Tool S	Machine, Inc.							Page: : Date:12/03/0 User ID: MCCORKL
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev			Engineer BLUE/DOUG MCCORKLE
	NSCX PROTOTYPE VACUUM VESSEL SEGMENT SCOPE OF WORK: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-01							
Sub ID 0	Part ID NSCX PROTOTYPE VACUUM VESSEL SEGMENT	SCOPE OF	WORK: N	Qty 1	Drawing ID / Rev /			
Operation Sub: 0 / Seq: 10 (F)	Resource 700-BLUE TEAM, ENGINEERING SOW 3.2.1 TASK 2 MIT/QA PLANS FOR PVVS FOR VVSA	QtyPer 1.00	StartQty 1.00		Drawing ID / Rev SE121 / A			
Piece # 10 (F)	IDC Count Part ID INCONEL625_062_GTAW-WELD WIRE/GTAW, .00 Vendor Part ID: INCONEL625_062_GTAW Mfg Part ID: INCONEL 625 ASME/AWS SFA 5.14, ERNiCrCoMo-1		Dwg Cour	nt: 5 Qty 15.0	Pgm Count: 0 Drawing ID / Rev	QAP Count: 0 Vendor 4434	NDT Count: 0 Dimensions	WPS Count: 0
	INCONEL 625 WELD WIRE, CUT LENGTH 0.062" DIA. X 36" LONG. SUPPLIED IN 10 LB TUBES.							
	EACH PIECE OF CUT LENGTH WIRE MUST BE ID)ENTIFIED	O AT MINIM	IUM WI	TH THE AWS WELD W	TRE CLASS.		
	MATERIAL CERTIFICATION REQ'D WITH SHIPM	ENT						
	Material Certification: TRACE ID: 38561 Part Number: SE121-001P							
	ratt Number: 3E121-0011					QAP Count: 2		
Piece # 30 (F)	Part ID INCONEL625_093_GTAW-WELD WIRE/GTAW, .09 Vendor Part ID: INCONEL625_093_GTAW Mfg Part ID: INCONEL 625 ASME/AWS SFA 5.14, ERNiCrCoMo-1	93 DIA		Qty 25.0	Drawing ID / Rev	Vendor 4434	Dimensions	
× /	INCONEL 625 WELD WIRE, CUT LENGTH 0.093" DIA. X 36" LONG. SUPPLIED IN 10 LB TUBES.							

	Major 3 Machine, Inc.							Page: Date:12/03/0 User ID: MCCORKL
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev /			gineer JE/DOUG MCCORKLE
	EACH PIECE OF CUT LENGTH WIRE MUST	BE IDENTIFIE	D AT MINIM	IUM WI	TH THE AWS WELD W	IRE CLASS.		
	MATERIAL CERTIFICATION REQ'D WITH S	HIPMENT						
	Material Certification: Trace ID: 41171 Material Certification:							
	Part Number: SE121-001P					QAP Count: 3		
peration ub: 0 / Seq: 11 (F)	Resource 700-BLUE TEAM, ENGINEERING SOW 3.1 TASK 1 3.1.1 METHODS FOR FABRICATING VVSA 3.1.2 DESIGN CHANGES 3.1.3 PRELIMINARY MIT/AQ FOR VVSA 3.1.4 BUDGETARY COST/SCHEDULE FOR VV	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev			
	IDC	Count : 0	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
peration ıb: 0 / Seq: 12 (F)	Resource 700-BLUE TEAM, ENGINEERING SOW 3.3.1 & SOW 3.3.2 Task 8 3.3.1 FINAL MIT/QA FOR VVSA 3.3.2 FINAL COST/SCHEDULE FOR VVSA	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev			
	IDC	Count : 0	Dwg Cou	int: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
peration ab: 0 / Seq: 13 (F)	Resource 700-BLUE TEAM, ENGINEERING ENGINEERING, PLANNING & PROJECT MGT TASK 9	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev			
	FOLLOWING IS A LIST STANDARD OPERA WORK ORDER. ENGINEERING OPERATIONS WILL BE PERF Specification-Standard Control; ENGSOP03 - Int CAD / CAM OPERATIONS WILL BE PERFOR MANUFACTURING OPERATIONS WILL BE I Material Handling and Storage; MTLSOP01 - M QUALITY ASSURANCE AND INSPECTION O Nonconformance Control; QASOP05 - Calibrati	FORMED PER T ternal Drawing C MED PER THE PERFORMED P aterial Storage; PPERATIONS W	HE FOLLOW Generation; El FOLLOWIN ER THE FOL PCSOP01 - P	VING ST. NGSOP04 G STAN LOWING	ANDARD OPERATING 4 - Drawing Control. DARD OPERATING PR G STANDARD OPERAT 1 Control; QASOP01 - N	PROCEDURES: ENG OCEDURE: CADSOP 'ING PROCEDURES: 'onconformance Contro	SOP01 - Mfg. Quality 1 01 - CNC Program Cor MFGSOP01 - Project M I; QASOP03 - Traceab	Plans; ENGSOP02 - ntrol; Manufacturing; MFGSOP0 ility-Identification

Machine, Inc.						User ID: MCCORKLE
Part ID		Qty 1	Drawing ID / Rev /		U	ineer E/DOUG MCCORKLE
RECEIVING INSPECTION OPERATION IN-PROCESS INSPECTION OPERATION SHIPPING OPERATIONS WILL BE PE MACHINING OPERATIONS WILL BE PE WLDSOP03 - Welding Process Develop ENGINEERING OPERATIONS WILL BE PE WLDSOP03 - Welding Process Develop ENGINEERING OPERATIONS WILL I Bill of Manufacturing; ENGWI005 - Eng - Service Cards; ENGWI013 - Work Ord CAD / CAM OPERATIONS WILL BE PE CADCAM Program or File MANUFACTURING OPERATIONS WILL BE PE CADCAM Program or File MANUFACTURING OPERATIONS W PCWI004 - Scheduling System Procedur CLEANING / WASHING OPERATION Parts SUBCONTRACT OPERATIONS WILL Assessment NON-DESTRUCTIVE TESTING OPER NDTWI011 - Visual Weld Inspection QUALITY ASSURANCE, IN-PROCESS INSTRUCTIONS: QAWI001 - MTM In QAWI015 - Checking Out and Returning Records; QAWI021 - Quality Record St Checklist; QAWI028 - QAP Data Packa SHIPPING OPERATIONS WILL BE PE Guidelines for Building Containers; SHW Transport. WELDING OPERATIONS WILL BE PI Performance Qualification; WLDWI005 and Stub Control; WLDWI008 - Assess BLAST BOOTH OPERATIONS WILL F MATERIAL PROCUREMENT OPERA	DNS WILL BE PERFOD RFORMED PER THE PERFORMED PER THE RFORMED PER THE BEPERFORMED PER THE stream of the stream of the stream PERFORMED PER THE PERFORMED PER THE LL BE PERFORMED PER THE SWILL BE PERFORMED PER ATIONS WILL BE PERFORM BE PERFORMED PER ATIONS WILL BE PER SINSPECTION OPERA spection Method Guide to Gauges; QAWI017 - R orage and Retention; Q. ge Generation; QAWI0 RFORMED PER THE STORMED PER THE STORAGE AD PER THE STORAGE AD PER THE STORAGE AD AD AD AD AD STORAGE AD AD AD AD AD STORAGE AD AD AD AD STORAGE AD AD AD AD STORAGE AD AD AD AD STORAGE AD A	RMED PER THE FOLL FOLLOWING STAND. FOLLOWING STAND. FOLLOWING STAND. FOLLOWING STAND. FOLLOWING STAND. WITHE FOLLOWING WOR ED FER THE FOLLOWING WORK THE FOLLOWING WORK THE FOLLOWING WORK RFORMED PER THE FOLLOW INS AND/OR RECT lines; QAWI006 - Samj ecording Inspection Re AWI023 - Nonconform 29 - Scanning Certifica FOLLOWING WORK I oading Parts for Shipme FOLLOWING WORK nce of Welding Docum	20WING STANDARD ARD OPERATING PRO NDARD OPERATING PRO Vire; WLDSOP05 - Weld ORK INSTRUCTIONS: Corder Review Release; spection Fields; ENGW: CINSTRUCTIONS: CA G WORK INSTRUCTION CORK INSTRUCTION: FOLLOWING WORK I EIVING INSPECTION pling Inspection Criteria esults; QAWI018 - Qual ance System Navigation tions; QAWI031 - Mate (INSTRUCTIONS: SHW ent; SHWI005 - General INSTRUCTIONS: WL hents; WLDWI006 - We ORK INSTRUCTIONS:	OPERATING PROCEDU OCEDURE: SHSOP01 - PROCEDURE: TLGSO OCEDURES: WLDSOP06 ENGWI001 - Material 0 ENGWI008 - Operation 1019 - Nonconformance 1 ADWI004 - Developing a ONS: MFGWI018 - Wo CTION: MFGWI005 - F PCWI005 - Subcontrac NSTRUCTIONS: NDT OPERATIONS WILL BI a; QAWI008 - Receiving ity Sign Off Control; QA a; QAWI026 - Part Reloa orial Certification Progra Judielines for Sh Guidelines for Packagin DWI003 - Welding Pers Iding Engineering Work SBWI001 - General San	JRE: QASOP02 - In Pr Shipping-Packaging P01 - Cutting Tool Con)2 - Qualification of We - Welding Filler Metal Card; ENGWI002 - Dra Cards; ENGWI002 - Dra Cards; ENGWI009 - Q to Customers. CADCAM program; C rkmanship; PCWI001 - ligh Pressure-High Tem t Procedure; PURWI002 WI001 - NDT Exam Per E PERFORMED PER TF Ordered Material; QAV WI020 - Organization a cation with SMX; QAW m. ipping Documentation; g Parts; SHWI007 - Gui onnel Training; WLDW Order Review Process; dblast Guidelines;	trol elders and WPS; and Flux Procurement wing Control; ENGWI003 - uality Planning; ENGWI010 CADWI005 - Updating Use of MTM Routing; uperature Water Cleaning of 2 - Vendor Setup and rsonnel Qualification; HE FOLLOWING WORK WI010 - Calibration; and Control of Quality VI027 - SMX Part Inspection SHWI003 - General delines for Coordinating VI004 - Welder SWLDWI007 - Weld Wire
and Assessment						
	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0

Workorder 64880/1.0

Tool S	Machine, Inc.							Pag Date:12/03 <u>User ID: MCCORI</u>		
Workorder 54880/1.0	Part IDQtyDrawing ID / RevEngineer1/BLUE/DOUC									
	Test Certification: CLEANLINESS CERT Part Number: SE121-003P Part Description: PVVS Specification: PP475 Rev: 4	IFICATION Rev: IDC Count : 0	Dug Cour	<i>t</i> : 5	Pgm Count: 0	OAP Count: 4	NDT Count: 0	WPS Count: 0		
		IDC Count : 0	Dwg Coun	II: 5	Pgm Count: 0	QAP Count: 4	NDI Count: 0	wPS Count: 0		
Deration Jub: 0 / Seq: 30 (F)	Resource 425-SHIPPING - PLANTS 1 & 2 SHIP PER CUSTOMER RELEASE FORM (CONTAINER MANUFACTURED IN SU AT A MINIMUM ENSURE THE PART I DO NOT APPLY TAPE TO THE PART. SPECIAL CRATE REQUIREMENTS:	VB I.D. 28) S COMPLETELY W	1.00 RAPPED WITH	1.00 H PLAS			IL SHRINK WRAP IS A	APPLIED.		
	CONTAINER MUST BE CLEARLY MAI SUPPLIER: MAJOR TOOL & MACHINE, INC. 1458 E. 19TH ST. INDIANAPOLIS, IN 46218 CONTENTS: SE121 NCSX PVVS Specification: PP475 Rev: 3	RKED WITH THE F	OLLOWING IN	FORMA	ATION:					
	Specification: FF475 Kev: 5	IDC Count : 0	Dwg Coun	it: 5	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0		
)peration ub: 0 / Seq: 9999	Resource 601-AUTOMATED SCHEDULING BU Drw N/A IDC N/A	QtyPer 1.00 IDC Count : 0	r StartQty 1.00 Dwg Coun	1.00	Drawing ID / Rev Pgm Count: 0	QAP Count: 0		v ice ID TNG/MISC WPS Count: 0		
Sub ID	Part ID SE121 PROTOTYPE VACUUM VESSEL			Qty 1	Drawing ID / Rev SE121 / A Parent Sub:0 Op:20					
Operation Sub: 1 / Seq: 10 (F)	Resource 230-FABRICATION - WEIDNER FABRICATION OPERATION # 1	QtyPe 1.00	r StartQty 1.00		Drawing ID / Rev SE121-001P / A					
	ACQUIRE THE FOLLOWING DIE FORM	MED PANELS (PRO	DUCED UNDE	R LOT 2	OF THIS WORK ORD	ER):				
	SE121-001P-2 PANEL 1 SE121-001P-2 PANEL 2 SE121-001P-2 PANEL 3 SE121-001P-2 PANEL 4									



Workorder Part ID 64880/1.0

Qty Drawing ID / Rev 1 /

Engineer BLUE/DOUG MCCORKLE

SE121-001P-2 PANEL 5

PRIOR TO FITTING AND TRIMMING, DETERMINE WHICH PANELS ARE GOING TO BE GROUPED AND WELDED TOGETHER AS "SUB-SETS") TO MINIMIZE AND CONTROL WELDING DISTORTION. ENGINEERING CONCURRENCE REQUIRED.

THE PLAN IS TO PRODUCE ONE TWO PANEL SUB-SET, AND ONE THREE PANEL SUB SET (ONE WELD AT A TIME). THIS WILL REDUCE THE FINAL ASSEMBLY WELDING DISTORTION FROM 5 TO 2 WELD JOINTS. IT WILL ALSO PROVIDE FOR EASIER ADJUSTMENTS / COMPENSATION AFTER INDIVIDUAL WELDS ARE COMPLETED. THE TWO PANEL SUB-SET WILL BE MADE BY FITTING AND WELDING TWO ADJACENT PANELS TOGETHER, LEAVING EXCESS TRIM STOCK ON EACH OUTER EDGE FOR FITTING THE NEXT PANEL / SUB-SET TO THEM. THE THREE PANEL SUB-SET WILL BEGIN AS A TWO PANEL SUB-SET WITH THE REMAINING INDIVIDUAL PANEL FIT AND WELDED IN PLACE AFTER THE FIRST WELD IS COMPLETED.

EACH SUB-SET IS TO BE RELEASED FROM THE BUILD FIXTURE AFTER WELDING TO ENSURE STABILITY PRIOR TO TRIMMING, FITTING, AND WELDING SUBSEQUENT PANELS / SETS.

ONCE PANEL SUB-SETS AND WELD SEQUENCES HAVE BEEN ESTABLISHED, ALIGN, FIT, AND TRIM EACH PANEL ACCORDING TO THE BUILD FIXTURE REGISTER SURFACES, TRIM LINES, AND ADJACENT PANEL SURFACES.

START BY SETTING EACH PANEL INDIVIDUALLY ONTO THE MACHINED REGISTER OF THE BUILD FIXTURE BASE-PLATE (THE DATUM -B- SURFACE (10 DEGREE OFFSET) DOWN). TRIM THE MATING VERTICAL WELD JOINT OF EACH PANEL SET TO PLUS 0.03" (MINIMUM) FROM THE TRIM LINE. TRIM THE OUTER SURFACES OF THE EACH TWO PANEL SET AT LEAST 0.06" OUTSIDE THE TRIM LINE (TO ENSURE TRIM STOCK IS AVAILABLE FOR ADJACENT PANEL / PANEL SUB-SET).

TRIM THE TOP AND BOTTOM EDGES OF EACH PANEL TO APPROXIMATELY 0.04" (MINIMUM) ABOVE THE FIXTURE RISER FACE (FOR SHRINKAGE AND FINAL TRIMMING ALLOWANCE).

NOTE THAT THE INTERIOR PROFILE FIXTURE REST STOP SURFACES ARE POSITIONED AT NOMINAL GEOMETRIC POSITION TO AVOID STARTING ANY LOWER THAN MID-TOLERANCE. SHIM IF NECESSARY TO MAINTAIN AN AVERAGE PROFILE STARTING POSITION OF (+.090"). ENSURE NO GAPS BETWEEN THE PRODUCTION PANELS AND FIXTURE REST STOPS ARE GREATER THAN (+.18") PRIOR TO TACK WELDING IN PLACE. (ENGINEERING CONCURRENCE REQUIRED) ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS. INSPECT THICKNESS WITH A U-T GAGE. NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.

ENSURE EACH PANEL IS ALIGNED (SMOOTH AND CONTINUOUS) TO ITS ADJACENT MEMBER AND MIS-MATCH IS MINIMIZED. CWI / ENGINEERING CONCURRENCE REQUIRED.

AS EACH PANEL IS FITTED AND TRIMMED, LAYOUT AND PRICK PUNCH THE APPROXIMATE INSPECTION POINTS PER DRAWING SE121-001P-1MTM. NOTE THAT THE SOLE PURPOSE OF THE PUNCH MARKS IS TO MAINTAIN REPEATABLE PROFILE INSPECTIONS THROUGHOUT THE FABRICATION PROCESS. THE DEPTH OF EACH PUNCH MARK NEEDS TO BE ONLY DEEP ENOUGH THAT IT WOULD NOT BE REMOVED BY NORMAL PREPARATION / WELDING / BLENDING / BLASTING, ETC...

PREP, AND WELD PANEL SETS TOGETHER (SEQUENCING WELDS AND JOINTS TO MINIMIZE INDIVIDUAL AND OVERALL WELD DISTORTION)

ENSURE QUALITY ASSURANCE AND CERTIFIED WELDING INSPECTORS ARE CLOSELY INVOLVED, AND INTER-PASS PROFILE AND VISUAL INSPECTIONS ARE PERFORMED ON EACH SUB-ASSEMBLY AFTER TACK WELDING, ROOT PASS, EACH INTER-PASS, AND COVER PASS IS COMPLETED.

GRIND PREPS ON EACH PANEL WELD JOINT (*****FINAL WELD PREP CONFIGURATION UNDER DEVELOPMENT!!!!! WILL BE FINALIZED AFTER THE WELD TESTING PERFORMED UNDER TEST SUB ID ******).

	Major Machine, Inc.					Pag Date:12/03 <u>User ID: MCCORF</u>
Vorkorder 4880/1.0	Part ID		Qty Drawing ID / Rev 1 /		Engi BLUI	neer E/DOUG MCCORKLE
	***NOTE: THE WELD JOINT ROOT / FA NARROW AS POSSIBLE. BURN-THROUG PURGE EACH WELD JOINT WITH 100% THAT THE PURGE IS TO BE MAINTAINI ASSIST Q/A WITH PROFILE VERIFICATI	GH, AND BACK-WELD FACES ARGON. PURGE DAM MATEI ED THROUGHOUT THE WELL	SHOULD BE KEPT AS NARROV RIAL MUST BE MADE FROM E	W AS POSSIBLE (1 WE CITHER 625 INCONEL O	LD BEAD WIDTH MAX	X).
	Part Number: SE121-001P Part Description: NCSX PVVS					
		DC Count : 2 Dwg Co	int: 1 Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 1
	WPS291.5 Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL625_035 Notes: TIG WELD ONLY	GMAW / INCONEL625_062_	GTAW / INCONEL625_093_GTA	AW		
peration	Resource	QtyPer StartQty	- 0			
b: 1 / Seq: 20 (F)	817-SMX LASER INSPECTION OPERATION # 1	1.00 1.00	1.00 SE121-001P-1MTM /	2A		
	AFTER EACH SUB-SET IS COMPLETELY FOLLOWING: INCLUDE AT LEAST THREE DATUM TA ENSURE THE PART PROFILE IS WITHIN ABOVE THE HIGH LIMIT OF TOLERANG	RGETS IN EACH POINT CLO THE UPPER HALF OF THE A	JD SCAN FOR ALIGMENT / VE PPLIED BI-LATERAL TOLERA	ERIFICATION TO THE	3D MODEL.	
	RECORD ACTUAL (HIGH/LOW RANGE) REPORT ANY OUT OF TOLERANCE REA NOTIFY ENGINEERING (DOUG McCORK INSPECTION POINT GRID: 6" CENTERS	DINGS VIA MTM NCR LE) FOR EVALUATION OF RI THROUGHOUT WITH 1" CEN	TERS AT AND NEAR WELD JO	DINTS.		ON
	RECORD ACTUAL (HIGH/LOW RANGE) REPORT ANY OUT OF TOLERANCE REA NOTIFY ENGINEERING (DOUG McCORK	DINGS VIA MTM NCR LE) FOR EVALUATION OF RI THROUGHOUT WITH 1" CEN TS ARE ADEQUATELY POSIT PERMEABILITY OF THE WE	TERS AT AND NEAR WELD JO IONED FOR THE REPOSITION	DINTS.		ON

operation	Resource	QUITU	BlartQly	LinuQi	Drawing iD / Kev
Sub: 1 / Seq: 30	230-FABRICATION - WEIDNER	1.00	1.00	1.00	SE121-001P / A
(F)	FABRICATION OPERATION # 2				

PRIOR TO BEGINNING, NOTIFY ENGINEEERING / CFT THE PART IS READY AND AVAILABLE FOR POSSIBLE CUSTOMER HOLD / WITNESS POINT INSPECTION. HOLD

Workorder 64880/1.0	Part ID		Qty 1	Drawing ID / Rev /			User ID: MCCORKI
	FOR RESPONSE AND/OR FURTHER DI	RECTION.					
	BACK PURGE THE WELD JOINT SURF STEEL. WELD ROOT PASSES (INCREMENTAL NOTE THAT THE BACK SIDE OF THE NOTE BURNTHROUGH, AND BACKWE CWI VISUAL INSPECT ROOT WELDS Test Certification: CWI CERTIFICATE	LY, USING BACK-STEPPING JOINT MUST REMAIN PUR ELD FACES SHOULD BE KEF 100% UNDER 8X MAGNIFIC	G METHOD T RGED UNTIL PT AS NARRO	O MINIMIZE SHRINKA THE ENTIRE JOINT IS DW AS POSSIBLE.	AGE) ON ALL FIVE W	ELD JOINTS. ED.	
	Part Description: NCSX PVVS Method: VT-PP-001 Rev: A						
	Specification: PP475 Rev: 2	IDC Count : 0 Dwg	g Count: 1	Pgm Count: 0	QAP Count: 5	NDT Count: 0	WPS Count: 1
	WPS291.5 Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL625_0 Notes: TIG WELD ONLY	·	-	0	-		
-	Resource			t Drawing ID / Rev	24		
Dperation Sub: 1 / Seq: 40 (F)	Resource 817-SMX LASER INSPECTION OPERATION # 2	QtyPer Start 1.00 1.0		t Drawing ID / Rev SE121-001P-1MTM /	2A		
ub: 1 / Seq: 40	817-SMX LASER INSPECTION OPERATION # 2 AFTER THE ROOT WELDS ARE COMP AND RECORD WELDING SHRINKAGE INSPECTION POINT GRID: 6" CENTER INCLUDE AT LEAST THREE DATUM T RECORD ACTUAL (INDIVIDUAL) MEA INSPECT AND RECORD MAGNETIC P	1.00 1.0 PLETE (FABRICATION DEP / DISTORTION REALIZED 7 RS THROUGHOUT WITH 1" FARGETS IN EACH POINT O ASUREMENTS ON INSPECTI ERMEABILITY.	00 1.00 T. WILL COC TO THIS POI CENTERS A CLOUD SCAN	SE121-001P-1MTM / ORDINATE); RE-INSPE NT. T AND NEAR WELD JO N FOR ALIGMENT / VE	CT / VERIFY PART PI DINTS. BRIFICATION TO THE	E 3D MODEL.	
ub: 1 / Seq: 40	817-SMX LASER INSPECTION OPERATION # 2 AFTER THE ROOT WELDS ARE COMP AND RECORD WELDING SHRINKAGE INSPECTION POINT GRID: 6" CENTER INCLUDE AT LEAST THREE DATUM T RECORD ACTUAL (INDIVIDUAL) MEA	1.00 1.0 PLETE (FABRICATION DEP / DISTORTION REALIZED / RS THROUGHOUT WITH 1" FARGETS IN EACH POINT O SUREMENTS ON INSPECTI ERMEABILITY. EADINGS VIA MTM NCR. RKLE) FOR EVALUATION O ORTION APPROACHING TH OCESS.	00 1.00 T. WILL COC TO THIS POIL CENTERS A CLOUD SCAN ION FORM (S DF RESULTS I HE LOW LIM	SE121-001P-1MTM / PRDINATE); RE-INSPE NT. F AND NEAR WELD JO N FOR ALIGMENT / VE SE121-2MTM). RECOR PRIOR TO RELEASING IT OF TOLERANCE M	CT / VERIFY PART P DINTS. DINTS. DINTSCATION TO THE D ACTUAL (HIGH/LO PART. NOTE THAT I JST BE ADDRESSED	3D MODEL. W RANGE) ON MTM I PROFILE READINGS S (AND CORRECTIVE A	.D.C. HOULD REMAIN NEA
ub: 1 / Seq: 40	 817-SMX LASER INSPECTION OPERATION # 2 AFTER THE ROOT WELDS ARE COME AND RECORD WELDING SHRINKAGE INSPECTION POINT GRID: 6" CENTEI INCLUDE AT LEAST THREE DATUM TRECORD ACTUAL (INDIVIDUAL) MEA INSPECT AND RECORD MAGNETIC PIREPORT ANY OUT OF TOLERANCE RINOTIFY ENGINEERING (DOUG McCOFTO ABOVE NOMINAL. INWARD DIST PRIOR TO COMPLETING WELDING PR ENSURE THE FIXTURE DATUM TARCOP Part Number: SE121-001P Part Description: NCSX PVVS Specification: PP476 Rev: Specification: ASTM A800 Rev: 2001 	1.00 1.0 PLETE (FABRICATION DEP / DISTORTION REALIZED / RS THROUGHOUT WITH 1" FARGETS IN EACH POINT O SUREMENTS ON INSPECTI ERMEABILITY. EADINGS VIA MTM NCR. RKLE) FOR EVALUATION O ORTION APPROACHING TH OCESS.	00 1.00 T. WILL COC TO THIS POIL CENTERS A CLOUD SCAN ION FORM (S DF RESULTS I HE LOW LIM	SE121-001P-1MTM / PRDINATE); RE-INSPE NT. F AND NEAR WELD JO N FOR ALIGMENT / VE SE121-2MTM). RECOR PRIOR TO RELEASING IT OF TOLERANCE M	CT / VERIFY PART P DINTS. DINTS. DINTSCATION TO THE D ACTUAL (HIGH/LO PART. NOTE THAT I JST BE ADDRESSED	3D MODEL. W RANGE) ON MTM I PROFILE READINGS S (AND CORRECTIVE A	.D.C. SHOULD REMAIN NEA
ub: 1 / Seq: 40	817-SMX LASER INSPECTION OPERATION # 2 AFTER THE ROOT WELDS ARE COME AND RECORD WELDING SHRINKAGE INSPECTION POINT GRID: 6" CENTEI INCLUDE AT LEAST THREE DATUM T RECORD ACTUAL (INDIVIDUAL) MEA INSPECT AND RECORD MAGNETIC PI REPORT ANY OUT OF TOLERANCE RI NOTIFY ENGINEERING (DOUG McCOF TO ABOVE NOMINAL. INWARD DIST PRIOR TO COMPLETING WELDING PR ENSURE THE FIXTURE DATUM TARC Part Number: SE121-001P Part Description: NCSX PVVS Specification: PP476 Rev:	1.00 1.0 PLETE (FABRICATION DEP / DISTORTION REALIZED / RS THROUGHOUT WITH 1" CARGETS IN EACH POINT O SUREMENTS ON INSPECTI ERMEABILITY. EADINGS VIA MTM NCR. RKLE) FOR EVALUATION O ORTION APPROACHING TH OCESS. ETS ARE ADEQUATELY PO	00 1.00 T. WILL COC TO THIS POIL CENTERS A CLOUD SCAN ION FORM (S DF RESULTS I HE LOW LIM	SE121-001P-1MTM / PRDINATE); RE-INSPE NT. F AND NEAR WELD JO N FOR ALIGMENT / VE SE121-2MTM). RECOR PRIOR TO RELEASING IT OF TOLERANCE M	CT / VERIFY PART P DINTS. DINTS. DINTSCATION TO THE D ACTUAL (HIGH/LO PART. NOTE THAT I JST BE ADDRESSED	3D MODEL. W RANGE) ON MTM I PROFILE READINGS S (AND CORRECTIVE A	.D.C. SHOULD REMAIN NEA

Major

- Tool i	S Machine, Inc.							Date:12/0 User ID: MCCOR
/ orkorder 4880/1.0	Part ID			Qty 1	Drawing ID / Rev			gineer UE/DOUG MCCORKLI
Operation ub: 1 / Seq: 70 (F)	Resource 230-FABRICATION - WEIDNER FABRICATION OPERATION # 3	QtyPer 1.00	StartQty 1.00	-	Drawing ID / Rev SE121-001P / A			
	 AFTER OBTAINING ENGINEERING, Q/A JOINTS. SEQUENCE WELDING AND UTI CWI VISUAL INSPECT EACH WELD PAS. AFTER WELDING IS COMPLETE, REMOVING REQUIRED. LAYOUT THE PORT ASSEMBLY LOCATION. WELD THE PORT EXTENSION SUB-ASSE BACK PURGE THE WELD JOINT SURFACE STEEL. NOTE THAT THE BACK SIDE OF THE JOINT SURFACE CWI VISUAL INSPECT THE PORT EXTENDING 6.29.1. FINISH POLISHING (RESTORE TO A 32 MING CLEANING PROCEDURE PP475 CWI NOTE: THE VISUAL INSPECTION CONTINUES AND CLEANING PROCEDURE PP475 	LIZE BACKSTEPPI S 100% UNDER 8X /E ANY TEMPORA ION. (ANGULAR L EMBLY IN PLACE F EXES WITH 100% AR DINT MUST REMAI ISION WELD 100% ICRO-INCH SURFA ERTIFICATE SHOU	ING METHO MAGNIFIC. RY STIFFE OCATION / PER DRAWI GON. PURGED UNDER 8X ACE FINISH	DDS TO I ATION I NING / S OVERA NG. GE DAM UNTIL MAGNI) AND C	MINIMIZE DISTORTIO PER ASME CODE ARTI UPPORT / SHOP AID I LL LENGTH AND OU MATERIAL MUST BE THE ENTIRE JOINT IS FICATION PER ASME LEANING THE INTERI	N AND NUMBER OF ICLE 6, SECTION V. A DEVICES. BLEND / T ITLINE ARE SCRIBEE MADE FROM EITHE COMPLETELY FILL CODE ARTICLE 6, SI	INTER-PASSES. ACCEPTANCE PER A OUCH UP ATTACHM O ON FIXTURE). UTIL R 625 INCONEL OR 3 ED. ECTION V. ACCEPTA IE PORT SUB-ASSEM	WS D1.6, 6.29.1. ENT WELDS AS JZE THE LASER 00 SERIES STAINLES ANCE PER AWS D1.6, BLY. REFER TO
	Test Certification: CWI CERTIFICATE Rev Part Number: SE121-001P Part Description: NCSX PVVS Specification: ASNT 2055 SNT-TC-1A Rev Method: VT-PP-001 Rev: A Specification: PP475 Rev: 2 II WPS291.5 Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL625_035 Notes: TIG WELD ONLY	: 1996 DC Count : 0	Dwg Cou L625_062_0		Pgm Count: 0 INCONEL625_093_GT/	QAP Count: 6 AW	NDT Count: 0	WPS Count: 1
Operation Sub: 1 / Seq: 71 (F)	Resource 265-PAINT BOOTH BAKE OUT AT 150 DEGREES C (302F) FC TESTING). NOTE THAT THIS SEQUENCE McCORKLE) AND SUBCONTRACT ADMI ADVISED. Part Number: SE121-001P Part Description: NCSX PVVS Furnace charts: FURNACE CHART Specification: PP475 Rev: 2	1.00 DR 6 HOURS TO RE E MUST BE COORI	1.00 MOVE MOI DINATED W	1.00 STURE TTH TH	E VACUUM TESTING	SERVICE OPERATION	N. CONTACT ENGIN	EERING (DOUG
MTTPAVI P am	Specification: PP4/5 Kev: 2							W:64880/1.0/Jpc

A Maine

Tool 8	Hajor & Machine, Inc .							Page: Date:12/03/0 <u>User ID: MCCORKL</u>
Workorder 54880/1.0	Part ID			Qty 1		ineer E/DOUG MCCORKLE		
		IDC Count : 0	Dwg Cour	nt: 5	Pgm Count: 0	QAP Count: 4	NDT Count: 0	WPS Count: 0
Dperation Sub: 1 / Seq: 72 (F)	Resource 230-FABRICATION - WEIDNER VACUUM TEST PREPARATION:	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev			
	PRIOR TO BEGINNING, NOTIFY EI FOR RESPONSE AND/OR FURTHEF		E PART IS RE	ADY A	ND AVAILABLE FOR I	POSSIBLE CUSTOME	R HOLD / WITNESS PC	DINT INSPECTION. HO
	SETUP AND PREPARE FOR SUBCO BE PERFORMED AT SEQUENCE 75 INSTALL THE SEAL AND VACUUI INSTALL AND TORQUE THE FLAN LAYOUT ALL STRUCTURAL WEL ASSIST WITH THE VACUUM TEST Caution: The vacuum test procedure v) AS FOLLOWS: M TEST CAP TO THE CO IGE INSTALLATION BO DS FOR 100% X-RAY. AND ENSURE THE FOL will subject the vessel to an	NFLAT FLAN LTS PER MAI LOWING PRE	NGE NUFAC CAUTI	TURERS INSTRUCTION	NS.		
	implosive/explosive reactions, ejected and dangerous noise levels. Unnecessa	-	the test area	wheneve	r a vacuum is present in	the vessel (Except esse	ntial personnel).	
	Specification: PP475 Rev: 2	IDC Count : 0	Dwg Cour	nt: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Dperation Sub: 1 / Seq: 73 (F)	Resource 450-SUBLET VACUUM TEST THE PORT EXTEN	QtyPer 1.00 SION SUB-ASSEMBLY (1.00	1.00	Drawing ID / Rev SE121-003P / ESSEL WALL) PER PP4	478		rice ID C/SUBLET
	MTM CONTRACT ADMINISTRATO WILL INIATE COORDINATION PR Part Number: SE121-001P Part Description: NCSX PVVS Customer: PPPL Test Certification: VACUUM TEST O Specification: ASTM E 498 Rev: 95 Specification: PP475 Rev: 2 Specification: PP478 Rev:	IOR TO BEGINNING TH		OPER A		PRECEDING (BAKE) QAP Count: 7	OUT) OPERATION. PI NDT Count: 0	RODUCTION CONTROL
)peration	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev			
Sub: 1 / Seq: 75 (F)	818-MQS CONTRACTOR X-RAY 100% RADIOGRAPHIC INSPECT T	1.00 HE 5 STRUCTURAL WEL	1.00	1.00	SE121-001P /	PER THE FOLLOWING	3 :	

Tool R	Major 3 Machine, Inc.							Page: Date:12/03 User ID: MCCORK
Vorkorder 4880/1.0	Part ID			Qty 1		Engineer BLUE/DOUG MCCORKLE		
	ASME SECTION VIII, DIVISION 1, 1 Specification: ASME SECTION VIII Map(s): RADIOGRAPHIC INSPECTI Part Number: SE121-001P Part Description: NCSX PVVS Material Type: 625 INCONEL Test Certification: RADIOGRAPHIC Material Thickness: .375" Specification: 20.A.100 Rev: Specification: PP475 Rev: 2	ION MAP Rev:						
		IDC Count : 0	Dwg Coun	nt: 0	Pgm Count: 0	QAP Count: 9	NDT Count: 0	WPS Count: 0
Operation Sub: 1 / Seq: 80 (F)	Resource 817-SMX LASER INSPECTION OPERATION # 3	QtyPer 1.00	StartQty 1.00		Drawing ID / Rev SE121-001P-1MTM / 2.	A		
	RECORD ACTUAL (INDIVIDUAL) INSPECT AND RECORD MAGNETI REPORT ANY OUT OF TOLERANC NOTIFY ENGINEERING (DOUG MC ENSURE THE FIXTURE DATUM T	C PERMEABILITY. E READINGS VIA MTM : CORKLE) FOR EVALUA	NCR. TION OF RES	ULTS P	PRIOR TO RELEASING P	ART.		IDC
	Part Number: SE121-001P Part Description: NCSX PVVS Specification: PP475 Rev: 2 Additional Drawing: SE121-001P-1M	TM Rev: 2A IDC Count : 2	Dwg Coun	st. 1	Pgm Count: 0	QAP Count: 4	NDT Count: 0	WPS Count: 0
		IDC Count : 2	Dwg Cour	11. 1	rgin Count. 0	QAP Count. 4	NDT Count. 0	wrs Count. 0
Dperation Sub: 1 / Seq: 90 (F)	Resource 230-FABRICATION - WEIDNER LAYOUT AND PLASMA CUT THE I PLASMA CUT THE PORT OPENING CIRCLE CUTTING DEVICE TO ENS REMOVE RECAST / HEAT AFFECT SMOOTH (MAINTAINING PROPER PREP THE EDGES OF THE PORT S POSITION AND SKIP WELD THE E	1.00 PORT EXTENSION TUBE G INTO THE VESSEL WA URE PROPER SIZE AND ED ZONE FROM EACH C & SIZE AND RELATIONS TUB AND PORT EXTENS	1.00 C OFF THE VE LL PER DRA ROUNDNESS CUT SURFACI HIP TO THE SION TUBE F	1.00 ESSEL V WING (E BY GI I.D. OF FOR RE-	CUT UNDERSIZE ALLO RINDING. GRIND / BLE THE PORT EXTENSION -INSTALLATION.	WING FOR GRINDI ND THE PORT EXTE I TUBE).	NG / SIZING TO POR	ESSEL WALL OPENIN
	RE-INSTALL THE PORT EXTENSION GRIND AND BLEND THE PORT EX				ELD IN PLACE PER DR	AWING SE121-003P).	
MTTRAVLR.qrp								W:64880/1-0 /Inc Matl /Inc

Workorder 54880/1.0	Part ID CWI VISUAL INSPECT EACH WELE		Qty	Drawing ID / Rev		Engi	neer
	CWI VISIIAL INSDECT EACH WELF		1	/		BLUI	E/DOUG MCCORKL
	ENSURE ALL COSMETIC WELDING FINAL (EXTERIOR) BLAST AND FI	AND BLENDING IS CO					
	Test Certification: VISUAL INSPECT Part Number: SE121-003P Part Description: PVVS Specification: ASNT 2055 SNT-TC-1A Method: VT-PP-001 Rev: A						
	Specification: PP475 Rev: 2						
	WPS291.5 Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL62 Notes: TIG WELD ONLY	IDC Count : 0 5_035_GMAW / INCON	Dwg Count: 0 EL625_062_GTAW / 3	Pgm Count: 0	QAP Count: 6 AW	NDT Count: 0	WPS Count: 1
Operation Sub: 1 / Seq: 100 (F)	Resource 817-SMX LASER INSPECT PROFILE IN THE AREA O INCLUDE AT LEAST THREE DATU INSPECT MAGNETIC PERMEABILI INSPECT THE INTERIOR SURFACE RECORD IDC DATA Part Number: SE121-003P Part Description: NCSX PVVS Specification: PP475 Rev: 2 Additional Drawing: SE121-001P-1MT	M TARGETS IN EACH TY IN THE AREA OF T FINISH OF THE PORT	1.00 1.00 DRT EXTENSION. POINT CLOUD SCAN HE PORT STUB / PO		ERIFICATION TO THE	3D MODEL. NDT Count: 0	WPS Count: 0
Operation Sub: 1 / Seq: 105	Resource 230-FABRICATION - WEIDNER	QtyPer 1.00	1.00 1.00	Drawing ID / Rev			
(U)	INSTALL SUPPORT DEVICES TO LO			RE SURFACE (UNRES Pgm Count: 0			WPS Count: 0
Operation Sub: 1 / Seq: 110 (F)	Resource 260-SANDBLAST MASK THE INTERIOR SURFACES A Specification PD475, Day 2	QtyPer 1.00 ND CONFLAT FLANGH	1.00 1.00	Drawing ID / Rev SE121 / A OUTSIDE SURFACE 10	00% USING 220 GRIT '	VIRGIN ALUMINUM O	XIDE.
(Г)	Specification: PP475 Rev: 2						

	Major Machine, Inc.							Page: 1 Date:12/03/0 User ID: MCCORKL
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev /			gineer JE/DOUG MCCORKLE
Sub: 1 / Seq: 115 (F)	230-FABRICATION - WEIDNER SET THE PVVS ONTO THE TEMPO REMOVE MASKING AND PROTEC CLEAN PART PER PP475 INSTALL NAMEPLATE ENSURE ADEQUATE INERT GAS (DISCOLORATION) Part Number: SE121-003P Part Description: NCSX PVVS Specification: PP475 Rev: 2	TIVE PLASTIC	ICES AND TA	CK WEI		WELDING AND COOI	LING PROCESS TO A'	VOID OXIDATION /
		IDC Count : 0	Dwg Cou	nt: 5	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 2
Operation Sub: 1 / Seq: 120 (F)	Resource 817-SMX LASER FINAL DIMENSIONAL INSPECTIO	QtyPe 1.00 N / POTENTIAL CUSTO	1.00	1.00	t Drawing ID / Rev SE121-001P / A ECTION.			
	PRIOR TO BEGINNING, NOTIFY E FOR RESPONSE AND/OR FURTHEI FINAL PROFILE INSPECTION. INS INCLUDE AT LEAST THREE DATU FINAL MAGNETIC PERMEABLITY VERIFY MAGNETIC PERMEABLIT	R DIRECTION. SPECT AND RECORD T UM TARGETS IN EACH 7 VERIFICATION.	HE VESSEL P I POINT CLOU	ROFILE	, TRIM LINES (20 DEG N FOR ALIGMENT / VE	REE SURFACES), ANI ERIFICATION TO THE	D PORT EXTENSION 1 2 3D MODEL.	POSITION.
	FLANGE TO TUBE WELD. FINAL INTERIOR SURFACE FINISI IRREGULARITIES, GRINDING / SA INSPECT (APROXIMATE 6" GRID) RECORD IDC DATA Part Number: SE121-003P	H VERIFICATION. VIS NDING MARKS, ETC	UAL INSPECT ENSURE TH	THE EI E ENTIF	NTIRE INTERIOR. VER RE SURFACE CAN BE V	RIFY THE ENTIRE SUR	RFACE IS SMOOTH A	ND FREE OF PITS, DENT ITHOUT SNAGGING.
	Part Description: NCSX PVVS Specification: ASME B46.1 Rev: 95 Certification: MAG. PERM. CERTIF Certification: PROFILE CERTIFICA Certification: INT. SURF. FINISH CE	TION						
	Specification: PP475 Rev: 4 Specification: PP477 Rev: Specification: PP476 Rev: Additional Drawing: SE121-001P-1M Specification: PP479 Rev:	ITM Rev: 2A						
	-	IDC Count : 5	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 11	NDT Count: 0	WPS Count: 0

	Machine, Inc.					Page: 13 Date:12/03/03 User ID: MCCORKLI
Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /			jineer JE/DOUG MCCORKLE
14	SE121-001P-2 PANEL # 1	1	I / Parent Sub:1 Op:10			
Operation Sub: 14 / Seq: 10 (C)	820-RECEIVING INSPECTION1.001.00INSPECT BLANK SIZE PER DEVELOPMENT DRAWING (AUDIT DIMINSPECT MATERIAL THICKNESS PER PP477VISUAL INSPECT SURFACE FINISH (PANEL SURFACE SHOULD BESHOULD BE IN A CONDITION THAT CAN BE READILY POLISHEDFURTHER CLARIFICATION IS NEEDED)SAMPLE INSPECT MAGNETIC PERMEABILITY PER PP476, AND ASRELATIVE PERMEABILITY RATHER THAN FERRITE CONTENT).RECORD IDC DATASpecification: ASTM A800 Rev: 01Part Number: SE121-001P-2 PANEL 1Part Description: DIE FORMED PANELCustomer: PPPLSpecification: ASTM B443 Rev: 00Specification: PP476 Rev: ASpecification: PP477 Rev: A	1.00 IENSIONS V A SMOOTH WITHOUT I STM A800,	MILL PRODUCED SUI EXCESSIVE MATERIA SUPPLIMENTARY REG	RFACE, WITHOUT SO L REMOVAL (CONT QUIREMENT S1 (BU	CRAPES, GOUGES, HEA ACT ENGINEERING (D T THE MEASUREMEN	OUG McCORKLE IF
	Specification: PP475 Rev: 2 IDC Count : 3 Dwg	Count: 1	Pgm Count: 0	QAP Count: 9	NDT Count: 0	WPS Count: 0
Piece # 10	Part ID SE121-001P-2 PANEL # 1-PANEL BLANK .375" THK INCONEL 625	Qty 1.0	Drawing ID / Rev SE121 /	Vendor 1810	Dimensions	
(C)	Vendor Part ID: SE121-001P-2 PANEL # 1 PANEL BLANK AWJ CUT FROM .375" INCONEL 625 TO PROVIDED (SE121-001P-2 PANEL # 1.DXF, REV) MATERIAL REQUIREMENTS: INCONEL 625 (UNS N06625) PER AS MAGNETIC PERMEABILITY SHALL NOT EXCEED 1.00 (REF. ASTM SURFACE MUST BE PROTECTED FROM CONTACT WITH IRON AN CERTS & MILL TEST REPORTS REQ'D WITH SHIPMENT. APPROXIMATE OVERALL SIZE: 54.97*76.37	TM B 443-0 4 A800).	0 ANNEALED			
	Material Certification: Part Number: SE121-001P-2 PANEL # 1					
	Part Description: DIE FORMED PANEL Specification: ASTM A800 Rev: 01					
	Specification: ASTM B443 Rev: 00 Specification: ASTM B46.1 Rev: 95					
	Specification. AST N D40.1 Kev. 73			QAP Count: 6		

	Machine, Inc.							Page: 1 Date:12/03/0 User ID: MCCORKI
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev		5	neer E/DOUG MCCORKLE
Dperation Sub: 14 / Seq: 18 (C)	Resource 105-DEBURR PLT 1 LOW BAY RADIUS ALL CUT EDGES PRIOR TO FORM Specification: PP475 Rev: 2	QtyPer 1.00 /ING	StartQty 1.00	-	Drawing ID / Rev SE121-001P / A			
	IDO	C Count : 0	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
peration ub: 14 / Seq: 20 (F)	Resource 341-PACIFIC 750 1ST FORM OPERATION:	QtyPer 1.00	StartQty 1.00		Drawing ID / Rev SE121-001P / A			
	LOAD, ALIGN, AND BOLT DIE SET # MTM ENSURE THE DIE SET FACES ARE CLEAN ENSURE THE PANEL BLANK IS CLEAN AN LOAD THE PANEL BLANK INTO THE DIE HYDRAULIC FORM THE PANEL TO ACHIN NOTE THAT THE FINAL PANEL TO GAGE WATCH THE FORMING, WRINKLING, ANN MATERIAL IS WORK HARDENING TO A D TO THE NEXT SEQUENTIAL OPERATION BEEN ANNEALED. ENSURE THE PANEL MATERIAL EXTEND RE-POSITIONING, RE-STRIKING, AND ACC Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2	N AND FREE OF D ND FREE OF FOR E SET. EVE THE GEOME GAP TOLERANC D SPRING-BACK (BLAST AND AN OS BEYOND THE I	IRT, OIL, G EIGN MATT TRICAL SH E IS .094" M CHARACTE RMING BE NEAL). A F PERIMETEF	RIME, FC TER. APE CO IAX. IT RISTICS COMES I TINAL FC R OF THI ANNEAI	DREIGN MATTER, RA NFORMING TO INSPE IS DESIRED TO GET A OF THE MATERIAL I DIFFICULT, OR THE P DRMING SEQUENCE IS E GAGE (ENOUGH TO	ISED OR EMBEDDED CTION GAGE # MTM AS CLOSE TO THIS AS DURING THE FORMIN HYSICAL INTEGRITY S PROVIDED FOR "FI	FX-2903. S POSSIBLE PRIOR TO IG PROCESS. WHEN I Y OF THE MATERIAL I NAL SIZING" AFTER T	I'S APPARENT THE IS AT RISK, PROCEED THE MATERIAL HAS
Operation ub: 14 / Seq: 25 (C)	Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% U FORMING PROCESS. MAINTAIN AN APPROXIMATE BLAST AN Specification: PP475 Rev: 4			1.00	Drawing ID / Rev SE121-001P / A UM OXIDE MEDIA TC) REMOVE ANY RESI	DUE / MARKINGS FRO	OM THE INITIAL
		C Count : 0	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
peration ub: 14 / Seq: 30 (C)	Resource 520-SUBLET, EXOTIC HEAT TREAT SOLUTION ANNEAL FORMED PANEL PER ATTACH A MINIMUM OF THREE EQUALI CHARGE FURNACE AND HEAT PART UN	LY SPACED THEF	1.00 IG: RMOCOUPL	1.00 Les to t	Drawing ID / Rev SE121-001P / A HE FORMED PANEL			ice ID ML TR/NA SA

Tool 5	Kajor Machine, Inc.						Page Date:12/03 User ID: MCCORI
Vorkorder 4880/1.0	Part ID		Qty 1	Drawing ID / Rev /		5	ineer E/DOUG MCCORKLE
	RAPID COOL (VIA. WATER QUENCH Specification: AMS2774 Rev: JUL95 Certification: H/T CERTIFICATE Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Customer: PPPL Furnace charts: FURNACE CHART		CIRCULATION) TO	D 1000 DEGREES F. OP Pgm Count: 0	PEN AIR COOL TO AM QAP Count: 6	IBIENT TEMP. NDT Count: 0	WPS Count: 0
			C	C	2		
Operation Sub: 14 / Seq: 35 (C)	Resource 805-INPROCESS INSPECTION - PLA VISUAL INSPECT SURFACE FOR DAM ON THE INSIDE (CONCAVE SURFACE FINISH REQURIEMENT. ON THE OUT NOTIFY ENGINEERING (DOUG McCOI VERIFY MAGNETIC PERMEABILITY Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL 1 Specification: PP475 Rev: 2 Specification: ASTM B443 Rev: 00 Specification: PP476 Rev: Specification: PP479 Rev:	I), LOOK FOR ANY SU SIDE (CONVEX SUR RKLE) FOR CONCURE AND RECORD I.D.C.	1.00 1.00 GES, SCRAPES ETC. JRFACE DEFECTS (FACE), VERIFY THI RENCE	OR IRREGULARITIES T		•	
Operation	Resource	QtyPer	StartQty EndQ	t Drawing ID / Rev			
(C)	341-PACIFIC 750 2ND FORMING OPERATION ENSURE THE DIE SET FACES ARE CL LOAD THE PREFORMED / ANNEALE "RE-STRIKE" HYDRAULIC FORM THI TOLERANCE: .094" MAX. NOTIFY INSPECTOR FOR Q/A IDC VE	1.00 EAN AND FREE OF I D PANEL INTO THE E PANEL TO ACHIEV	1.00 1.00 DIRT, OIL, GRIME, H DIE SET.	SE121-001P / A FOREIGN MATTER, RA			PANEL TO GAGE G
	Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2						
		IDC Count : 1	Dwg Count: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Operation Sub: 14 / Seq: 50 (C)	Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100	QtyPer 1.00 0% USING 180-220 GR	1.00 1.00	t Drawing ID / Rev SE121-001P / A NUM OXIDE MEDIA TC) REMOVE ANY RESI	DUE / MARKINGS FRC	OM THE FINAL FORM

	Kajor A Machine, Inc.						Page: 1 Date:12/03/0 User ID: MCCORKL
Workorder 64880/1.0	Part ID		\mathbf{Qty}_{1}	Drawing ID / Rev /		0	ineer E/DOUG MCCORKLE
	PROCESS. MAINTAIN AN APPROXIMATE 20 - Specification: PP475 Rev: 4	- 40 DEGREE BLAST A	NGLE				
		IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Deperation Sub: 14 / Seq: 60 (F)	Resource 230-FABRICATION - WEIDNER TRIM PERIMETER TO PROVIDED T PREP IS NOT REQUIRED AT THIS S HIGH PRESSURE WASH PER PP475		1.00 1.00 G STOCK FOR POSITI			· · · · · · · · · · · · · · · · · · ·	TALLING THE WELD
	NOTIFY Q/A FOR FINAL PANEL PR SAND AND POLISH THE INSIDE SU CLEAN PANEL PER PP475 APPLY PROTECTIVE PLASTIC FILM STAGE PANEL FOR INSTALLATION	IRFACE 100% TO ACH M (CONTACT DOUG N	IEVE A 32 MICRO SU	RFACE FINISH (WITH			
	Specification: PP475 Rev: 3	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation Sub: 14 / Seq: 70 (F)	Resource 805-INPROCESS INSPECTION - PLA VERIFY PROFILE TO INSPECTION (VERIFY PART PERIMETER EXCEEL INSPECT AND RECORD INTERIOR S INSPECT MAGNETIC PERMEABILT PERMEABILITY RATHER THAN FE GRID. THE SURFACES AT AND NEL RECORD ACTUAL PERMEABILITY INSPECT MATERIAL THICKNESS P RECORD ACTUAL MATERIAL THIC Test Certification: SE121-001P-10MT Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANE Specification: ASME B46.1 Rev: 95 Specification: PP475 Rev: 2 Specification: PP476 Rev: Specification: PP477 Rev: Specification: PP479 Rev:	GAGE # MTMFX-2903. DS GAGE PERIMETER SIDE SURFACE FINISH TY PER PP476 AND AN RRITE CONTENT. TH AR WELDS WILL BE C READINGS ON INSPE PER PP477 (6" GRID) CKNESS ON INSPECTION M Rev: 2A	1.00 1.00 GAP TOLERANCE: FOR TRIMMING AND I (LESS PERIMETER / STM A800, SUPPLEMI IE SURFACES OF THE CHECKED ON A 1" GR CTION DRAWING) FITTING AT ASSEMI WELD ZONES) AND R ENTARY REQUIREMI PVVS SHELL AND P(BLY RECORD ACTUAL REA ENT S1 (BUT THE ME	ADINGS ON INSPECTION ASUREMENT SHALL	ON DRAWING BE TAKEN IN RELATIV
	Specification: PP479 Rev:						

Tool S	Nachine, Inc.					Page: 1 Date:12/03/(User ID: MCCORKI
Workorder 64880/1.0	Part ID	Qt 1	<pre>/ Drawing ID / Rev /</pre>			jineer JE/DOUG MCCORKLE
Sub ID 15	Part ID SE121-001P-2 PANEL # 2	Qt 1	7 Drawing ID / Rev / Parent Sub:1 Op:10			
Operation Sub: 15 / Seq: 10 (C)	ResourceQtyPer820-RECEIVING INSPECTION1.00INSPECT BLANK SIZE PER DEVELOPMENT DRAWING (AUDINSPECT MATERIAL THICKNESS PER PP477VISUAL INSPECT SURFACE FINISH (PANEL SURFACE SHOULD BE IN A CONDITION THAT CAN BE READILY PCFURTHER CLARIFICATION IS NEEDED)SAMPLE INSPECT MAGNETIC PERMEABILITY PER PP470RELATIVE PERMEABILITY RATHER THAN FERRITE CONRECORD IDC DATAPart Number: SE121-001P-2 PANEL 2Part Description: DIE FORMED PANELSpecification: ASTM A800 Rev: 01Customer: PPPLSpecification: ASTM B443 Rev: 00Specification: PP475 Rev: 2Specification: PP476 Rev: ASpecification: PP477 Rev: A	1.00 1.0 UDIT DIMENSIONS DULD BE A SMOOT DLISHED WITHOU 6, AND ASTM A800	Ή MILL PRODUCED SUI Γ EXCESSIVE MATERIA), SUPPLIMENTARY RE	RFACE, WITHOUT SO L REMOVAL (CONT QUIREMENT S1 (BU	CRAPES, GOUGES, HEA ACT ENGINEERING (D T THE MEASUREMEN	OUG McCORKLE IF
Piece # 10	IDC Count : 3 Part ID SE121-001P-2 PANEL # 2-PANEL BLANK .375" THK INCO		Pgm Count: 0 7 Drawing ID / Rev 9 SE121 /	QAP Count: 9 Vendor 1810	NDT Count: 0 Dimensions	WPS Count: 0
(C)	Vendor Part ID: SE121-001P-2 PANEL # 2 PANEL BLANK AWJ CUT FROM .375" INCONEL 625 TO PI (SE121-001P-2 PANEL # 2.DXF, REV) MATERIAL REQUIREMENTS: INCONEL 625 (UNS N06625 MAGNETIC PERMEABILITY SHALL NOT EXCEED 1.00 (R SURFACE MUST BE PROTECTED FROM CONTACT WITH CERTS & MILL TEST REPORTS REQ'D WITH SHIPMENT. APPROXIMATE OVERALL SIZE: 35.07*44.03 Material Certification:	5) PER ASTM B 443 EF. ASTM A800). IRON AND IRON A	-00 ANNEALED			
	Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEL Specification: ASTM A800 Rev: 01 Specification: ASTM B443 Rev: 00					
	Specification: ASTM B46.1 Rev: 95			QAP Count: 6		

Tool &	Machine, Inc.							Page: 2 Date:12/03/ User ID: MCCORKI
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev /			ineer IE/DOUG MCCORKLE
Dperation Sub: 15 / Seq: 18 (C)	Resource 105-DEBURR PLT 1 LOW BAY RADIUS ALL CUT EDGES PRIOR TO FORMING Specification: PP475 Rev: 2	QtyPer 1.00	StartQty 1.00	1.00	t Drawing ID / Rev SE121-001P / A			
	IDC Cou	nt : 0	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Dperation ub: 15 / Seq: 20 (R)	Resource 341-PACIFIC 750 1ST FORM OPERATION:	QtyPer 1.00	StartQty 1.00		t Drawing ID / Rev SE121-001P / A			
	LOAD THE PANEL BLANK INTO THE DIE SET HYDRAULIC FORM THE PANEL TO ACHIEVE T NOTE THAT THE FINAL PANEL TO GAGE GAP WATCH THE FORMING, WRINKLING, AND SPR MATERIAL IS WORK HARDENING TO A DEGR TO THE NEXT SEQUENTIAL OPERATION (BLA BEEN ANNEALED. ENSURE THE PANEL MATERIAL EXTENDS BE RE-POSITIONING, RE-STRIKING, AND ACCURA	THE GEOMI TOLERANC ING-BACK EE THAT FO ST AND AN YOND THE	CE IS .094" M CHARACTE DRMING BEG (NEAL). A F PERIMETER	IAX. IT RISTICS COMES TNAL FO	IS DESIRED TO GET A S OF THE MATERIAL I DIFFICULT, OR THE F DRMING SEQUENCE I E GAGE (ENOUGH TO	AS CLOSE TO THIS AS DURING THE FORMIN PHYSICAL INTEGRITY S PROVIDED FOR "FI	S POSSIBLE PRIOR TO NG PROCESS. WHEN Y OF THE MATERIAL NAL SIZING" AFTER	T'S APPARENT THE IS AT RISK, PROCEEL THE MATERIAL HAS
	Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2 IDC Cou	nt : 0	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Dperation ub: 15 / Seq: 22 (F)	Resource 230-FABRICATION - WEIDNER CUT OUT A LIFTING EYE FROM THE EXCESS EDGE OF THE FORMED PANEL (WHICH STILL POSITIONING CONSIDERATIONS: 1. POSITION TO SUIT NORMAL HANDLING AN 2. POSITION TO SUIT SETTING IN A VERTICA 3. SHAPE AND POSITION THE LIFTING HOOK RAPID COOLING CYCLE. Specification: PP475 Rev: 3 IDC Cou	HAS EXCES ID LIFTING L STANCE FOR A "QUI	S TRIM STO IN THE HEA	1.00 S REMC OCK REM AT TREA SY GAF	AAINING). AT OVEN (WIDE SIDE	DOWN).		

Tool S	Machine, Inc.						Pag Date:12/0 User ID: MCCOR
Vorkorder 4880/1.0	Part ID		Q	ty Drawing ID / Rev 1 /		8	ineer E/DOUG MCCORKLI
Gub: 15 / Seq: 25 (F)	260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 10 FORMING PROCESS. MAINTAIN AN APPROXIMATE BLA Specification: PP475 Rev: 4		RIT VIRGIN ALUI	00 SE121-001P / A MINUM OXIDE MEDIA TO Pgm Count: 0) REMOVE ANY RESI QAP Count: 1	DUE / MARKINGS FRO NDT Count: 0	OM THE INITIAL WPS Count: 0
Dperation Sub: 15 / Seq: 30 (F)	Resource 520-SUBLET, EXOTIC HEAT TREAT SOLUTION ANNEAL FORMED PANE ATTACH A MINIMUM OF THREE EC CHARGE FURNACE AND HEAT PAR HOLD PART TEMPERATURE AT 190 RAPID COOL (VIA. WATER QUENCI Specification: AMS2774 Rev: JUL95 Certification: H/T CERTIFICATE Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANE Customer: PPPL Furnace charts: FURNACE CHART Specification: PP475 Rev: 2	EL PER THE FOLLOWI QUALLY SPACED THE T UNTIL THERMOCO 0 DEGREES F. (+/- 15 HING OR FORCED AIR	StartQty En 1.00 1. NG: CRMOCOUPLES T UPE READINGS DEGREES) HOLI	ARE WITHIN 1900 +/-15F. D FOR 45 MINUTES (+/ 5 M	MINUTES)	THR	ice ID ML TR/NA SA WPS Count: 0
Dperation ub: 15 / Seq: 35 (F)	Resource 805-INPROCESS INSPECTION - PLA VISUAL INSPECT SURFACE FOR DA ON THE INSIDE (CONCAVE SURFAC FINISH REQURIEMENT. ON THE OU NOTIFY ENGINEERING (DOUG MCCO VERIFY MAGNETIC PERMEABILITY Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANE Specification: PP475 Rev: 2 Specification: ASTM B443 Rev: 00 Specification: PP476 Rev: Specification: PP479 Rev:	E), LOOK FOR ANY SI ITSIDE (CONVEX SUR DRKLE) FOR CONCURI AND RECORD I.D.C.	1.001.GES, SCRAPES ETURFACE DEFECTFACE), VERIFY TRENCE	'S OR IRREGULARITIES T		-	
Dperation Sub: 15 / Seq: 40 (F)	Resource 341-PACIFIC 750 2ND FORMING OPERATION	QtyPer 1.00		dQt Drawing ID / Rev 00 SE121-001P / A			

	Major Machine, Inc.						Page: 2 Date:12/03/0 User ID: MCCORKL
Workorder 64880/1.0	Part ID		Qty 1	Drawing ID / Rev /			jineer JE/DOUG MCCORKLE
	ENSURE THE DIE SET FACES ARE CL LOAD THE PREFORMED / ANNEALE "RE-STRIKE" HYDRAULIC FORM THE TOLERANCE: .094" MAX. NOTIFY INSPECTOR FOR Q/A IDC VE	D PANEL INTO THE E E PANEL TO ACHIEVE	DIE SET.				PANEL TO GAGE GAI
	Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2						
		IDC Count : 1	Dwg Count: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Operation Sub: 15 / Seq: 50 (F)	Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100 PROCESS. Specification: PP475 Rev: 2	QtyPer 1.00 0% USING 180-220 GRI	1.00 1.00) REMOVE ANY RESII	DUE / MARKINGS FR	OM THE FINAL FORMIN
		IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Dperation Sub: 15 / Seq: 60 (F)	Resource 230-FABRICATION - WEIDNER TRIM PERIMETER TO PROVIDED TR PREP IS NOT REQUIRED AT THIS ST HIGH PRESSURE WASH PER PP475 NOTIFY Q/A FOR FINAL PANEL PRO SAND AND POLISH THE INSIDE SUR CLEAN PANEL PER PP475 APPLY PROTECTIVE PLASTIC FILM STAGE PANEL FOR INSTALLATION Specification: PP475 Rev: 3	AGE (ADDITIONAL FI FILE CONFIRMATION FACE 100% TO ACHIE (CONTACT DOUG Mc	1.00 1.00 STOCK FOR POSIT ITTING / TRIMMIN PRIOR TO COMPL VE A 32 MICRO SU CORKLE FOR MAT	G WILL BE REQUIREE ETING THE POLISHIN RFACE FINISH (WITH ERIAL)	O AT INSTALLATION) NG AND INSTALLATION THE EXCEPTION OF) ON OF PROTECTIVE THE WELDING / TRIN	PLASTIC MMING ZONES).
		IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation Sub: 15 / Seq: 70 (F)	Resource 805-INPROCESS INSPECTION - PLA VERIFY PROFILE TO INSPECTION GA VERIFY PART PERIMETER EXCEEDS INSPECT AND RECORD INTERIOR SII INSPECT MAGNETIC PERMEABILITY PERMEABILITY RATHER THAN FERI GRID. THE SURFACES AT AND NEAH RECORD ACTUAL PERMEABILITY R INSPECT MATERIAL THICKNESS PE	1.00 AGE # MTMFX-2904. C GAGE PERIMETER FC DE SURFACE FINISH () Y PER PP476 AND AST RITE CONTENT. THE R WELDS WILL BE CH EADINGS ON INSPECT	1.00 1.00 GAP TOLERANCE: DR TRIMMING ANI LESS PERIMETER / M A800, SUPPLEM SURFACES OF THE ECKED ON A 1" GR	D FITTING AT ASSEME WELD ZONES) AND R ENTARY REQUIREME PVVS SHELL AND PO	BLY RECORD ACTUAL REA ENT S1 (BUT THE MEA	ADINGS ON INSPECTI ASUREMENT SHALL	ON DRAWING BE TAKEN IN RELATIV

Tool 5	Machine, Inc.						Page: Date:12/03 User ID: MCCORK
Vorkorder 4880/1.0	Part ID		Qty 1	Drawing ID / Rev /		8	i neer E/DOUG MCCORKLE
	RECORD ACTUAL MATERIAL THICH	KNESS ON INSPECTION	ON DRAWING				
	Test Certification: SE121-001P-10MTM	A Rev: 2A					
	Part Number: SE121-001P-2 PANEL 2						
	Part Description: DIE FORMED PANEI	L					
	Specification: ASME B46.1 Rev: 95						
	Specification: ASTM A800						
	Specification: PP475 Rev: 2 Specification: PP476 Rev:						
	Specification: PP477 Rev:						
	Specification: PP479 Rev:						
		IDC Count : 3	Dwg Count: 1	Pgm Count: 0	QAP Count: 9	NDT Count: 0	WPS Count: 0
ub ID	Part ID		Qty	Drawing ID / Rev			
б	SE121-001P-2 PANEL # 3		1	/			
				Parent Sub:1 Op:10			
peration	Resource	OtvPer	. StantOty EndO	t Drawing ID / Rev			
ub: 16 / Seq: 10	820-RECEIVING INSPECTION	1.00		SE121-001P / A			
(C)	INSPECT BLANK SIZE PER DEVELO				Y DOUG McCORKLE)	
	INSPECT MATERIAL THICKNESS PE					, ,	
	VISUAL INSPECT SURFACE FINISH (PANEL SURFACE SH	OULD BE A SMOOTI	H MILL PRODUCED SUF	RFACE, WITHOUT SC	RAPES, GOUGES, HEA	VY PITS, ETC IT
	SHOULD BE IN A CONDITION THAT		OLISHED WITHOUT	EXCESSIVE MATERIA	L REMOVAL (CONTA	ACT ENGINEERING (DO	OUG McCORKLE IF
	FURTHER CLARIFICATION IS NEED						
	SAMPLE INSPECT MAGNETIC PERM				-		I SHALL BE TAKEN I
	RELATIVE PERMEABILITY RATHER	R THAN FERRITE CO	NTENT). SAMPLE L	OT SIZE: AT LEAST 10	EVENLY SPACED I	OCATIONS.	
	RECORD IDC DATA						
	Part Number: SE121-001P-2 PANEL 3						
	Part Description: DIE FORMED PANE	L					
	Specification: ASTM A800 Rev: 01						
	Customer: PPPL						
	Specification: ASTM B443 Rev: 00						
	Specification: ASME B46.1 Rev: 95						
	Specification: PP475 Rev: 2						
	Specification: PP476 Rev: A						
	Specification: PP477 Rev: A	IDC Count : 3	Dwg Count: 1	Pgm Count: 0	QAP Count: 9	NDT Count: 0	WPS Count: 0
Piece #	Part ID	IDC Coulit . 5	Qty	e	Vendor	Dimensions	wis count. 0
	SE121-001P-2 PANEL # 3-PANEL BL	ANK .375" THK INCO		SE121 /	1810	Dimensions	
10	Vendor Part ID: SE121-001P-2 PANEL		1.0		1010		

WI 19/	Kajor Machine, Inc.							Page: 2 Date:12/03/0 <u>User ID: MCCORKL</u>
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev /			gineer UE/DOUG MCCORKLE
	MATERIAL REQUIREMENTS: INCO MAGNETIC PERMEABILITY SHALL SURFACE MUST BE PROTECTED FR CERTS & MILL TEST REPORTS REQ APPROXIMATE OVERALL SIZE: 54.	NOT EXCEED 1.00 (RE OM CONTACT WITH I 'D WITH SHIPMENT.	F. ASTM A	800).				
	Material Certification: Part Number: SE121-001P-2 PANEL # Part Description: DIE FORMED PANEI Specification: ASTM A800 Rev: 01 Specification: ASTM B443 Rev: 00 Specification: ASTM B46.1 Rev: 95							
						QAP Count: 6		
Operation Sub: 16 / Seq: 18 (C)	Resource 105-DEBURR PLT 1 LOW BAY RADIUS ALL CUT EDGES PRIOR TO Specification: PP475 Rev: 2	QtyPer 1.00 FORMING	StartQty 1.00		t Drawing ID / Rev SE121-001P / A			
		IDC Count : 0	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation Sub: 16 / Seq: 20 (C)	Resource 341-PACIFIC 750 1ST FORM OPERATION: LOAD, ALIGN, AND BOLT DIE SET #	QtyPer 1.00 # MTMFX-2887 - MTMI	1.00	1.00	t Drawing ID / Rev SE121-001P / A 750 TON HYDRAULIC	PRESS		
	ENSURE THE DIE SET FACES ARE C ENSURE THE PANEL BLANK IS CLE LOAD THE PANEL BLANK INTO TH	LEAN AND FREE OF D AN AND FREE OF FOR	IRT, OIL, G	RIME, F			MATERIAL, ETC	
	HYDRAULIC FORM THE PANEL TO NOTE THAT THE FINAL PANEL TO C WATCH THE FORMING, WRINKLINC MATERIAL IS WORK HARDENING T TO THE NEXT SEQUENTIAL OPERAT BEEN ANNEALED.	GAGE GAP TOLERANC G, AND SPRING-BACK O A DEGREE THAT FC	E IS .094" M CHARACTE RMING BE	IAX. IT RISTICS COMES	IS DESIRED TO GET A S OF THE MATERIAL I DIFFICULT, OR THE P	AS CLOSE TO THIS AS DURING THE FORMIN HYSICAL INTEGRITY	S POSSIBLE PRIOR T IG PROCESS. WHEN Y OF THE MATERIA	I IT'S APPARENT THE L IS AT RISK, PROCEED
	ENSURE THE PANEL MATERIAL EX RE-POSITIONING, RE-STRIKING, AN					PROVIDE ADEQUAT	E STOCK ALLOWA	NCE FOR
	Part Number: SE121-001P-2 PANEL 3 Part Description: DIE FORMED PANEI Specification: PP475 Rev: 2							
		IDC Count : 0	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0

Tool S	Kajor Machine, Inc.							Page Date:12/0 <u>User ID: MCCOR</u>
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev			j ineer JE/DOUG MCCORKLE
Dperation Sub: 16 / Seq: 22 (C)	Resource 230-FABRICATION - WEIDNER CUT OUT A LIFTING EYE FROM THE EXC EDGE OF THE FORMED PANEL (WHICH S' POSITIONING CONSIDERATIONS: 1. POSITION TO SUIT NORMAL HANDLIN 2. POSITION TO SUIT SETTING IN A VER 3. SHAPE AND POSITION THE LIFTING HO RAPID COOLING CYCLE.	1.00 EESS TRIM STOCH TILL HAS EXCESS IG AND LIFTING. TICAL STANCE I	1.00 C THAT WA S TRIM STO N THE HEA	1.00 S REMC CK REM T TREA	1AINING). T OVEN (WIDE SIDE 1	DOWN).		
	Specification: PP475 Rev: 3 IDC WPS291.5 Rev:1 GTAW MAN GTAW - Manual Fillers: INCONEL625_035_ Notes: LIFTING DEVICE TO PANEL EDGE			TAW / I		QAP Count: 1 AW	NDT Count: 0	WPS Count: 1
	Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% U FORMING PROCESS. MAINTAIN AN APPROXIMATE BLAST AN Specification: PP475 Rev: 4 IDC		1.00 IT VIRGIN A	1.00 ALUMIN	Drawing ID / Rev SE121-001P / A UM OXIDE MEDIA TO Pgm Count: 0	O REMOVE ANY RESI QAP Count: 1	DUE / MARKINGS FR NDT Count: 0	OM THE INITIAL WPS Count: 0
Operation Sub: 16 / Seq: 25 (C) Operation Sub: 16 / Seq: 30 (C)	260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% U FORMING PROCESS. MAINTAIN AN APPROXIMATE BLAST AN Specification: PP475 Rev: 4 IDC Resource 520-SUBLET, EXOTIC HEAT TREAT SOLUTION ANNEAL FORMED PANEL PER ATTACH A MINIMUM OF THREE EQUALI CHARGE FURNACE AND HEAT PART UN HOLD PART TEMPERATURE AT 1900 DEC RAPID COOL (VIA. WATER QUENCHING O Specification: AMS2774 Rev: JUL95 Certification: H/T CERTIFICATE Part Number: SE121-001P-2 PANEL 3 Part Description: DIE FORMED PANEL Customer: PPPL Furnace charts: FURNACE CHART Specification: PP475 Rev: 2	1.00 SING 180-220 GRI NGLE OF 20 TO 40 C Count : 0 QtyPer 1.00 R THE FOLLOWIN LY SPACED THEF FIL THERMOCOU GREES F. (+/- 15 E	1.00 IT VIRGIN A DEGREES Dwg Cour StartQty 1.00 IG: RMOCOUPL IPE READIN DEGREES) H	1.00 ALUMIN nt: 1 EndQt 1.00 ES TO T (GS ARE (OLD FC ON) TO	SE121-001P / A UM OXIDE MEDIA TO Pgm Count: 0 Drawing ID / Rev SE121-001P / A THE FORMED PANEL WITHIN 1900 +/-15F. DR 45 MINUTES (+/ 5 M	QAP Count: 1	NDT Count: 0 Ser THI	

	Machine, Inc.						Page: 2 Date:12/03/(<u>User ID: MCCORKI</u>
Workorder 54880/1.0	Part ID		Qty 1	Drawing ID / Rev /		Engi BLUI	neer E/DOUG MCCORKLE
(R)	VISUAL INSPECT SURFACE FOR DAM ON THE INSIDE (CONCAVE SURFACE FINISH REQURIEMENT. ON THE OUT NOTIFY ENGINEERING (DOUG McCOI VERIFY MAGNETIC PERMEABILITY Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2 Specification: PP475 Rev: 2 Specification: PP476 Rev: Specification: PP479 Rev:	I), LOOK FOR ANY SU SIDE (CONVEX SURF RKLE) FOR CONCURR AND RECORD I.D.C. I	RFACE DEFECTS (FACE), VERIFY THI ENCE	OR IRREGULARITIES T		-	
Sub: 16 / Seq: 40 (R)	341-PACIFIC 750 2ND FORMING OPERATION ENSURE THE DIE SET FACES ARE CL LOAD THE PREFORMED / ANNEALE "RE-STRIKE" HYDRAULIC FORM THI TOLERANCE: .094" MAX. NOTIFY INSPECTOR FOR Q/A IDC VE	D PANEL INTO THE I E PANEL TO ACHIEVI	IRT, OIL, GRIME, F DIE SET.				PANEL TO GAGE GA
	Part Number: SE121-001P-2 PANEL 3 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2						
	Part Description: DIE FORMED PANEL	IDC Count : 1	Dwg Count: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Operation Sub: 16 / Seq: 50 (R)	Part Description: DIE FORMED PANEL	IDC Count : 1 QtyPer 1.00	StartQty EndQ 1.00 1.00	t Drawing ID / Rev SE121-001P / A			
ub: 16 / Seq: 50	Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2 Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100 PROCESS.	IDC Count : 1 QtyPer 1.00 0% USING 180-220 GR	StartQty EndQ 1.00 1.00 IT VIRGIN ALUMIN	t Drawing ID / Rev SE121-001P / A JUM OXIDE MEDIA TO	REMOVE ANY RESII	DUE / MARKINGS FRO	M THE FINAL FORMI
Sub: 16 / Seq: 50	Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2 Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100 PROCESS.	IDC Count : 1 QtyPer 1.00 % USING 180-220 GR IDC Count : 0 QtyPer 1.00 IM-LINES (LEAVING AGE (ADDITIONAL F FILE CONFIRMATION	StartQty EndQ 1.00 1.00 IT VIRGIN ALUMIN Dwg Count: 1 StartQty EndQ 1.00 1.00 STOCK FOR POSIT ITTING / TRIMMIN PRIOR TO COMPI	t Drawing ID / Rev SE121-001P / A UM OXIDE MEDIA TO Pgm Count: 0 t Drawing ID / Rev SE121-001P / A IONING AND FITTING G WILL BE REQUIRED LETING THE POLISHIN	OREMOVE ANY RESII QAP Count: 1 ON THE FAB FIXTUI OAT INSTALLATION) IG AND INSTALLATIO	DUE / MARKINGS FRO NDT Count: 0 RE). NOTE THAT INST DN OF PROTECTIVE P	M THE FINAL FORMI WPS Count: 0 FALLING THE WELD

	Machine, Inc.					Page: 25 Date:12/03/03 User ID: MCCORKLE
Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /		8	ineer E/DOUG MCCORKLE
	CLEAN PANEL PER PP475 APPLY PROTECTIVE PLASTIC FILM (CONTA STAGE PANEL FOR INSTALLATION Specification: PP475 Rev: 3 IDC C	CT DOUG McCORKLE FOR MAT	ERIAL) Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation Sub: 16 / Seq: 70 (R)	Resource 805-INPROCESS INSPECTION - PLA VERIFY PROFILE TO INSPECTION GAGE # M VERIFY PART PERIMETER EXCEEDS GAGE F INSPECT AND RECORD INTERIOR SIDE SURF INSPECT MAGNETIC PERMEABILITY PER PI PERMEABILITY RATHER THAN FERRITE CO GRID. THE SURFACES AT AND NEAR WELDS RECORD ACTUAL PERMEABILITY READING INSPECT MATERIAL THICKNESS PER PP477 RECORD ACTUAL MATERIAL THICKNESS O Test Certification: SE121-001P-10MTM Rev: 24 Part Number: SE121-001P-2 PANEL 3 Part Description: DIE FORMED PANEL Specification: ASTM A800 Specification: PP475 Rev: 2 Specification: PP476 Rev: Specification: PP477 Rev: Specification: PP479 Rev:	1.001.001.00TMFX-2905.GAP TOLERANCE:PERIMETER FOR TRIMMING ANIFACE FINISH (LESS PERIMETER /P476 AND ASTM A800, SUPPLEMNTENT.THE SURFACES OF THES WILL BE CHECKED ON A 1" GRS ON INSPECTION DRAWING(6" GRID)N INSPECTION DRAWING	D FITTING AT ASSEMB WELD ZONES) AND RE ENTARY REQUIREMEN PVVS SHELL AND PO	LY ECORD ACTUAL REA NT S1 (BUT THE MEA	DINGS ON INSPECTIO ASUREMENT SHALL 1	DN DRAWING BE TAKEN IN RELATIVE
Sub ID 17	Part ID SE121-001P-2 PANEL # 4	Qty 1	Drawing ID / Rev / Parent Sub:1 Op:10			
Operation Sub: 17 / Seq: 10 (C)	Resource 820-RECEIVING INSPECTION INSPECT BLANK SIZE PER DEVELOPMENT D INSPECT MATERIAL THICKNESS PER PP477 VISUAL INSPECT SURFACE FINISH (PANEL S SHOULD BE IN A CONDITION THAT CAN BE FURTHER CLARIFICATION IS NEEDED) SAMPLE INSPECT MAGNETIC PERMEABILIT RELATIVE PERMEABILITY RATHER THAN F	1.00 1.00 1.00 PRAWING (AUDIT DIMENSIONS V URFACE SHOULD BE A SMOOTH READILY POLISHED WITHOUT	t Drawing ID / Rev SE121-001P / A WILL BE PROVIDED BY MILL PRODUCED SUR EXCESSIVE MATERIAL SUPPLIMENTARY REQ	FACE, WITHOUT SCE REMOVAL (CONTA UIREMENT S1 (BUT	CT ENGINEERING (DO	DUG McCORKLE IF

Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev			ngineer LUE/DOUG MCCORKLE
	RECORD IDC DATA							
	Part Number: SE121-001P-2 PANEL 4 Part Description: DIE FORMED PANEL Specification: ASTM A800 Rev: 01 Customer: PPPL Specification: ASTM B443 Rev: 00 Specification: ASME B46.1 Rev: 95 Specification: PP475 Rev: 2 Specification: PP476 Rev: A Specification: PP477 Rev: A							
Piece #	*	Count : 3	Dwg Cou		Pgm Count: 0	QAP Count: 9 Vendor	NDT Count: 0 Dimensions	WPS Count: 0
10	SE121-001P-2 PANEL # 4-PANEL BLANK .3	75" THK INCON	EL 625	Qty 1.0	Drawing ID / Rev SE121 /	1810	Dimensions	
(C)	Vendor Part ID: SE121-001P-2 PANEL # 4							
	MATERIAL REQUIREMENTS: INCONEL 62 MAGNETIC PERMEABILITY SHALL NOT E SURFACE MUST BE PROTECTED FROM CC CERTS & MILL TEST REPORTS REQ'D WIT APPROXIMATE OVERALL SIZE: 54.97*76.	XCEED 1.00 (RE NTACT WITH IF H SHIPMENT.	F. ASTM A8	300).				
	Material Certification							
	Material Certification: Part Number: SE121-001P-2 PANEL # 1 Part Description: DIE FORMED PANEL Specification: ASTM A800 Rev: 01 Specification: ASTM B443 Rev: 00							
	Part Number: SE121-001P-2 PANEL # 1 Part Description: DIE FORMED PANEL Specification: ASTM A800 Rev: 01					QAP Count: 6		
Operation ub: 17 / Seq: 18 (C)	Part Number: SE121-001P-2 PANEL # 1 Part Description: DIE FORMED PANEL Specification: ASTM A800 Rev: 01 Specification: ASTM B443 Rev: 00 Specification: ASTM B46.1 Rev: 95 Resource 105-DEBURR PLT 1 LOW BAY RADIUS ALL CUT EDGES PRIOR TO FORMI	QtyPer 1.00 NG	StartQty 1.00		Drawing ID / Rev SE121-001P / A	QAP Count: 6		
ub: 17 / Seq: 18	Part Number: SE121-001P-2 PANEL # 1 Part Description: DIE FORMED PANEL Specification: ASTM A800 Rev: 01 Specification: ASTM B443 Rev: 00 Specification: ASTM B46.1 Rev: 95 Resource 105-DEBURR PLT 1 LOW BAY RADIUS ALL CUT EDGES PRIOR TO FORMI Specification: PP475 Rev: 2	1.00		1.00		QAP Count: 6 QAP Count: 1	NDT Count: 0	WPS Count: 0

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	Kachine, Inc.						Page: 2 Date:12/03/0 User ID: MCCORKI
Workorder 4880/1.0	Part ID		Qty 1	Drawing ID / Rev /		0	neer E/DOUG MCCORKLE
	ENSURE THE PANEL BLANK IS O LOAD THE PANEL BLANK INTO HYDRAULIC FORM THE PANEL NOTE THAT THE FINAL PANEL WATCH THE FORMING, WRINKL MATERIAL IS WORK HARDENIN TO THE NEXT SEQUENTIAL OPE BEEN ANNEALED. ENSURE THE PANEL MATERIAL RE-POSITIONING, RE-STRIKING, Part Number: SE121-001P-2 PANE	THE DIE SET. TO ACHIEVE THE GEOM TO GAGE GAP TOLERAN ING, AND SPRING-BACI G TO A DEGREE THAT F RATION (BLAST AND A EXTENDS BEYOND THI AND ACCURATE TRIMM	ETRICAL SHAPE CO CE IS .094" MAX. IT CHARACTERISTICS FORMING BECOMES NNEAL). A FINAL FO E PERIMETER OF TH	IS DESIRED TO GET A S OF THE MATERIAL I DIFFICULT, OR THE P DRMING SEQUENCE I E GAGE (ENOUGH TO	AS CLOSE TO THIS A DURING THE FORMIN 'HYSICAL INTEGRIT' S PROVIDED FOR "FI	S POSSIBLE PRIOR TO NG PROCESS. WHEN I Y OF THE MATERIAL I NAL SIZING" AFTER T	I'S APPARENT THE S AT RISK, PROCEED THE MATERIAL HAS
	Part Description: DIE FORMED PA						
	Specification: PP475 Rev: 2	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Dperation Sub: 17 / Seq: 22 (C)	230-FABRICATION - WEIDNER CUT OUT A LIFTING EYE FROM EDGE OF THE FORMED PANEL (POSITIONING CONSIDERATIONS 1. POSITION TO SUIT NORMAL 1 2. POSITION TO SUIT SETTING 1 3. SHAPE AND POSITION THE LI RAPID COOLING CYCLE. Specification: PP475 Rev: 3	WHICH STILL HAS EXCE : HANDLING AND LIFTIN IN A VERTICAL STANCE	1.00 1.00 CK THAT WAS REMO SS TRIM STOCK REM G. E IN THE HEAT TREA	1AINING). T OVEN (WIDE SIDE	DOWN).		
Pperation ub: 17 / Seq: 25 (C)	Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANE FORMING PROCESS. MAINTAIN AN APPROXIMATE E Specification: PP475 Rev: 4		1.00 1.00 RIT VIRGIN ALUMIN	Drawing ID / Rev SE121-001P / A UM OXIDE MEDIA TO) REMOVE ANY RESI	DUE / MARKINGS FRO	OM THE INITIAL
	Specification: PP475 Kev: 4	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Dperation ub: 17 / Seq: 30 (C)	Resource 520-SUBLET, EXOTIC HEAT TRE SOLUTION ANNEAL FORMED PA		1.00 1.00	Drawing ID / Rev SE121-001P / A			ice ID ML TR/NA SA

	Nachine, Inc.						Page: Date:12/03 User ID: MCCORK
Workorder 54880/1.0	Part ID		Qty 1	Drawing ID / Rev /			gineer JE/DOUG MCCORKLE
	HOLD PART TEMPERATURE AT 1900 RAPID COOL (VIA. WATER QUENCH Specification: AMS2774 Rev: JUL95 Certification: H/T CERTIFICATE Part Number: SE121-001P-2 PANEL 4 Part Description: DIE FORMED PANEL Customer: PPPL Furnace charts: FURNACE CHART Specification: PP475 Rev: 2	ING OR FORCED AIR (BIENT TEMP.	
		IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 7	NDT Count: 0	WPS Count: 0
Deration ub: 17 / Seq: 35 (R)	Resource 805-INPROCESS INSPECTION - PLA VISUAL INSPECT SURFACE FOR DAM	1.00	1.00 1.00				
	ON THE INSIDE (CONCAVE SURFACE FINISH REQURIEMENT. ON THE OUT NOTIFY ENGINEERING (DOUG McCO) VERIFY MAGNETIC PERMEABILITY Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2 Specification: ASTM B443 Rev: 00 Specification: PP476 Rev: Specification: PP479 Rev:	ISIDE (CONVEX SURF. RKLE) FOR CONCURRI AND RECORD I.D.C. D	ACE), VERIFY THE ENCE			-	
(11)	FINISH REQURIEMENT. ON THE OUT NOTIFY ENGINEERING (DOUG McCO) VERIFY MAGNETIC PERMEABILITY Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2 Specification: ASTM B443 Rev: 00 Specification: PP476 Rev:	ISIDE (CONVEX SURF. RKLE) FOR CONCURRI AND RECORD I.D.C. D	ACE), VERIFY THE ENCE			-	
Operation ub: 17 / Seq: 40 (R)	FINISH REQURIEMENT. ON THE OUT NOTIFY ENGINEERING (DOUG McCO) VERIFY MAGNETIC PERMEABILITY Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2 Specification: ASTM B443 Rev: 00 Specification: PP476 Rev:	ISIDE (CONVEX SURF. RKLE) FOR CONCURRI AND RECORD I.D.C. D IDC Count : 1 QtyPer 1.00 LEAN AND FREE OF DI D PANEL INTO THE D E PANEL TO ACHIEVE RIFICATION	ACE), VERIFY THE ENCE DATA Dwg Count: 1 StartQty EndQ 1.00 1.00 IRT, OIL, GRIME, F DIE SET.	Pgm Count: 0 The Drawing ID / Rev SE121-001P / A OREIGN MATTER, RA	ILL MEETS THE REQU QAP Count: 6 ISED OR EMBEDDED	NDT Count: 0	1 B 443-00. WPS Count: 0

Tool S	Kajor i Machine, Inc.						Page: 29 Date:12/03/03 User ID: MCCORKLI
Workorder 64880/1.0	Part ID		Qty 1	Drawing ID / Rev		0	ineer E/DOUG MCCORKLE
Sub: 17 / Seq: 50 (F)	260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100 PROCESS. Specification: PP475 Rev: 2	1.00 % USING 180-220 GRI IDC Count : 0		SE121-001P / A NUM OXIDE MEDIA TO Pgm Count: 0) REMOVE ANY RESI QAP Count: 1	DUE / MARKINGS FRO NDT Count: 0	OM THE FINAL FORMING WPS Count: 0
Operation Sub: 17 / Seq: 60 (F)	Resource 230-FABRICATION - WEIDNER TRIM PERIMETER TO PROVIDED TRI	QtyPer 1.00 M-LINES (LEAVING 5	1.00 1.00)t Drawing ID / Rev SE121-001P / A TIONING AND FITTING	ON THE FAB FIXTII	RE) NOTE THAT INS	TALLING THE WELD
	PREP IS NOT REQUIRED AT THIS STA HIGH PRESSURE WASH PER PP475 NOTIFY Q/A FOR FINAL PANEL PROF SAND AND POLISH THE INSIDE SURF CLEAN PANEL PER PP475 APPLY PROTECTIVE PLASTIC FILM (STAGE PANEL FOR INSTALLATION Specification: PP475 Rev: 3	FILE CONFIRMATION FACE 100% TO ACHIE	PRIOR TO COMP VE A 32 MICRO S	LETING THE POLISHIN URFACE FINISH (WITH	NG AND INSTALLATI	ON OF PROTECTIVE I	
		IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation Sub: 17 / Seq: 70 (F)	Resource 805-INPROCESS INSPECTION - PLA VERIFY PROFILE TO INSPECTION GA VERIFY PART PERIMETER EXCEEDS INSPECT AND RECORD INTERIOR SIE INSPECT MAGNETIC PERMEABILITY PERMEABILITY RATHER THAN FERR GRID. THE SURFACES AT AND NEAR RECORD ACTUAL PERMEABILITY RE INSPECT MATERIAL THICKNESS PER	GAGE PERIMETER F(DE SURFACE FINISH (PER PP476 AND AST RITE CONTENT. THE WELDS WILL BE CH BADINGS ON INSPECT R PP477 (6" GRID)	1.00 1.00 GAP TOLERANCE: DR TRIMMING AN LESS PERIMETER 'M A800, SUPPLEN SURFACES OF TH ECKED ON A 1" G FION DRAWING	D FITTING AT ASSEME / WELD ZONES) AND R /IENTARY REQUIREME E PVVS SHELL AND PO	BLY RECORD ACTUAL REA ENT S1 (BUT THE ME	ADINGS ON INSPECTION ASUREMENT SHALL	ON DRAWING BE TAKEN IN RELATIV
	RECORD ACTUAL MATERIAL THICK		N DRAWING				
	Test Certification: SE121-001P-10MTM Part Number: SE121-001P-2 PANEL 4 Part Description: DIE FORMED PANEL Specification: ASME B46.1 Rev: 95 Specification: ASTM A800 Specification: PP475 Rev: 2 Specification: PP476 Rev: Specification: PP477 Rev: Specification: PP479 Rev:		N DKAWING				

64880/1.0 Sub ID Part I 18 SE121 Operation Resou Sub: 18 / Seq: 10 820-R (C) INSPE VISU/ SHOU FURT SAMF RELA RECO Part N Part D Specif	lachine, Inc.						Page: : Date:12/03/ User ID: MCCORKI
18 SE121 Operation Resou Sub: 18 / Seq: 10 820-R (C) INSPE VISU/ SHOU FURT SAMF RELA RECO Part N Part D Specif Sp	Part ID		Qty 1	Drawing ID / Rev /			ngineer LUE/DOUG MCCORKLE
Sub: 18 / Seq: 10 820-R (C) INSPE INSPE VISU/ SHOU FURT SAMF RELA RECO Part N Part D Specif S	Part ID SE121-001P-2 PANEL # 5		Qty 1	Drawing ID / Rev / Parent Sub:1 Op:10			
10 SE121 Vendo	 820-RECEIVING INSPECTION 1.00 INSPECT BLANK SIZE PER DEVELOPMENT DRAWING (AUE INSPECT MATERIAL THICKNESS PER PP477 VISUAL INSPECT SURFACE FINISH (PANEL SURFACE SHOU SHOULD BE IN A CONDITION THAT CAN BE READILY POLI FURTHER CLARIFICATION IS NEEDED) SAMPLE INSPECT MAGNETIC PERMEABILITY PER PP476, J RELATIVE PERMEABILITY RATHER THAN FERRITE CONTI RECORD IDC DATA Part Number: SE121-001P-2 PANEL 5 Part Description: DIE FORMED PANEL Specification: ASTM A800 Rev: 01 Customer: PPPL Specification: ASTM B443 Rev: 00 Specification: PP475 Rev: 2 Specification: PP476 Rev: A Specification: PP477 Rev: A 	1.00 DIT DIMENSI ULD BE A SM ISHED WITH AND ASTM ENT). SAMI	1.00 IONS V IOOTH HOUT F A800, S PLE LC	MILL PRODUCED SUF EXCESSIVE MATERIAL SUPPLIMENTARY REC IT SIZE: AT LEAST 10	RFACE, WITHOUT SO L REMOVAL (CONT, QUIREMENT S1 (BU) EVENLY SPACED I	CRAPES, GOUGES, HI ACT ENGINEERING (T THE MEASUREME LOCATIONS.	DOUG McCORKLE IF NT SHALL BE TAKEN IN
(SE12 MATE MAGI SURF CERT APPR Mater Part N Part D Specif Specif	IDC Count : 3 Part ID SE121-001P-2 PANEL # 5-PANEL BLANK .375" THK INCONE Vendor Part ID: SE121-001P-2 PANEL # 5 PANEL BLANK AWJ CUT FROM .375" INCONEL 625 TO PRO (SE121-001P-2 PANEL # 1.DXF, REV) MATERIAL REQUIREMENTS: INCONEL 625 (UNS N06625) F MAGNETIC PERMEABILITY SHALL NOT EXCEED 1.00 (REF SURFACE MUST BE PROTECTED FROM CONTACT WITH IR CERTS & MILL TEST REPORTS REQ'D WITH SHIPMENT. APPROXIMATE OVERALL SIZE: 54.97*76.37 Material Certification: Part Number: SE121-001P-2 PANEL # 1 Part Description: DIE FORMED PANEL Specification: ASTM A800 Rev: 01 Specification: ASTM B443 Rev: 00 Specification: ASTM B46.1 Rev: 95)VIDED GEC PER ASTM B F. ASTM A80	Qty 1.0 0METR 8 443-00 00).) ANNEALED	QAP Count: 9 Vendor 1810	NDT Count: 0 Dimensions	WPS Count: 0

	Hajor Machine, Inc.							Page: 3 Date:12/03/0 User ID: MCCORKL
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev /			;ineer JE/DOUG MCCORKLE
Operation Sub: 18 / Seq: 18 (C)	Resource 105-DEBURR PLT 1 LOW BAY RADIUS ALL CUT EDGES PRIOR TO FORMING Specification: PP475 Rev: 2	QtyPer 1.00	StartQty 1.00		t Drawing ID / Rev SE121-001P / A			
	IDC Cour	nt : 0	Dwg Cou	int: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation Sub: 18 / Seq: 20 (F)	Resource 341-PACIFIC 750 1ST FORM OPERATION: LOAD, ALIGN, AND BOLT DIE SET # MTMFX-2 ENSURE THE DIE SET FACES ARE CLEAN AND		1.00 FX-2891 INT	1.00 TO THE				
	ENSURE THE PANEL BLANK IS CLEAN AND FR LOAD THE PANEL BLANK INTO THE DIE SET. HYDRAULIC FORM THE PANEL TO ACHIEVE T NOTE THAT THE FINAL PANEL TO GAGE GAP WATCH THE FORMING, WRINKLING, AND SPR MATERIAL IS WORK HARDENING TO A DEGRE TO THE NEXT SEQUENTIAL OPERATION (BLAS BEEN ANNEALED. ENSURE THE PANEL MATERIAL EXTENDS BEY RE-POSITIONING, RE-STRIKING, AND ACCURA	THE GEOMI TOLERAN(ING-BACK EE THAT F(ST AND AN YOND THE	ETRICAL SH CE IS .094" N CHARACTE ORMING BE NNEAL). A F	IAPE CC 1AX. IT ERISTICS COMES FINAL F R OF TH	IS DESIRED TO GET S OF THE MATERIAL DIFFICULT, OR THE DRMING SEQUENCE E GAGE (ENOUGH TO	AS CLOSE TO THIS AS DURING THE FORMIN PHYSICAL INTEGRIT IS PROVIDED FOR "FI	S POSSIBLE PRIOR TO NG PROCESS. WHEN Y OF THE MATERIAL NAL SIZING" AFTER	IT'S APPARENT THE IS AT RISK, PROCEED THE MATERIAL HAS
	Part Number: SE121-001P-2 PANEL 5 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2 IDC Cour	nt : 0	Dwg Cou	ınt: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Operation Sub: 18 / Seq: 22 (F)	Resource230-FABRICATION - WEIDNERCUT OUT A LIFTING EYE FROM THE EXCESS TEDGE OF THE FORMED PANEL (WHICH STILL FPOSITIONING CONSIDERATIONS:1. POSITION TO SUIT NORMAL HANDLING AN2. POSITION TO SUIT SETTING IN A VERTICAL3. SHAPE AND POSITION THE LIFTING HOOK FRAPID COOLING CYCLE.Specification: PP475 Rev: 3	HAS EXCES ID LIFTING L STANCE	1.00 CK THAT WA SS TRIM STO G. IN THE HEA	1.00 AS REMO OCK REM	AAINING). .T OVEN (WIDE SIDE	E DOWN).		
		nt : 0	Dwg Cou	int: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Co

Tool S	Major Machine, Inc.						Page Date:12/03 User ID: MCCORI
Workorder 54880/1.0	Part ID		Qty 1	Drawing ID / Rev			ineer E/DOUG MCCORKLE
Operation Sub: 18 / Seq: 25 (R)	Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 10 FORMING PROCESS. MAINTAIN AN APPROXIMATE BLAS Specification: PP475 Rev: 4		1.00 1.00 RIT VIRGIN ALUMI	Pt Drawing ID / Rev SE121-001P / A NUM OXIDE MEDIA TO Pgm Count: 0) REMOVE ANY RESI QAP Count: 1	DUE / MARKINGS FR(NDT Count: 0	OM THE INITIAL WPS Count: 0
Operation Sub: 18 / Seq: 30 (R)	Resource 520-SUBLET, EXOTIC HEAT TREAT SOLUTION ANNEAL FORMED PANEL ATTACH A MINIMUM OF THREE EQ CHARGE FURNACE AND HEAT PAR' HOLD PART TEMPERATURE AT 1900 RAPID COOL (VIA. WATER QUENCH Specification: AMS2774 Rev: JUL95 Certification: H/T CERTIFICATE Part Number: SE121-001P-2 PANEL 5 Part Description: DIE FORMED PANEL Customer: PPPL Furnace charts: FURNACE CHART Specification: PP475 Rev: 2	UALLY SPACED THE I UNTIL THERMOCOU DEGREES F. (+/- 15 ING OR FORCED AIR	1.00 1.00 NG: RMOCOUPLES TO UPE READINGS AR DEGREES) HOLD F CIRCULATION) TO	E WITHIN 1900 +/-15F. OR 45 MINUTES (+/ 5 M D 1000 DEGREES F. OP	ΛΊΝUTES) EN AIR COOL ΤΟ ΑΝ	THR IBIENT TEMP.	ice ID ML TR/NA SA
Operation Sub: 18 / Seq: 35 (F)	Resource 805-INPROCESS INSPECTION - PLA VISUAL INSPECT SURFACE FOR DAM ON THE INSIDE (CONCAVE SURFACI FINISH REQURIEMENT. ON THE OU' NOTIFY ENGINEERING (DOUG McCO VERIFY MAGNETIC PERMEABILITY Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL 1 Part Description: DIE FORMED PANEL 1 Specification: PP475 Rev: 2 Specification: PP475 Rev: 2 Specification: PP476 Rev: Specification: PP479 Rev:	E), LOOK FOR ANY SU TSIDE (CONVEX SUR RKLE) FOR CONCURF AND RECORD I.D.C.	1.00 1.00 GES, SCRAPES ETC. JRFACE DEFECTS (FACE), VERIFY TH RENCE	OR IRREGULARITIES T		-	
Operation Sub: 18 / Seq: 40	Resource 341-PACIFIC 750	QtyPer 1.00	StartQty EndQ	pt Drawing ID / Rev SE121-001P / A			

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Tool S	Nachine, Inc.						Page: : Date:12/03/ User ID: MCCORKI
Workorder 64880/1.0	Part ID		Qty 1	Drawing ID / Rev /			gineer JE/DOUG MCCORKLE
(F)	2ND FORMING OPERATION ENSURE THE DIE SET FACES ARE LOAD THE PREFORMED / ANNEA "RE-STRIKE" HYDRAULIC FORM 7 TOLERANCE: .094" MAX. NOTIFY INSPECTOR FOR Q/A IDC	LED PANEL INTO THE THE PANEL TO ACHIEV	DIE SET.				7. PANEL TO GAGE GA
	Part Number: SE121-001P-2 PANEL Part Description: DIE FORMED PAN						
	Specification: PP475 Rev: 2	IDC Count : 1	Dwg Count: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Dperation Sub: 18 / Seq: 50 (F)	Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANEL PROCESS. Specification: PP475 Rev: 2	QtyPer 1.00 100% USING 180-220 GI	1.00 1.00	t Drawing ID / Rev SE121-001P / A IUM OXIDE MEDIA TO	REMOVE ANY RESII	DUE / MARKINGS FR	OM THE FINAL FORMI
	Specification: 11475 Kev. 2	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Dperation Sub: 18 / Seq: 60 (F)	Resource 230-FABRICATION - WEIDNER TRIM PERIMETER TO PROVIDED PREP IS NOT REQUIRED AT THIS HIGH PRESSURE WASH PER PP475 NOTIFY Q/A FOR FINAL PANEL PI SAND AND POLISH THE INSIDE SU CLEAN PANEL PER PP475 APPLY PROTECTIVE PLASTIC FIL STAGE PANEL FOR INSTALLATIO Specification: PP475 Rev: 3	STAGE (ADDITIONAL I ROFILE CONFIRMATIO JRFACE 100% TO ACHI M (CONTACT DOUG M N	1.00 1.00 STOCK FOR POSIT FITTING / TRIMMIN N PRIOR TO COMPL EVE A 32 MICRO SU CCORKLE FOR MAT	G WILL BE REQUIRED LETING THE POLISHIN RFACE FINISH (WITH ÈRIAL)	O AT INSTALLATION) IG AND INSTALLATIO THE EXCEPTION OF) ON OF PROTECTIVE THE WELDING / TRI	PLASTIC MMING ZONES).
		IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation Sub: 18 / Seq: 70 (F)	Resource 805-INPROCESS INSPECTION - PLA VERIFY PROFILE TO INSPECTION VERIFY PART PERIMETER EXCEE INSPECT AND RECORD INTERIOR INSPECT MAGNETIC PERMEABIL PERMEABILITY RATHER THAN FE GRID. THE SURFACES AT AND NE RECORD ACTUAL PERMEABILITY	GAGE # MTMFX-2907. DS GAGE PERIMETER I SIDE SURFACE FINISH ITY PER PP476 AND AS ERRITE CONTENT. THI CAR WELDS WILL BE C	1.001.00GAP TOLERANCE:FOR TRIMMING ANI(LESS PERIMETER /TM A800, SUPPLEME SURFACES OF THIHECKED ON A 1" GR	D FITTING AT ASSEME WELD ZONES) AND R ENTARY REQUIREME PVVS SHELL AND PC	BLY ECORD ACTUAL REA ENT S1 (BUT THE MEA	ADINGS ON INSPECTI ASUREMENT SHALL	ON DRAWING BE TAKEN IN RELATI

Tool S	Machine, Inc.							Page Date:12/03 User ID: MCCORF
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev /			ngineer LUE/DOUG MCCORKLE
	INSPECT MATERIAL THICKNESS PER PP477 RECORD ACTUAL MATERIAL THICKNESS C		N DRAWING	3				
	Test Certification: SE121-001P-10MTM Rev: 2 Part Number: SE121-001P-2 PANEL 5 Part Description: DIE FORMED PANEL Specification: ASME B46.1 Rev: 95 Specification: ASTM A800 Specification: PP475 Rev: 2 Specification: PP476 Rev: Specification: PP477 Rev:	A						
	Specification: PP479 Rev: IDC C	Count : 3	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 9	NDT Count: 0	WPS Count: 0
Sub ID 24	Part ID SURFACE FINISH TESTING TEST P			Qty 1	Drawing ID / Rev			
				_	Parent Sub:1 Op:10			
Operation Sub: 24 / Seq: 10 (C)	Resource 410-BURNOUT TABLE BURNOUT TEST PLATES PER MATERIAL CA DEBURR AND SAND EDGES SMOOTH (WITH	I UNCONTAMI	1.00 NATED GRI	1.00 INDING	,			
Piece # 10 (C)	FORWARD ONE PLATE TO ENGINEERING (E IDC C Part ID INCONEL 625_670-SHEET,NICKEL ALLOY INCONEL 625 SHEET, .25" THICK PER AMS 5599. CERT AND MILL TEST REPORT REQ'D WIT	Count : 0 25" THK	LE) AND Pl Dwg Cou		THE OTHER PER THE Pgm Count: 0 Drawing ID / Rev	EFOLLOWING ROUT QAP Count: 0 Vendor	ING STEPS. NDT Count: 0 Dimensions 480	WPS Count: 0
	Material Certification: NONE REQ'D TEST SAM	1PLE				QAP Count: 1		
Operation Sub: 24 / Seq: 20 (C)	Resource 230-FABRICATION - WEIDNER SAND AND POLISH THE TEST PIECE (ONE S		1.00 A MICRO S	1.00 URFACE		0405		
	IDC C	Count : 0	Dwg Cou	nt: 5	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation Sub: 24 / Seq: 25 (C)	Resource 260-SANDBLAST MASK THE POLISHED SIDE AND BLAST TH	QtyPer 1.00 E OTHER SIDE	1.00	1.00	t Drawing ID / Rev SE121 / Α Γ VIRGIN ALUMINUM	OXIDE.		
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Major Machine, Inc.							Page Date:12/03 User ID: MCCORE
Part ID		Q)ty D 1 /	Drawing ID / Rev			jineer JE/DOUG MCCORKLE
Drw N/A	IDC Count : 0	Dwg Count: 5	i	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Resource 230-FABRICATION - WEIDNER CLEAN SAMPLE MATERIAL SU Drw N/A	1.00	1.00 1 5.8. WRAP THE	.00 P E PART	PP475 /	QAP Count: 0	NDT Count: 0	WPS Count: 0
VERIFY THE FOLLOWING TEST SURFACE FINISH (PER ASME B CLEANLINESS PER PP475. MAGNETIC PERMEABILITY (1.	PLA 1.00 F SAMPLE ATTIBUTES: 46.1-1995) POLISHED 32 MI .01 MAX)	1.00 1	.00 S DE, SM	SE121 / A	RFACE SIDE OPPOSI QAP Count: 0	TE (NO PITS, SCRAPE NDT Count: 0	S, GOUGES, ETC). WPS Count: 0
Part ID SE121-001P-2 TEST PANEL NO	DTE:		1 /	/			
SPLIT THE PANEL TO SIMULA PREP, FIT AND WELD JOINTS T SIMULATING PRODUCTION TH MAXIMUM INTERIOR (CONCA CWI VISUAL INSPECT WELDS (6.29.1. NO CERTIFICATE REQU REVIEW RESULTS WITH ENGIN SAND AND POLISH THE INSIDE CLEAN TEST PANEL PER CLEA	1.00 R ONE DEVELPMENT PAN TE PRODUCTION WELD J TO DEVELOP WELDING SE IROUGHOUT THE WELDIN VE) SURFACE WELD FACE (CERTIFY EACH PASS) 100 JIRED. THIS IS A TEST PH REERING (DOUG McCORKI & (CONCAVE SIDE) SURFAC	1.00 1 EL (PRODUCED OINT(S). QUENCES AND G PROCESS. E: 1 BEAD WIDT % UNDER 8X MA GCE. E) CE 100% TO ACH	.00 S UNDEF MINIM H AGNIFI	SE121-001P / A R 64880/2, SUB ID 1) HZE WELDING DIST	CODE ARTICLE 6, SI		
	A Machine, Inc. Part ID Drw N/A Resource 230-FABRICATION - WEIDNER CLEAN SAMPLE MATERIAL SU Drw N/A Resource 805-INPROCESS INSPECTION - VERIFY THE FOLLOWING TES' SURFACE FINISH (PER ASME B CLEANLINESS PER PP475. MAGNETIC PERMEABILITY (I REPORT RESULTS TO ENGINER Part ID SE121-001P-2 TEST PANEL NO Resource 230-FABRICATION - WEIDNER OBTAIN THE DIE SET NUMBEH SPLIT THE PANEL TO SIMULA PREP, FIT AND WELD JOINTS T SIMULATING PRODUCTION TH MAXIMUM INTERIOR (CONCA CWI VISUAL INSPECT WELDS (6.29.1. NO CERTIFICATE REQU REVIEW RESULTS WITH ENGIN SAND AND POLISH THE INSIDE CLEAN TEST PANEL PER CLEAR	Resource QtyPer 230-FABRICATION - WEIDNER 1.00 CLEAN SAMPLE MATERIAL SURFACES PER PP475, 5.7 & Drw N/A IDC Count : 0 Resource QtyPer 805-INPROCESS INSPECTION - PLA 1.00 VERIFY THE FOLLOWING TEST SAMPLE ATTIBUTES: SURFACE FINISH (PER ASME B46.1-1995) POLISHED 32 MI CLEANLINESS PER PP475. MAGNETIC PERMEABILITY (1.01 MAX) REPORT RESULTS TO ENGINEERING (DOUG McCORKLE) IDC Count : 3 Part ID SE121-001P-2 TEST PANEL NOTE: Resource QtyPer 230-FABRICATION - WEIDNER 1.00 OBTAIN THE DIE SET NUMBER ONE DEVELPMENT PANISPLIT THE PANEL TO SIMULATE PRODUCTION WELD JA PREP, FIT AND WELD JOINTS TO DEVELOP WELDING SE SIMULATING PRODUCTION THROUGHOUT THE WELDINM MAXIMUM INTERIOR (CONCAVE) SURFACE WELD FACE CWI VISUAL INSPECT WELDS (CERTIFY EACH PASS) 100 6.29.1. NO CERTIFICATE REQUIRED. THIS IS A TEST PIER REVIEW RESULTS WITH ENGINEERING (DOUG McCORKLE SAND AND POLISH THE INSIDE (CONCAVE SIDE) SURFACE VELD FACE	Part ID Orw N/A IDC Count : 0 Dwg Count: 5 Resource QtyPer StartQty En 230-FABRICATION - WEIDNER 1.00 1.00 1.00 CLEAN SAMPLE MATERIAL SURFACES PER PP475, 5.7 & 5.8. WRAP THE Drw N/A IDC Count : 0 Dwg Count: 0 Resource QtyPer StartQty En 805-INPROCESS INSPECTION - PLA 1.00 1.00 1 VERIFY THE FOLLOWING TEST SAMPLE ATTIBUTES: SURFACE FINISH (PER ASME B46.1-1995) POLISHED 32 MICRO ON ONE SI CLEANLINESS PER PP475. MAGNETIC PERMEABILITY (1.01 MAX) REPORT RESULTS TO ENGINEERING (DOUG McCORKLE). IDC Count : 3 Dwg Count: 5 Part ID O SE121-001P-2 TEST PANEL NOTE: O 1.00 1 Resource QtyPer StartQty En 230-FABRICATION - WEIDNER 1.00 1.00 1 OBTAIN THE DIE SET NUMBER ONE DEVELPMENT PANEL (PRODUCED SPLIT THE PANEL TO SIMULATE PRODUCTION WELD JOINT(S). PREP, FIT AND WELD JOINTS TO DEVELOP WELDING SEQ UENCES AND SIMULATING PRODUCTION THROUGHOUT THE WELDING PROCESS. MAXIMUM INTERIOR (CONCAVE) SURFACE WELD FACE: 1 BEAD WIDT CWI VISUAL INSPECT WELDS (CERTIFY EACH PASS) 100% UNDER 8X M. 6.29.1. NO CERTIFICATE REQUIRED. THIS IS A TEST PIECE. REVIEW RESULTS WITH ENGINEERING (DOUG McCORKLE) SAND AND POLISH THE	Part ID Qty I Drw N/A IDC Count : 0 Dwg Count: 5 Resource QtyPer StartQty EndQt I 230-FABRICATION - WEIDNER 1.00 1.00 1.00 F. CLEAN SAMPLE MATERIAL SURFACES PER PP475, 5.7 & 5.8. WRAP THE PART Drw N/A IDC Count : 0 Dwg Count: 0 Resource QtyPer StartQty EndQt I 805-INPROCESS INSPECTION - PLA 1.00 1.00 1.00 805-INPROCESS INSPECTION - PLA 1.00 1.00 1.00 StartQty VERIFY THE FOLLOWING TEST SAMPLE ATTIBUTES: SURFACE FINISH (PER ASME B46.1-1995) POLISHED 32 MICRO ON ONE SIDE, SM CLEANLINESS PER PP475. MAGNETIC PERMEABILITY (1.01 MAX) EPORT RESULTS TO ENGINEERING (DOUG McCORKLE). IDC Count : 3 Dwg Count: 5 IDC Count : 3 Dwg Count: 5 Part ID QtyPer StartQty EndQt S2121-001P-2 TEST PANEL NOTE: 1 1 7 IS212-001P-2 TEST PANEL NOTE: 1 1 7 IS212-001P-2 TEST PANEL NOTE: 1 1 7	Part ID Qty Drawing ID / Rev 1 / Drw N/A IDC Count : 0 Dwg Count: 5 Pgm Count: 0 Resource QtyPer StartQty EndQt Drawing ID / Rev 230-FABRICATION - WEIDNER 1.00 1.00 1.00 PP475 / CLEAN SAMPLE MATERIAL SURFACES PER PP475, 5.7 & 5.8. WRAP THE PART IN PLASTIC FOAM. Drw N/A IDC Count : 0 Dwg Count: 0 Pgm Count: 0 Resource QtyPer StartQty EndQt Drawing ID / Rev 805-INPROCESS INSPECTION - PLA 1.00 1.00 1.00 SEI1 / A VERIFY THE FOLLOWING TEST SAMPLE ATTIBUTES: SUBFACE FINISH (PER ASME B46.1-1995) POLISHED 32 MICRO ON ONE SIDE, SMOOTH BLASTED SU CLEANLINESS PER PP475. IDC Count : 3 Dwg Count: 5 Pgm Count: 0 REPORT RESULTS TO ENGINEERING (DOUG McCORKLE). IDC Count : 3 Dwg Count: 5 Pgm Count: 0 Part ID QtyPer StartQty EndQt Drawing ID / Rev 230-FABRICATION - WEIDNER 1.00 1.00 1.00 Resource QtyPer StartQty EndQt Drawing ID / Rev 230-FABRICATION - WEIDNER 1.00 1.00 1.00 SEI21-001P / A	Resource QtyPer StartQty EndQt Drawing ID / Rev 230-FABRICATION - WEIDNER 1.00 1.00 1.00 Part ID QAP Count: 0 Resource QtyPer StartQty EndQt Drawing ID / Rev 230-FABRICATION - WEIDNER 1.00 1.00 1.00 Part ID QAP Count: 0 Resource QtyPer StartQty EndQt Drawing ID / Rev StartQty <td>Resource Qty Per StartQty End Drw N/A IDC Count: 0 Dwg Count: 5 Pgm Count: 0 QAP Count: 0 NDT Count: 0 Resource QtyPer StartQty EndQt Drawing ID / Rev BLI 230-FABRICATION - WEIDNER 1.00 1.00 IP PATS / CLEAN SAMPLE MATERIAL SURFACES PER PP475, 5.7 & 5.8. WRAP THE PART IN PLASTIC FOAM. Drw N/A IDC Count: 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 0 NDT Count: 0 New Count: 0 IDC Count: 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 0 NDT Count: 0 Resource QtyPer StartQty EndQt Drawing ID / Rev StartQty EndQt Drawing ID / Rev SURFACE FINISH (PER ASME 846-1-1995) POLISHED 32 MICRO ON ONE SIDE, SMOOTH BLASTED SURFACE SIDE OPPOSITE (NO PITS, SCRAPE CLEANLINES PER P475. MAGNETIC PERMEABILITY (1.01 MAX) REPORT RESULTS TO ENGINEERING (DOUG MCCORKLE). IDC Count: 3 Dwg Count: 5 Pgm Count: 0 NDT Count: 0 St121-001P-2 TEST PANEL NOTE: 1 / Part ID SurfQty EndQt Drawing ID / Rev Sof-FABRICATION - WEIDNER 1.00 1.00 1.00 I.00 St121-001P / A St121-001P-2 TEST PANEL NOTE: 1<</td>	Resource Qty Per StartQty End Drw N/A IDC Count: 0 Dwg Count: 5 Pgm Count: 0 QAP Count: 0 NDT Count: 0 Resource QtyPer StartQty EndQt Drawing ID / Rev BLI 230-FABRICATION - WEIDNER 1.00 1.00 IP PATS / CLEAN SAMPLE MATERIAL SURFACES PER PP475, 5.7 & 5.8. WRAP THE PART IN PLASTIC FOAM. Drw N/A IDC Count: 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 0 NDT Count: 0 New Count: 0 IDC Count: 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 0 NDT Count: 0 Resource QtyPer StartQty EndQt Drawing ID / Rev StartQty EndQt Drawing ID / Rev SURFACE FINISH (PER ASME 846-1-1995) POLISHED 32 MICRO ON ONE SIDE, SMOOTH BLASTED SURFACE SIDE OPPOSITE (NO PITS, SCRAPE CLEANLINES PER P475. MAGNETIC PERMEABILITY (1.01 MAX) REPORT RESULTS TO ENGINEERING (DOUG MCCORKLE). IDC Count: 3 Dwg Count: 5 Pgm Count: 0 NDT Count: 0 St121-001P-2 TEST PANEL NOTE: 1 / Part ID SurfQty EndQt Drawing ID / Rev Sof-FABRICATION - WEIDNER 1.00 1.00 1.00 I.00 St121-001P / A St121-001P-2 TEST PANEL NOTE: 1<

Tool S	Ajor Machine, Inc.							Page Date:12/0 User ID: MCCORI
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev			E ngineer LUE/DOUG MCCORKLE
Sub: 26 / Seq: 70 (R)	805-INPROCESS INSPECTION - PLA VERIFY PROFILE TO INSPECTION - INSPECT AND RECORD INTERIOR S INSPECT AND RECORD MAGNETIC Test Certification: SE121-001P-10MT Part Number: SE121-001P-2 TEST PA Part Description: DIE FORMED PANE Specification: PP475 Rev: 3	GAGE # MTMFX-2903. (DIDE SURFACE FINISH. PERMEABILY. M Rev: 2A NEL	1.00 GAP TOLER	1.00 ANCE:	SE121-001P / A .188" MAX.			
		IDC Count : 3	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 4	NDT Count: 0	WPS Count: 0
Sub ID 30	Part ID PQR PROCESS			Qty 1	Drawing ID / Rev / Parent Sub:26 Op:60			
Operation Sub: 30 / Seq: 10 (C)	Resource 410-BURNOUT TABLE BURN OUT TWO TEST PLATES 6 X NOTIFY WELDING ENGINEERING V		StartQty 1.00 LIABLE	EndQt 1.00	Drawing ID / Rev			
Piece # 10 (C)	Part ID INCONEL 625_5-PLATE,NICKEL AI Vendor Part ID: INCONEL 625_5 INCONEL 625 (UNS N06625) PER AS	IDC Count : 0	Dwg Cou	nt: 0 Qty 338.3	Pgm Count: 0 Drawing ID / Rev	QAP Count: 0 Vendor 1810	NDT Count: 0 Dimensions 15.375*22	WPS Count: 0
	ANNEALED MAGNETIC PERMEABILITY SHALI SURFACE MUST BE PROTECTED F CERTS & MILL TEST REPORTS REC	ROM CONTACT WITH I			LOY MATERIALS	QAP Count: 2		
Operation	Resource	QtyPer	StartQty	EndOt	Drawing ID / Rev			
Sub: 30 / Seq: 20 (C)	230-FABRICATION - WEIDNER WELD PQR PLATE PER WELDING H	1.00	1.00	1.00	Pgm Count: 0	QAP Count: 0	NDT Count: 1	WPS Count: 0
Operation Sub: 30 / Seq: 30 (C)	Resource 705-WELD ENGINEERING/ CWI CWI to visually inspect PQR test plate	QtyPer 1.00 per the requirements of A IDC Count : 0	1.00	1.00 K, AWS 1	Drawing ID / Rev D1.1, and AWS B2.1. M Pgm Count: 0	ITM NDT certificatior QAP Count: 0	n form required NDT Count: 0	WPS Count: 0
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev			

	lajor Machine, Inc.						Page Date:12/0 User ID: MCCOR
Workorder 54880/1.0	Part ID		Qty 1	Drawing ID / Rev /		8	ineer E/DOUG MCCORKLE
Sub: 30 / Seq: 40 (C)	818-MQS CONTRACTOR X-RAY Radiographically inspect PQR test pla	1.00 te per the requirements of .	1.00 1.00 ASME Sect. IX, AWS	S D1.1, and AWS B2.1.	Reference acceptance to	o all three specifications	on the reader sheet.
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Dperation Sub: 30 / Seq: 50 (C)	Resource 450-SUBLET * Perform destructive testing (ref: 2 ASME Sect. IX, AWS D1.1, and A' * All test samples and remaining pla * Separate test reports are required for * All NDT has been performed by M * A reference sheet with pertinent we * Test plate info: - One plate - 3/8" thick 304L stainle: - One plate - 3/8" thick Inconel 625 - Both plates butt welded using filler - No post-weld heat treatment is requ - Test plate is supplied in the as-weld	WS B2. te to be returned to Major T or each specification. Test ajor Tool and Machine. A lding data is included with as steel material ERNiCrMo-3 (Inc iired.	1.00 1.00 ats, and 2 root bend to cool and Machine who reports are to referen copy of the radiograp the test plate.	en complete. ce the PQR number and r	must provide the tensile	TES' pecifications; failure locations/charac	v ice ID TNG/MISC
	- Test plate is supplied in the as-well	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Sub ID 37	Part ID PQR PROCESS		Qty 1	Drawing ID / Rev / Parent Sub:26 Op:60			
Operation Sub: 37 / Seq: 20 (C)	Resource 230-FABRICATION - WEIDNER PLASMA CUT TWO TEST PIECES CLEANUP, REMOVE HEAT AFFEC INSPECT MAGNETIC PERMEABIL PREP, WELD PQR PLATE PER WE	TED ZONE. ITY AND RECORD IDC	1.00 1.00	t Drawing ID / Rev Pgm Count: 0	OAP Count: 0	NDT Count: 0	WPS Count: 0
		ibe count : 0	Dwg Count. 0	rgin Count. 0	QAF Count. 0	NDT Count. 0	wrs Count. o
Deration Sub: 37 / Seq: 30 (C)	Resource 705-WELD ENGINEERING/ CWI CWI to visually inspect PQR test plat	QtyPer 1.00 e per the requirements of A IDC Count : 0	1.00 1.00	t Drawing ID / Rev D1.1, and AWS B2.1. M Pgm Count: 0	ITM NDT certification QAP Count: 0	form required NDT Count: 1	WPS Count: 0
Operation	Resource	QtyPer	StartQty EndQ	t Drawing ID / Rev			
ATTRAVI D are							W:64880/1 0 /Inc Mott /I

- Tool S	Machine, Inc.							Page Date:12/0. User ID: MCCORI
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev			ngineer LUE/DOUG MCCORKLE
Sub: 37 / Seq: 40 (C)	 818-MQS CONTRACTOR X-RAY Radiographically inspect PQR test plate * PQR390 * Test plate material: .375" thick Inc * Butt weld using Inconel 625 filler / C 	onel 625.	1.00 ASME Sect. I Dwg Cou		D1.1, and AWS B2.1. I Pgm Count: 0	Reader sheet to state ac QAP Count: 0	ceptance to all three s NDT Count: 0	pecifications. WPS Count: 0
Operation Sub: 37 / Seq: 50 (R)	Resource 450-SUBLET * Perform destructive testing (ref: 2 te ASME Sect. IX, AWS D1.1, and AW		StartQty 1.00 sts, and 2 root	1.00	t Drawing ID / Rev sts) per the requirements	of the following three	TI	ervice ID ESTNG/MISC
	 * All NDT has been performed by Maj * A reference sheet with pertinent weld * Test plate info: - Test plate number: PQR390 - One plate - 3/8" thick Inconel 625 - One plate - 3/8" thick Inconel 625 - Both plates butt welded using filler r - No post-weld heat treatment is requit - Test plate is supplied in the as-welded 	ling data is included with naterial ERNiCrMo-3 (Inc red.	the test plate.		hic report is included wi	th the test plate for refe	erence.	
		IDC Count : 0	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Sub ID 34	Part ID SOURCE NOTIFICATION			Qty 1	Drawing ID / Rev / Parent Sub:1 Op:30			
Operation Sub: 34 / Seq: 10 (U)	Resource 830-SOURCE WITNESS POINT -IN P AFTER TACK WELDING, AND PRIC		StartQty 1.00 CE NOTIFIC Dwg Cou	1.00 ATION I	Drawing ID / Rev S REQUIRED. CUSTO Pgm Count: 0	MER DECISION WILI QAP Count: 0	L FOLLOW. NOTIFI NDT Count: 0	CATION VIA CFT. WPS Count: 0
Sub ID 19	Part ID SE121 PORT SUB-ASSEMBLY			Qty 1	Drawing ID / Rev / Parent Sub:1 Op:70			
Operation Sub: 19 / Seq: 10 (F)	Resource 230-FABRICATION - WEIDNER POSITION, INSTALL AND WELD CO	QtyPer 1.00 DNFLAT FLANGE TO TU	1.00	1.00	t Drawing ID / Rev SE121 / A			
ATTRAVI P am								W:64880/1_0/Inc Mat1/Ir

Tool 5	Kajor Machine, Inc.							Page Date:12/0 User ID: MCCOR
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev		6	ineer JE/DOUG MCCORKLE
	FIT AND TRIM THE LENGTH FOR IN GRIND / BLEND THE INTERIOR WEL POLISH THE ENTIRE INSIDE SURFAC CWI VISUAL INSPECT THE PORT EX ACCEPTANCE PER AWS D1.6, 6.29.1. Part Number: SE212-003P-3 Specification: PP475 Rev: 4 Part Description: PORT EXTENSION Certification: CWI CERTIFICATION	О ЅМООТН. Е ЅМООТН ТО АСНІ	EVE A 32 MI	CRO SU	RFACE FINISH. CLEAN		ER ASME CODE ARTIO	CLE 6, SECTION V.
	WPS328.5 Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL625_ Notes: INCO TUBE TO SST FLNG.	IDC Count : 0	Dwg Cour EL625_062_G		Pgm Count: 0	QAP Count: 4	NDT Count: 0	WPS Count: 1
Operation Sub: 19 / Seq: 20 (F)	Resource 805-INPROCESS INSPECTION - PLA VERIFY CLEANLINESS INSPECT THE INTERIOR SURFACE FI INSPECT THE MAGNETIC PERMEABI RECORD IDC DATA Part Number: SE212-003P-3 Part Description: PORT EXTENSION Customer: PPPL Specification: ASME B46.1 Rev: 95 Specification: ASME B46.1 Rev: 95 Specification: PP476 Rev: Specification: PP477 Rev: Specification: PP475 Rev: 4		1.00 SUB-ASSY.	1.00	Drawing ID / Rev SE121 / A NGE WELD AND SURR	OUNDING AREA. QAP Count: 8	NDT Count: 0	WPS Count: 0
						_		
Sub ID 20	Part ID CONFLAT FLANGE			Qty 1	Drawing ID / Rev / Parent Sub:19 Op:10			
Operation Sub: 20 / Seq: 10 (C)	Resource 820-RECEIVING INSPECTION RECEIVING INSPECTION RECEIVE AND INSPECT THE FOLLOW (THEY SHOULD ALL ARRIVE TOGET F10000000NC4 FG1000CI FG1000VU		StartQty 1.00		Drawing ID / Rev SE121 / A			

Tool S	Machine, Inc.					Page Date:12/03 User ID: MCCORI
orkorder 880/1.0	Part ID	Qty 1	Drawing ID / Rev			ineer IE/DOUG MCCORKLE
Piece # 10 (C)	FB1000C12S GC0275S CONTACT ENGINEERING (DOUG McCORKLE) WHEN PARTS ARRIVE. IDC N/A IDC Count : 0 Dwg Count Part ID F10000000NC4-FLANGE, CONFLAT, NON-ROTATE, 10.00" FLANGE, CONFLAT, NON-ROTATABLE 10.00 X BLANK X 0.97", CLEAR BOLT HOLES, 304L	: 5 Qty 1.0	Pgm Count: 0 Drawing ID / Rev	QAP Count: 0 Vendor	NDT Count: 0 Dimensions	WPS Count: 0
	Material Certification: Part Number: F10000000NC4			QAP Count: 2		
Piece # 20 (C)	Part ID FG1000CI-GASKET KIT (10/PK), COPPER, FOR 10" CFF GASKET KIT (10/PACK), COPPER, INDIVIDUAL SEAL, FOR 10" CONFLA' VARIAN VACUUM TECHNOLOGIES	Qty 1.0 Г FLA	Drawing ID / Rev NGE	Vendor	Dimensions	
	Material Certification: Part Number: FG1000CI			QAP Count: 2		
Piece # 30 (C)	Part ID FG1000VU-GASKET, VITON, FOR 10" CFF GASKET, VITON, FOR 10" CONFLAT FLANGE VARIAN VACUUM TECHNOLOGIES	Qty 1.0	Drawing ID / Rev	Vendor	Dimensions	
	Material Certification: Part Number: FG1000VU			QAP Count: 2		
Piece # 40 (C)	Part ID FB1000C12S-BOLT AND NUT KIT, 12 PT, SILVER PLATED BOLT AND NUT KIT (25/PACK), 12 POINT, ASTM A193 GR. B8 SILVER P VARIAN VACUUM TECHNOLOGIES	Qty 1.0 PLATE	Drawing ID / Rev D, FOR 10" CONFLAT H	Vendor FLANGE	Dimensions	
	Material Certification: Part Number: FB1000C12S			QAP Count: 2		
Piece # 50 (C)	Part ID GC0275S-GASKET CLIP KIT (10/PK), FOR 10" CFF GASKET CLIP KIT (10/PACK) FOR 10" CONFLAT FLANGE VARIAN VACUUM TECHNOLOGIES	Qty 1.0	Drawing ID / Rev	Vendor	Dimensions	

Tool S	Agjor Machine, Inc.	Page: - Date:12/03/ User ID: MCCORKI							
Workorder 64880/1.0	Part IDQtyDrawing ID / Rev1/	Engineer BLUE/DOUG MCCORKLE							
	Material Certification: Part Number: GC0275S QAP Count: 2								
Operation Sub: 20 / Seq: 20 (F)	ResourceQtyPerStartQtyEndQtDrawing ID / Rev108-TOOL ROOM - PLANT 11.001.001.00**HOLD FOR ENGINEERING PROCESS DRAWING.1.001.00MACHINE SPECIAL PORT FEATURE FOR VACUUM TESTING.								
	SPOTFACE, DRILL A CENTER DRILL SPOT IN THE CENTER OF THE FLANGE (FOR INSTALLATION / POSITIONING AID). IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 0	NDT Count: 0 WPS Count: 0							
Sub ID 21	Part ID Qty Drawing ID / Rev PORT EXTENSION TUBE 1 / Parent Sub:19 Op:10								
0									
Operation Sub: 21 / Seq: 10 (C)	ResourceQtyPerStartQtyEndQtDrawing ID / Rev230-FABRICATION - WEIDNER1.001.001.00SE121 / AINSPECT DIAMETERS AND LENGTH1.001.00SE121 / ARECORD IDC INFORMATIONVVVSE121 / ANOTIFY ENGINEERING (DOUG McCORKLE) OF RESULTSVVSE121 / AWELD / BLEND MIS-ALIGNMENT OF MANUFACTURERS WELDSVVSE121 / APOLISH THE ENTIRE INSIDE SURFACE TO A 32 MICRO-INCH SURFACE FINISH.LAYOUT ONE AND CUT ONE END SQUARE FOR FLANGE INSTALLATION (REMOVE MINIMAL MATERIAL FOR LATER IN								
Piece # 10	IDC Count : 0 Dwg Count: 5 Pgm Count: 0 QAP Count: 0 Part ID Qty Drawing ID / Rev Vendor SE121-001P-5-INCO 625 TUBE 8.0" OD X .12" WA. X 18.0" 1.0 5647	NDT Count: 0 WPS Count: 1 Dimensions							
(C)	Vendor Part ID: SE121-001P-5 TUBE, ROUND, INCONEL 625, SEAMLESS OR WELDED. ASTM B444 OR ASTM B705 MTM AUTHORIZATION OF WELDING PROCEDURE REQUIRED PRIOR TO STARTING WORK. NOTE THAT THE FOLLOWING REQUIREMENTS WILL BE PERFORMED / TESTED BY MAJOR TOOL & MACHINE AFTER DELIVERY. ALL EFFORTS TO ACCOMODA / ENSURE SUCESS MUST BE MAINTAINED: MAGNETIC PERMEABILITY REQUIREMENT: 1.01 MAX.								
	VACUUM INTEGRITY REQUIREMENT: TOTAL HELIUM LEAK RATE FOR THE TUBE SHALL BE LESS THAN OR EQUAL TO INTERIOR SURFACE FINISH REQUIREMENT: INTERIOR WELD BEADS WILL BE GROUND FLUSH. THE ENTIRE INTERIOR MICRO SURFACE FINISH AND VERIFIED PER ASME B46.1. EXTERIOR SURFACE FINISH: MILL SURFACE ACCEPTABLE. NO PITS, SCRAPES OR GOUGES. MATERIAL CERTIFICATION AND TEST REPORTS REQ'D WITH SHIPMENT. WPS291.5 Rev:0 GTAW MAN								
	GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW								
	Notes: TIG WELD ONLY QAP Count: 3								

Tool S	Machine, Inc.	Page: 4 Date:12/03/0 User ID: MCCORKL
Workorder 64880/1.0	Part ID Qty Drawing ID / Rev 1 /	Engineer BLUE/DOUG MCCORKLE
Sub ID 29	Part IDQtyDrawing ID / RevPORT EXTENSION TUBE (TAKE 2)1/Parent Sub:19 Op:10-	
Operation Sub: 29 / Seq: 10 (C)	ResourceQtyPerStartQtyEndQtDrawing ID / Rev805-INPROCESS INSPECTION - PLA1.001.001.00SE121 /PRIOR TO CUTTING / FORMING, INSPECT AND RECORD THE MAGNETIC PERMEABILITY OF THE SHEET (CTHE APPROXIMATE PART ENVELOPE WITHIN THE STOCKPart Number: SE121-001P-3Part Description: PVVS PORT EXTENSION TUBESpecification: PP476 Rev: A	
	IDC Count : 1 Dwg Count: 0 Pgm Count: 0 QAP	Count: 3 NDT Count: 0 WPS Count: 0
Operation Sub: 29 / Seq: 20 (C)	Resource QtyPer StartQty EndQt Drawing ID / Rev 415-ROLLING/SHEAR/BRAKE PRESS 1.00 1.00 1.00 1. SHEAR RECTANGLE PER MATERIAL CARD DIMENSIONS 2. ROLL TO 8" O.D. =/-0.03" X 20" LONG. LEAVE TRIM STOCK OVERLAPPED (FABRICATOR WILL TRIM). E DIAMETER REMOVING ANY ROLL FLATS RESULTANT FROM STARTING AND FINISHING THE ROLLING SEQ 3. NOTIFY Q/A FOR DIMENSIONAL / MAGNETIC PERMEABILITY VERIFICATION. IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP 6	
Piece # 10 (C)	б б с	Vendor Dimensions 20*38
	Material Certification: Part Number: SE121-001P-3 Part Description: PORT EXTENSION TUBE QAP (Count: 3
Operation Sub: 29 / Seq: 30 (C)	ResourceQtyPerStartQtyEndQtDrawing ID / Rev805-INPROCESS INSPECTION - PLA1.001.001.00SE121 /INSPECT AND RECORD MAGNETIC PERMEABILITY (AFTER ROLLING)Part Number: SE121-001P-3Part Description: PVVS PORT EXTENSION TUBESpecification: PP476 Rev: A	
		Count: 3 NDT Count: 0 WPS Count: 0

Tool S	Major Machine, Inc.							Page: Date:12/03/ User ID: MCCORK
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev		8	ineer E/DOUG MCCORKLE
Operation Sub: 29 / Seq: 40 (C)	Resource 230-FABRICATION - WEIDNER TRIM, FIT, (PURGE WELD JOINT WITH 100% A TACK WELD INTO 8" O.D. TUBE. CLEAN AND PREPARE FOR PLASMA ARC WE Specification: PP475 Rev: 2	LDING	1.00 GE DAM MA	1.00 ATERIA				
	IDC Co WPS291.5 Rev:1 GTAW MAN GTAW - Manual Fillers: INCONEL625_035_GMA Notes:		Dwg Cour L625_062_G		Pgm Count: 0	QAP Count: 1 W	NDT Count: 0	WPS Count: 1
Operation Sub: 29 / Seq: 50 (F)	Resource 205-PLASMA WORKCENTER SETUP, PURGE WELD JOINT WITH 100% ARG PLASMA ARC WELD THE AXIAL JOINT PER I CWI VISUAL INSPECT THE PORT EXTENSION AWS D1.6, 6.29.1. Test Certification: CWI CERTIFICATE Rev: Part Number: SE121-001P-3 Part Description: PORT EXTENSION TUBE	DRAWING. N TUBE AXIA	1.00 DAM MATE L WELD 100	1.00 RIAL MU	ER 8X MAGNIFICATIC	ON PER ASME CODE	ARTICLE 6, SECTION	V. ACCEPTANCE PER
Operation Sub: 29 / Seq: 60 (F)	IDC Co Resource 230-FABRICATION - WEIDNER BLEND THE INTERIOR WELD SURFACE FLUS POLISH THE ENTIRE INTERIOR OF THE TUBE CLEAN PER PP475 Specification: PP475 Rev: 2 IDC Co WPS291.5 Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL625_035_GMA Notes: TIG WELD ONLY	QtyPer 1.00 SH TO THE BA E TO ACHIEV punt : 0	1.00 ASE MATER E A 32 MICR Dwg Cour	EndQt 1.00 IAL. RO-INCH nt: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 1 WPS Count: 1
Operation Sub: 29 / Seq: 70 (F)	Resource 805-INPROCESS INSPECTION - PLA INSPECT DIAMETER, ROUNDNESS, WELDING RECORD IDC DATA Part Number: SE121-001P-3 Part Description: PVVS PORT EXTENSION TUB Specification: PP475 Rev: 2 Specification: PP476 Rev: A		1.00	1.00	Drawing ID / Rev SE121 / IEABILITY, AND INTE	RIOR SURFACE FINI	ISH.	

	Major Machine, Inc.							Page: Date:12/03, User ID: MCCORK
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev /			gineer UE/DOUG MCCORKLE
	Specification: PP477 Rev: A Specification: ASME B46.1 Rev: 95 Specification: A800 Rev: 97 I	DC Count : 2	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 7	NDT Count: 0	WPS Count: 0
Sub ID 32	Part ID PLASMA PQR			Qty 1	Drawing ID / Rev / Parent Sub:29 Op:50			
Operation Sub: 32 / Seq: 10 (C)	Resource 705-WELD ENGINEERING/ CWI CWI to visually inspect PQR test plate per th I	QtyPer 1.00 ne requirements of A. DC Count : 0	1.00	1.00 K, AWS	t Drawing ID / Rev D1.1, and AWS B2.1. M Pgm Count: 0	ITM NDT certification QAP Count: 0	form required NDT Count: 1	WPS Count: 0
Dperation Sub: 32 / Seq: 20 (C)	Resource 818-MQS CONTRACTOR X-RAY Radiographically inspect PQR test plate per	QtyPer 1.00 the requirements of A	1.00	1.00	Drawing ID / Rev	Reference acceptance to	o all three specification	s on the reader sheet.
	Ι	DC Count : 0	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation Sub: 32 / Seq: 30 (C)	Resource 450-SUBLET * Perform destructive testing (ref: 2 tensile ASME Sect. IX, AWS D1.1, and AWS B2. * All test samples and remaining plate to be * Separate test reports are required for each * All NDT has been performed by Major To * A reference sheet with pertinent welding of * Test plate info: - One plate - 3/8" thick Inconel 625 - One plates butt welded using filler materi - No post-weld heat treatment is required. - Test plate is supplied in the as-welded completed to the supplied in the supplication of t	e returned to Major To specification. Test r bol and Machine. A c lata is included with t al ERNiCrMo-3 (Inco	1.00 ts, and 2 root ool and Macl reports are to copy of the ra the test plate.	1.00 t bend te nine whe reference adiograph	en complete. Se the PQR number and r	nust provide the tensile	TE pecifications; failure locations/chara	rvice ID STNG/MISC acterss.
	Ι	DC Count : 0	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Sub ID 13	Part ID ASTM B 705 MECHANICAL TEST PIE			Qty 1	Drawing ID / Rev / Parent Sub:19 Op:10			

Tool S	Machine, Inc.							Page: 4 Date:12/03/0 User ID: MCCORKI
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev /			ngineer LUE/DOUG MCCORKLE
Operation Sub: 33 / Seq: 10 (F)	Resource 415-ROLLING/SHEAR/BRAKE PRESS 1. SHEAR RECTANGLE PER MATERIAL CARD 1 2. ROLL TO 8" O.D. =/-0.03" X 6" LONG. LEAV DIAMETER REMOVING ANY ROLL FLATS RESU	E TRIM STO JLTANT FRO	CK OVERL OM STARTI	1.00 APPED (NG ANE	FINISHING THE ROL	LING SEQUENCE.	ERLAP IS ADEQUAT	E TO TRIM AND FIT THE WPS Count: 0
Piece # 10 (F)	IDC Cou Part ID INCONEL 625_660-SHEET,NICKEL ALLOY .125 INCONEL 625 SHEET, .125" THICK PER AMS 5599 / ASTM B443 (UNS N06625). CERT AND MILL TEST REPORT REQ'D WITH S Material Certification: Part Number: SE121-001P-3 Part Description: PORT EXTENSION TUBE	" ТНК	Dwg Cou	Qty 180.0	Pgm Count: 0 Drawing ID / Rev	QAP Count: 0 Vendor	Dimensions 6*30	wPS Count: 0
						QAP Count: 0		
Operation Sub: 33 / Seq: 20 (F)	Resource 205-PLASMA WORKCENTER TRIM FIT AND TACK WELD CYLINDER. SETUP, PURGE WELD JOINT WITH 100% ARGO PLASMA ARC WELD THE JOINT IDC Cou		StartQty 1.00 DAM MATE Dwg Cou	1.00 RIAL M	Drawing ID / Rev SE121 / UST BE MADE FROM Pgm Count: 0	EITHER 625 INCONE QAP Count: 0	L OR 300 SERIES ST. NDT Count: 0	AINLESS STEEL, AND WPS Count: 1
Dperation Sub: 33 / Seq: 30 (F)	Resource 230-FABRICATION - WEIDNER TRIM BOTH ENDS TO PRODUCE A TEST PIECH PERFORM A FLATTENING TEST PER ASTM B (ENGINEERING WITNESS REQUIRED) FILL OUT VISUAL TEST CERTIFICATE Specification: ASTM B705 Rev: 94 Test Certification: VISUAL INSPECTION CERT Part Number: ASTM B 705 MECH. TEST PIECE	705, 7.2		1.00 H	Drawing ID / Rev			
	IDC Cou	nt : 0	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Sub ID	Part ID SOURCE NOTIFICATION			Qty 1	Drawing ID / Rev			
				-	Parent Sub:1 Op:72			
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev			
ATTRAVLR.qrp								W:64880/1-0 /Inc Matl /Inc I

Tool S	Ajor Machine, Inc.						Page Date:12/0 User ID: MCCOR				
Workorder 54880/1.0	Part ID		Qty 1	Drawing ID / Rev /		8	ineer E/DOUG MCCORKLE				
Sub: 35 / Seq: 10 (U)	830-SOURCE WITNESS POINT -IN P 1.00 SOURCE NOTIFICATION REQURIED ONE TO TWO WEEKS NOTIFICATION VIA CFT	1.00 PRIOR TO V	1.00 ACUUN	A TESTING PORT SUB-	ASSEMBLY. CUSTO	OMER DECISION WILL	FOLLOW.				
	Drw N/A IDC N/A IDC Count : 0	Dwg Cour	nt: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0				
Sub ID 25	Part ID PORT EXTENSION WELD BACKING RI		Qty 1	Drawing ID / Rev							
				Parent Sub:1 Op:90							
Dperation Sub: 25 / Seq: 10 (C)	ResourceQtyPer415-ROLLING/SHEAR/BRAKE PRESS1.001. SHEAR STRIP PER MATERIAL CARD AND DEBURR.	StartQty 1.00		Drawing ID / Rev SE121-003P / 0							
	. ROLL THE EASY WAY TO A 8.093" I.D. OBJ (0.031" WELD SHRINKAGE ALLOWANCE). . NOTIFY Q/A FOR DIMENSIONAL / MAGNETIC PERMEABILITY VERIFICATION. pecification: PP475 Rev: 2										
Piece # 10 (C)	IDC Count : 0 Part ID INCONEL 625_660-SHEET,NICKEL ALLOY .125" THK INCONEL 625 SHEET, .125" THICK PER AMS 5599 / ASTM B443 (UNS N06625). CERT AND MILL TEST REPORT REQ'D WITH SHIPMENT.	Dwg Cour	nt: 1 Qty 162.0	Pgm Count: 0 Drawing ID / Rev	QAP Count: 1 Vendor	NDT Count: 0 Dimensions 4.5*36	WPS Count: 0				
	Material Certification: Part Number: SE121-003P-4 Part Description: WELD BACKING RING										
					QAP Count: 3						
Operation Sub: 25 / Seq: 15 (C)	ResourceQtyPer805-INPROCESS INSPECTION - PLA1.00INSPECT AND RECORD MAGNETIC PERMEABILITY (AFTHPart Number: SE121-001P-4Part Description: PVVS PORT EXTENSION WELD RINGSpecification: PP475 Rev: 2	1.00	1.00	Drawing ID / Rev SE121 /							
	Specification: PP476 Rev:	_									
	IDC Count : 1	Dwg Cour	nt: 0	Pgm Count: 0	QAP Count: 4	NDT Count: 0	WPS Count: 0				
Operation Sub: 25 / Seq: 20 (F)	ResourceQtyPer230-FABRICATION - WEIDNER1.001. TRIM AND FIT TO VESSEL CONTOUR, CUT WIDTH, PR2. WELD PER DRAWING (SIZE TO EXISTING PORT TUBE)	1.00 REP		Drawing ID / Rev SE121-003P / 0							

Tool S	Ajor Machine, Inc .						Page Date:12/0 User ID: MCCORI
Workorder 64880/1.0	Part ID		Engineer BLUE/DOUG MCCORKLE				
	Specification: PP475 Rev: 2 WPS291.5 Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL625_ Notes: TIG WELD ONLY	IDC Count : 0 035_GMAW / INCONEI	Dwg Count: 1 L625_062_GTAW /	Pgm Count: 0 INCONEL625_093_GTA	QAP Count: 1	NDT Count: 0	WPS Count: 1
Operation Sub: 25 / Seq: 30 (F)	Resource 415-ROLLING/SHEAR/BRAKE PRESS RE-ROLL / ROUND UP BAND (IF NECE Specification: PP475 Rev: 2	QtyPer 1.00 SSSARY)		t Drawing ID / Rev SE121 / A			
		IDC Count : 0	Dwg Count: 5	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation Sub: 25 / Seq: 40 (F)	Resource 805-INPROCESS INSPECTION - PLA VERIFY MAGNETIC PERMEABILITY. Part Number: PVVS PORT EXTENSION Specification: ASTM A800 Rev: 95 Specification: PP476 Rev:	TUBE	1.00 1.00				
		IDC Count : 1	Dwg Count: 5	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Sub ID 28	Part ID STORAGE / SHIPPING CRATE		Qty 1	Drawing ID / Rev / Parent Sub:1 Op:115			
Operation Sub: 28 / Seq: 10 (F)	Resource 425-SHIPPING - PLANTS 1 & 2 BUILD STORAGE / SHIPPING CRATE I		1.00 1.00 AWING				
		IDC Count : 0	Dwg Count: 5	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Sub ID 31	Part ID NAMEPLATE		Qty 1	Drawing ID / Rev / Parent Sub:1 Op:115			
Operation Sub: 31 / Seq: 10 (C)	Resource 415-ROLLING/SHEAR/BRAKE PRESS SHEAR RECTANGLE PER MATERIAL DEBURR EDGES AND CLEANUP		1.00 1.00	t Drawing ID / Rev			
Piece #	NOTIFY Q/A AND HAVE THE MAGNE Part ID	TIC PERMEABILITY C IDC Count : 1	Dwg Count: 0	ECORDED) PRIOR TO SU Pgm Count: 0 Drawing ID / Rev	UBCONTRACTING. QAP Count: 0 Vendor	NDT Count: 0 Dimensions	WPS Count: 0
			QU	~14 ming 1D / Rev	, chuơi	Dimensions	

Tool 5	Hajor Machine, Inc.							Page: - Date:12/03/ User ID: MCCORKI
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev			ngineer LUE/DOUG MCCORKLE
10 (C)	INCONEL 625_660-SHEET,NICKEL ALLOY .125" TH INCONEL 625 SHEET, .125" THICK PER AMS 5599 / ASTM B443 (UNS N06625). CERT AND MILL TEST REPORT REQ'D WITH SHIP			24.0			4*6	
	Material Certification: TRACE ID: 92220 Part Number: NAMEPLATE					QAP Count: 2		
Dperation Sub: 31 / Seq: 11 (C)		USING I VISUAL	LINT FREE INSPECTIO	1.00 WIPES (Drawing ID / Rev			
	IDC Count : 0)	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Dperation Sub: 31 / Seq: 15 (F)	ResourceQ450-SUBLETETCH THE FOLLOWING INFORMATION PER PROVIMAJOR TOOL & MACHINE, INC. LOGO (USE FURNIPPPL LOGO (USE FURNISHED ARTWORK)			EndQt 1.00	Drawing ID / Rev			ervice ID NGRVNG/ETCHNG
	SE121-01 NATIONAL COMPACT STELLARATOR EXPERIMEN PROTOTYPE VACUUM VESSEL SEGMENT PRIME-CONTRACT: DE-AC02-76-CH03073 SUB-CONTRACT: S-04344-F SCOPE: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121-01-01 MANUFACTURER: MAJOR TOOL AND MACHINE, I MTM #: 64880							
	NOTES: THE SUPPLIED DRAWING IS ONLY A CONCEPT AN BE DETERMINED BY THE MANUFACTURER. VENDOR IS TO PROVIDE PROTOTYPE SAMPLES (E TO PRODUCING THE FINAL ARTICLE. THE MATERIAL OF THE TAG (625 INCONEL, OR 31 CARE MUST BE MAINTAINED DURING THE PROCE PROPERTIES BY MEANS OF CONTAMINATION FRO METHOD OF PART MARKING ALSO MUST NOT AF	EITHER A 6L STA ESSING A OM CON	A PHYSICA INLESS) HA AND HAND VTACT WIT	L SAMP S BEEN LING OI H IRON	LE OR RENDERING) O SELECTED BASED O F THE TAG. ALL EFFO BASED MATERIALS (F I.D. TAG DESIGN / N IT'S LOW MAGNET DRTS MUST BE MAD EG PLATTENS, WOR	COMPOSITION FOR FIC PERMEABILITY E TO AVOID THE IN K TABLES, HAND T	MTM APPROVAL PRIO PROPERTIES. EXTREM DUCTION OF MAGNETI OOLS, ETC) THE

	Major Machine, Inc.						Page: Date:12/03 <u>User ID: MCCORK</u>	
Workorder 64880/1.0	Part ID		Qty 1	Drawing ID / Rev /			ngineer LUE/DOUG MCCORKLE	
	Specification: PP475 Rev: 2 Part Number: PVVS NAMEPLATE							
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 2	NDT Count: 0	WPS Count: 0	
Operation Sub: 31 / Seq: 20 (F)	ResourceQtyPerStartQtyEndQtDrawing ID / Rev820-RECEIVING INSPECTION1.001.001.00RECEIVE AND INSPECT NAMEPLATE PER MTM PURCHASE ORDERINSPECT MAGNETIC PERMEABLITY AND RECORD IDC DATASpecification: PP476 Rev:							
		IDC Count : 1	Dwg Count: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0	
Sub ID 36	Part ID SOURCE NOTIFICATION		Qty 1	Drawing ID / Rev / Parent Sub:1 Op:120				
Operation Sub: 36 / Seq: 10 (U)	Resource 831-SOURCE INSPECTION - FINAL FINAL SOURCE INSPECTION NOTII NOTIFICATION VIA CFT.	QtyPer 1.00 FICATION REQUIRED	1.00 1.00	t Drawing ID / Rev	PECTION. CUSTOM	IER DECISION WILL F	OLLOW.	
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0	