

CHAMFER 0.3 mm MAX x45° ± 5°
 DETAIL A
 SCALE 6 : 1

SURFACE "S1" (HATCHED)

MANUFACTURING NOTES

1. Surface finish all surfaces to minimise surface cracks except "S1"
 Step 1: optical polish to Ra < 50 nm
 Step 2: flame polish all surfaces and edges except surface "S1" prior to the final polish on surface "S1". (SEE NOTES ON NEXT PAGE)
2. Surface "S1" polished to λ/10 (λ = 633 nm) peak-to-valley over 95% of the surface area. There shall be no peaks around the edges.
3. All ears to be delivered with a surface map of surface "S1" measured over 100% of the surface area.
4. All machining and polishing fluids shall be water soluble and free of silicone, sulfur and chlorine
5. Ears to be manufactured from blanks 28 x 62 x 30 mm (2 ears from each blank)
6. Edge chipping and scratching of surfaces to be minimised

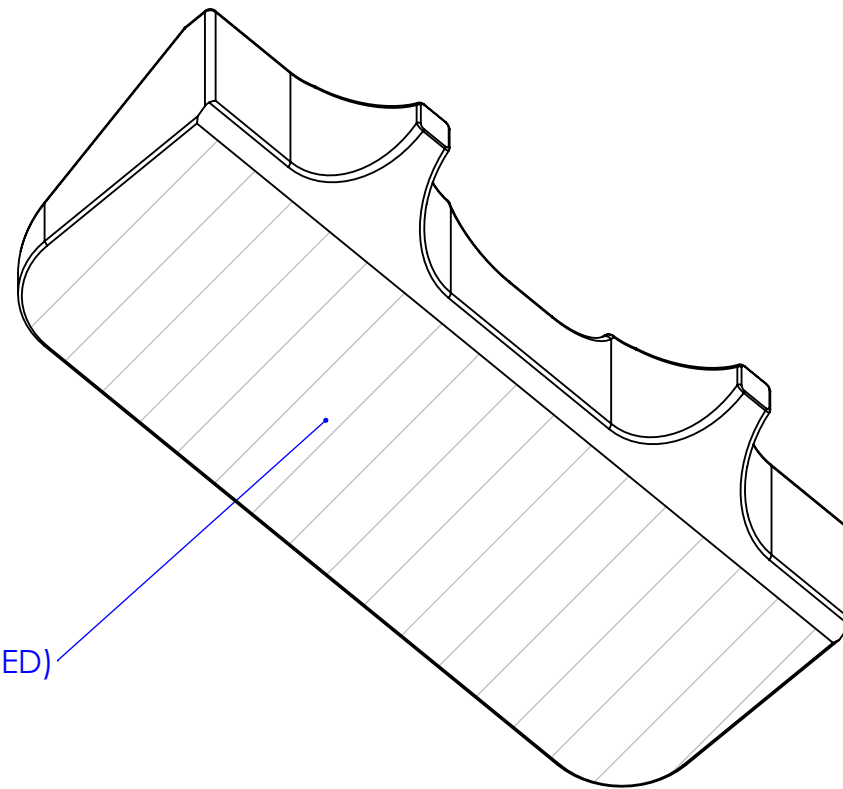
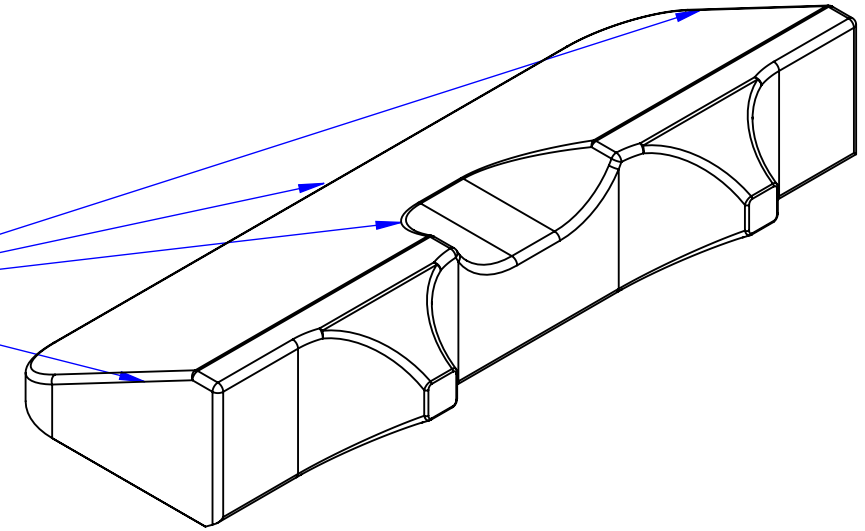
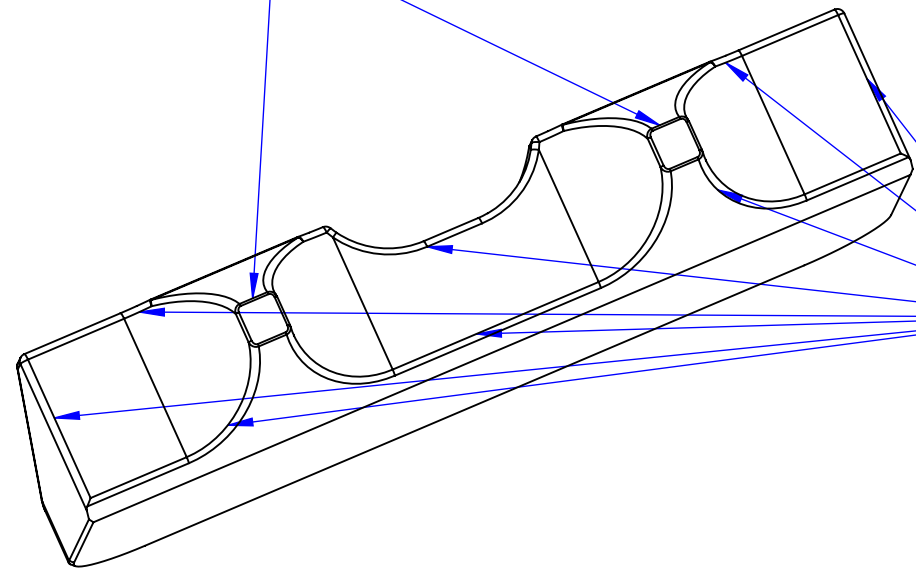
PARTS LIST

NOTES: (UNLESS OTHERWISE SPECIFIED)			DIMENSIONS ARE IN MILLIMETERS	
1. Do not scale from drawing			TOLERANCES: ± 0.1 MAX	
2. Symmetric about centre line			ANGULAR ± 0.2 °	
DRAWN: MVV			DATE: 21/11/08	
CHECKED: R.JONES			DATE: 21/11/08	
APPROVED:				
MATERIAL: Suprasil 312			SYSTEM: Advanced LIGO	
FINISH: see manufacturing notes			SUB-SYSTEM: SUS	
PART NAME: Production Ear_with recess			NEXT ASSY: ETM/ITM QUAD PM	
SIZE DWG. NO.: B D090007			REV. v4	
SCALE: 1:1			PROJECTION:	
			SHEET 1 OF 2	

FLAME POLISHING AND ANNEALING INSTRUCTIONS

Flame polish all horn edges
Maximum radius 0.2

Flame polish indicated
edges
Maximum radius 0.5



Surface "S1" (HATCHED)

MANUFACTURING NOTES

1. Ears shall be cleaned in a 9% hydrofluoric acid solution prior to flame polishing
2. Flame polish all surface and edges except surface "S1" and edges of surface "S1"
3. Flame polishing and annealing shall not change overall dimensions of the parts as in sheet 1
4. Annealing shall be done at 1120°C for 2 hours.
5. Extreme care shall be taken to not damage any surface in any way by scratching or chipping

PARTS LIST

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. Do not scale from drawing
2. Symmetric about centre line

DIMENSIONS ARE IN MILLIMETERS

TOLERANCES:
± 0.1 MAX
ANGULAR ± 0.2 °

MATERIAL Suprasil 312

FINISH see manufacturing notes

	NAME	DATE
DRAWN	MVV	21/11/08
CHECKED	R.JONES	21/11/08
APPROVED		

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
IGR, GLASGOW UNIVERSITY GEO 600 GROUP

SYSTEM Advanced LIGO

SUB-SYSTEM SUS

NEXT ASSY Penultimate Mass (PM)

PART NAME
Production Ear_with recess

SIZE DWG. NO. D090007 REV. v3

SCALE: 1:1 PROJECTION: SHEET 2 OF 2