



LONGXIANG INDUSTRIAL LIMITED

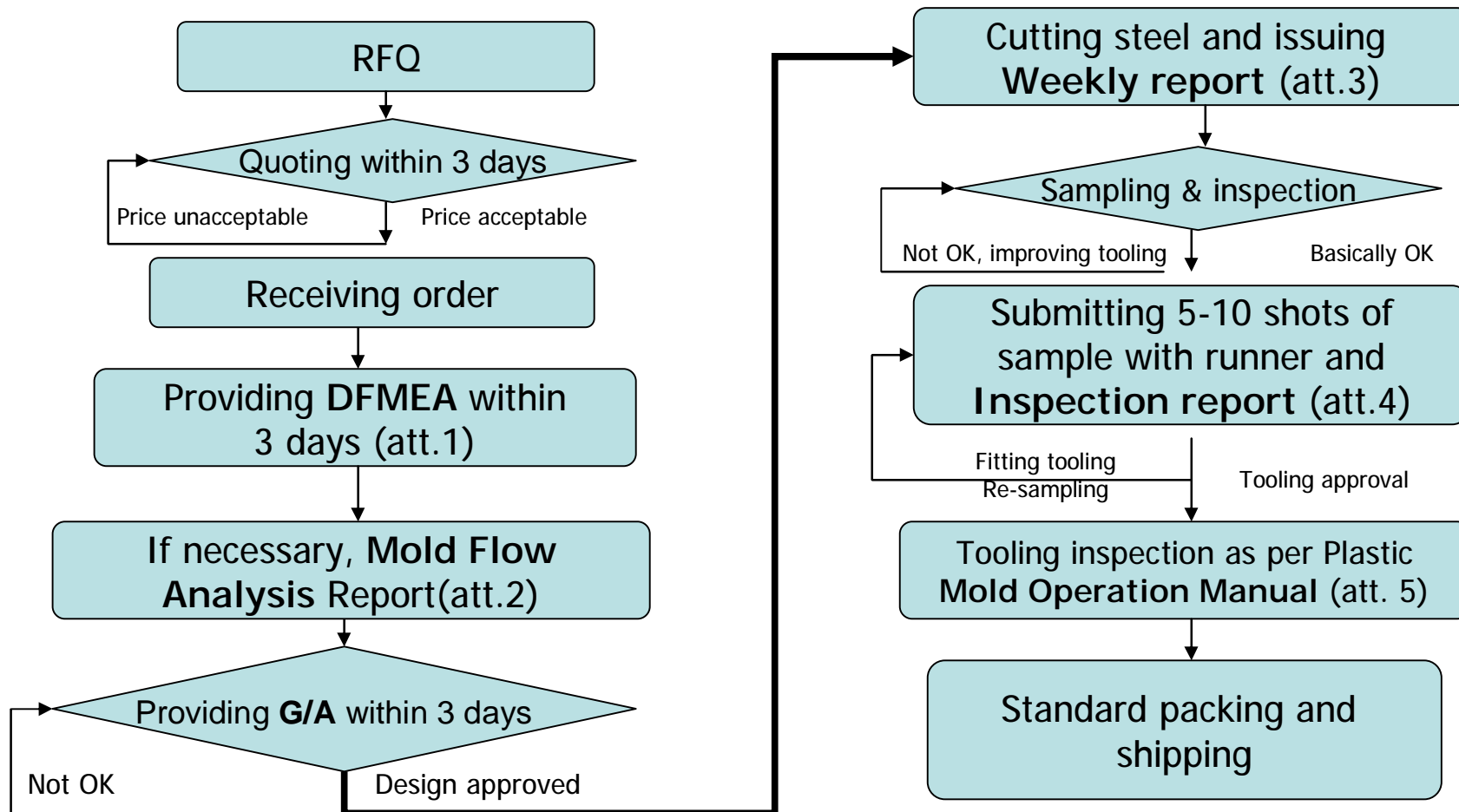
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# Project Developing Procedure

Prepared by :Rocky Lee  
2004-1-1



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Project:cheragh2  
Customer:

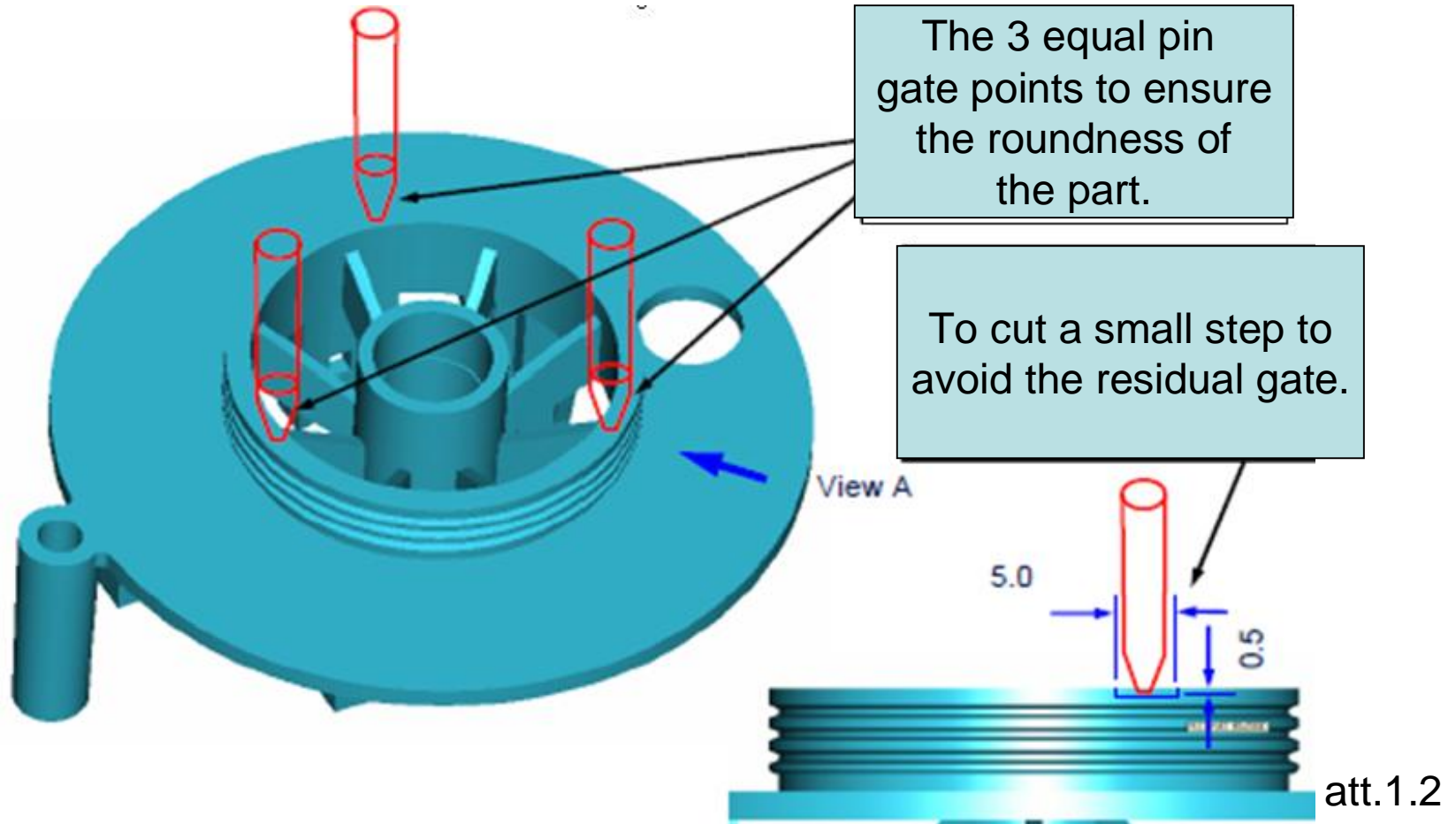
Client:		Gate type:	Pin Point Gate
Model:		NO. of gate(Each part)	
Part name:	cheragh2	Hot runner:	
Part No:		Tool type:	3 Plate
General thickness	2.5mm	Slider qty(Each part):	2
Plastic material:	POM	Lifter qty(Each part)	3
Part weight:	32g	Tool Number:	
Cavities:	1	DFM by:	Xia Wang

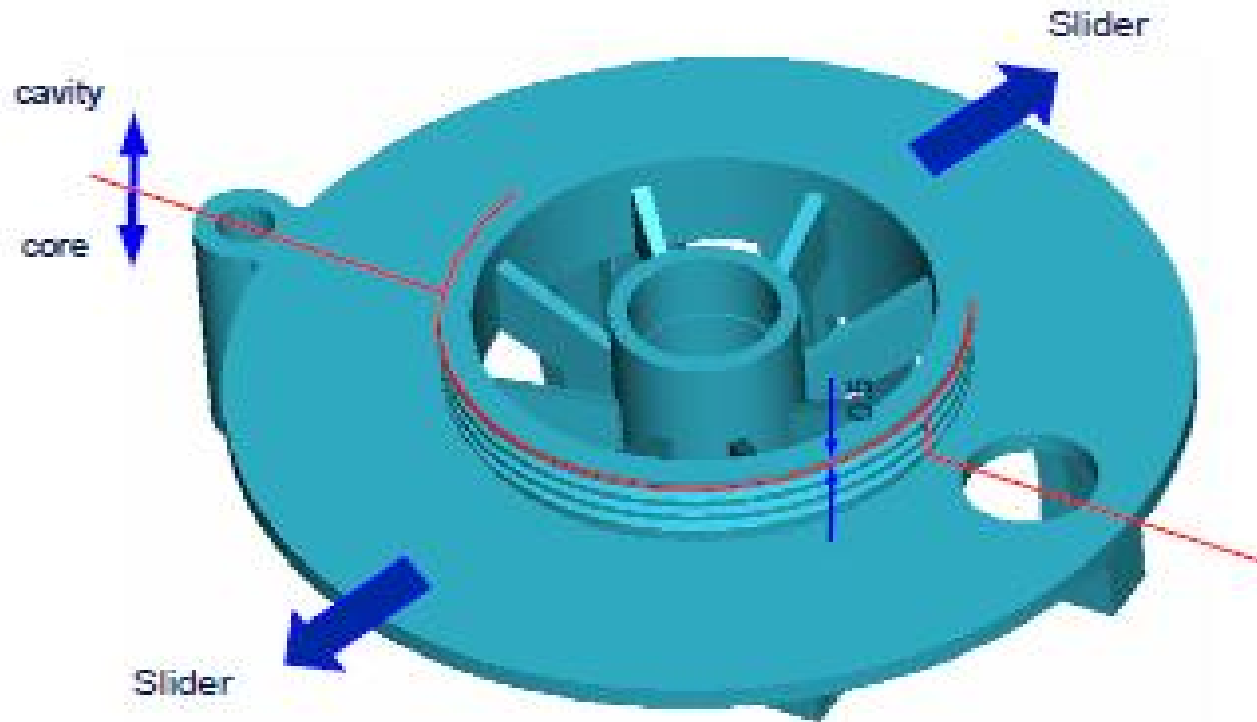
att.1.1

2004-1-1 REV A DFMEA

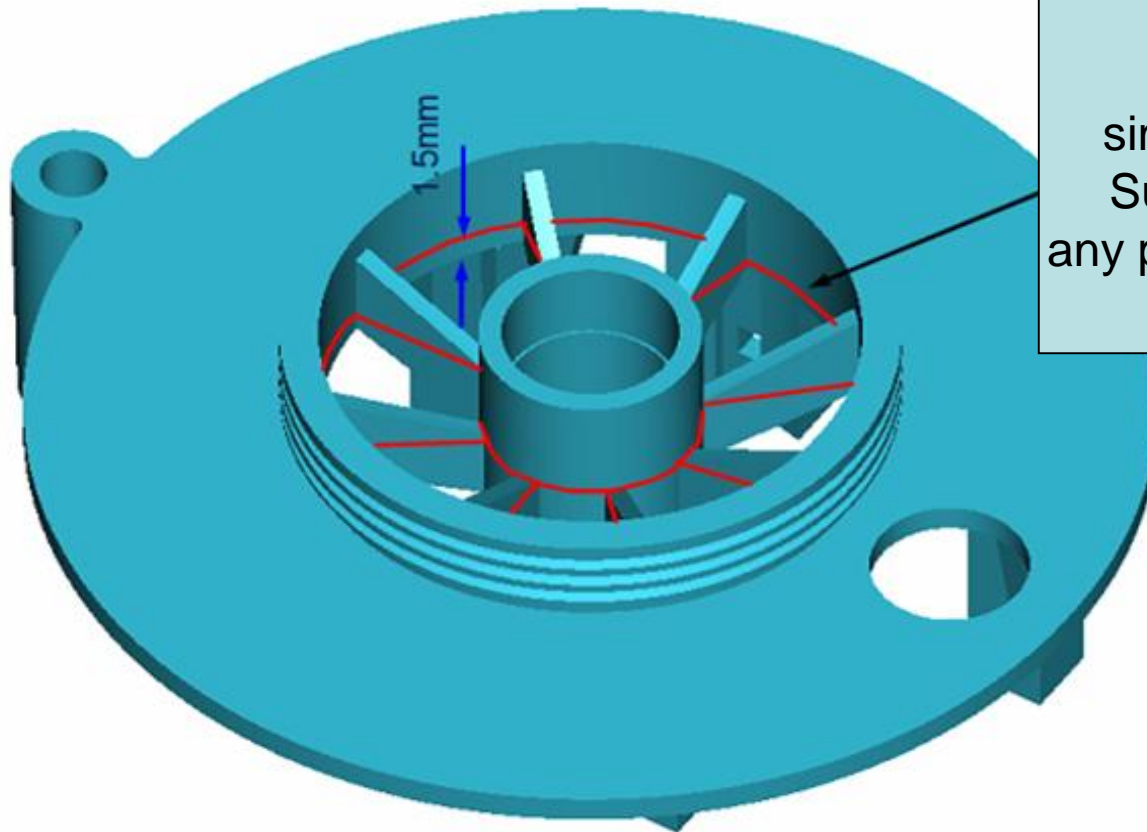
[www.longxiang-ltd.com](http://www.longxiang-ltd.com)

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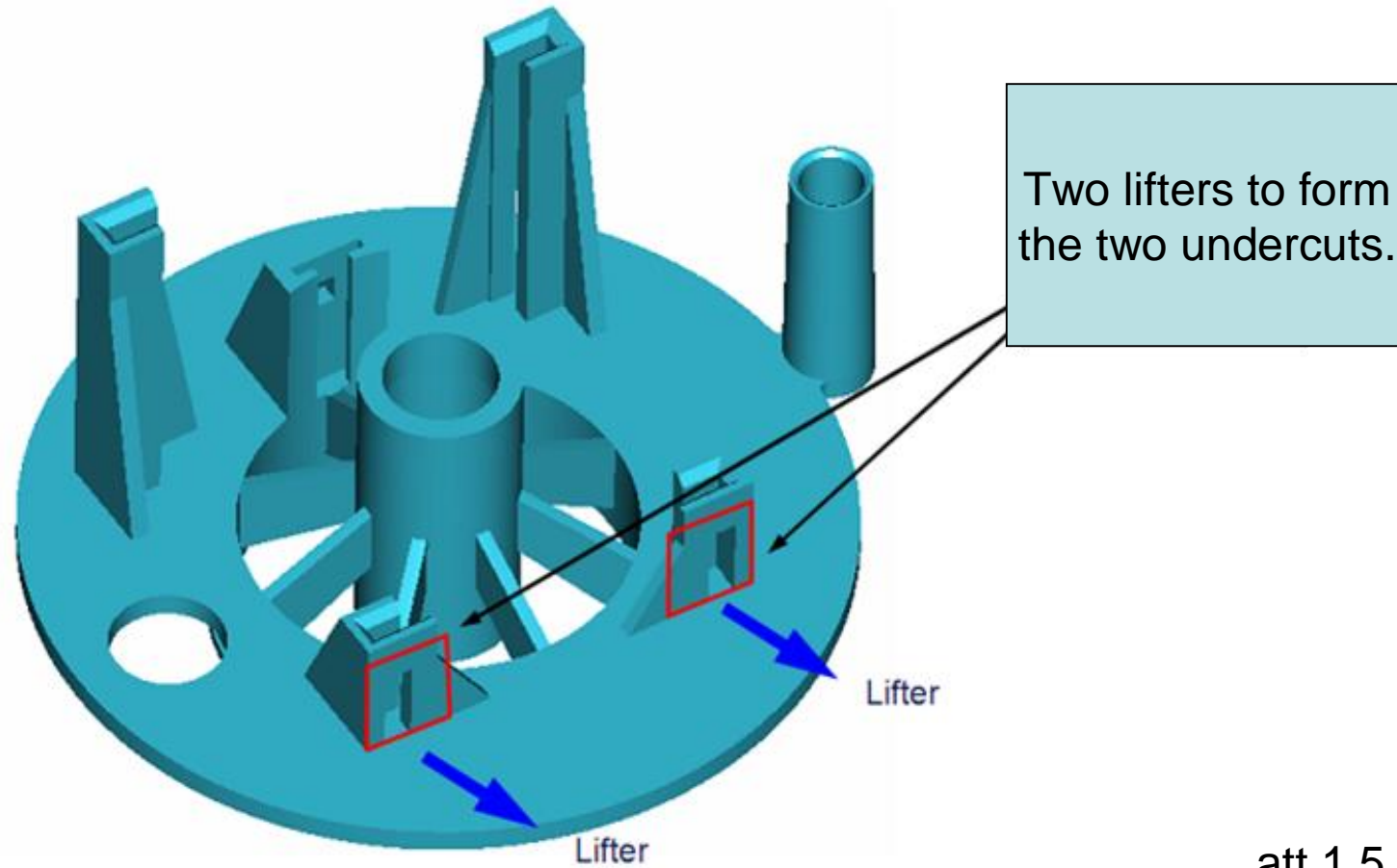


att.1.3

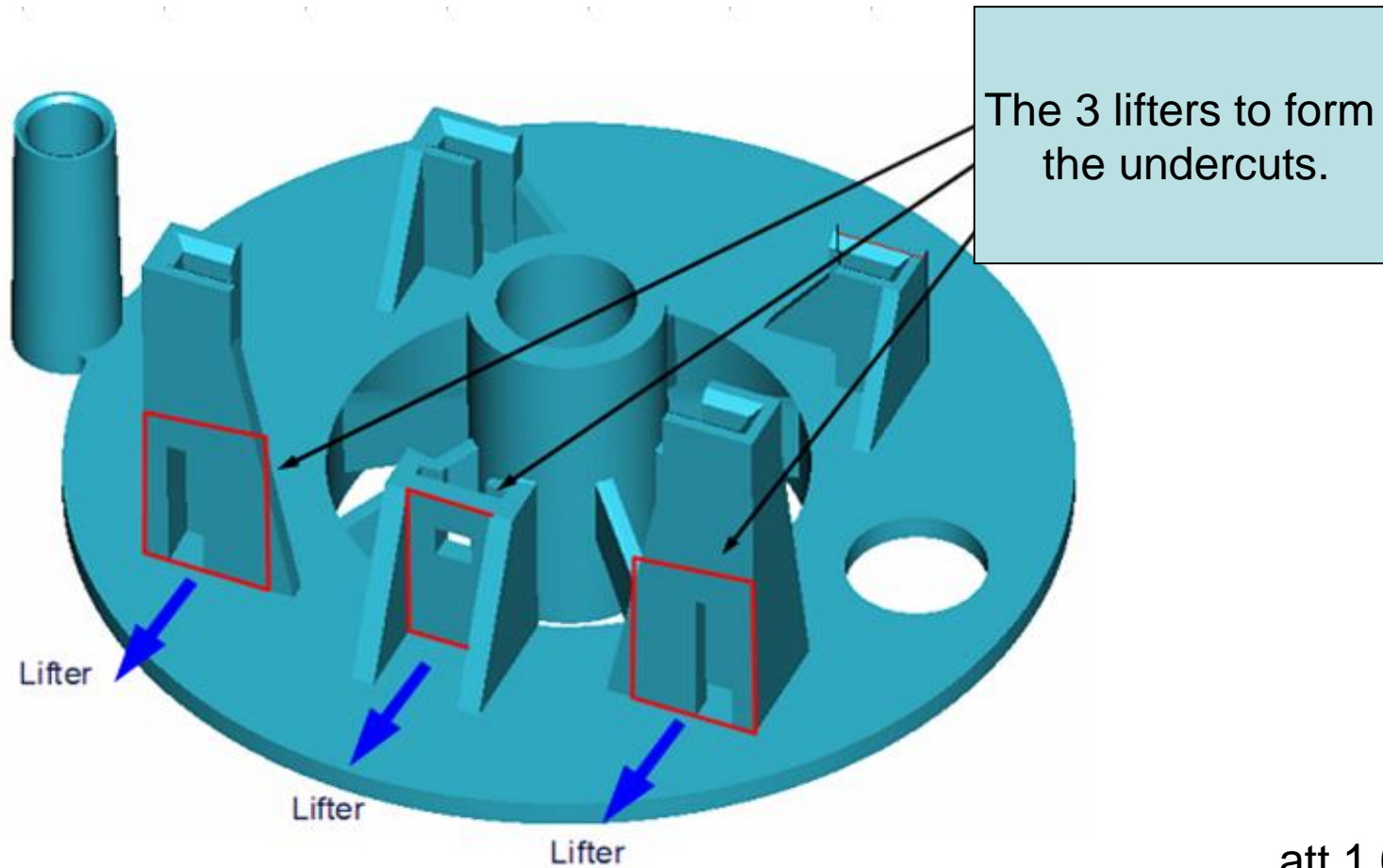


This way will simplify the parting Surface and avoid any possible mismatech

att.1.4



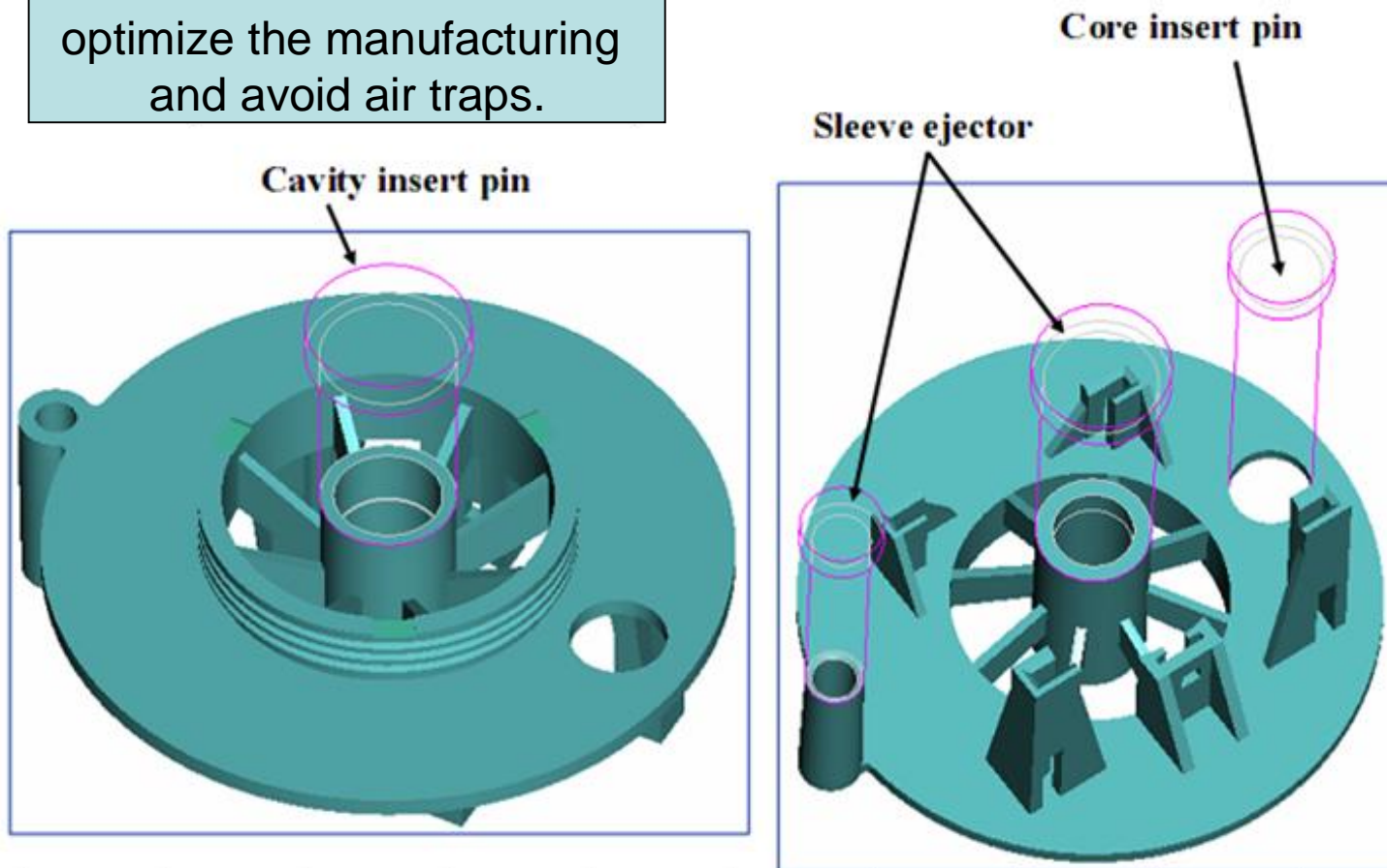
att.1.5



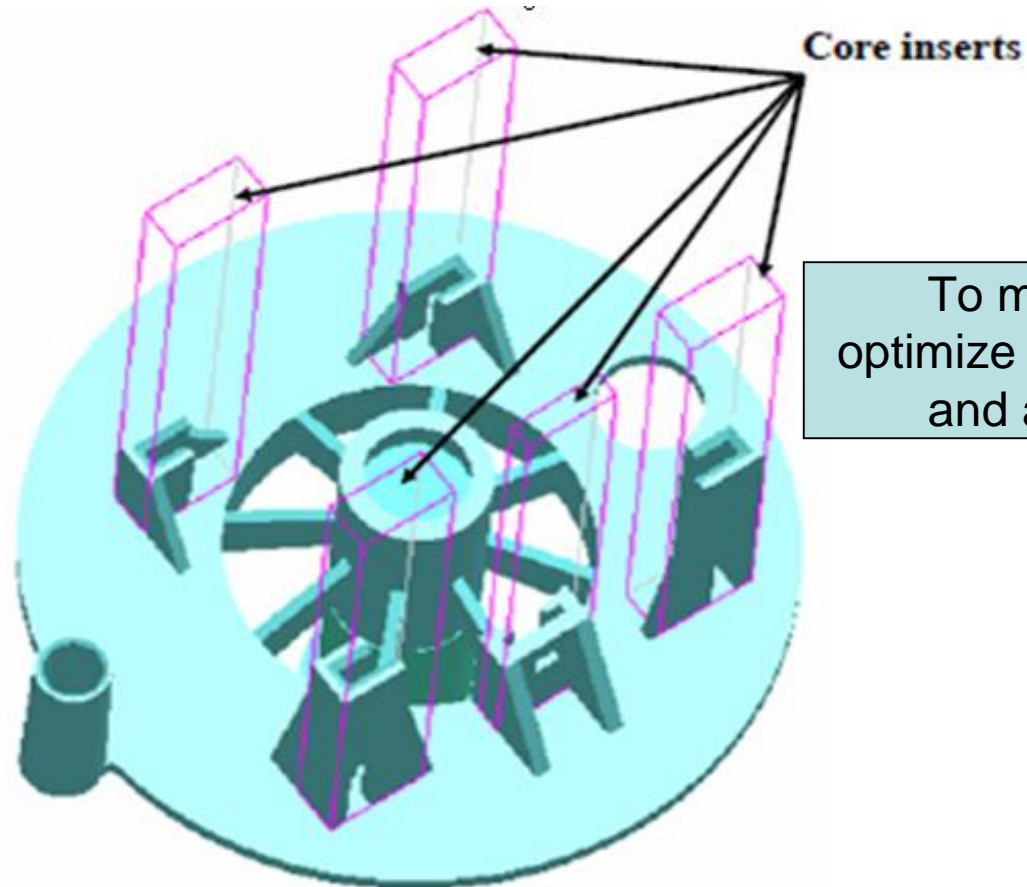
att.1.6



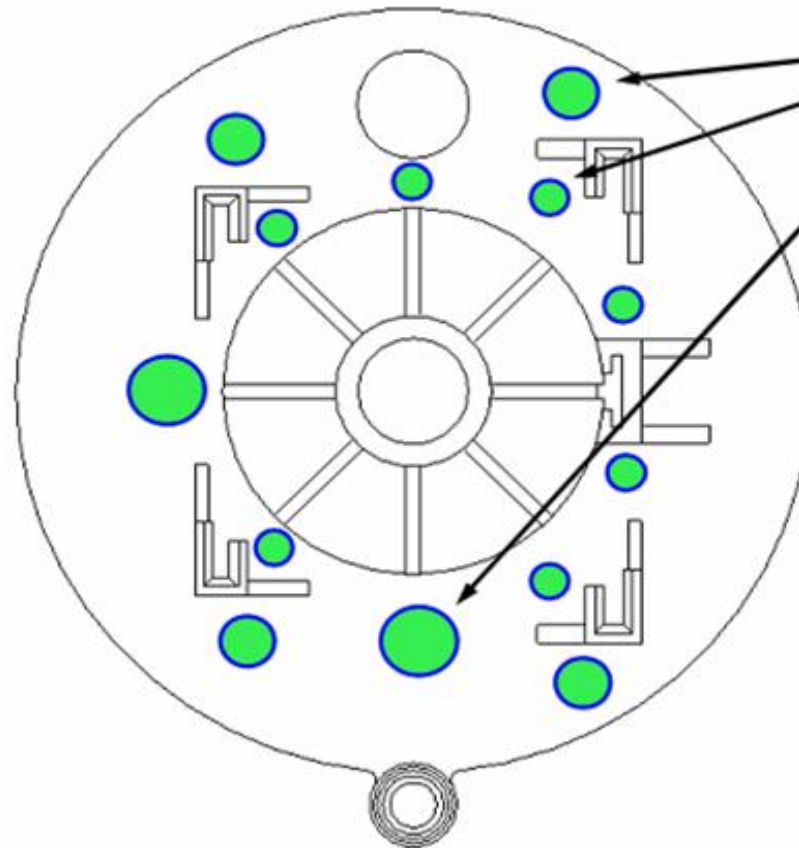
To make inserts to optimize the manufacturing and avoid air traps.



att.1.7

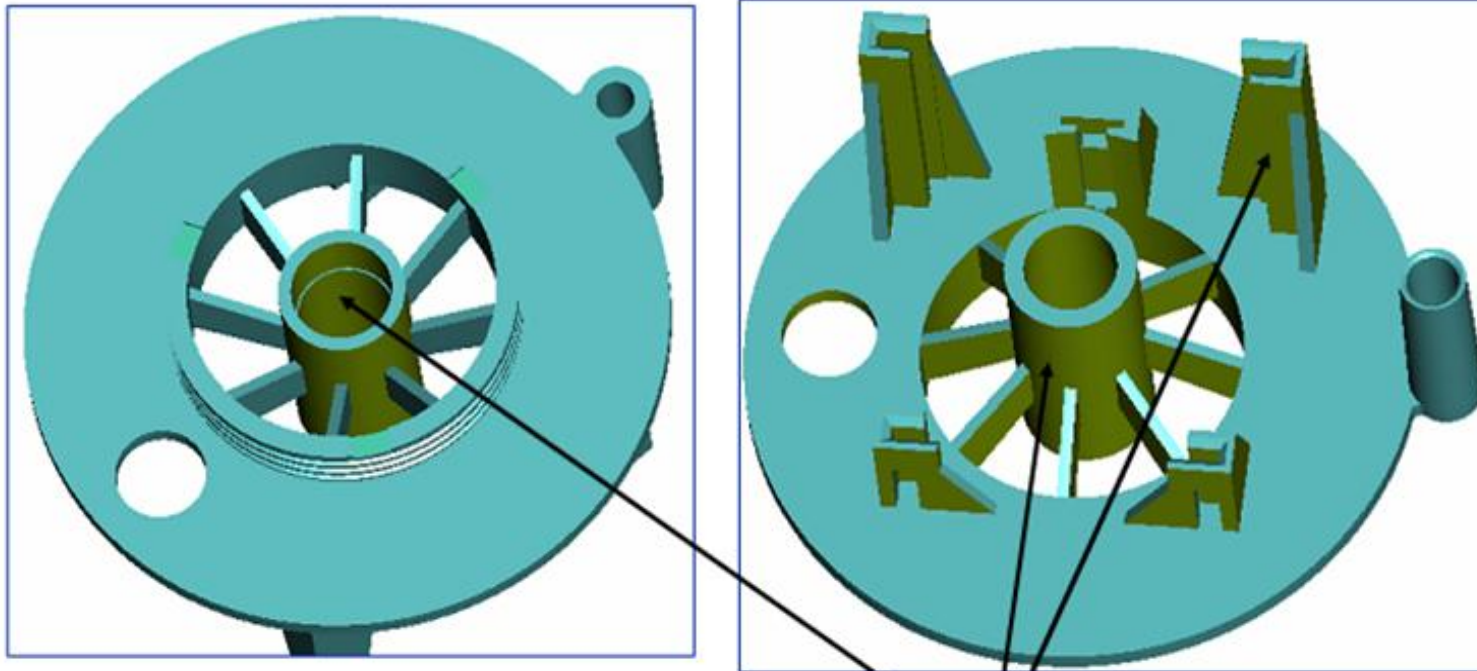


att.1.8



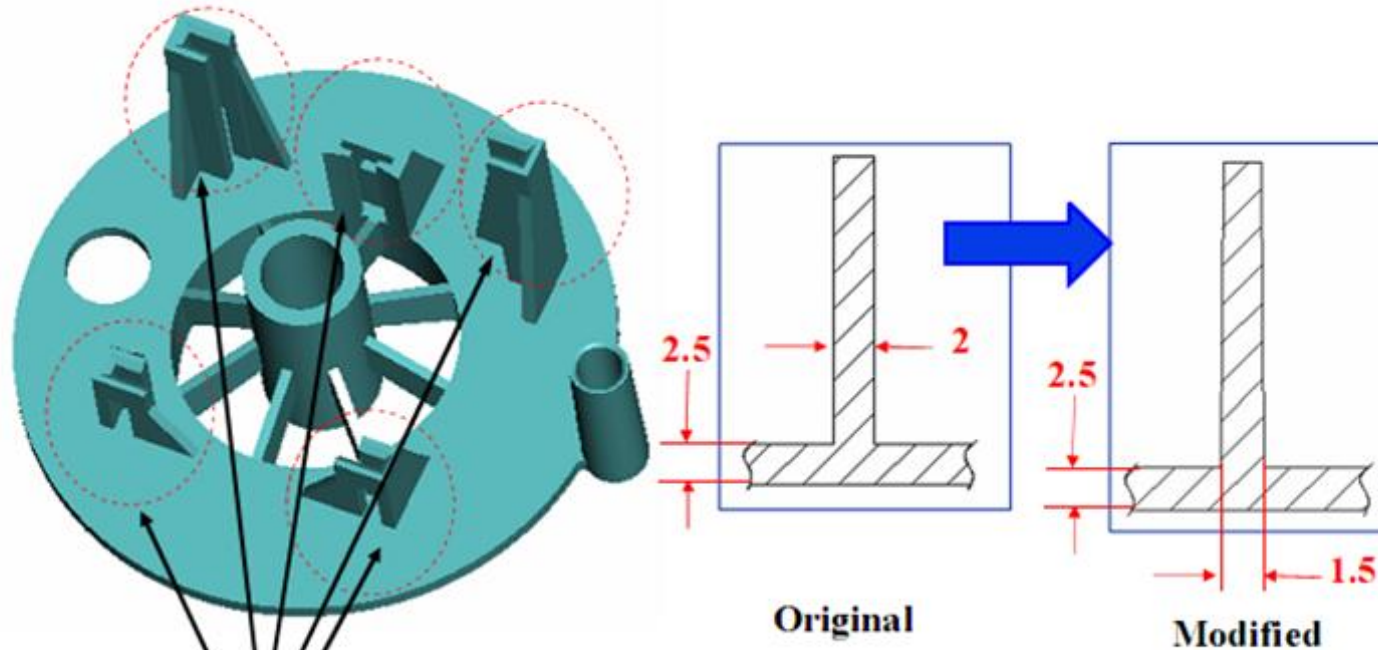
The balanced ejector pins Layout.

att.1.9



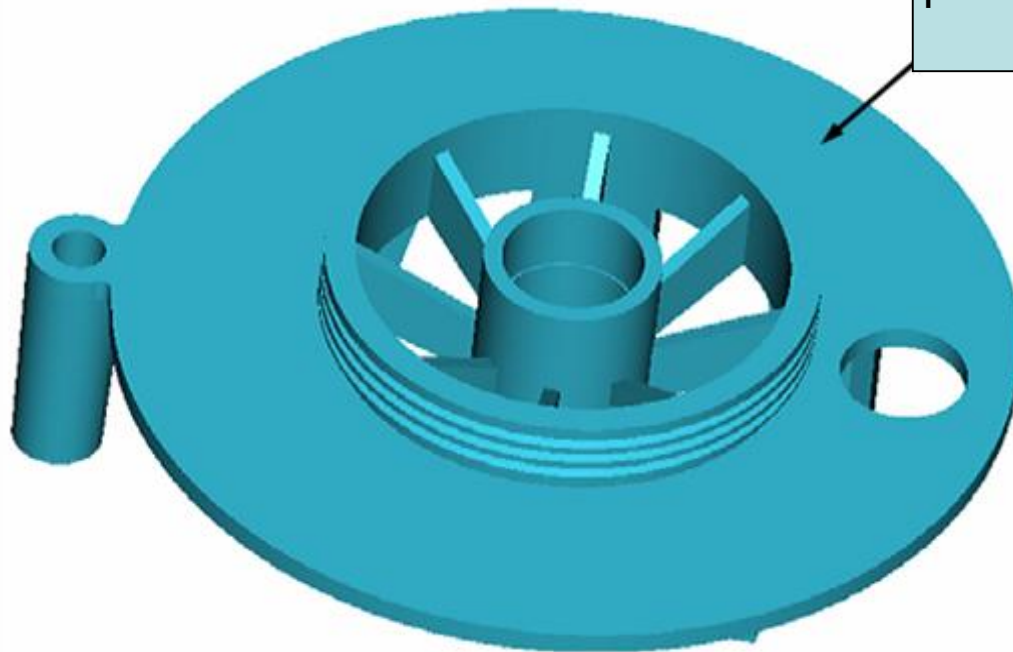
The yellow area are with zero draft angle now.  
Can you add 0.5 degree draft angle?

att.1.10



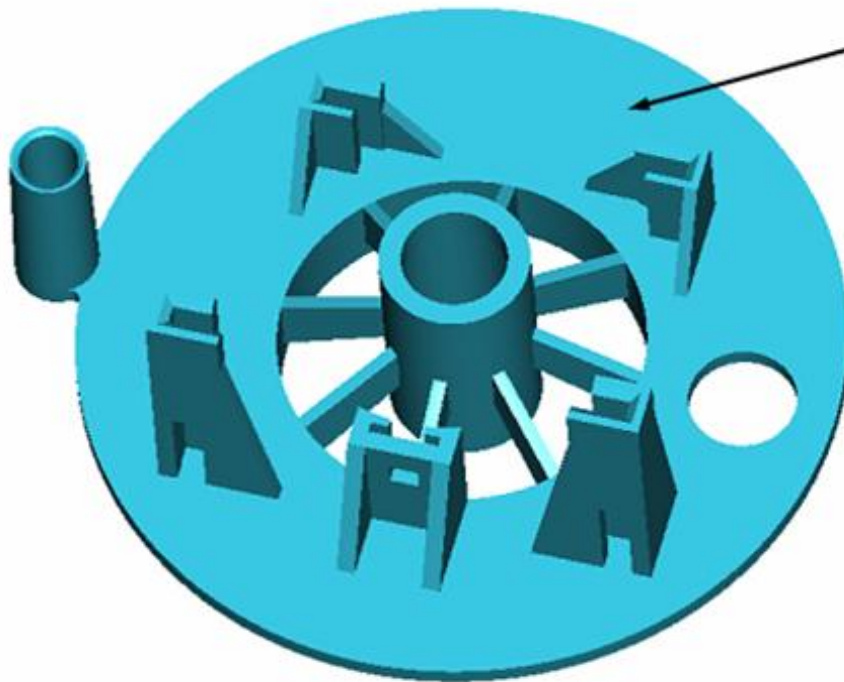
The current ribs' thickness will cause sink Marks. Can you adjust it as per our suggestion?

att.1.11



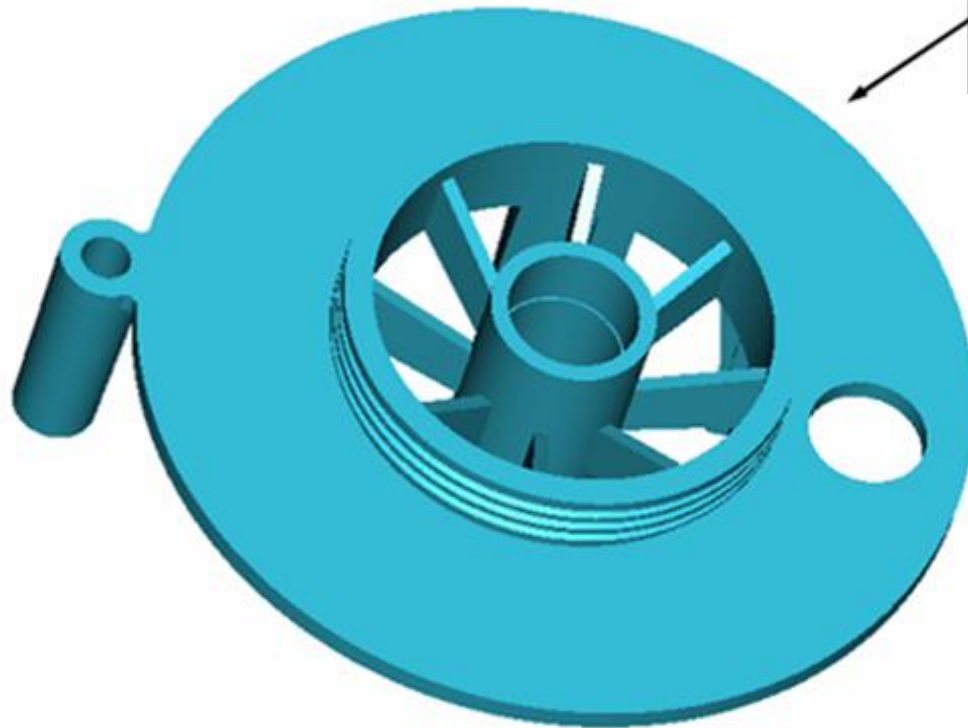
Please confirm if there is any polishing or texturing requests?

att.1.12



Please confirm if it is necessary to add date code, material code or part No. etc.?

att.1.13



Please advise what color the molding is?

att.1.14



## Moldflow Analysis Report

- Submitted by: Longxiang Industrial Limited
- 2004.1

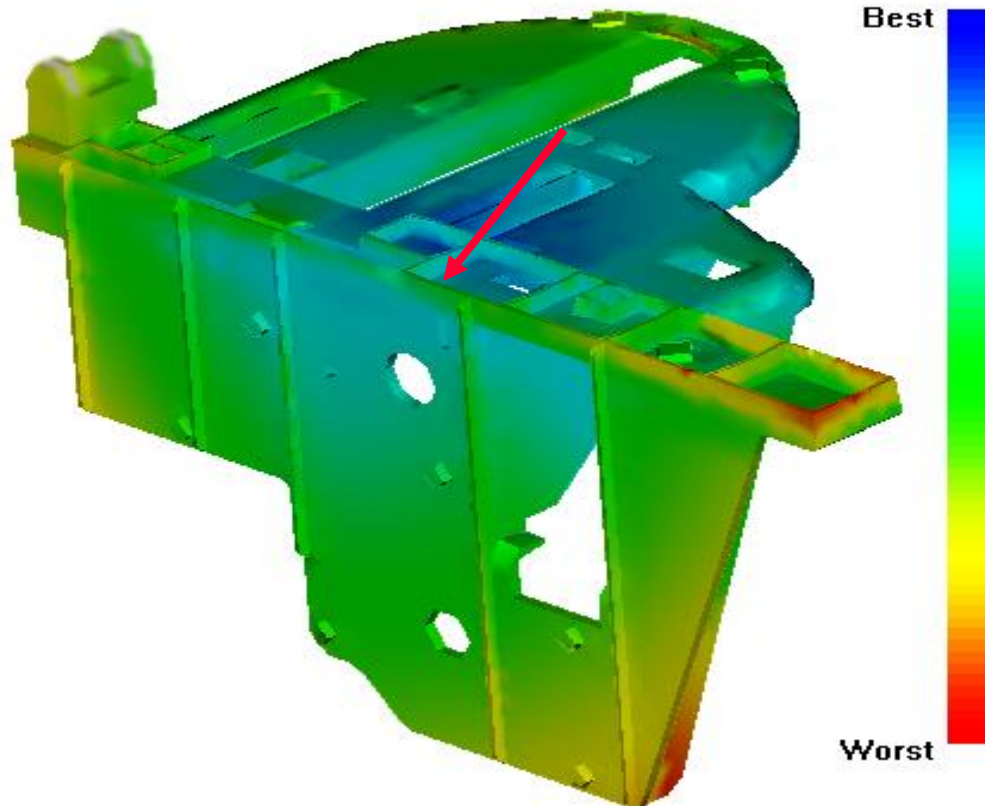
att.2.1

# Moldflow Analysis Report



Best gate location:

Best gate location  
= 1.000



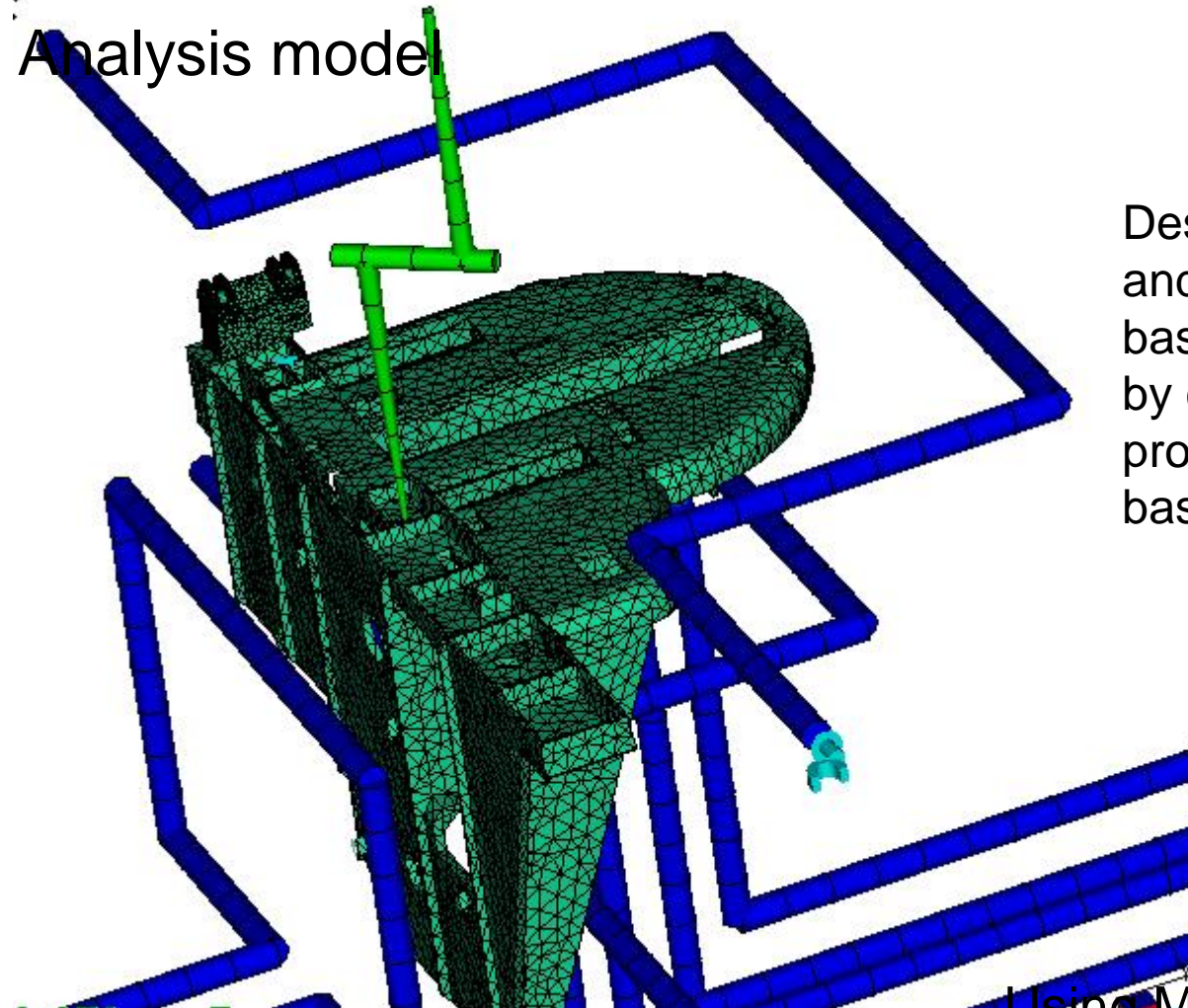
Blue area is the best  
gate location.

att.2.2

# Moldflow Analysis Report



Analysis model



Design of the Cooling system and the feed system are based on the mold provided by customer, and the processing condition are based on the material used.

Tool NO: 4A-4812\_MOLD X2

Using MPI/Fusion、MPI/Cool、  
MPI/Flow、MPI/Warp att.2.3



## Hypothesis:

The following hypothesis are made:

- 1、 Material: PC+ABS
- 2、 Tool material: steel 718H
- 3、 Roughness of cavity and coolant circuit: 0.05mm
- 4、 Reynolds number of coolant: 10,000

att.2.4

# Moldflow Analysis Report



## Basic molding condition:

Filling time: 1.21s

Cycle time: 30s

Mold surface temp.: 70 deg. C

Melt temp.: 230 deg. C

Coolant Temp.: 25 deg. C

Coolant control: Reynolds number control (Re=10,000)

Packing profile:	time (s)	%filling pressure
	0	80%
	5	80%
	5	65%

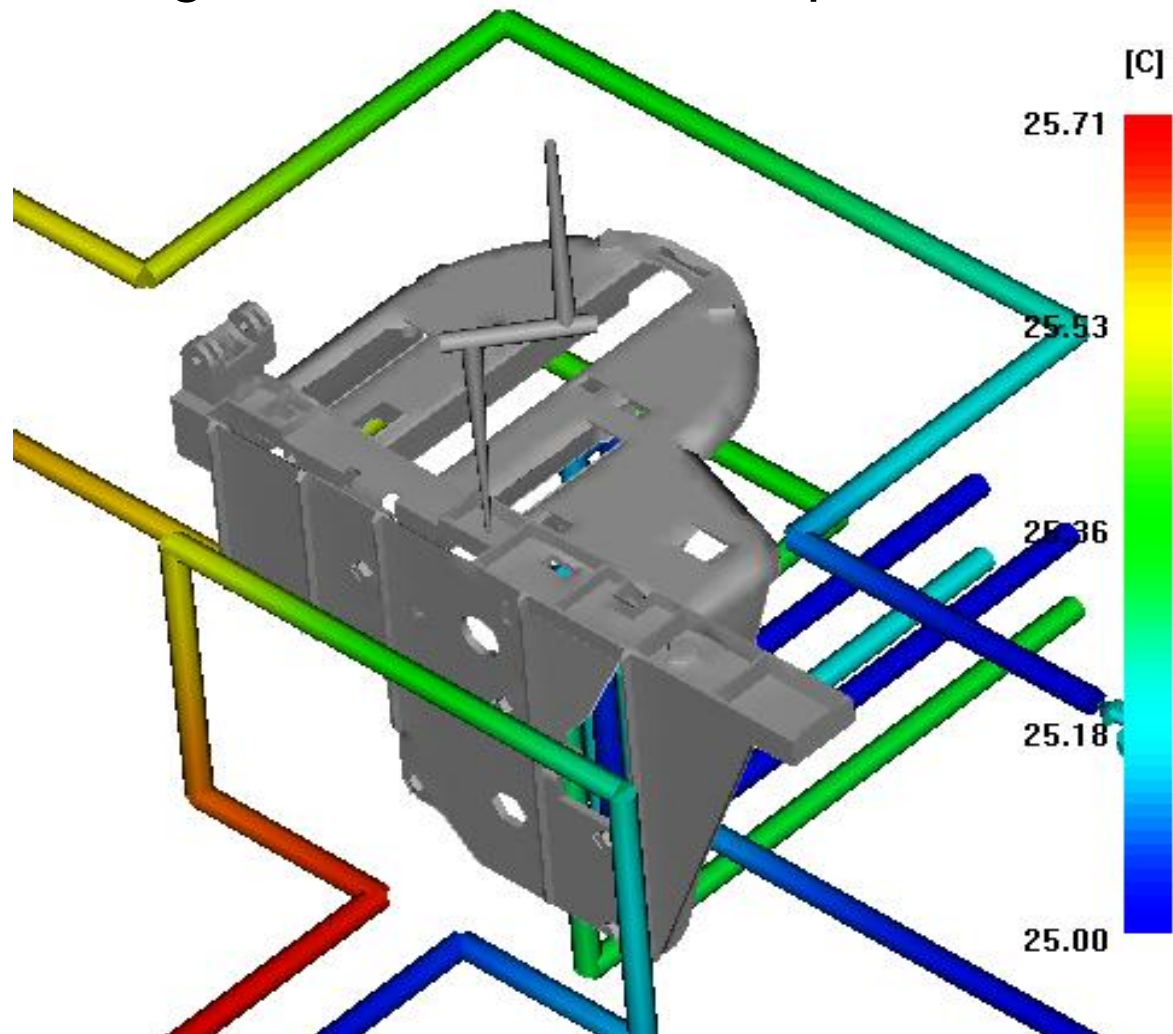
att.2.5

# Moldflow Analysis Report



Cooling – Circuit coolant temp.:

Circuit coolant temperature  
= 25.71 [C]



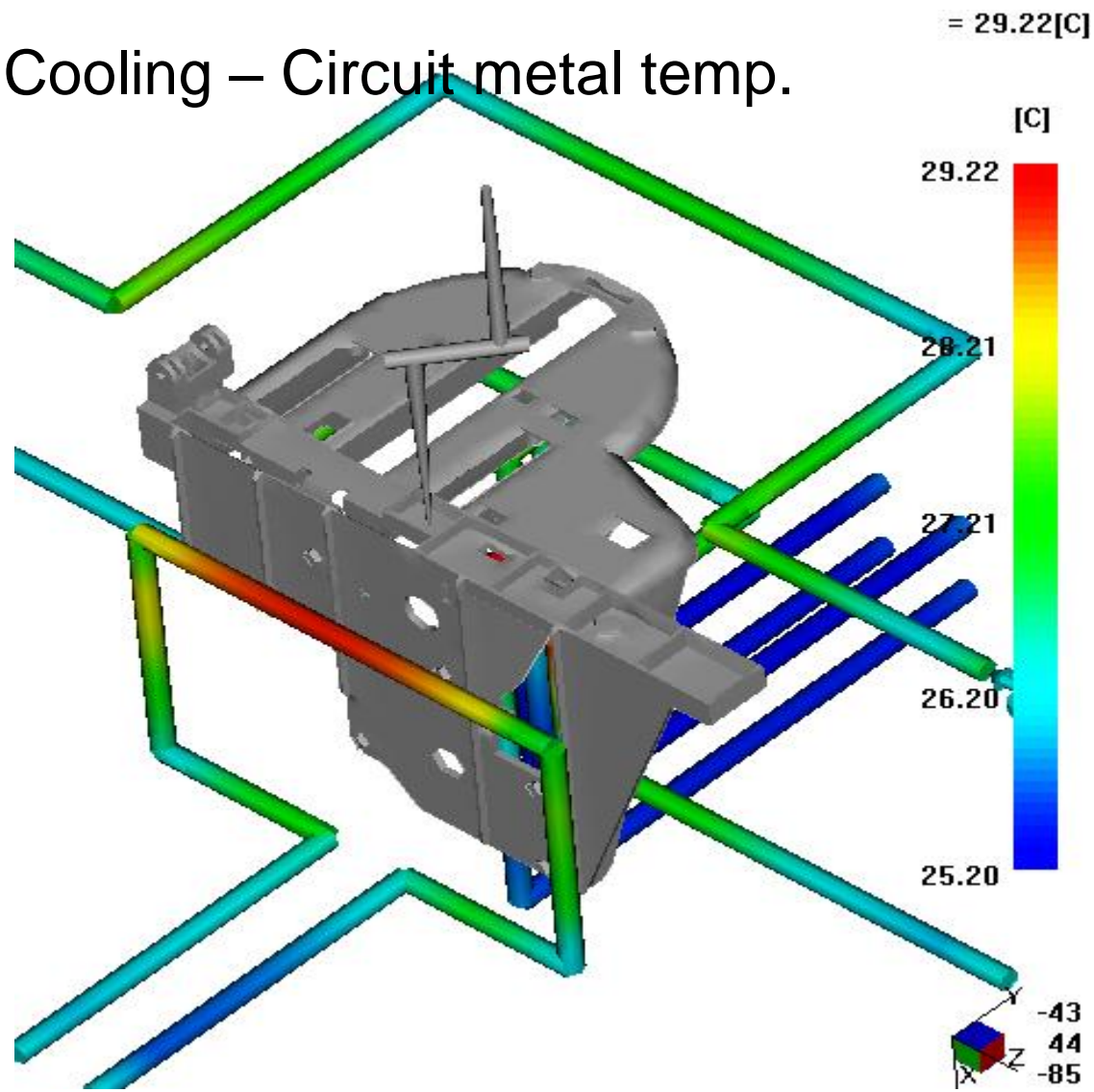
The max. circuit coolant temp. rise is 0.72deg. C, so the cooling is effective.

att.2.6

# Moldflow Analysis Report



Cooling – Circuit metal temp.



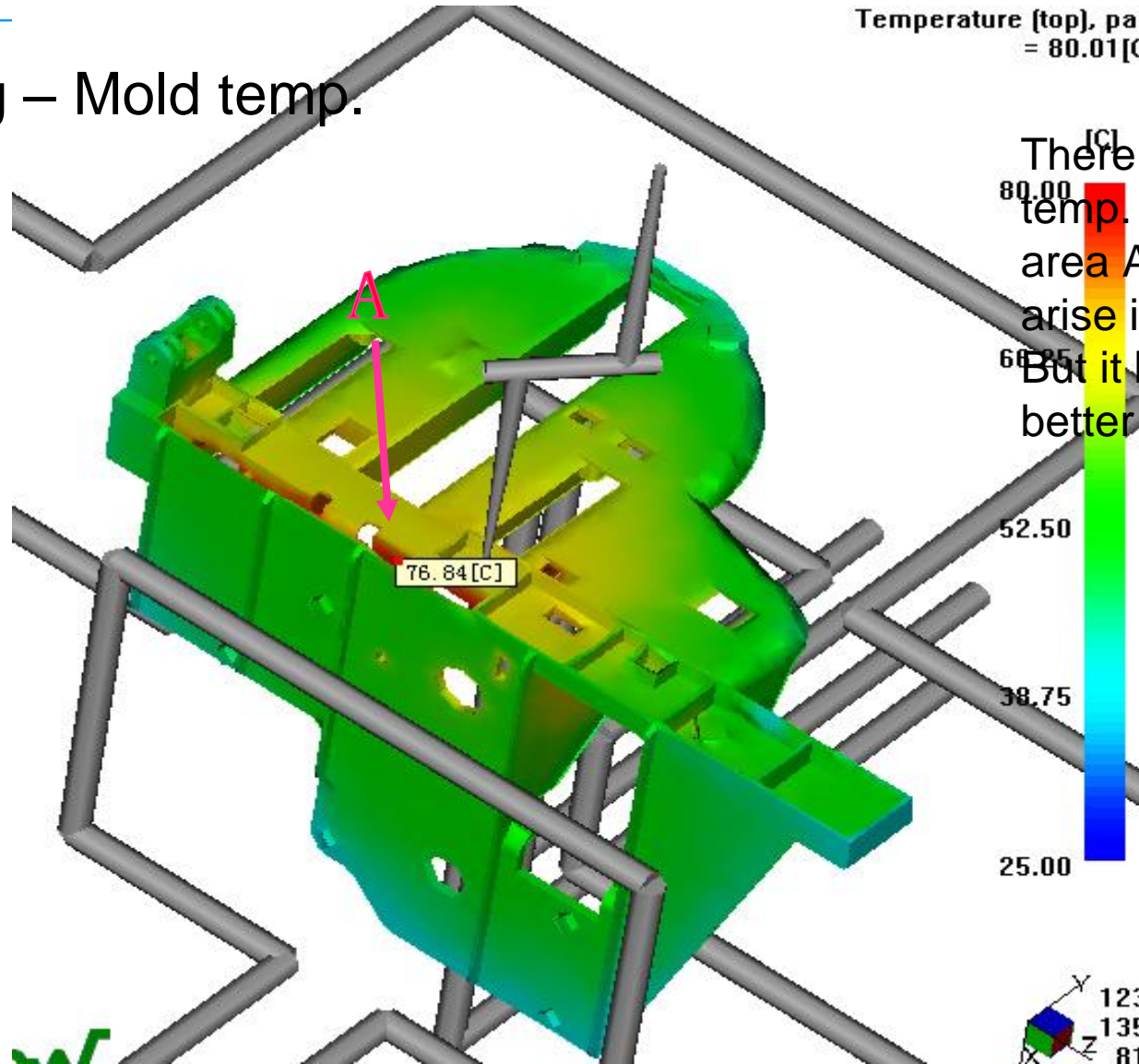
The max. circuit metal temp. is 4.02 deg. C above coolant temp., so the cooling is effective.

att.2.7

# Moldflow Analysis Report



Cooling – Mold temp.



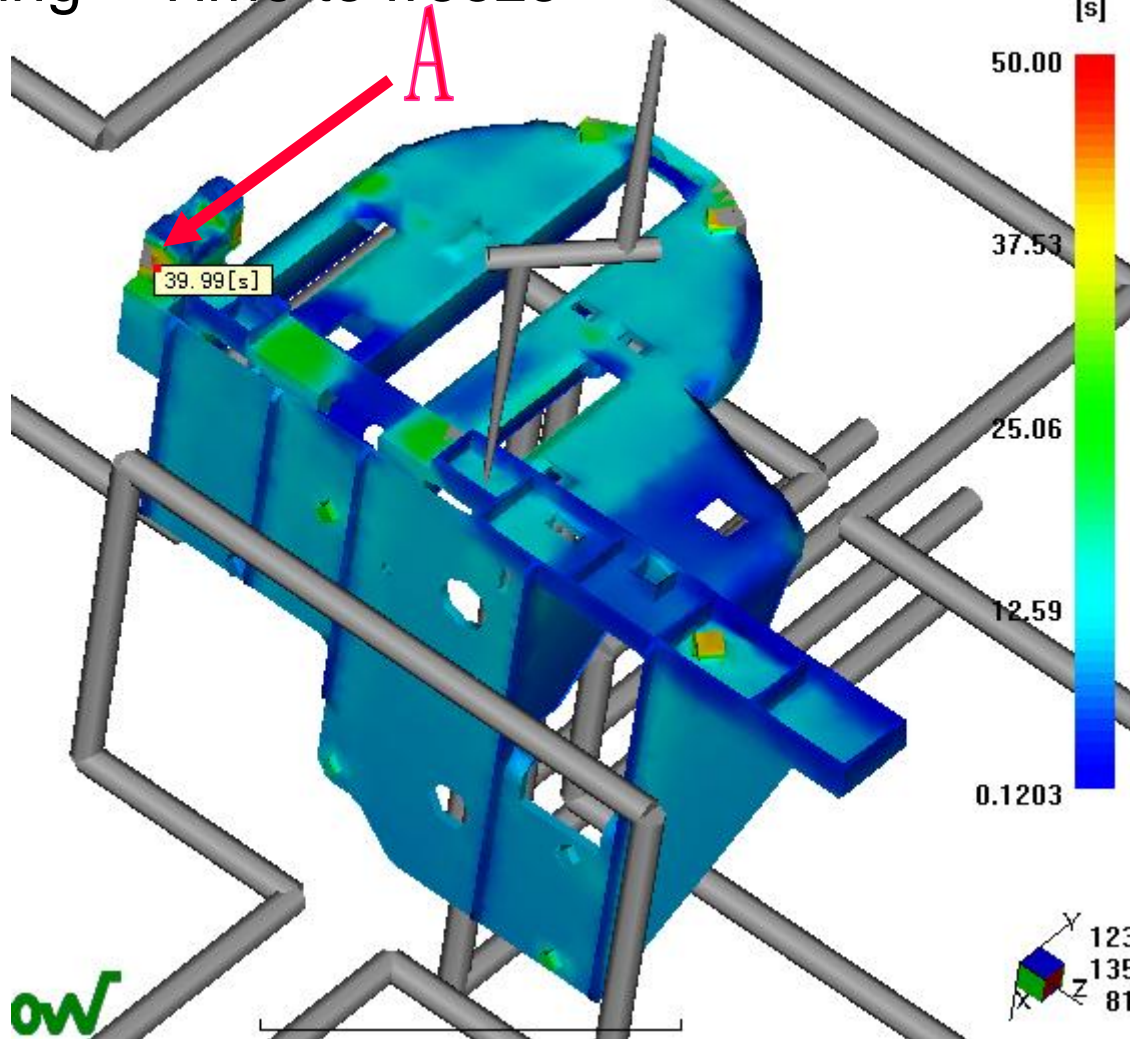
att.2.8

# Moldflow Analysis Report



Cooling – Time to freeze

Time to freeze, part  
= 50.00[s]



The max. time to freeze is 40s.

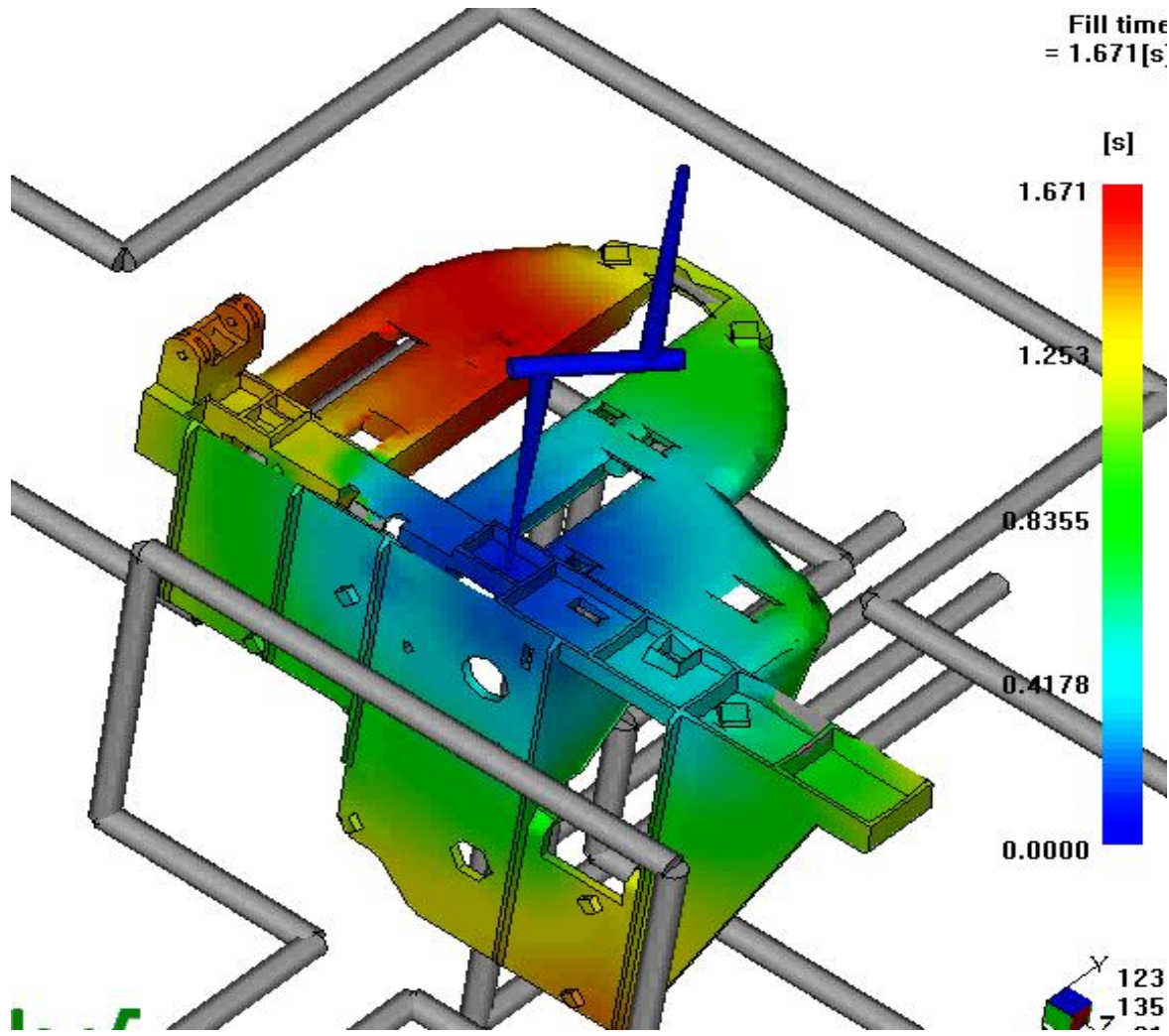
'A' area has been improved much by evening the wall thickness

att.2.9

# Moldflow Analysis Report



## Flow – Filling pattern



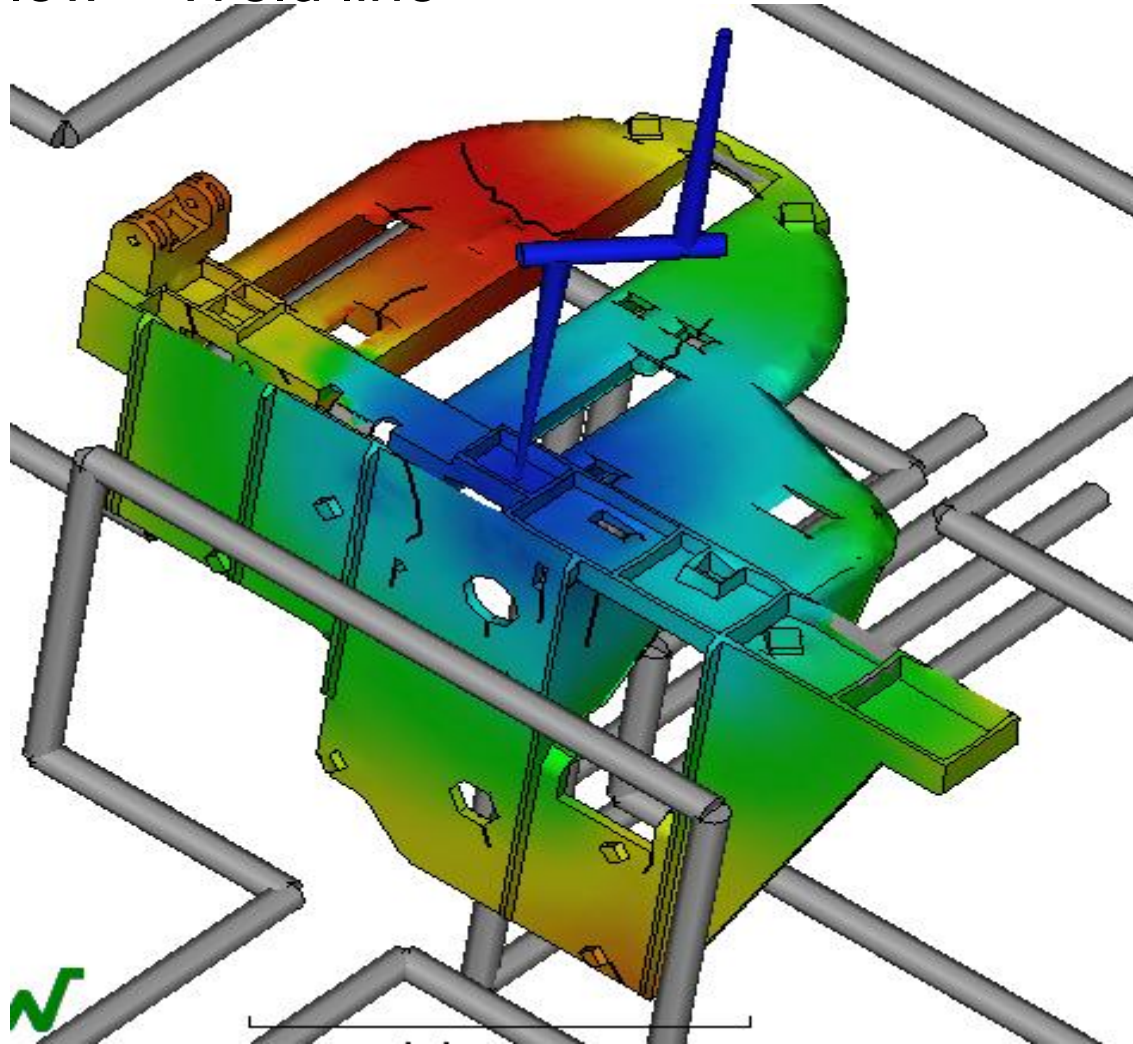
Please click on picture to view the filling process.

att.2.10

# Moldflow Analysis Report



## Flow – Weld line



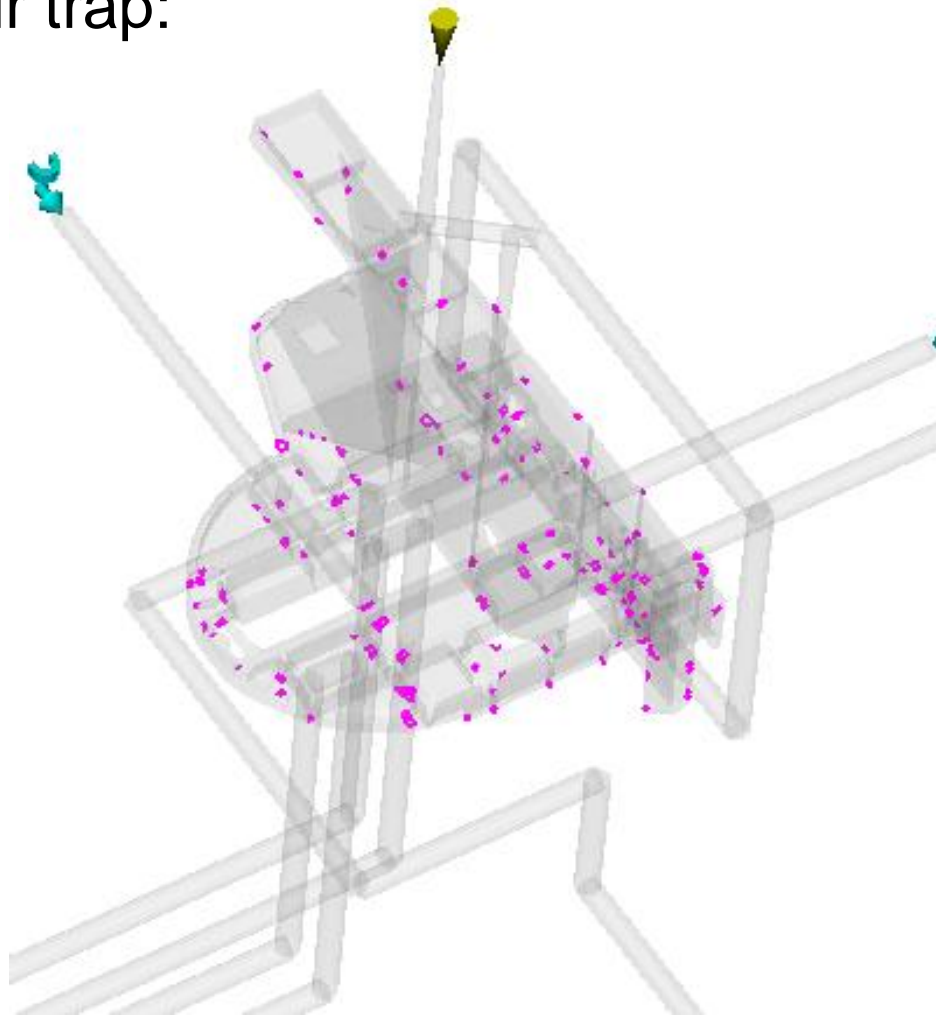
There may exist weld line in position of black line.

att.2.11

# Moldflow Analysis Report



Flow – Air trap:

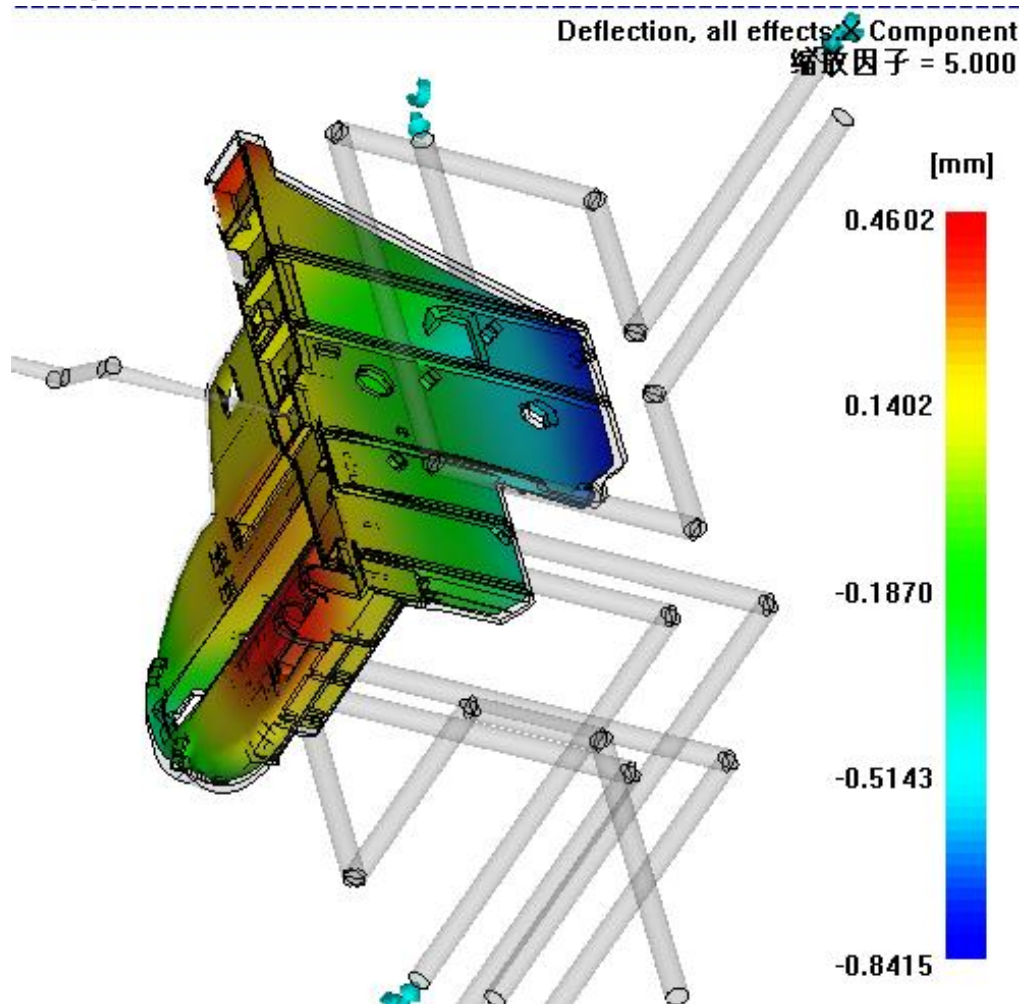


There may be air trap in the position of pink area.

att.2.12



## Warp – X-axis deflection



The X-axis deflection trend and magnitude is shown as left figure. The bigger deflection may arise from thinner wall.

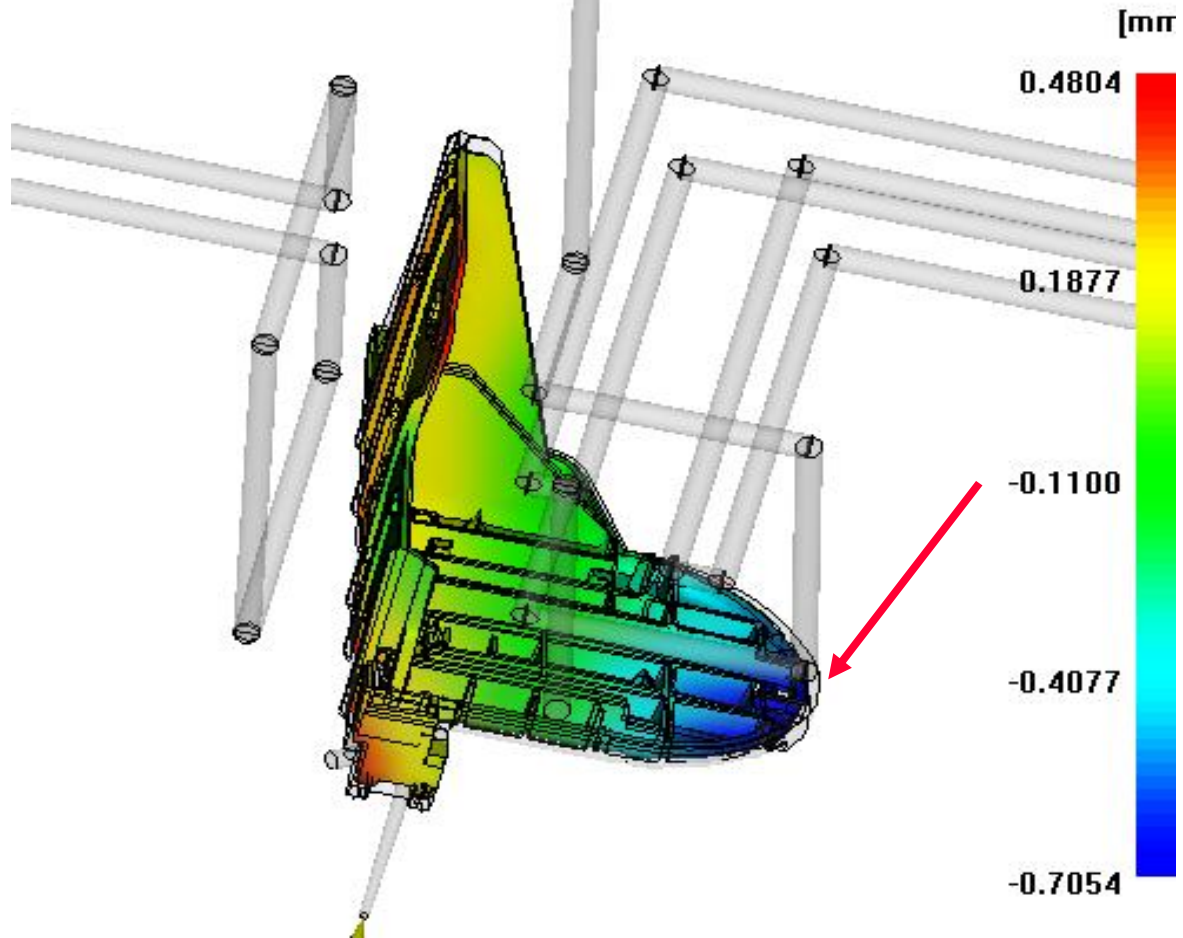
att.2.13

# Moldflow Analysis Report



## Warp – Y-axis deflection

Deflection, all effects:Y Compon  
缩放因子 = 5.0



The Y-axis deflection trend and magnitude is shown as left figure. The deflection is small.

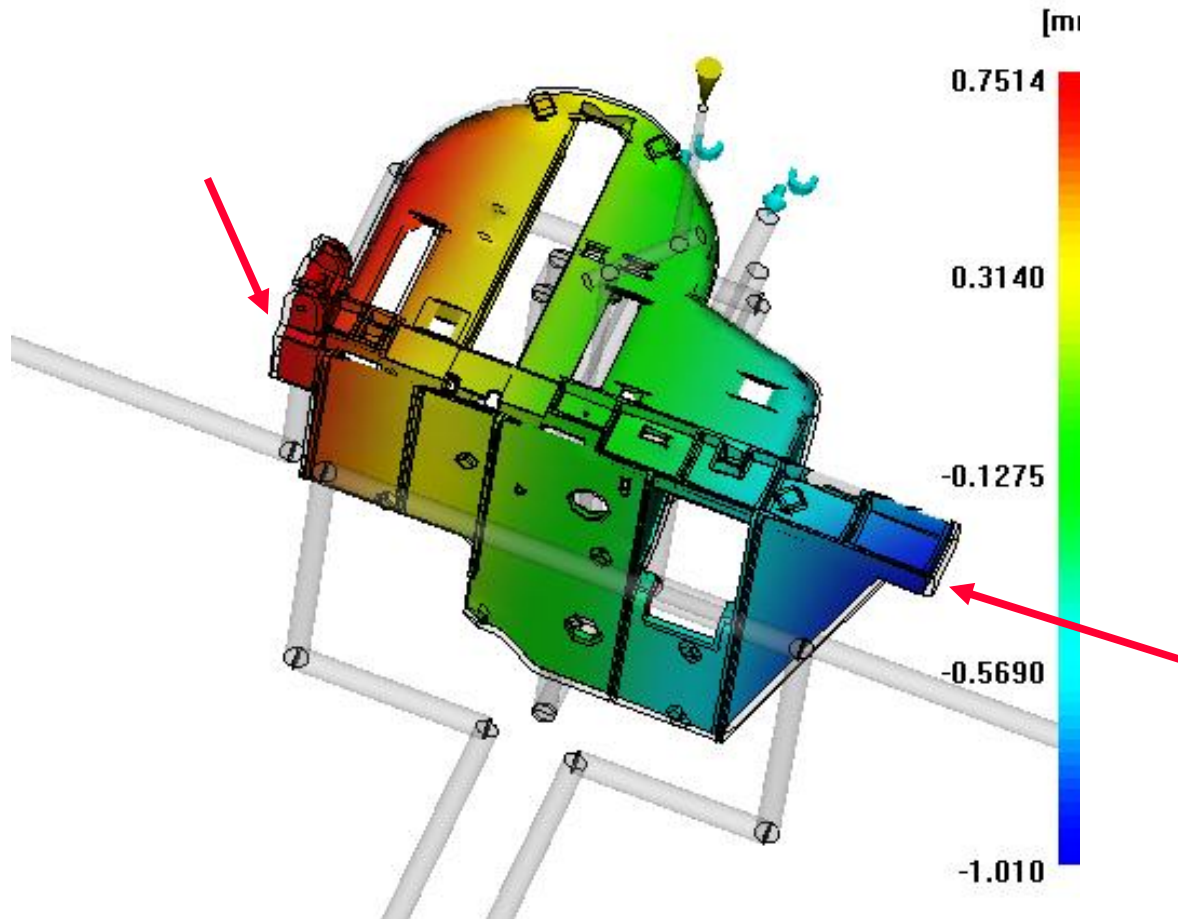
att.2.14

# Moldflow Analysis Report



## Warp – Z-axis deflection

Deflection, all effects:Z Component  
缩放因子 = 3.



The Z-axis deflection trend and magnitude is shown as left figure. The deflection may exist in red area.

att.2.15

# Moldflow Analysis Report



## Conclusion:

The molding deformation is close to the acceptable level by improving the cooling system, changing gate position and evening the wall thickness.

att.2.16





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att.4.1

 <i>Dimensional Report</i> <a href="http://www.longxiang-ltd.com">www.longxiang-ltd.com</a>						
Supplier(供应商) :		Longxiang		Date (日期) :		Aug.22,2006
Part No. (图纸编号):		1064		Part Name (零件名称) :		Tube Insert
Inspector (检察员) :		Richard Peng		Approved By (批准) :		Rocky Lee
Item	Print Dim.(图纸尺寸)	Tolerance (公差)	Actual Dim. (实际尺寸)		Result (结果)	
1	16	+/-0.1	16.05		OK	
2	hamfer 0.15x45deg		0.15x45deg		OK	
3	Dia4.00	+/-0.05	3.98		OK	
4	Dia5.35	+/-0.05	5.36		OK	
5	2.50	+/-0.01	2.55		OK	
6	5.00	+/-0.01	5.06		OK	
7	Dia5.00	+0/-0.05	4.98		OK	

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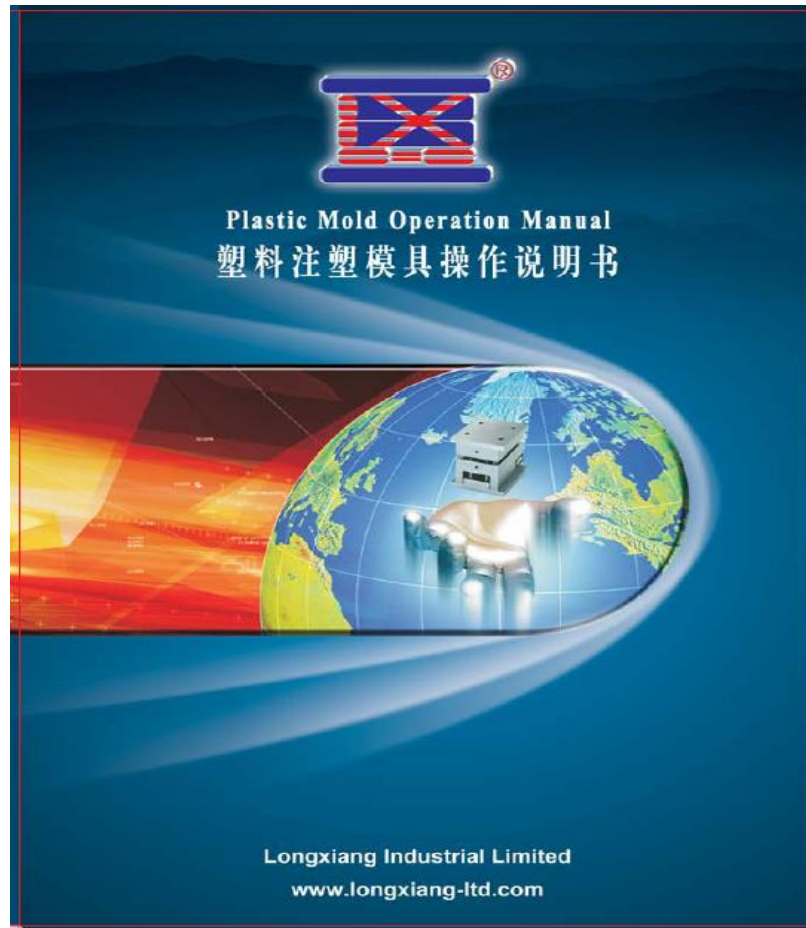
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att.5



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TKS!