



广东岭南职业技术学院
GUANGDONG LINGNAN
POLYTECHNIC

智能制造学院

模具设计与制造专业

01-产品分模设计



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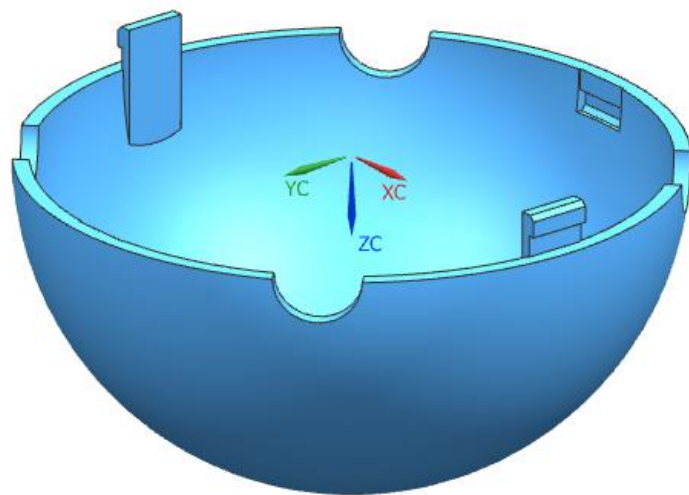
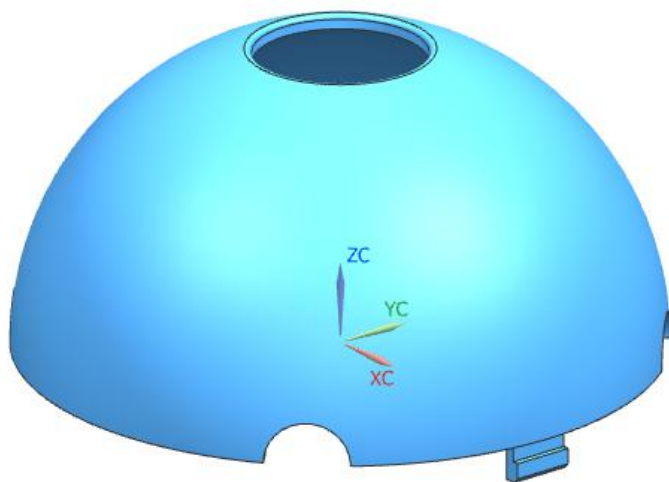
01

项目导入



• 项目：

部件 RPCP.prt



技术要求：

1. 产品外观不允许有毛边，不允许出现明显的断差、收缩凹陷、银纹等。
2. 材料为ABS，收缩率为1.005。
3. 未注公差按企业标准执行。



02

初始化项目





UG 注塑模具向导之初始化项目

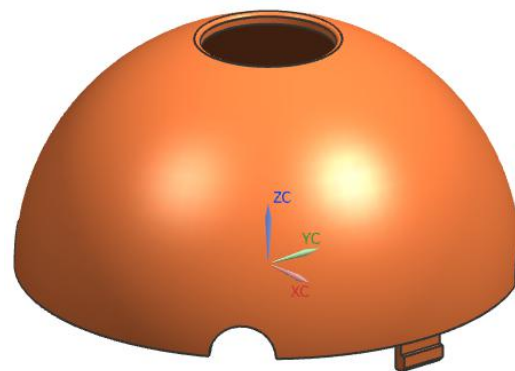


打开

打开产品



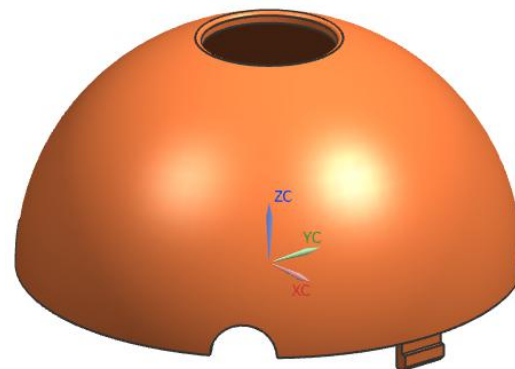
初始化项目



UG 注塑模具向导之模具坐标系



模具坐标系



UG 注塑模具向导之收缩率

因为在“初始化项目”中已经添加了收缩率，所以这一步只检查收缩率是否已添加。



收缩率





03

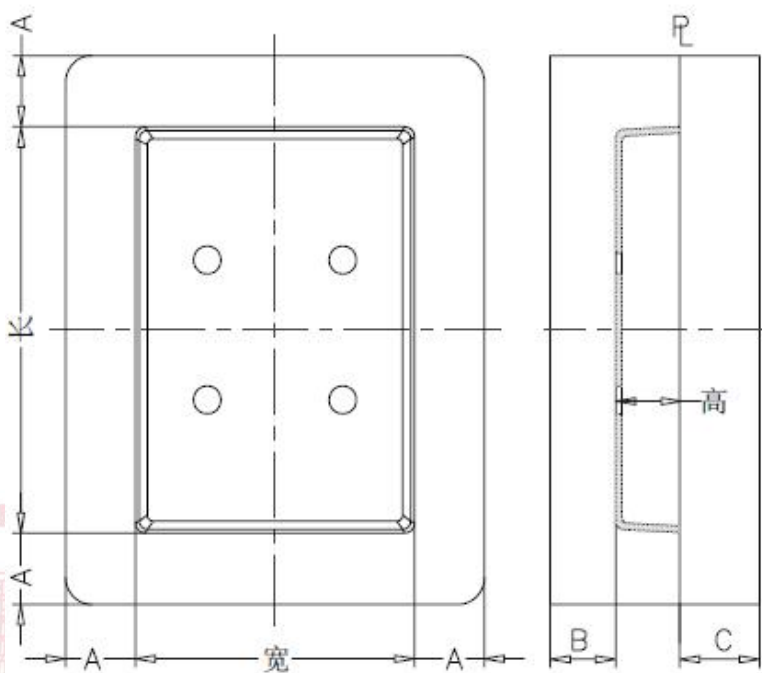
工件（模仁）设计



UG 注塑模具向导之工件（模仁） (1/2)

模仁尺寸的确定

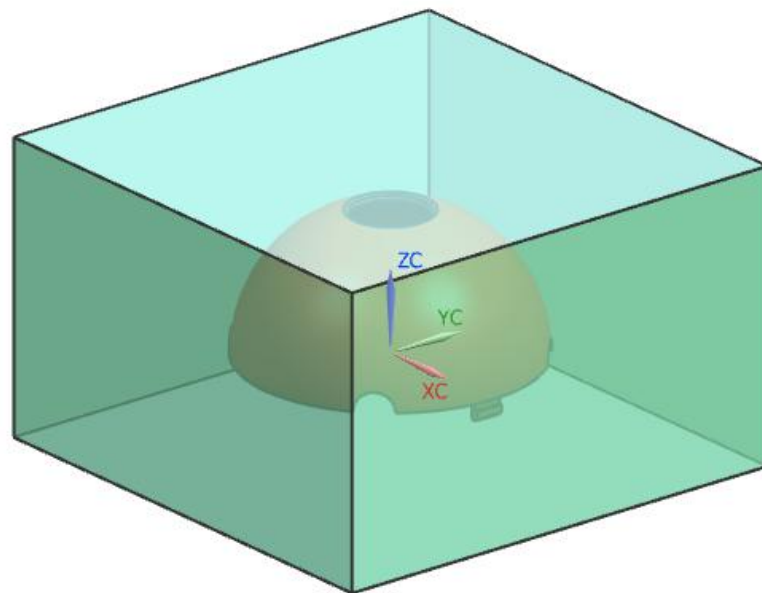
模仁的大小主要取决于塑料制品的大小和结构
在保证足够强度的前提下，越紧凑越好。



高	长或宽	A	B	C
0-30	0-150	20-25	20-25	20-30
	150-250	25-30		
	250-300	25-30	25-30	
30-80	0-150	25-30	25-35	30-40
	150-250	25-35		
	250-300	30-35	35-40	
>80	0-150	35-40	35-40	35-45
	150-250	35-45		
	250-300	40-50	40-50	



UG 注塑模具向导之工件（模仁） (2/2)





04 布局



UG 注塑模具向导之型腔布局 (1/2)

 →

型腔布局

① 产品

✓ 选择体 (1)

布局类型

矩形

☒ 平衡 ☐ 线性

* 指定矢量

平衡布局设置

型腔数: 2

缝隙距离: 0 mm

生成布局

开始布局

编辑布局

编辑插入腔 ②

变换

移除

自动对准中心 ⑥

⑦ 关闭

→

插入腔体

目录 尺寸 ③

R=0 R TYPE=0

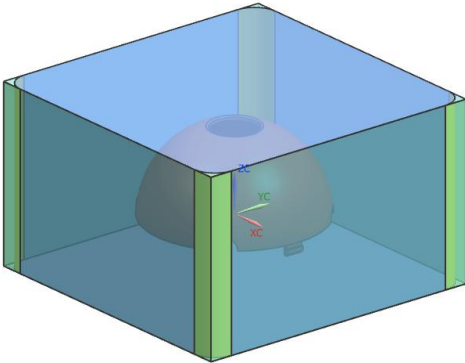
TYPE=1 TYPE=2

④

```
R = 8  
clr = 0  
type = 0  
x0 = <UM_LAYOUT>::um_layout_x0  
x1 = <UM_LAYOUT>::um_layout_x1  
y0 = <UM_LAYOUT>::um_layout_y0  
y1 = <UM_LAYOUT>::um_layout_y1  
z0 = <UM_LAYOUT>::um_layout_z0  
z1 = <UM_LAYOUT>::um_layout_z1
```

R = 8 0

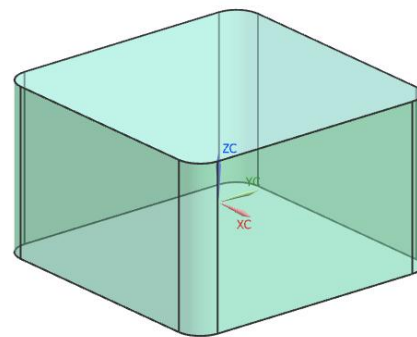
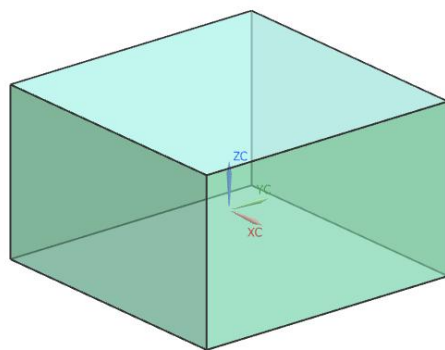
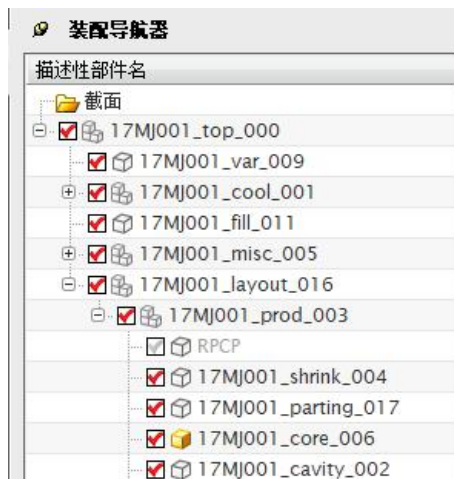
⑤ 确定 应用 返回 取消



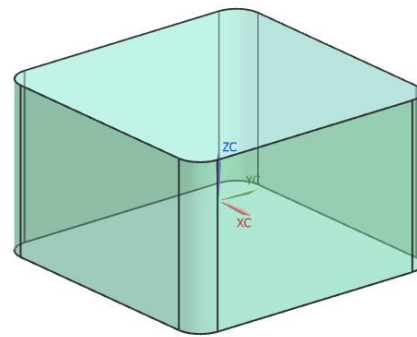
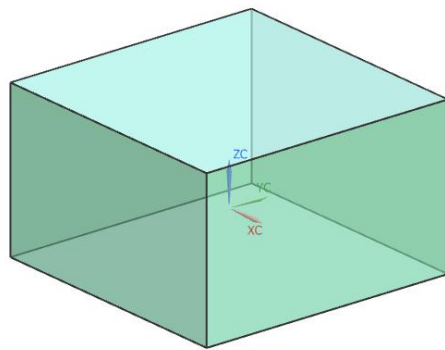
UG 注塑模具向导之型腔布局 (2/2)

模仁倒圆角：R9

①双击型芯部件，使之成为工作部件，模仁四边倒圆角：R9。



②双击型腔部件，使之成为工作部件，模仁四边倒圆角：R9。



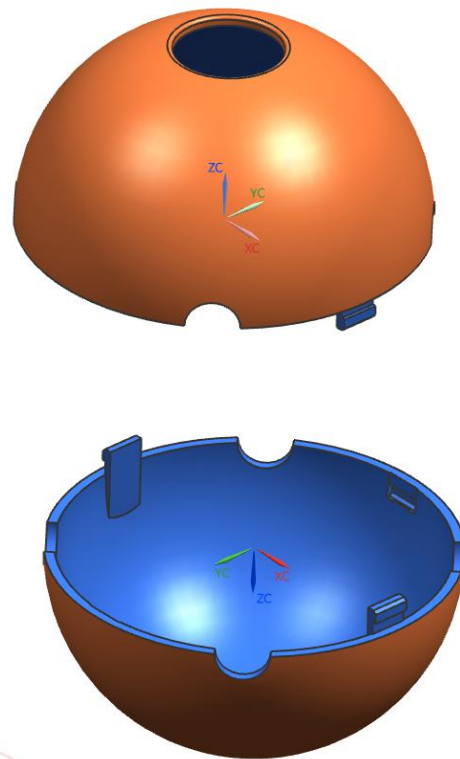
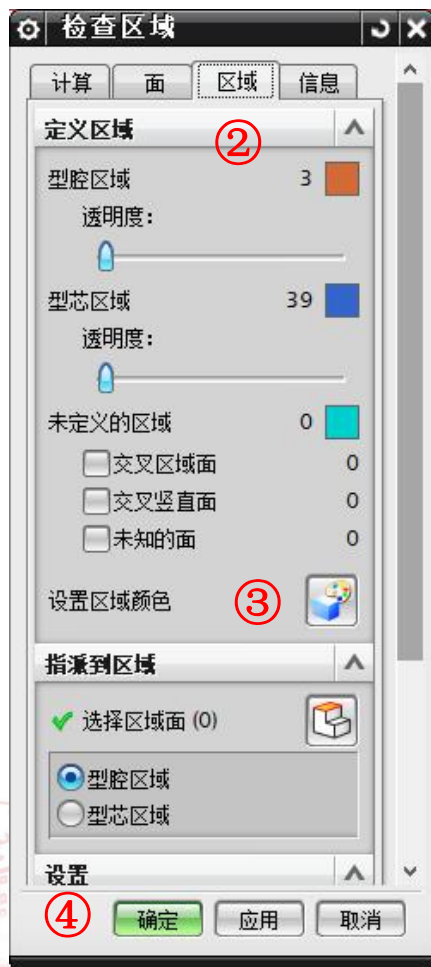


05

分模

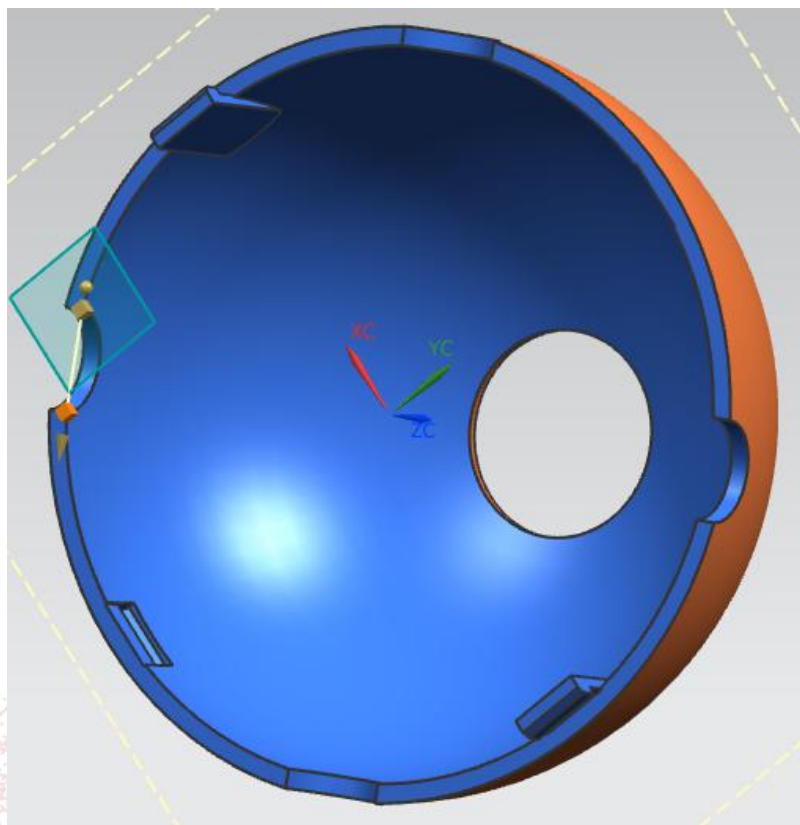


UG 注塑模具向导之检查区域



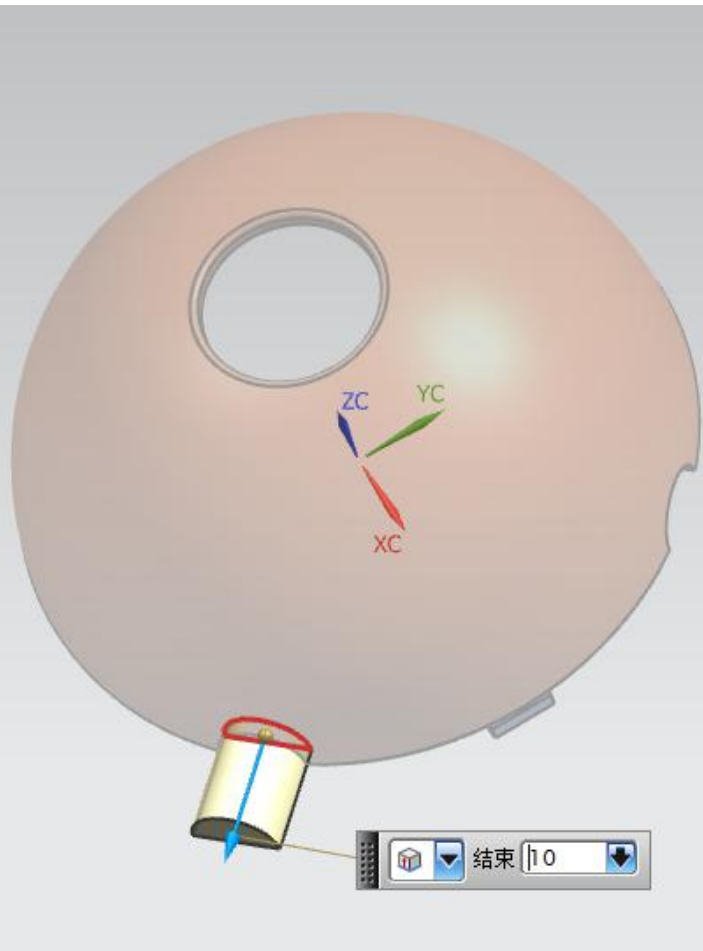
UG 注塑模具向导之实体补片 (1/5)

- (1) 保证分模部件成为显示部件: `***_parting_***.prt`
- (2) 命令“菜单”→“曲线”→“直线”，绘制直线，连接半圆缺口的两个端点。



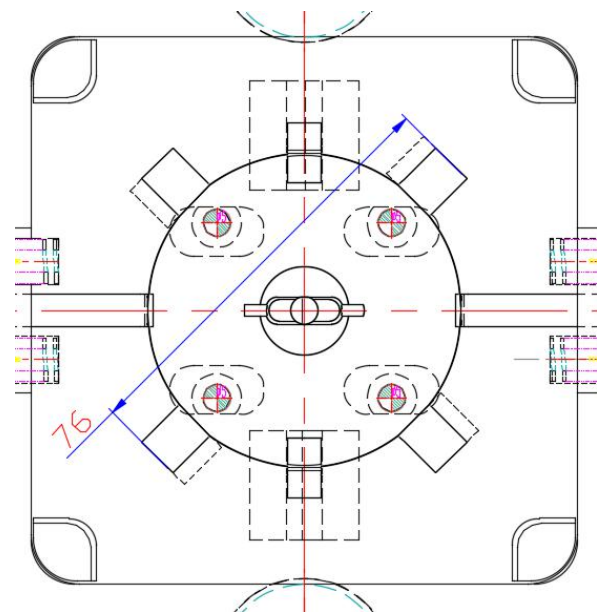
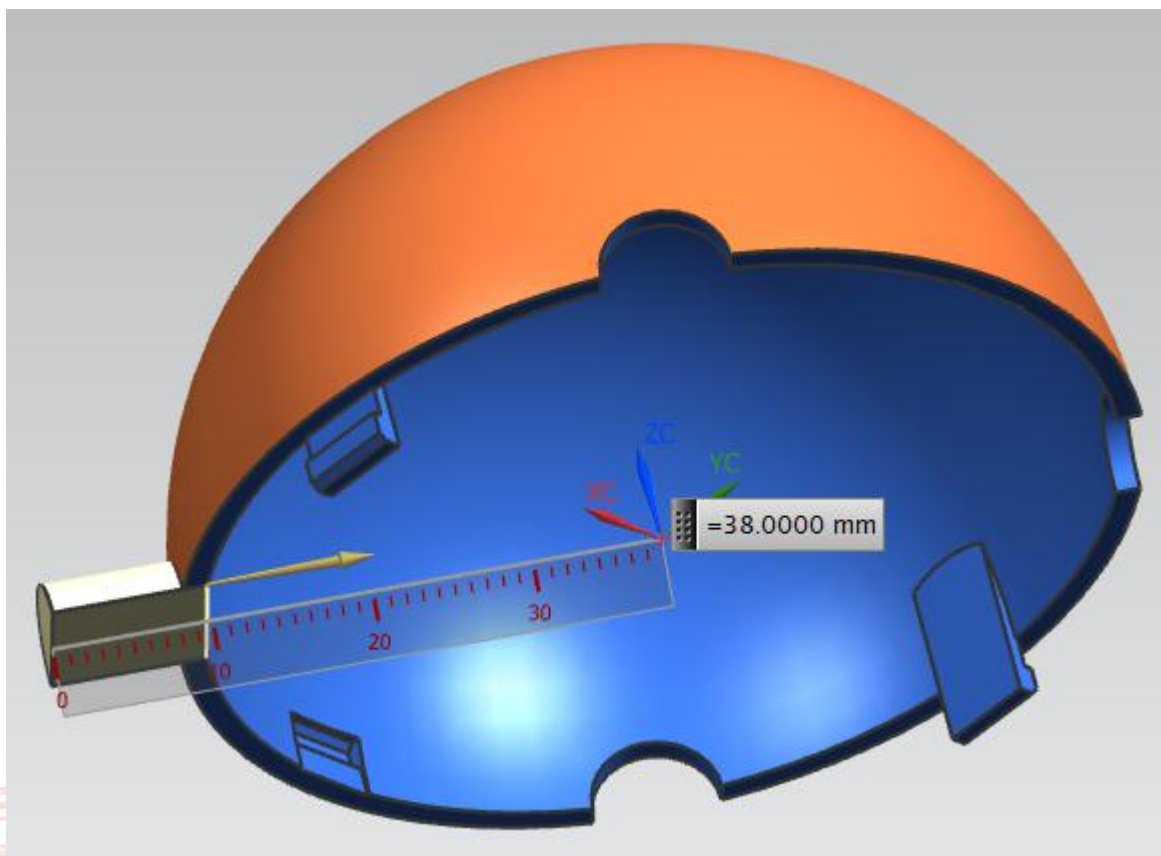
UG 注塑模具向导之实体补片 (2/5)

(3) 拉伸半圆缺口的圆弧与直线。



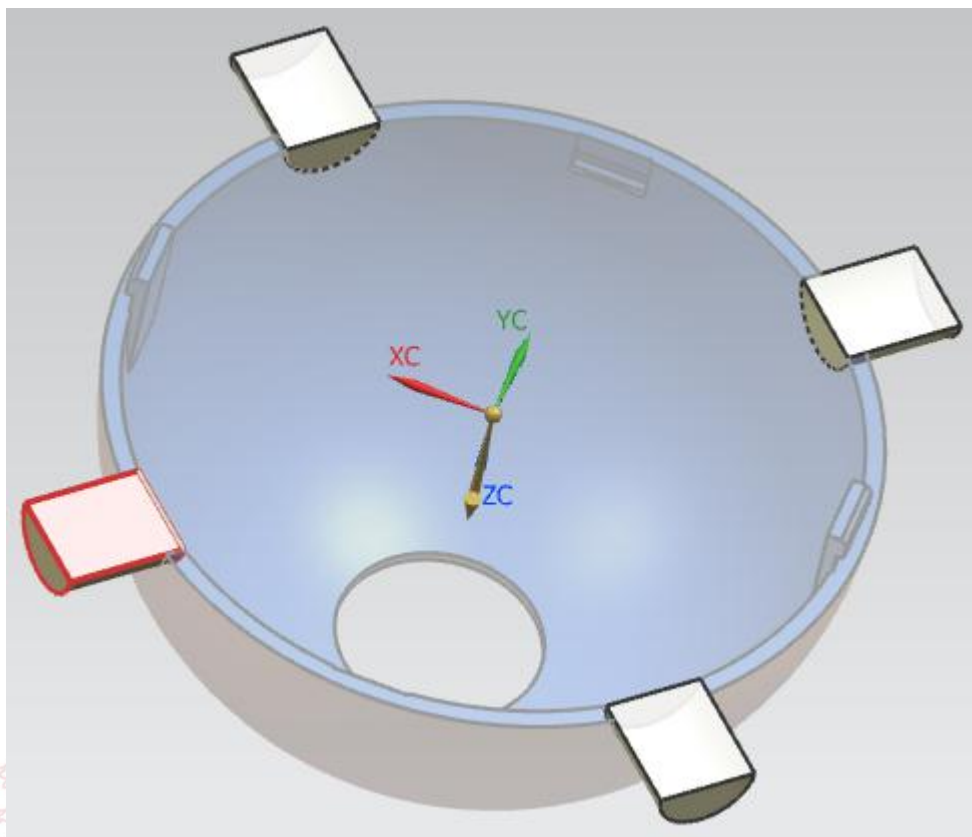
UG 注塑模具向导之实体补片 (3/5)

(4) 调整拉伸的长度，保证端面与原点的距离为38。



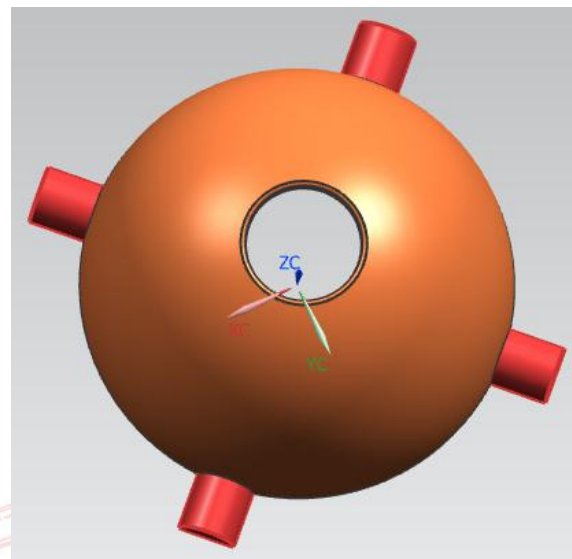
UG 注塑模具向导之实体补片 (4/5)

(5) 菜单“插入”→“关联复制”→“生成实例几何特征”，阵列



UG 注塑模具向导之实体补片 (5/5)

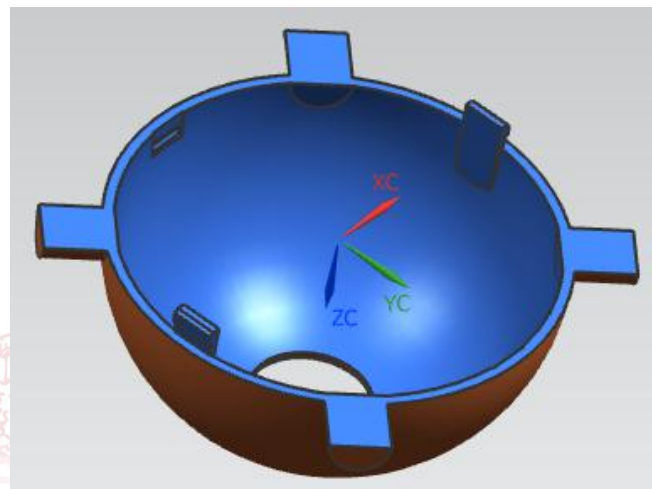
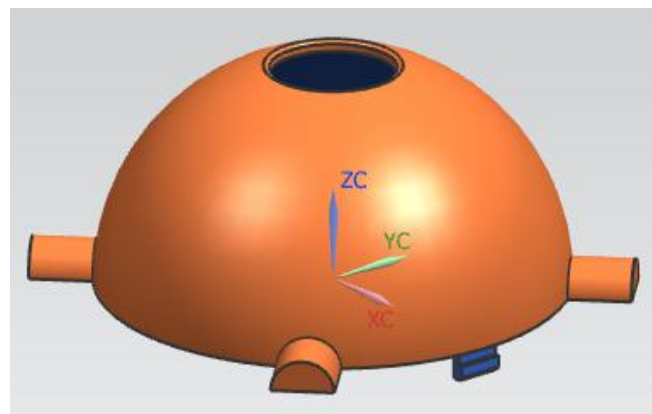
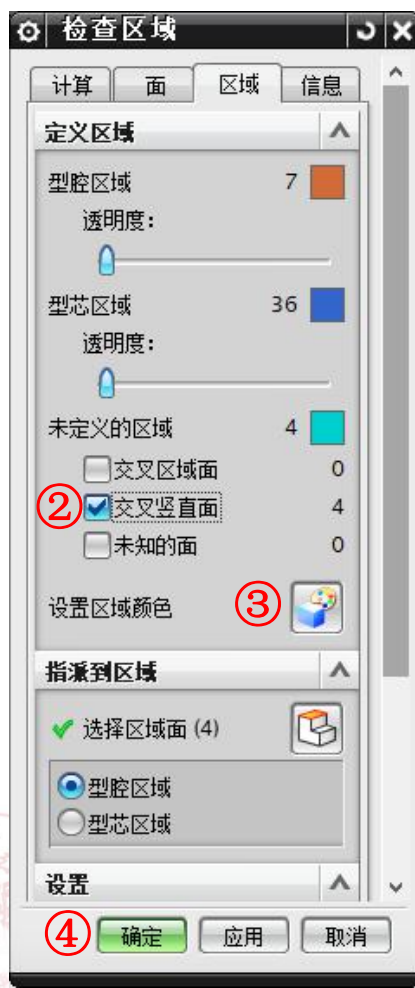
(6) 实体补片



UG 注塑模具向导之自动分模 (1/2)



(1) 检查区域



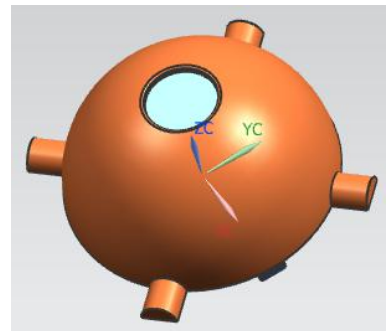
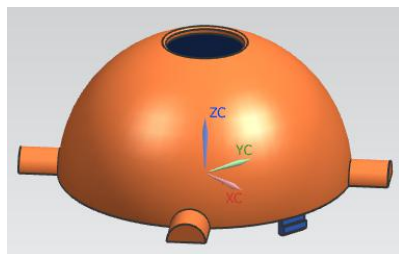
UG 注塑模具向导之自动分模 (1/2)



(2) 曲面补片

①

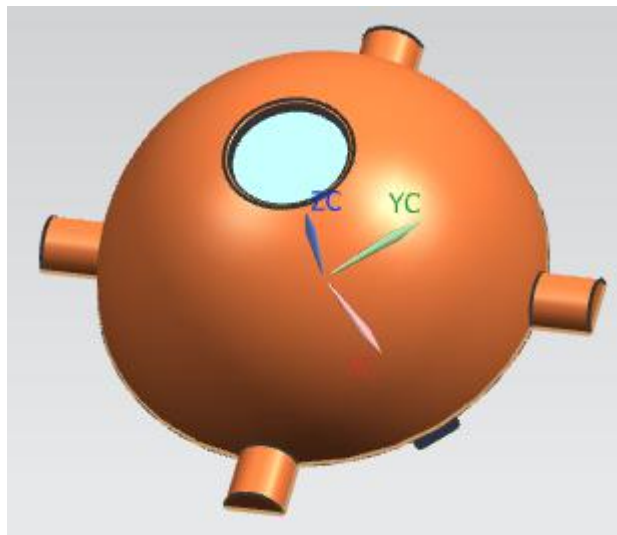
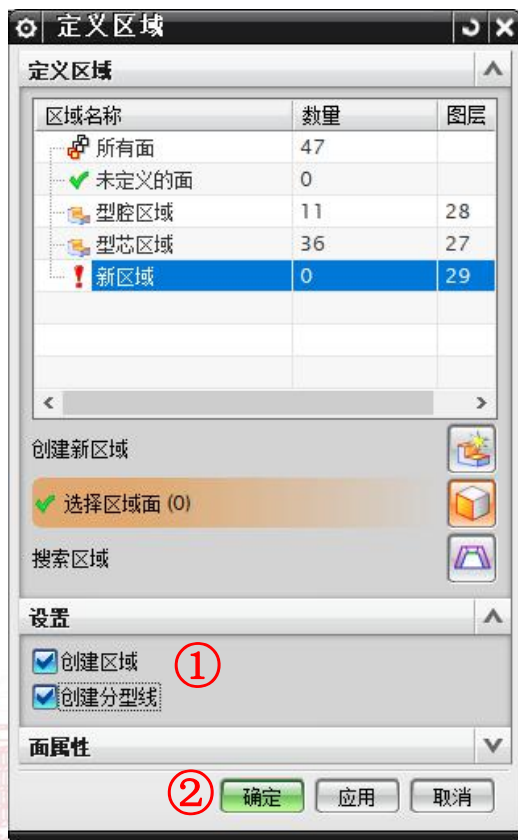
②



UG 注塑模具向导之自动分模 (1/2)



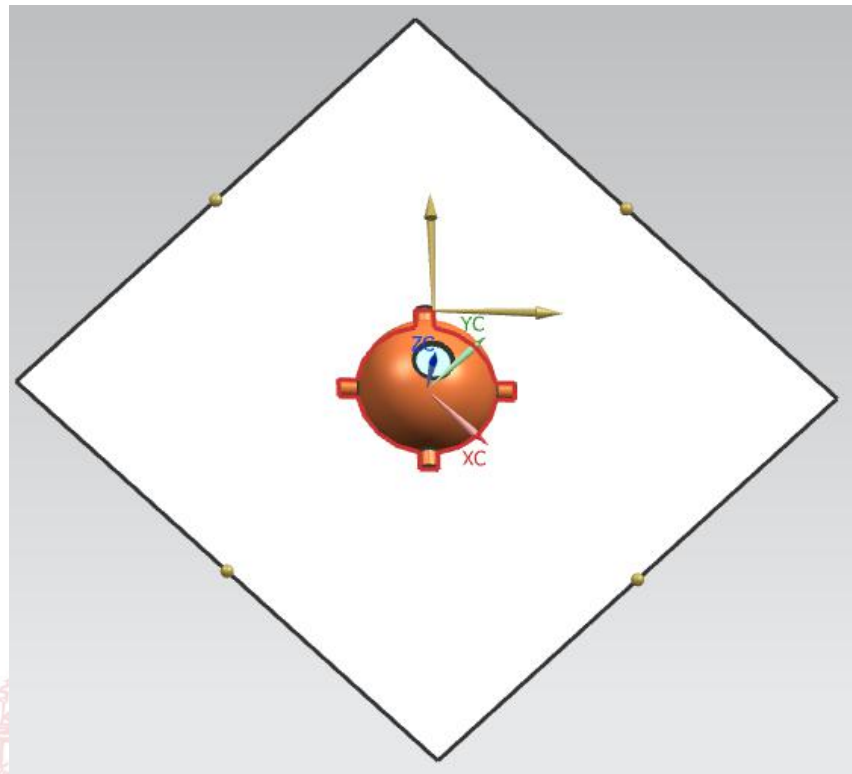
(3) 定义区域



UG 注塑模具向导之自动分模 (1/2)



(4) 创建分型面



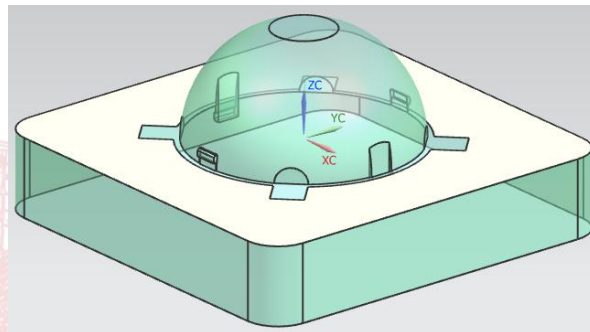


UG 注塑模具向导之自动分模 (1/2)



(5) 定义型腔和型芯

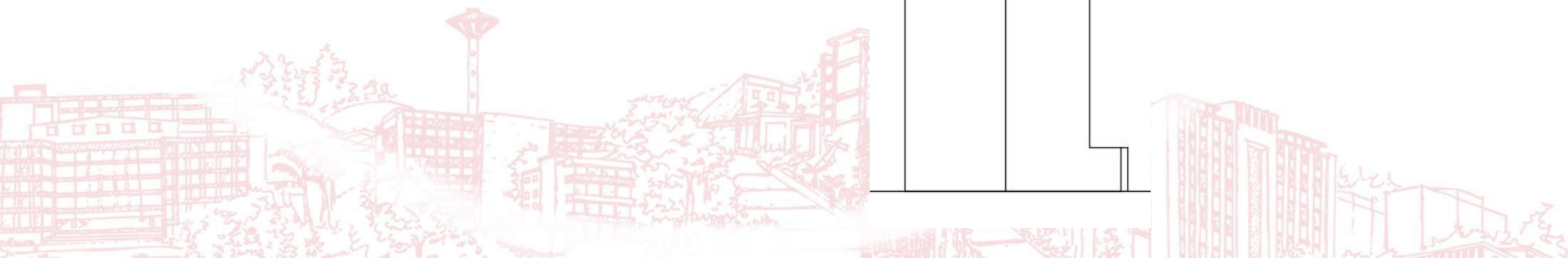
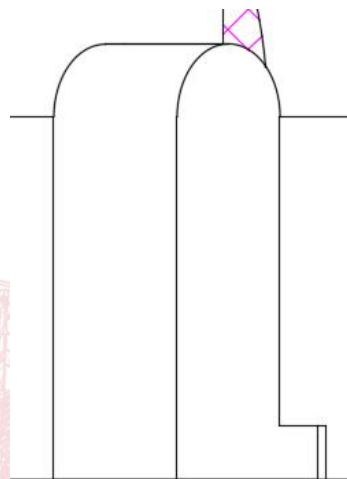
①





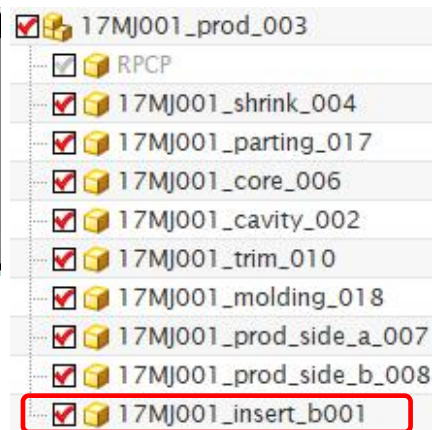
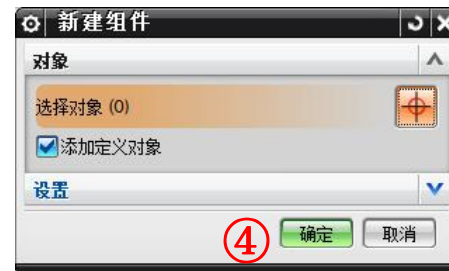
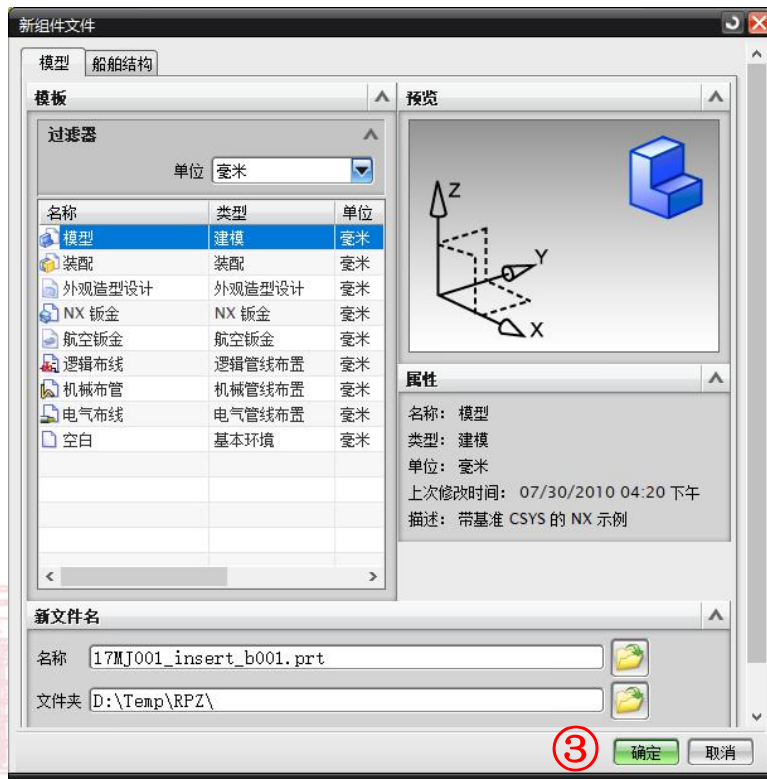
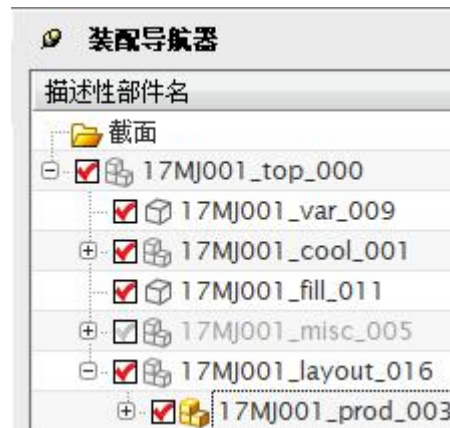
06

创建枕位镶件



(1) 双击节点部件成为显示部件: ***_prod_***.prt

(2) 点击命令“新建组件”

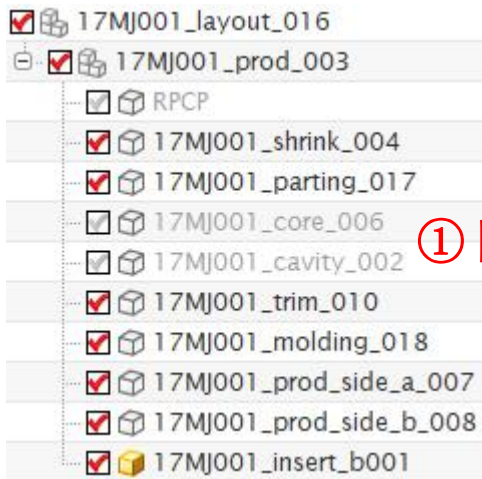


① 名称: 17MJ001_insert_b001.prt

② 目录: 项目的目录

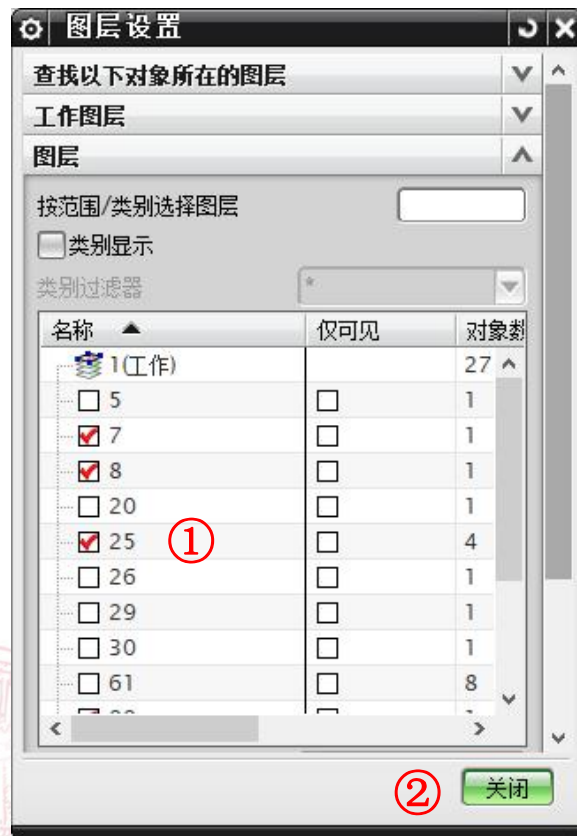


(3) 双击镶件部件成为显示部件: ***_insert_b001.prt

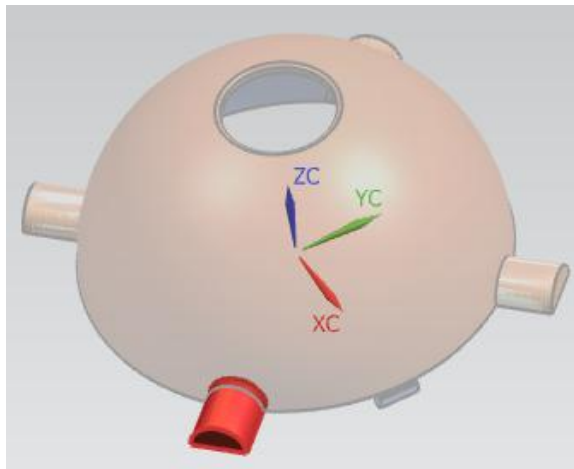


① 隐藏型腔与型芯部件

(4) 点击命令“格式”→“图层设置”
勾选第25层



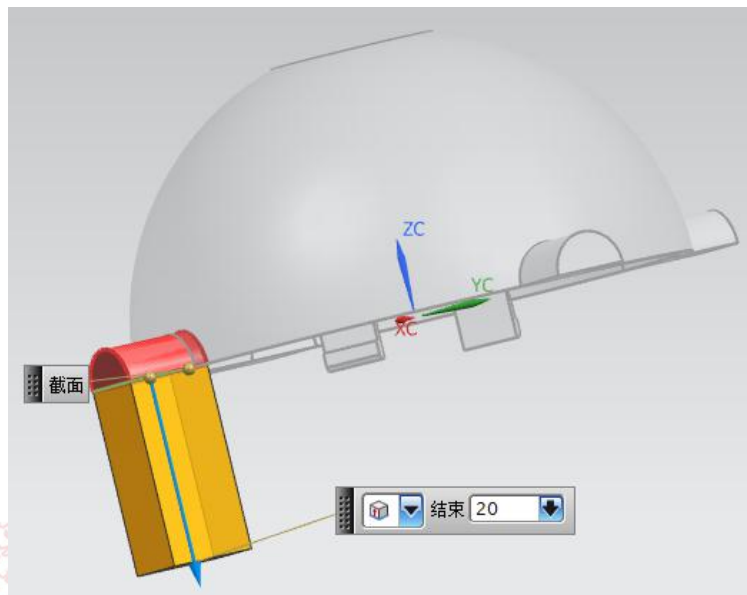
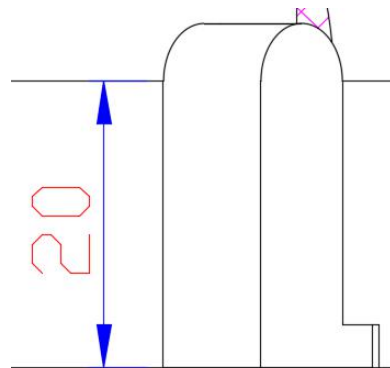
(5) 点击命令“插入” → “关联复制” → “WAVE几何链接器”



(6) 点击命令“格式” → “图层设置”
去除勾选第25层



(7) 根据图纸尺寸，拉伸链接体

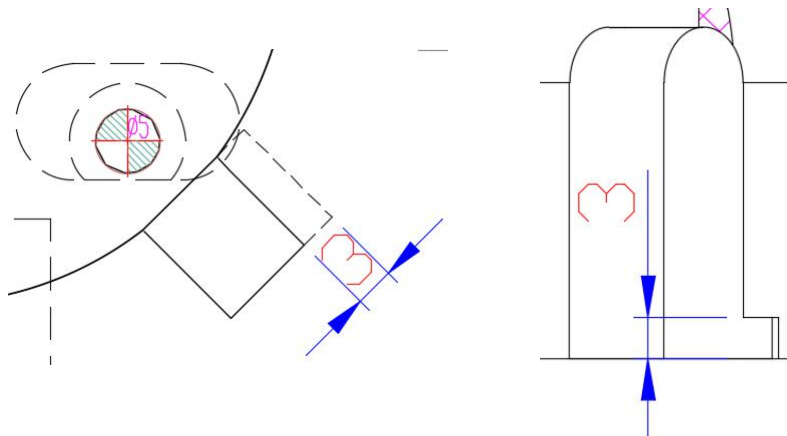


(8) 根据图纸尺寸，拉伸出挂台

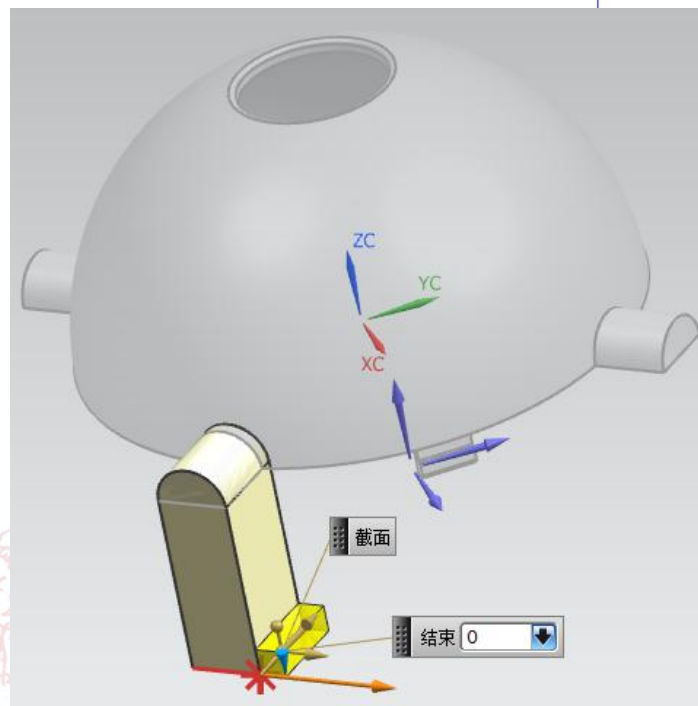
①



②



③

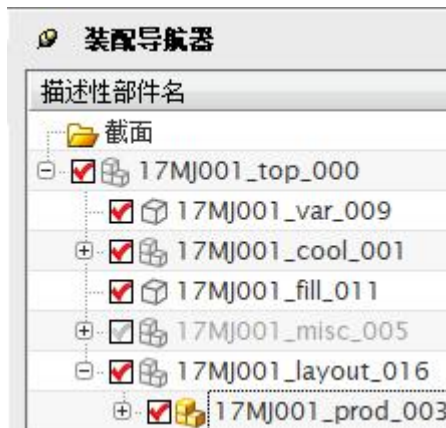


④

⑤

⑥

(9) 双击节点部件成为显示部件: ***_prod_***.prt

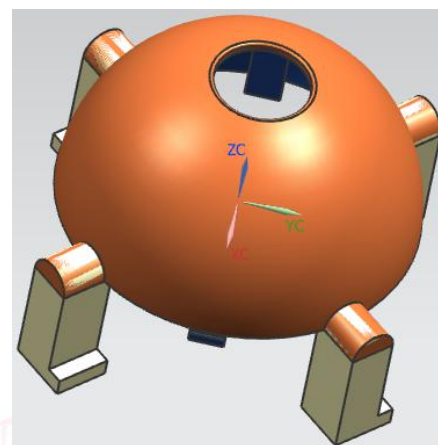
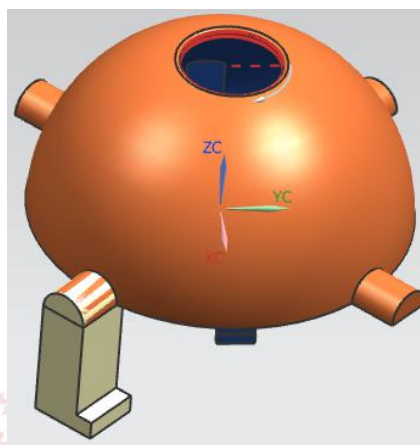


(10) 阵列镶件 (圆形, 4个)

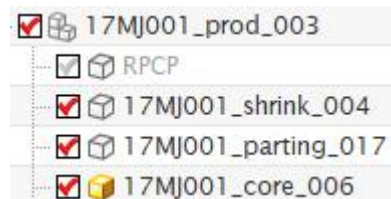
点击命令“装配”→“组件”→“创建组件阵列”



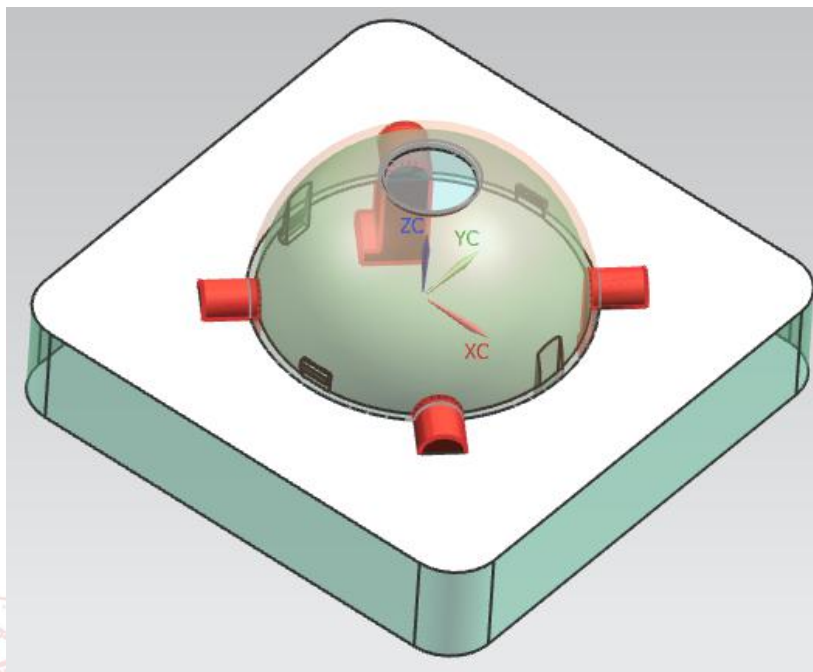
④ 选择圆边



(11) 双击型芯部件成为显示部件: ***_core_***.prt



(12) 点击命令“插入”→“关联复制”→“WAVE几何链接器”



(13) 型芯求差

关联复制(A)

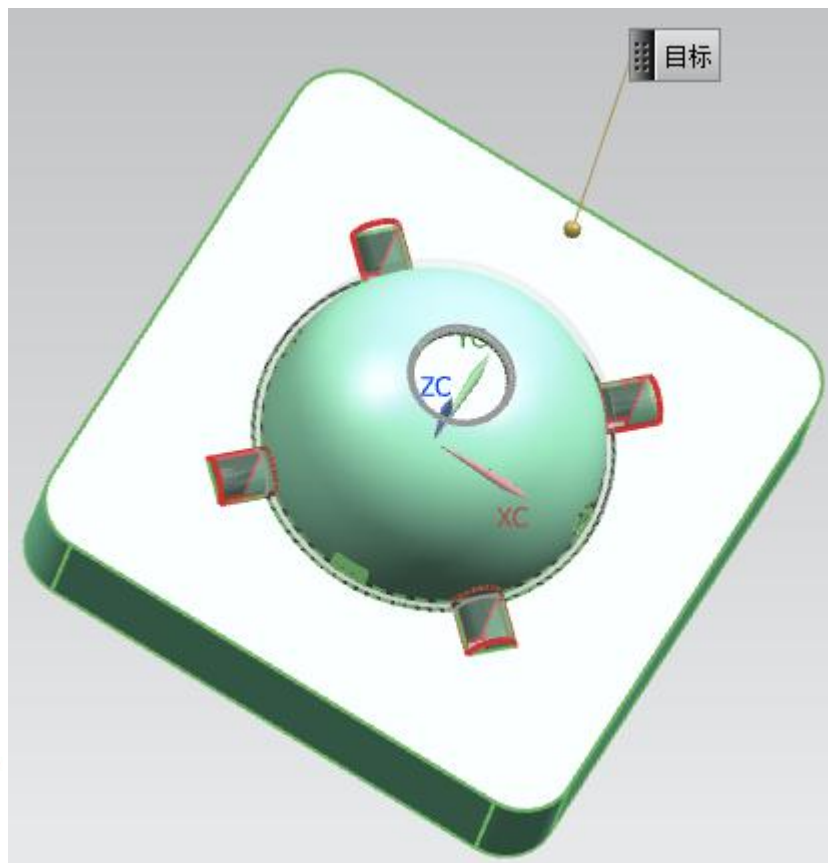
WAVE 几何链接器(W)...

①



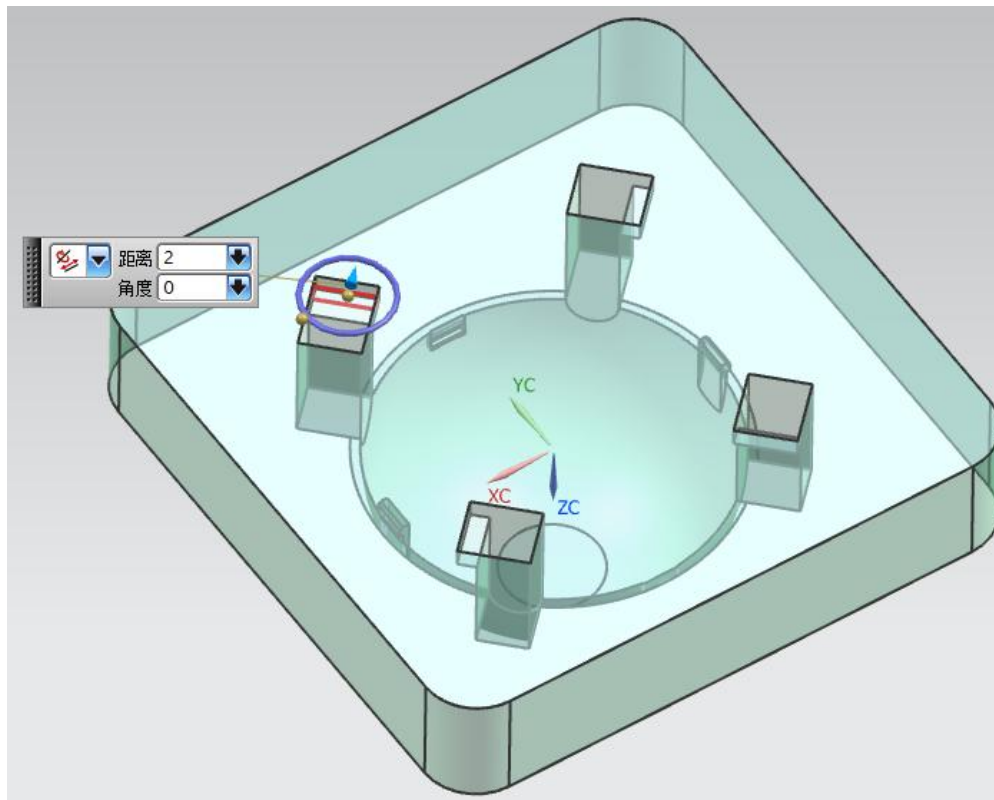
②

③



(14) 型芯的挂台处避空 (四处)

同步建模(Y) 移动面(M)...



(15) 型芯的挂台处倒圆角（外侧，四处）

