniform shrinkage).	
变形放大比例(The scale of deflection)	1
X向变形值(The deflection value of X component)(mm)	2.7

Y 向 变 形(Deflection, all effects : Y Component)

Consistent Technology

Deflection, all effects:Y Component
Scale Factor = 1.000



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变形结果包含均匀的收缩(The deflection include uniform shrinkage).

变形放大比例(The scale of deflection)

1

Y向变形值(The deflection value of Y component)(mm)

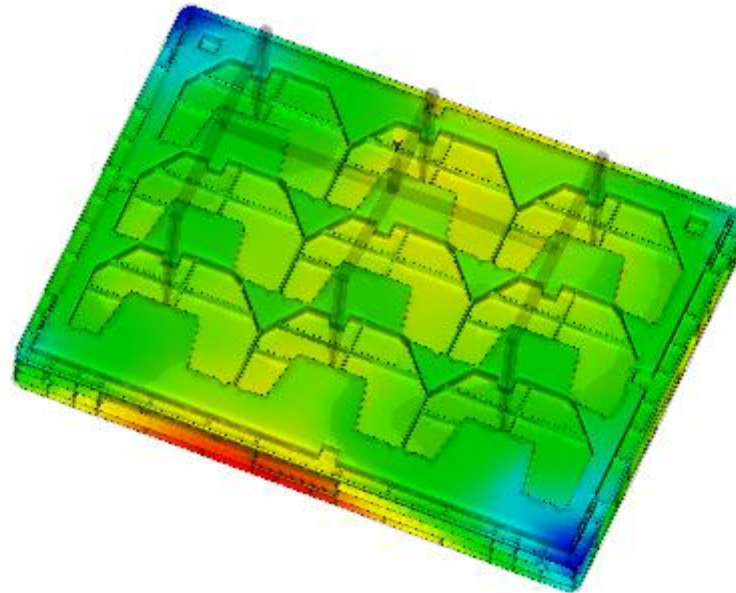
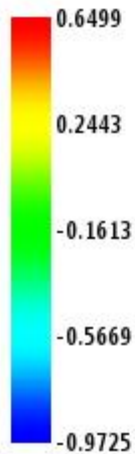
-2.1~2.2

Z 向 变 形(Deflection, all effects : Z Component)

Consistency Technology

Deflection, all effects:Z Component
Scale Factor = 1.000

[mm]



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变形结果包含均匀的收缩(The deflection include uniform shrinkage).

变形放大比例(The scale of deflection)

1

Z向变形值(The deflection value of Z component)(mm)

-0.97~0.65

结 论 & 建 议(Conclusions & Suggestions)

Consistence Technology

结果(Results)	方案(Case)
充填状况(Fill status)	OK
波前温度范围(Range of temperature at the flow front)(°C)	97~228.6
最大压力值(The max. pressure value)(Mpa)	66.8
最大锁模力值(The max. Clamp force value) (tonne)	2305T
结合线(Weld lines)	Have clear weld lines
是否有严重困气(Serious air traps)	No
此变形结果是否正常(The deflection is normal or not for this product)	Yes

结 果 仅 供 参 考(The result only to reference)!