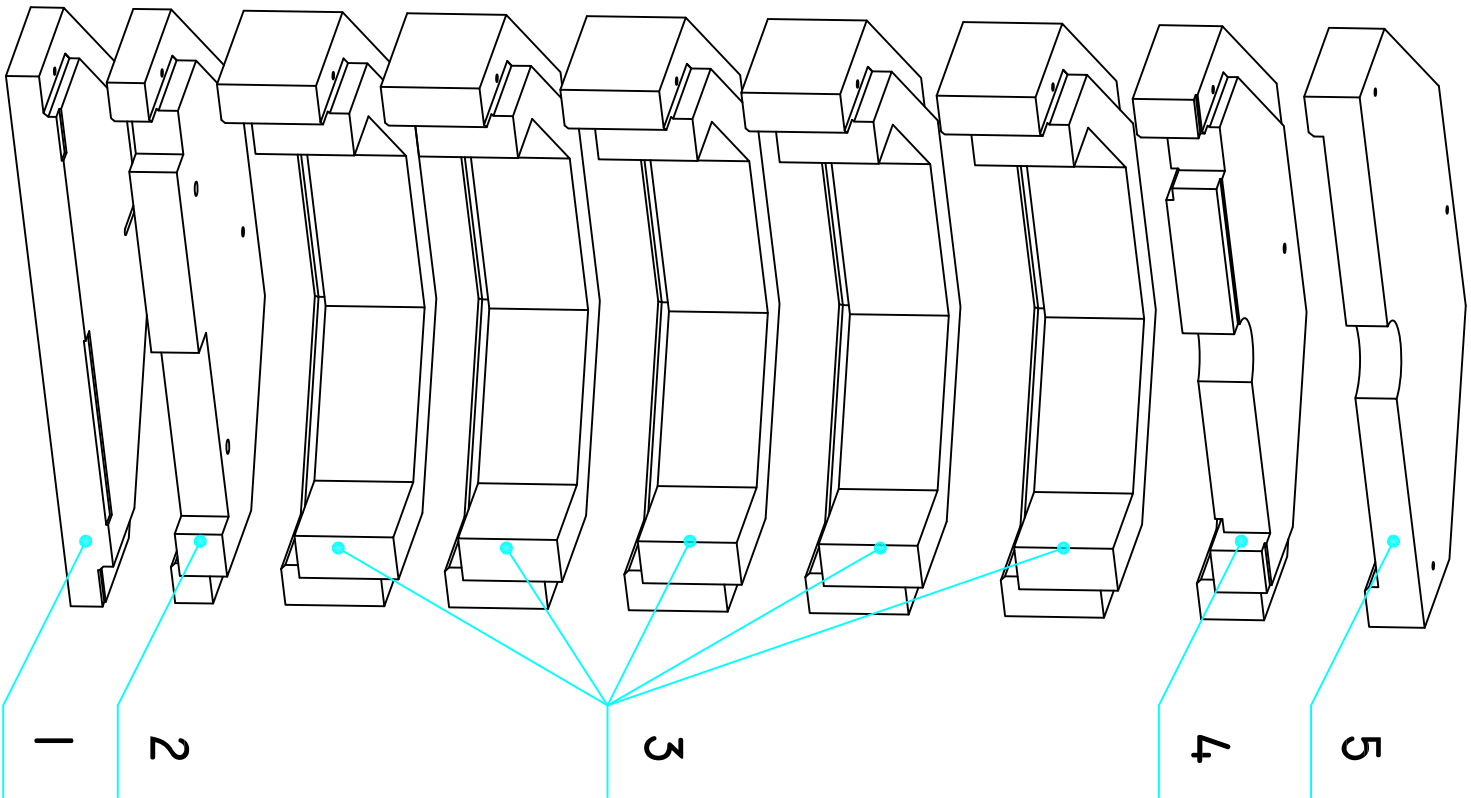


Annexe D : Plans tolérancés du blindage plomb

Les plans tolérancés présentés dans la présente annexe ont été réalisés selon des conventions de dessin technique en usage aux États-Unis. En particulier, certaines représentations peuvent différer des conventions européennes, notamment en ce qui concerne le mode de projection utilisé. Les candidats sont invités à en tenir compte lors de la lecture et de l'interprétation des plans.

REVISIONS			
ZONE	REV	DESCRIPTION	DATE

Part #	Name	DWG #	QTY	Weight/Part kg
1	Layer 1	100.03.01.00	2	710
2	Layer 2	100.03.02.00	2	729
3	Layer 3-7	100.03.03.00	10	847
4	Layer 8	100.03.04.00	2	894
5	Layer 9	100.03.05.00	2	726



PARTS LIST		PART DESCRIPTION		REF. SHEET/DWG.
FIND/REF. #	QTY.	U.M.	PART NAME	MATERIAL
UNLESS OTHERWISE SPECIFIED:				
1. DIMENSIONS ARE IN MM.				
2. MACHINE SURFACES TO BE FLAT, SQUARE, PARALLEL, & CONCENTRIC				
3. MINIMUM .020 PER .100 THICK, .020 IN. AS APPLICABLE.				
4. BREAK ALL SHARP CORNERS (5° X 45° CHAMFER)				
5. FILLETS SHOWN SHARP +1.0 RAD.				
6. TAPED HOLES MIN DEPTH 2.0 X DIA.				
7. CENTERS PERMISSIBLE				
8. DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED				
10. ALL WELDING TO CONFORM TO LATEST A.W.S. STANDARDS.				
PERMISSIBLE VARIATION IN MM DIMENSIONS WITHOUT TOLERANCES				SURFACE TEXTURE $\sqrt{\text{R}}12.5$ TOLERANCES ARE NOT ACCUMULATIVE
DIMEN.	< 3	3-6	6-10	10-18
TOLER.	+0.025	+0.05	+0.08	+0.025
DIMEN.	125-180	180-250	250-315	315-400
TOLER.	+0.050	+0.075	+0.065	+0.075
ANGLE	±1°	±0°	±2°	±0°

DRAWING INFORMATION				TITLE		SIZE	SCALE
NEXT ASSY	QTY	NAME	DATE	TESSERACT		D	1:10
		DRAWN	ANDREY 12.26	TUFTS UNIVERSITY		PROJECT NUMBER	
		CHECKED		PHYSICS&ASTRONOMY		DRAWING NUMBER	
		APPROVED		LEAD		100.03.00.00	
		DEPARTMENT		ASSEMBLY		SHEET 1 OF 1	
						REVISION	A

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

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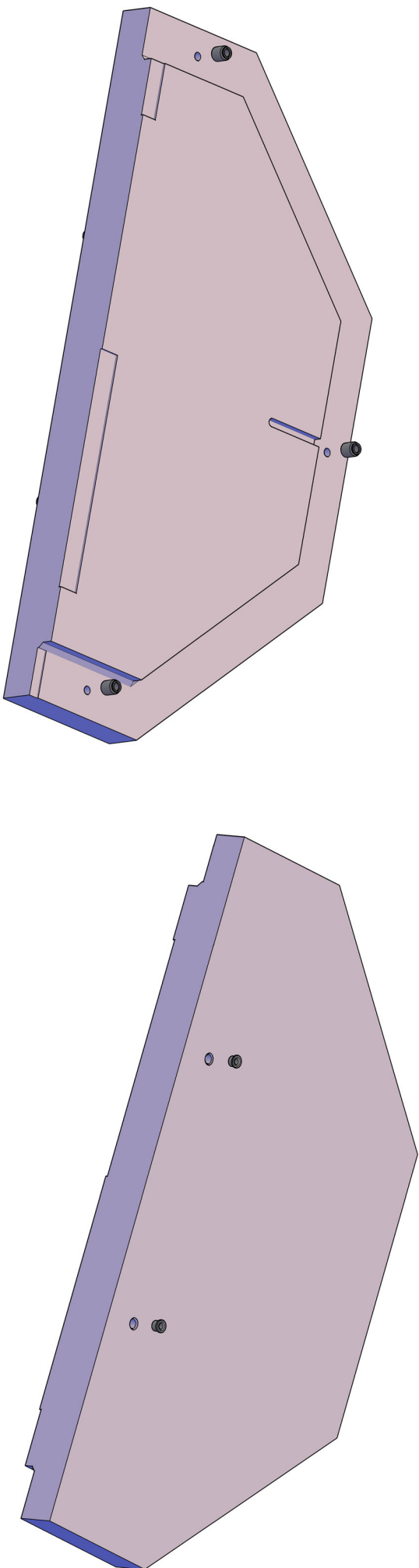
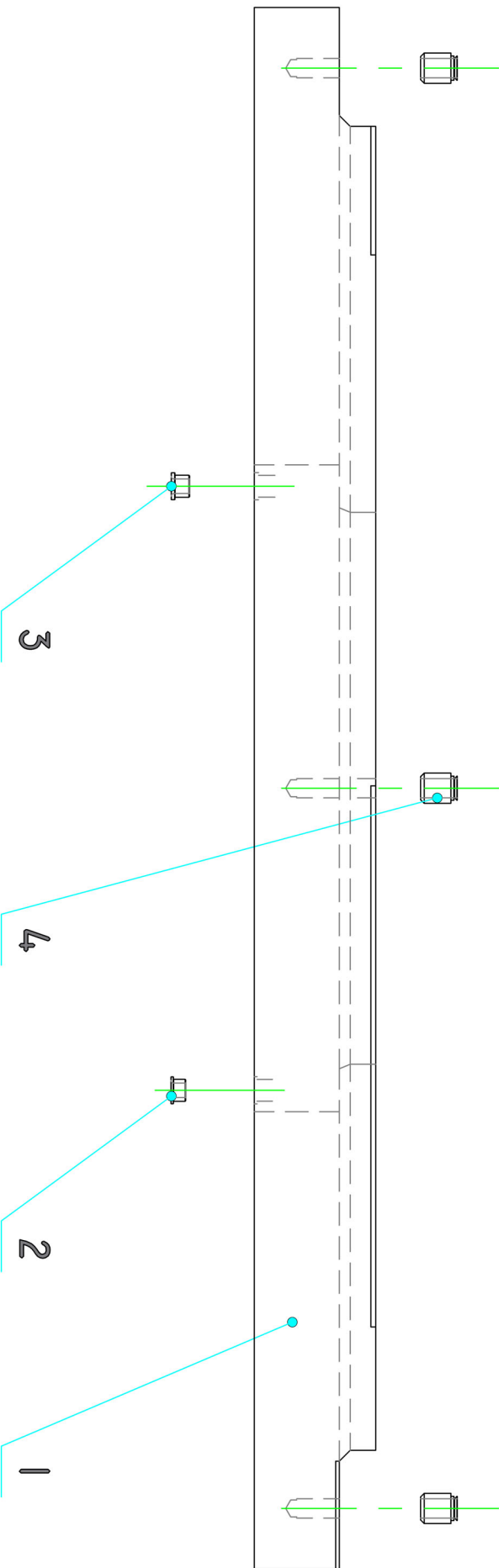
1

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B

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4	3	EA	INSERT	304 ST/STEEL	M16 x 30 mm Long	LEVER M16-253016
3	1	EA	INSERT	STEEL	HOLE LINER FOR 12 mm OD TAPERED-HEAD LOCATING PIN	McMaster# 3064N27
2	1	EA	INSERT	STEEL	HOLE LINER FOR 12 mm OD DIAMOND-HEAD LOCATING PIN	McMaster# 3064N28
1			BLOCK	LEAD	100H x 1300V x 650D	10003.01.01
FINDER# QTY U/M			PART NAME	MATERIAL	PART DESCRIPTION	REF. SHEET/DWG.

PARTS LIST					
UNLESS OTHERWISE SPECIFIED:					
1. DIMENSIONS ARE IN MM.					
2. MACHINE SURFACES TO BE FLAT, SQUARE, PARALLEL, & CONCENTRIC					
3. MINIMUM .020 PER .001 HYPOT. .020 MIN. AS APPLICABLE.					
4. BREAK ALL SHARP CORNERS (5 x 45° CHAMFER)					
5. FILLETS SHOWN SHARP ±1.0 RAD.					
6. TAPERED HOLES & REAMED HOLES 1.5 x 4.5°					
7. CHAMFERED HOLES 1.5 x 4.5°					
8. DIMENSIONS PER SURFACE					
9. DIMENSIONS PER SURFACE					
10. ALL WELDING TO CONFORM TO LATEST A.W.S. STANDARDS.					

DIMEN		< 3	3-6	6-10	10-18	18-30	30-50	50-80	80-120
TOLER		±0.025	±0.035	±0.045	±0.055	±0.065	±0.075	±0.085	±0.095
DIMEN		120-180	180-230	230-280	280-330	330-400	400-500	500-600	600-800
TOLER		±0.050	±0.075	±0.085	±0.095	±0.105	±0.115	±0.125	±0.135
ANGLE		±1°	±1°	±1°	±1°	±1°	±1°	±1°	±1°

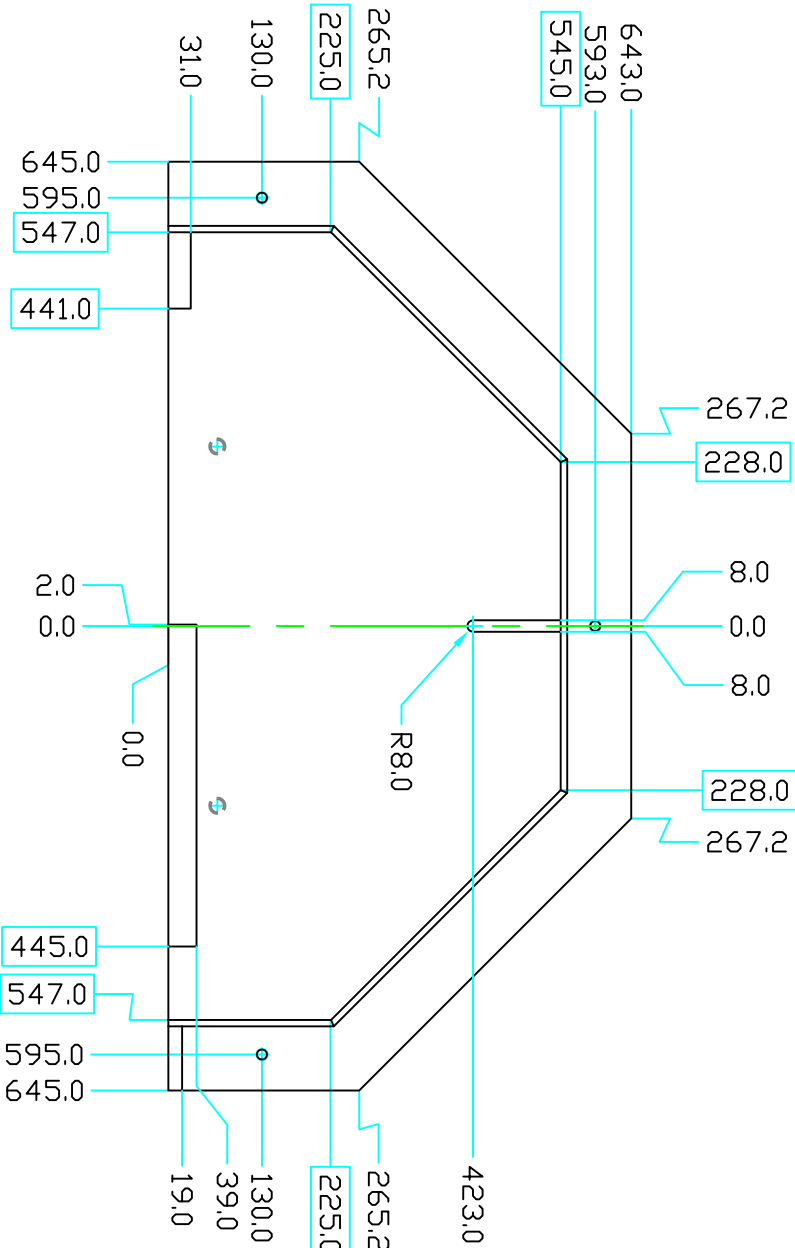
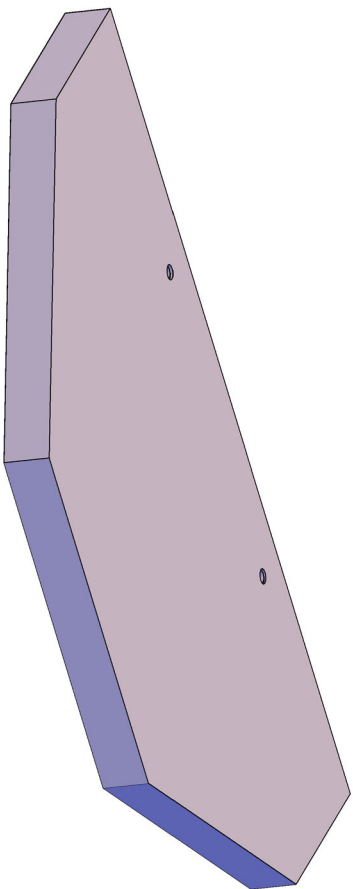
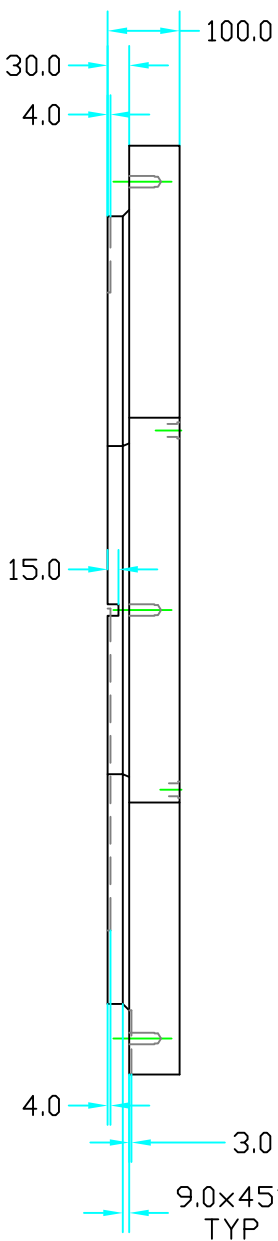
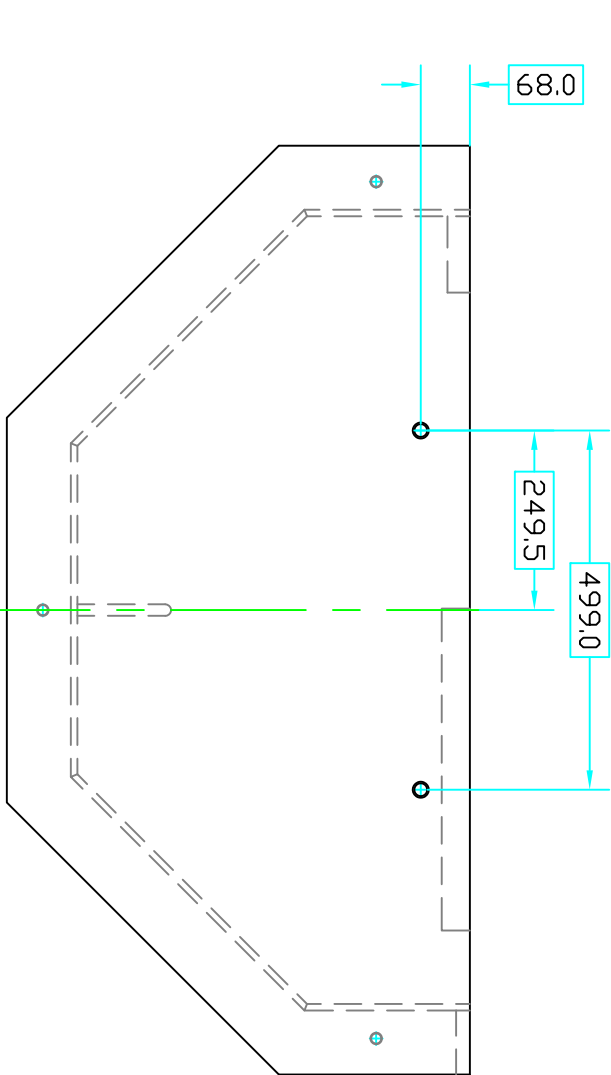
SURFACE TEXTURE $R_{12.5}$
TOLERANCES ARE NOT ACCUMULATIVE

REV	DATE	BY	CHKD	APPD	DESCRIPTION
1	12/26	ANDREY			
2					
3					
4					
5					
6					
7					
8					
9					
10					

DRAWING INFORMATION		NAME		DATE	
DRAWN		ANDREY		12/26	
CHECKED					
APPROVED					
PROJECT NUMBER		100		DRAWING NUMBER	
100.03.01.00					
SHEET		1 OF 1		REVISION	
A					

TITLE		TESSERACT		TUFTS UNIVERSITY	
LEAD		TESSERACT SHIELDING			
LAYER I ASSEMBLY					

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	C	TOLERANCES CHANGED		



BASIC DIMENSIONS TOLERANCES IT13. ALL OTHER IT15
DO NOT SANDBLAST, MICROBEAD OR PAINT

FINDER/REF #		QTY	UM	EA	BLOCK	LEAD	2M9 GRADE	PART DESCRIPTION	REF SHEET/DWG
PARTS LIST									
UNLESS OTHERWISE SPECIFIED:									
1. DIMENSIONS ARE IN MM.									
2. MACHINE SURFACES TO BE FLAT, SQUARE, PARALLEL, & CONCENTRIC									
3. MINIMUM 120° PER 100° FOR 120° MIN AS APPLICABLE, & CONCENTRIC									
4. BREAK ALL SHARP CORNERS (15° x 45° CHAMFER)									
5. FILLETS SHOWN SHARP ±1.0 RAD.									
6. TAPED HOLES MIN DEPTH 2.0 x DIA.									
7. COUNTER BORES & REAMED HOLES 1.5 x DIA.									
8. DIMENSIONS PER STANDARD									
9. DIMENSIONS PER STANDARD									
10. ALL WELDING TO CONFORM TO LATEST A.W.S. STANDARDS.									
PERMISSIBLE VARIATION IN MM DIMENSIONS WITHOUT TOLERANCES									
DIMEN	< 3	3-6	6-10	10-18	18-30	30-50	50-80	80-120	
TOLER	±0.025	±0.05	±0.08	±0.08	±0.025	±0.026	±0.03	±0.037	±0.043
DIMEN	120-180	180-230	230-255	255-315	315-400	400-500	500-630	630-800	OVER 800
TOLER	±0.050	±0.075	±0.065	±0.075	±0.075	±0.075	±0.08	±0.08	±0.095
ANGLE	±1°	±0°	±0°	±20°	±10°	±5°	VALUES ACCORDING SHOT SIZE		
SURFACE TEXTURE $R_{12.5}$									
TOLERANCES ARE NOT ACCUMULATIVE									

DRAWING INFORMATION				TITLE		SIZE	SCALE
NEXT ASST	QTY	NAME	DATE	Tesseract		D	1:10
		ANDREY	12/26	TUFTS UNIVERSITY		PROJECT NUMBER	100
		CHECKED		Tesseract Shielding		DRAWING NUMBER	100.03.01.01
		APPROVED		Physics & Astronomy		SHEET	1 OF 1
		DEPARTMENT		Layer 1		REVISION	C

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

2	3	EA	INSERT	304 ST/STEEL	M6 x 30 mm Long	LEHR M6-25306
1			BLDDC	LEAD	130Hx 1300W x 680D	1000302.01
FINDREF #	QTY	U.M.	PART NAME	MATERIAL	PART DESCRIPTION	REF. SHEET/DWG.
PARTS LIST						

(UNLESS OTHERWISE SPECIFIED)								
1. DIMENSIONS ARE IN MM.								
2. MACHINE SURFACES TO BE FLAT SQUARE PARALLEL & CONCENTRIC								
3. MAX ALLOWABLE DEVIATION FROM THEORETICAL PERFECT FORMS								
4. MARK ALL DETAILS (EXCEPT COMMERCIAL PARTS) WITH DIMS & ITEM NUMBER.								
5. BREAK ALL SHARP CORNERS 15 x 45° CHAMFER								
6. FILLETS SHOW SHAPE ± 0.10 RAD								
7. FILLER METAL W/THIN + 0.1 DIA.								
8. CUSP HEIGHT RECOMMENDED IS 0.45°								
9. CHATTERS PERMISSIBLE.								
10. DO NOT SCALE DRAWING								
11. ALL WELDING TO CONFORM TO LATEST A.W.S. STANDARDS								
PENINSULAR VARIATION IN MM DIMENSIONS WITHOUT TOLERANCES								
DIMEN	< 5	5-6	6-10	10-18	18-30	30-50	50-80	80-120
TOLR	+0.025	-0.015	+0.015	+0.025	+0.026	+0.031	+0.037	+0.045
DIMEN	120-180	180-230	230-35	35-40	40-50	50-65	65-80	80-100
TOLR	+0.050	+0.0575	+0.065	+0.075	+0.075	+0.080	+0.085	+0.095
ANGLE	±1°	±30'	±20'	±10'	±5'	VALUES ACCORDING SPURT SIZE		
SURFACE TEXTURE		Ra1.5						
TOLERANCES ARE NOT ACCUMULATIVE								

					
INSTR		ASST	QTY	DRAWING INFORMATION	
				NAME	DATE
				ANDREY	25.2.26

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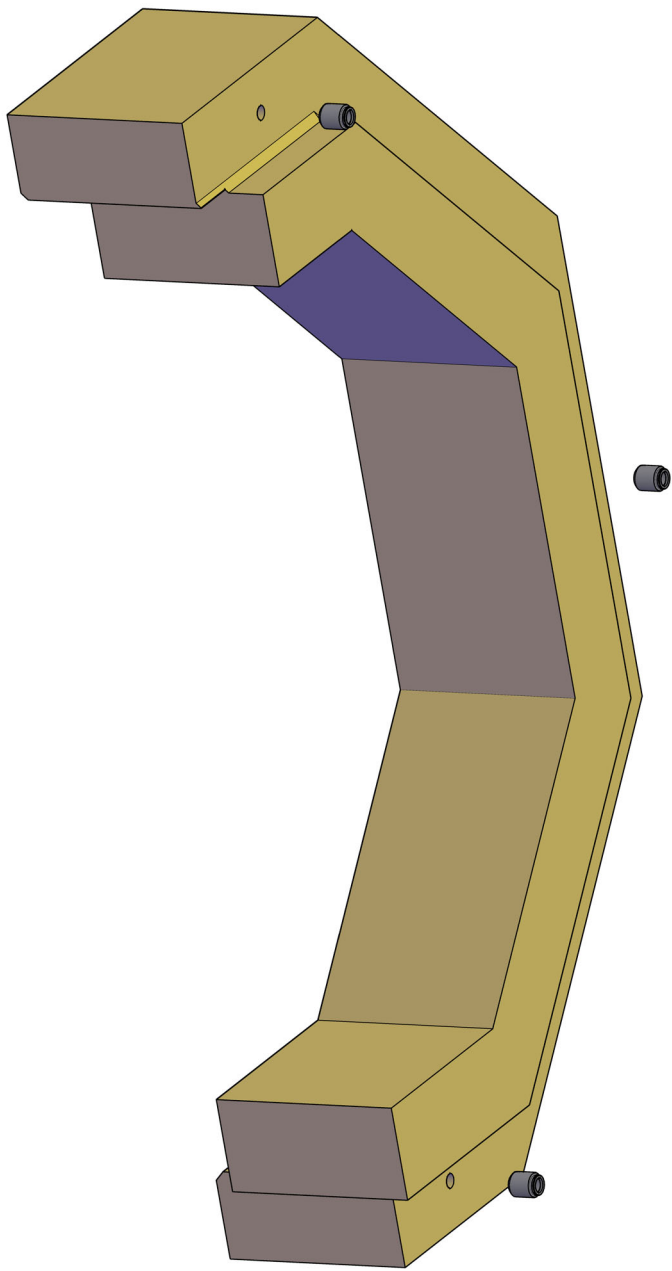
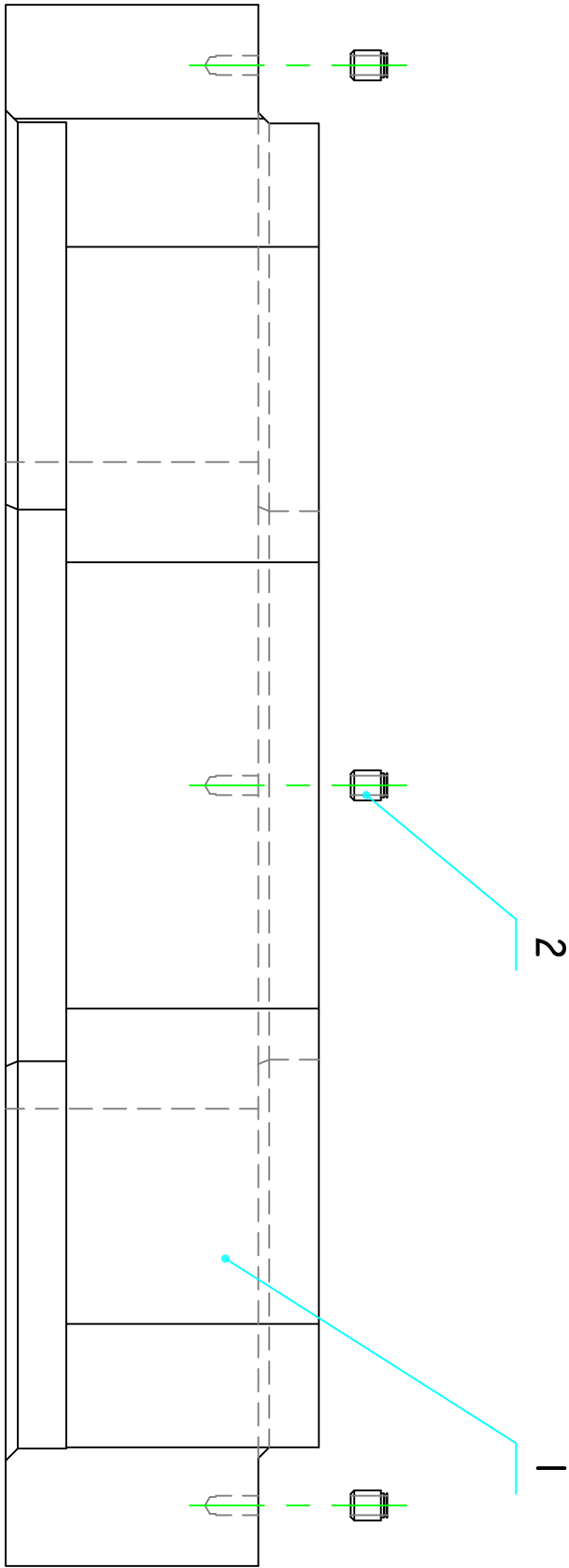
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REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



2	3	EA	INSERT	304 ST/STEEL	MG x 30 mm Long	LEHR MG-23006
1			BLACK	LEAD	260H x 1300W x 67SD	100030301
FINISHES #	QTY	U/M	PART NAME	MATERIAL	PART DESCRIPTION	REF. SHEET/DWG

[illegible]

			
NEET	ASST	QTY	
DRAWING INFORMATION			
	NAME	DATE	
	ANDREY	12/26	
CHECKED			
APPROVED			
PHYSICS&ASTRONOMY DEPARTMENT			
TITLE			
TESSERACT TUFTS UNIVERSITY TESSERACT SHIELDING LEAD LAYER 3-7 ASSEMBLY			
DRAWING NUMBER		100	
100.03.03.00			
SHEET		1 OF 1	
REGION		A	
SIZE		D	
SCALE		1:10	
PROJECT NUMBER			

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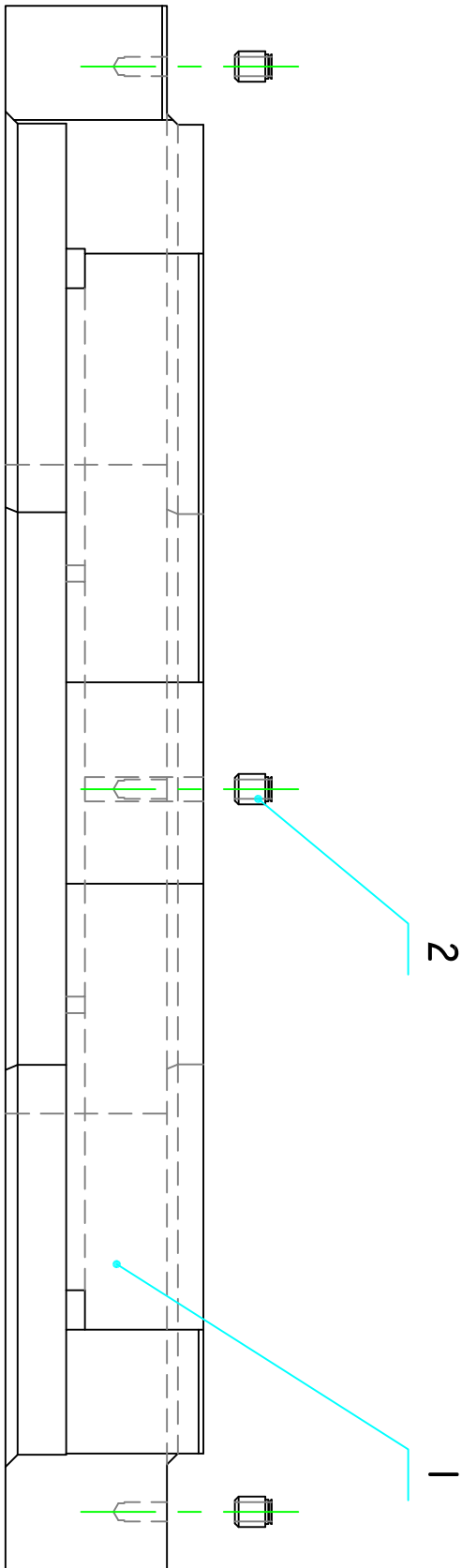
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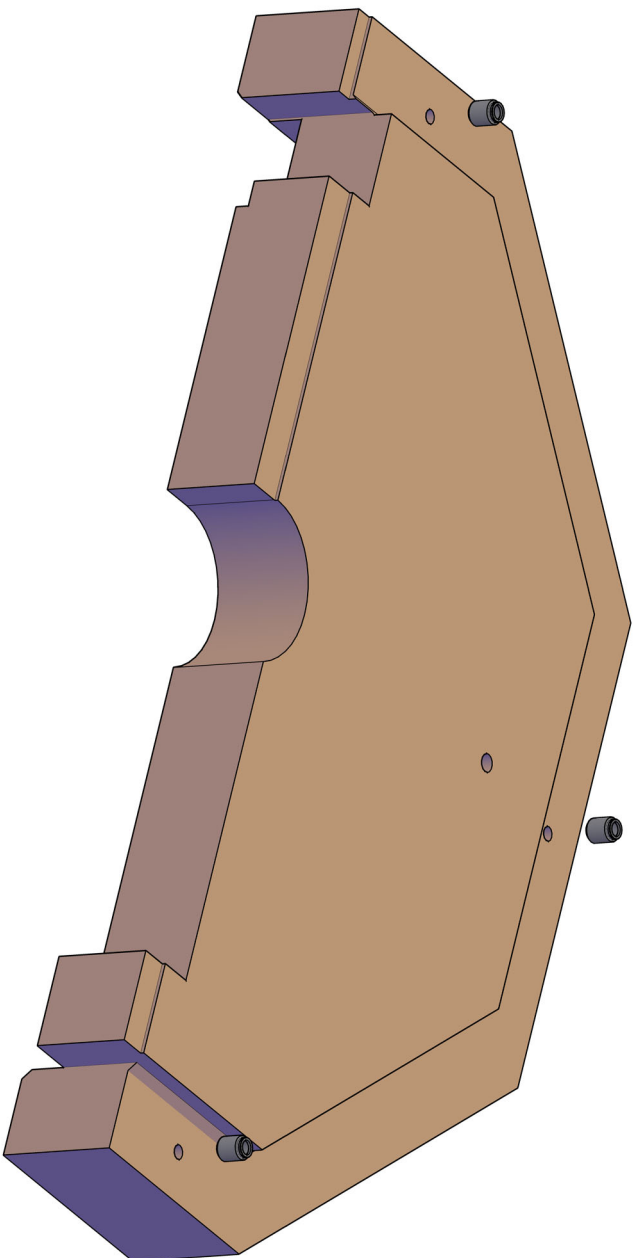
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REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



2

1



2	3	EA	INSERT	304 ST/STEEL	M16 x 30 mm Long	LEHR M16-253016
1			BLOCK	LEAD	165H x 1300V x 680D	10003.04.01
FIND/REF #	QTY	U/M	PART NAME	MATERIAL	PART DESCRIPTION	REF. SHEET/DWG.

PARTS LIST					
UNLESS OTHERWISE SPECIFIED:					
1. DIMENSIONS ARE IN MM.					
2. MACHINE SURFACES TO BE FLAT SQUARE PARALLEL & CONCENTRIC					
3. MINIMUM 120° PER 100° FOR 120° MIN AS APPLICABLE.					
4. BREAK ALL SHARP CORNERS (15° x 45° CHAMFER)					
5. BREAK ALL SHARP CORNERS 15° x 45° CHAMFER					
6. BREAK ALL SHARP CORNERS 15° x 45° CHAMFER					
7. TAPED HOLES MIN DEPTH 2.0 x DIA.					
8. TAPED HOLES MIN DEPTH 2.0 x DIA.					
9. DIMENSIONS PER ASSEMBLY					
10. ALL WELDING TO CONFORM TO LATEST A.W.S. STANDARDS.					

DIMEN	< 3	3-6	6-10	10-18	18-30	30-50	50-80	80-120
TOLER	+0.025	+0.035	+0.045	+0.055	+0.065	+0.075	+0.085	+0.095
DIMEN	120-180	180-230	230-280	280-330	330-400	400-500	500-630	630-800
TOLER	+0.050	+0.075	+0.085	+0.095	+0.105	+0.115	+0.125	+0.135
ANGLE	15°	15°	15°	15°	15°	15°	15°	15°
VALUE	+0.025	+0.035	+0.045	+0.055	+0.065	+0.075	+0.085	+0.095

SURFACE TEXTURE
Ra12.5
TOLERANCES ARE NOT ACCUMULATIVE

NEXT ASST	QTY	DRAWING INFORMATION	NAME	DATE	SIZE	SCALE
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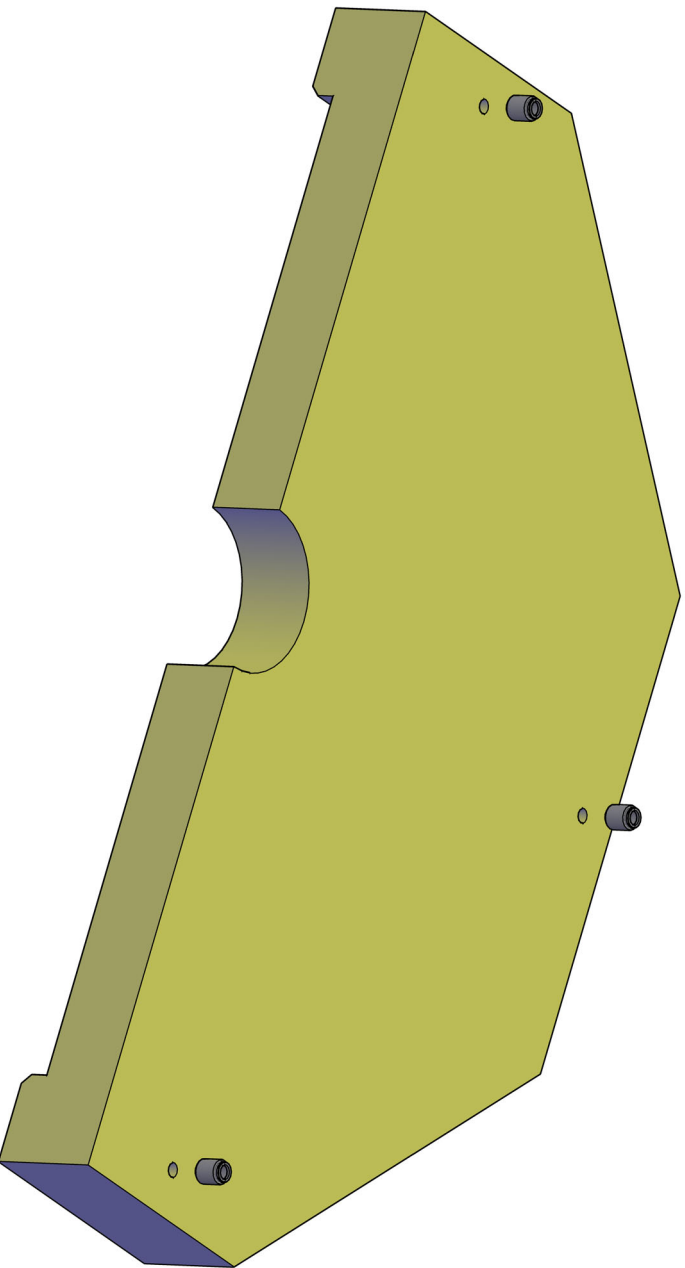
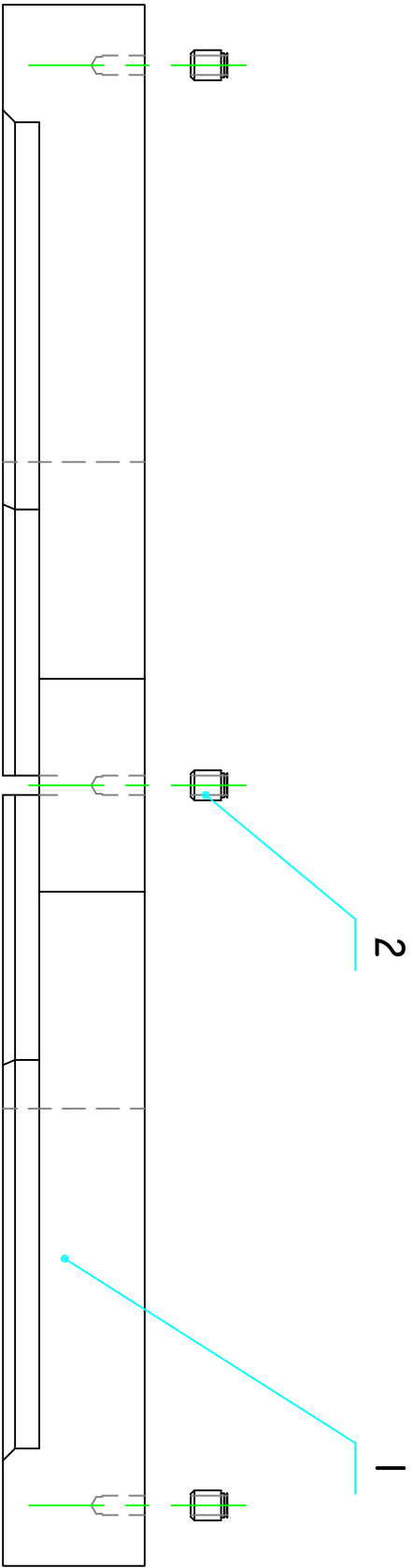
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		CHECKED			PROJECT NUMBER	

		APPROVED			DRAWING NUMBER	
					100.03.04.00	

					SHEET	REVISION
					1 OF 1	A

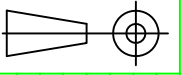
TESSERACT
TUFTS UNIVERSITY
TESSERACT SHIELDING
LEAD
LAYER 8 ASSEMBLY

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



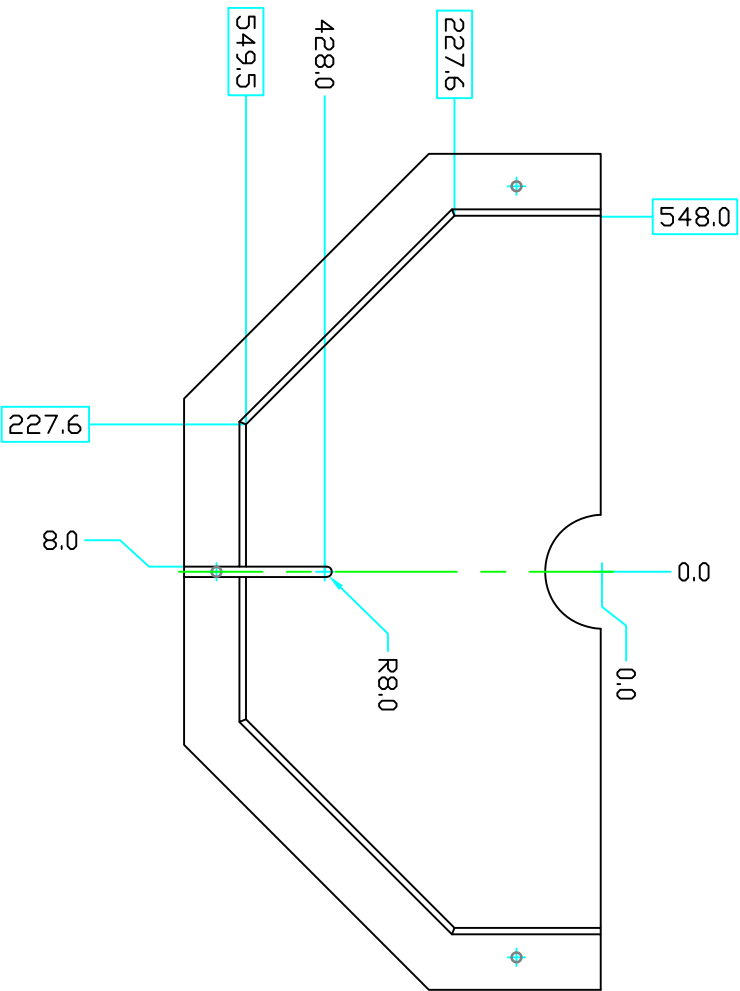
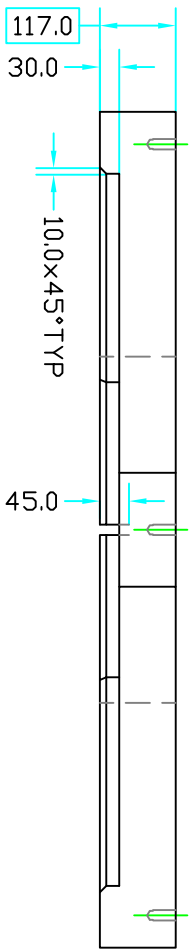
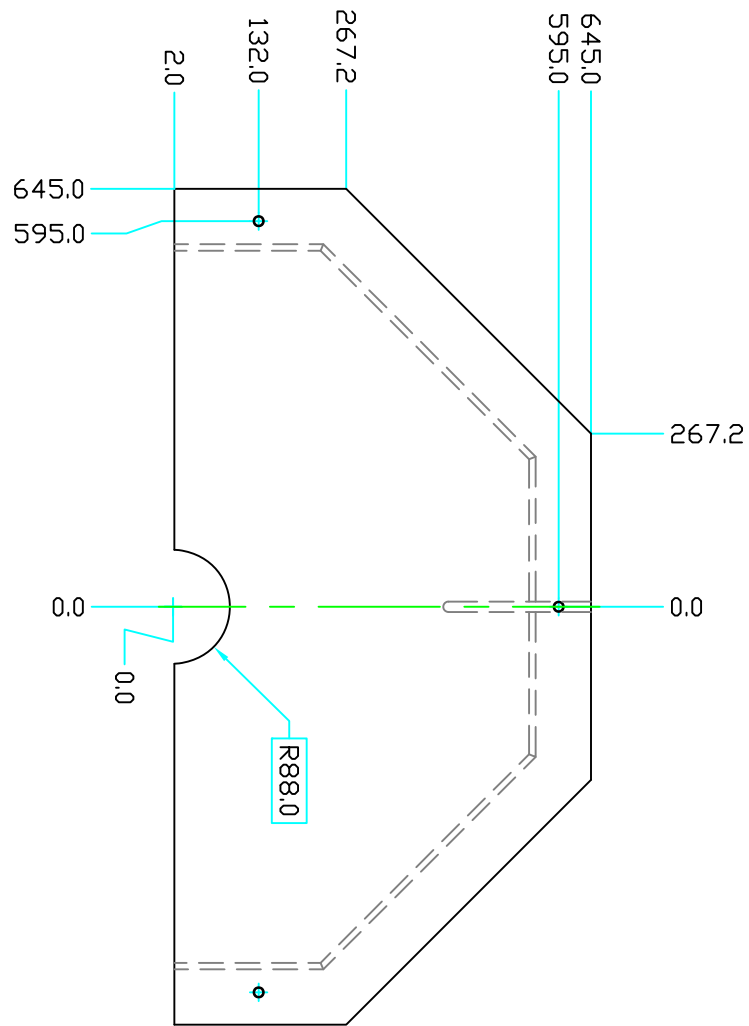
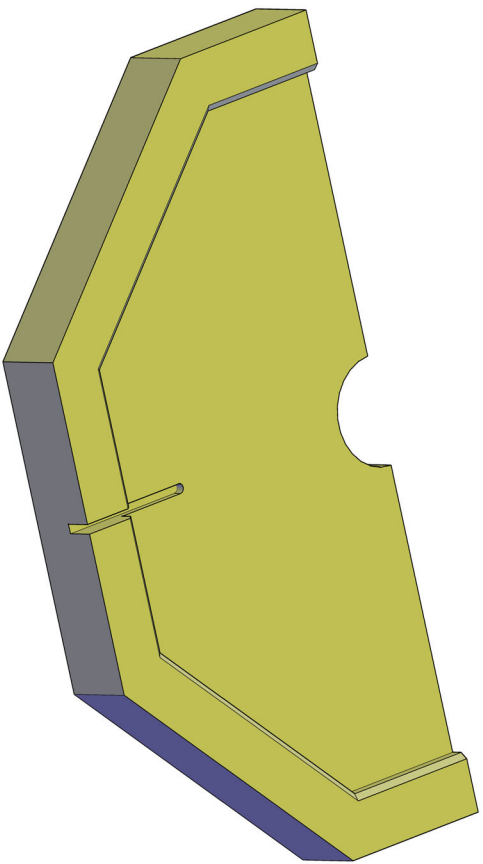
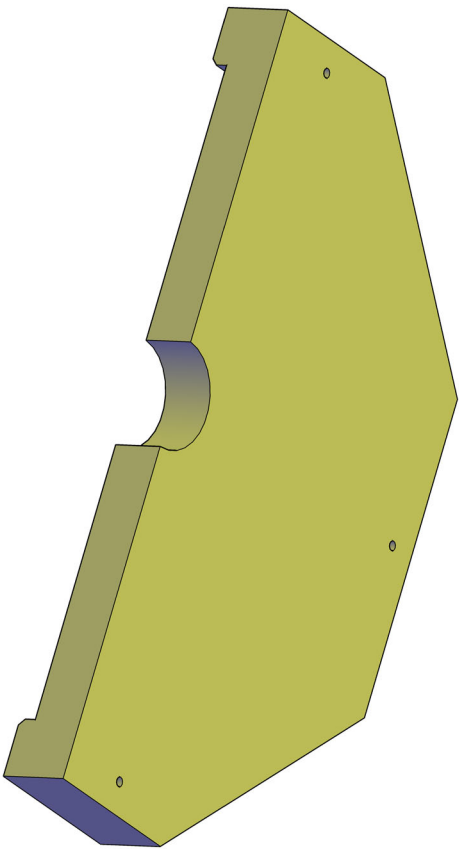
2	3	EA	INSERT	304 ST/STEEL	M16 x 30 mm Long	LEHR M16-233016
1			BLOCK	LEAD	120H x 1300V x 650D	100.03.05.01
FIND/REF #	QTY	U/M	PART NAME	MATERIAL	PART DESCRIPTION	REF. SHEET/DWG.
PARTS LIST						
UNLESS OTHERWISE SPECIFIED:						
1. DIMENSIONS ARE IN MM.						
2. MACHINE SURFACES TO BE FLAT SQUARE PARALLEL & CONCENTRIC						
3. MINIMUM .020 PER .001 TYP OR .020 MIN AS APPLICABLE.						
4. BREAK ALL SHARP CORNERS (REFER TO COMMERCIAL PARTS) WITH DWG.						
5. BREAK ALL SHARP CORNERS 15 x 45° CHAMFER						
6. BREAK ALL SHARP CORNERS 15 x 45° CHAMFER						
7. TAPED HOLES MIN DEPTH 2.0 x DIA.						
8. TAPED HOLES MIN DEPTH 2.0 x DIA.						
9. DIMENSIONS PER ASSEMBLY						
10. ALL WELDING TO CONFORM TO LATEST A.W.S. STANDARDS.						
PERMISSIBLE VARIATION IN MM DIMENSIONS WITHOUT TOLERANCES					SURFACE TEXTURE $R_{12.5}$	
DIMEN	< 3	3-6	6-10	10-18	18-30	30-50
TOLER	+0.025	+0.05	+0.08	+0.025	+0.026	+0.03
DIMEN	125-180	180-230	230-285	285-315	315-400	400-500
TOLER	+0.050	+0.075	+0.065	+0.070	+0.080	+0.085
ANGLE	±1°	±10°	±20°	±10°	±5°	VALUES ACCORDING SHOT SIZE
TOLERANCES ARE NOT ACCUMULATIVE						

NEXT	ASSY	QTY	DRAWING INFORMATION
			NAME DATE
			DRAWN ANDREY 12.26
			CHECKED
			APPROVED



TESSERACT				SIZE	SCALE
TUFTS UNIVERSITY				D	1:10
PROJECT NUMBER				100	
TITLE				DRAWING NUMBER	
TESSERACT SHIELDING				100.03.05.00	
LEAD				SHEET	1 OF 1
PHYSICS&ASTRONOMY				REVISION	A
DEPARTMENT				LAYER 8 ASSEMBLY	

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	C	TOLERANCES CHANGED		



BASIC DIMENSIONS TOLERANCES IT13. ALL OTHER IT15
DO NOT SANDBLAST, MICROBEAD OR PAINT

FIND/REF #		QTY	EA	BLOCK	LEAD	2M9 GRADE	REF. SHEET/DWG.	
QTY		UM	PART NAME		MATERIAL			
PARTS LIST								
UNLESS OTHERWISE SPECIFIED:								
1. DIMENSIONS ARE IN MM.								
2. MACHINE SURFACES TO BE FLAT, SQUARE, PARALLEL, & CONCENTRIC								
3. MINIMUM 100 PER 100 TYP OR 100 IN AS APPLICABLE.								
4. BREAK ALL SHARP CORNERS 15° X 45° CHAMFER								
5. FILLETS SHOWN SHARP +1.0 RAD.								
6. TAPERED HOLES MIN DEPTH 2.0 X DIA.								
7. C/SINK BORED & REAMED HOLES 1.5 X 4.5°								
8. DIMENSIONS PERpendicular								
9. DIMENSIONS PERParallel								
10. ALL WELDING TO CONFORM TO LATEST A.W.S. STANDARDS.								
PERMISSIBLE VARIATION IN MM DIMENSIONS WITHOUT TOLERANCES								
DIMEN	< 3	3-6	6-10	10-18	18-30	30-50	50-80	80-120
TOLER	+0.025	+0.05	+0.08	+0.08	+0.025	+0.026	+0.03	+0.037
DIMEN	125-180	180-230	230-315	315-400	400-500	500-630	630-800	OVER 800
TOLER	+0.050	+0.075	+0.065	+0.070	+0.075	+0.060	+0.065	+0.095
ANGLE	±1°	±10°	±20°	±10°	±5°	VALUES ACCORDING SHOT SIZE		
SURFACE TEXTURE $R_{12.5}$								
TOLERANCES ARE NOT ACCUMULATIVE								
DRAWING INFORMATION								
NEXT ASST	QTY	NAME	DATE					
		DRAWN	ANDREY	12.26				
		CHECKED						
		APPROVED						
TITLE				TESSERACT SHIELDING LEAD LAYER 8				
PROJECT NUMBER				100				
DRAWING NUMBER				100.03.05.01				
SHEET				1 OF 1				
REVISION				C				