Tool S	Machine, Inc.							Page Date:12/05 User ID: MCCORK
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /			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)	Part ID NSCX PROTOTYPE VACUUM VESSEL SEGMENT	SCOPE OF	WORK: N	Qty 1	Drawing ID / Rev SE121-003P /			
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	IDC Count Part ID INCONEL625_062_GTAW-WELD WIRE/GTAW, .0 Vendor Part ID: INCONEL625_062_GTAW Mfg Part ID: INCONEL 625 ASME/AWS SFA 5.14, ERNiCrCoMo-1		Dwg Cou	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	DENTIFIED	O AT MINIM	UM WI	TH THE AWS WELD W	TRE CLASS.		
	MATERIAL CERTIFICATION REQ'D WITH SHIPM	IENT						
	Material Certification: TRACE ID: 38561 Part Number: SE121-001P							
						QAP Count: 2		
Piece # 30	Part ID INCONEL625_093_GTAW-WELD WIRE/GTAW, .0 Vendor Part ID: INCONEL625_093_GTAW Mfg Part ID: INCONEL 625	93 DIA		Qty 25.0	Drawing ID / Rev	Vendor 4434	Dimensions	
(F)	ASME/AWS SFA 5.14, ERNiCrCoMo-1 INCONEL 625 WELD WIRE, CUT LENGTH 0.093" DIA. X 36" LONG. SUPPLIED IN 10 LB TUBES.							

	Kajor S. Machine, Inc.							Pag Date:12/05 <u>User ID: MCCORF</u>
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /		0	ineer E/DOUG MCCORKLE
	EACH PIECE OF CUT LENGTH WIRE MUST B	E IDENTIFIE	D AT MINIM	IUM WI	TH THE AWS WELD W	TRE CLASS.		
	MATERIAL CERTIFICATION REQ'D WITH SH	IPMENT						
	Material Certification: Trace ID: 41171 Material Certification: Part Number: SE121-001P					OAD County 2		
						QAP Count: 3		
Operation Sub: 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 VVS	QtyPer 1.00	StartQty 1.00	EndQ 1.00	t Drawing ID / Rev			
	IDC Co	ount : 0	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Deration ub: 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	EndQ 1.00	t Drawing ID / Rev			
	IDC Co	ount : 0	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Dperation ub: 0 / Seq: 13 (F)	Resource 700-BLUE TEAM, ENGINEERING ENGINEERING, PLANNING & PROJECT MGT TASK 9	QtyPer 1.00	StartQty 1.00	EndQ 1.00	t Drawing ID / Rev			
	FOLLOWING IS A LIST STANDARD OPERATI WORK ORDER. ENGINEERING OPERATIONS WILL BE PERFO Specification-Standard Control; ENGSOP03 - Inter CAD / CAM OPERATIONS WILL BE PERFORM MANUFACTURING OPERATIONS WILL BE PE Material Handling and Storage; MTLSOP01 - Mat QUALITY ASSURANCE AND INSPECTION OP Nonconformance Control; QASOP05 - Calibration	RMED PER T nal Drawing G ED PER THE RFORMED Pl erial Storage; 1 ERATIONS W	HE FOLLOW eneration; El FOLLOWIN ER THE FOL PCSOP01 - P	VING ST NGSOP0 G STAN LOWIN roductio	ANDARD OPERATING 4 - Drawing Control. IDARD OPERATING PR G STANDARD OPERAT n Control; QASOP01 - N	PROCEDURES: ENG OCEDURE: CADSOP TING PROCEDURES: Ionconformance Contro	SOP01 - Mfg. Quality P 01 - CNC Program Com MFGSOP01 - Project M 1; QASOP03 - Traceabi	lans; ENGSOP02 - trol; fanufacturing; MFGSOI lity-Identification

		Qty 1	Drawing ID / Rev SE121-003P /		0	ineer IE/DOUG MCCORKLE
RECEIVING INSPECTION OPERATION IN-PROCESS INSPECTION OPERATION SHIPPING OPERATIONS WILL BE PER MACHINING OPERATIONS WILL BE PER WELDING OPERATIONS WILL BE PER WLDSOP03 - Welding Process Develop ENGINEERING OPERATIONS WILL BE PER Bill of Manufacturing; ENGWI005 - Eng - Service Cards; ENGWI013 - Work Ord CAD / CAM OPERATIONS WILL BE PER CADCAM Program or File MANUFACTURING OPERATIONS WILL BE PER CADCAM Program or File MANUFACTURING OPERATIONS WILL 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 - Assessment BLAST BOOTH OPERATIONS WILL F	DNS WILL BE PERFOI RFORMED PER THE I PERFORMED PER THE I RFORMED PER THE I RFORMED PER THE I BE PERFORMED PER THE PERFORMED PER THE PERFORMED PER THE ILL BE PERFORMED PER THE S WILL BE PERFORMED PER ATIONS WILL BE PERFORM BE PERFORMED PER ATIONS WILL BE PER S INSPECTION OPERA spection Method Guide to Gauges; QAWI017 - R orage and Retention; Q. ge Generation; QAWI017 RFORMED PER THE I /1004 - Guidelines for L ERFORMED PER THE - Storage and Maintena nent of Welder's Ability BE PERFORMED PER T	RMED PER THE FOLI FOLLOWING STAND. HE FOLLOWING STAND ores Control of Weld W THE FOLLOWING WOR ew; ENGWI007 - Work nance; ENGWI014 - In E FOLLOWING WORF PER THE FOLLOWING WORF PER THE FOLLOWING WORF THE FOLLOWING V RFORMED PER THE TIONS AND/OR REC- lines; QAWI006 - Sam tecording Inspection Ref AWI023 - Nonconform 29 - Scanning Certifica FOLLOWING WORK noce of Welding Docum	20WING STANDARD (ARD OPERATING PRO NDARD OPERATING PRO VIDERATING PRO VIDERATING PRO VIDERATING PRO VIDERATING PRO VIDERATING PRO VIDERATING PRO VIDERATING PRO VIDERATIONS: CA G WORK INSTRUCTIONS: CA G WORK INSTRUCTIONS: CA WING WORK INSTRUCTION: FOLLOWING WORK I EIVING INSPECTION (pling Inspection Criteria essults; QAWI018 - Qual- ance System Navigation tions; QAWI031 - Mate (INSTRUCTIONS: SHW ent; SHWI005 - General INSTRUCTIONS: WL hents; WLDWI006 - We ORK INSTRUCTIONS:	OPERATING PROCED DCEDURE: SHSOP01 - PROCEDURE: TLGSC DCEDURES: WLDSOP06 ENGWI001 - Material ENGWI008 - Operation 1019 - Nonconformance ADWI004 - Developing ONS: MFGWI018 - Wc CTION: MFGWI005 - 1 PCWI005 - Subcontrac INSTRUCTIONS: NDT OPERATIONS WILL B a; QAWI008 - Receiving ity Sign Off Control; Qa a; QAWI026 - Part Relo erial Certification Progra /1002 - Guidelines for S Guidelines for Packagir DWI003 - Welding Per Elding Engineering Worl SBWI001 - General Sar	PURE: QASOP02 - In P - Shipping-Packaging DP01 - Cutting Tool Corr P02 - Qualification of W 5 - Welding Filler Metal Card; ENGW1002 - Dra n Cards; ENGW1002 - Dra n Cards; ENGW1009 - Q to Customers. a CADCAM program; C orkmanship; PCW1001 - High Pressure-High Ten ct Procedure; PURW1000 W1001 - NDT Exam Pe E PERFORMED PER T g Ordered Material; QA' AW1020 - Organization bocation with SMX; QAW am. hipping Documentation; ng Parts; SHW1007 - Gui sonnel Training; WLDW k Order Review Process hdblast Guidelines;	rocess Inspection ttrol elders and WPS; and Flux Procurement wing Control; ENGWI003 - puality Planning; ENGWI010 CADWI005 - Updating Use of MTM Routing; hperature Water Cleaning of 2 - Vendor Setup and rsonnel Qualification; HE FOLLOWING WORK WI010 - Calibration; and Control of Quality VI027 - SMX Part Inspection SHWI003 - General idelines for Coordinating VI004 - Welder ; WLDWI007 - Weld Wire
MATERIAL PROCUREMENT OPERA' and Assessment						

MTTRAVLR.qrp

Operation Sub: 0 / Seq: 15 (U)

Workorder 64880/1.0

Tool S	Machine, Inc.							Page: Date:12/05// User ID: MCCORKI
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /		8	ineer E/DOUG MCCORKLE
Sub: 0 / Seq: 20 (F)	825-FINAL INSPECTION - PLANTS 1 FINAL VISUAL INSPECTION (ENGINE FINAL CLEANLINESS VERIFICATION COMPILE ELECTRONIC DATA BOOK TAKE SEVERAL PHOTOGRAPHS OF P PREPARE C OF C AND REQUEST FOR WITNESS AND PHOTOGRAPH THE PA Test Certification: CLEANLINESS CERT Part Number: SE121-003P Part Description: PVVS	PER PP475 AND PRE INFORMATION PER ART SHIPPING RELEASE ACKAGING / PREPAR	PARE CERTIF MTM QAP.	FICATI	ERING (DOUG McCOR	KLE) FOR RELEASE	FORM IF NOT AVAILA	BLE ELECTRONICALL
	Specification: PP475 Rev: 5	IDC Count : 0	Dwg Count	: 5	Pgm Count: 0	QAP Count: 4	NDT Count: 0	WPS Count: 0
					6			
Operation Sub: 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 DO NOT APPLY TAPE TO THE PART. SPECIAL CRATE REQUIREMENTS: CONTAINER MUST BE CLEARLY MA SUPPLIER: MAJOR TOOL & MACHINE, INC. 1458 E. 19TH ST. INDIANAPOLIS, IN 46218 CONTENTS: SE121 NCSX PVVS Specification: PP475 Rev: 3	JB I.D. 28) IS COMPLETELY WR THE PLASTIC FOAN	1.00 APPED WITH A CAN BE TA	1.00 I PLAS PED O	NLY TO ITSELF TO H		'IL SHRINK WRAP IS A NDT Count: 0	APPLIED. WPS Count: 0
Operation Sub: 0 / Seq: 9876	Resource 601-AUTOMATED SCHEDULING BU	1.00	1.00	1.00	Drawing ID / Rev		TES	ice ID FNG/MISC
	Drw N/A IDC N/A	IDC Count : 0	Dwg Count	:: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
ub 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	QtyPer 1.00	StartQty 1.00	-	Drawing ID / Rev SE121-001P / A			



Workorder Part ID 64880/1.0

Qty Drawing ID / Rev

1 SE121-003P / --

Engineer BLUE/DOUG MCCORKLE

ACQUIRE THE FOLLOWING DIE FORMED PANELS:

SE121-001P-2 PANEL 1 SE121-001P-2 PANEL 2 SE121-001P-2 PANEL 3 SE121-001P-2 PANEL 4 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 PANEL FITTING / INSTALLATION SEQUENCE 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.

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.

GRIND WELD PREPS AND CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER PP475. 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).

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.

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 POSITIONED, FIT 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.



Workorder Part ID 64880/1.0

Qty Drawing ID / Rev 1 SE121-003P / -- **Engineer** BLUE/DOUG MCCORKLE

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 ******).

***NOTE: THE WELD JOINT ROOT / FACE MUST BE ORIENTATED TO KEEP THE BEAD WIDTH ON THE INTERIOR SIDE OF THE VESSEL (VACUUM SIDE) AS NARROW AS POSSIBLE. INTERIOR SIDE WELD FACES SHOULD BE KEPT AS NARROW AS POSSIBLE (1 WELD BEAD WIDTH MAX).

PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. NOTE THAT THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.

ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P Part Description: NCSX PVVS Specification: PP475 Rev: 4

IDC Count : 7 Dwg Count: 1 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 1 WPS291.5 Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW Notes: TIG WELD ONLY

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 1 / Seq: 20	817-SMX LASER	1.00	1.00	1.00	SE121-001P-1MTM / 2A
(F)	INSPECTION OPERATION # 1				

AFTER EACH SUB-SET IS COMPLETELY TACK WELDED, INSPECT / VERIFY POSITIONING, FITUP, AND PROFILE OF EACH TACK WELDED SUB-SET PER THE FOLLOWING:

INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGMENT / VERIFICATION TO THE 3D MODEL.

ENSURE THE PART PROFILE IS WITHIN THE UPPER HALF OF THE APPLIED BI-LATERAL TOLERANCE AS FOLLOWS: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR BELOW NOMINAL (INWARD).

RECORD ACTUAL (HIGH/LOW RANGE) ON MTM IDC

REPORT ANY OUT OF TOLERANCE READINGS VIA MTM NCR

NOTIFY ENGINEERING (DOUG MCCORKLE) FOR EVALUATION OF RESULTS PRIOR TO RELEASING THE PART BACK TO PRODUCTION.

INSPECTION POINT GRID: 6" CENTERS THROUGHOUT WITH 1" CENTERS AT AND NEAR WELD JOINTS.

ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION

INSPECT THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS AT EACH PROFILE INSPECTION POINT.

RECORD PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS ON SE121-001P-1MTM, RESULTS MUST BE RECORDED, REVIEWED BY ENGINEERING, SCANNED AND LINKED PRIOR TO COMPLETING THE INSPECTION SEQUENCE.

Part Number: SE121-001P

Part Description: NCSX PVVS

Specification: PP476 Rev: --

Specification: PP477 Rev: --

- Tool	Major 8. Machine, Inc.						Page: Date:12/05/(User ID: MCCORKI				
Workorder 64880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		0	ineer E/DOUG MCCORKLE				
	Specification: PP475 Rev: 4 Map(s): SE121-001P-1MTM Rev: 2A	IDC Count : 2	Dwg Count: 1	Pgm Count: 0	QAP Count: 6	NDT Count: 0	WPS Count: 0				
Operation Sub: 1 / Seq: 30 (F)	Resource 230-FABRICATION - WEIDNER FABRICATION OPERATION # 2	QtyPer 1.00		t Drawing ID / Rev SE121-001P / A							
	PRIOR TO BEGINNING, NOTIFY ENGINEERING / CFT THE PART IS READY AND AVAILABLE FOR POSSIBLE CUSTOMER HOLD / WITNESS POINT INSPECTION. HOLD FOR RESPONSE AND/OR FURTHER DIRECTION.										
	STEEL. WELD ROOT PASSES (INCREMENTA NOTE THAT THE BACK SIDE OF TH NOTE BURN-THROUGH, AND BACK- CWI VISUAL INSPECT ROOT WELDS Test Certification: CWI CERTIFICATE Part Number: SE121-001P Part Description: NCSX PVVS Method: VT-PP-001 Rev: A Specification: PP475 Rev: 4	E JOINT MUST REMA WELD FACES SHOUL 100% UNDER 8X MA	IN PURGED UNTIL D BE KEPT AS NAR	, THE ENTIRE JOINT IS ROW AS POSSIBLE.	S COMPLETELY FILL	ED.	1.6, 6.29.1.				
	WPS291.5 Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL625_ Notes: TIG WELD ONLY	IDC Count : 5 _035_GMAW / INCONH	Dwg Count: 1 EL625_062_GTAW /	Pgm Count: 0 INCONEL625_093_GT	QAP Count: 5	NDT Count: 0	WPS Count: 1				
Operation	Resource	QtyPer	StartQty EndQ	t Drawing ID / Rev							
ub: 1 / Seq: 40 (F)	817-SMX LASER INSPECTION OPERATION # 2	1.00		SE121-001P-1MTM /	/ 2A						
	AFTER THE ROOT WELDS ARE COM AND RECORD WELDING SHRINKAG INSPECTION POINT GRID: 6" CENTI INCLUDE AT LEAST THREE DATUM RECORD ACTUAL (INDIVIDUAL) ME INSPECT AND RECORD MAGNETIC REPORT ANY OUT OF TOLERANCE I NOTIFY ENGINEERING (DOUG McCC TO ABOVE NOMINAL. INWARD DIS PRIOR TO COMPLETING WELDING F	E / DISTORTION REA ERS THROUGHOUT W TARGETS IN EACH F GASUREMENTS ON IN PERMEABILITY. READINGS VIA MTM DRKLE) FOR EVALUA TORTION APPROACH	LIZED TO THIS PO TTH 1" CENTERS A POINT CLOUD SCA SPECTION FORM (NCR. TION OF RESULTS	INT. T AND NEAR WELD JO N FOR ALIGMENT / VI SE121-2MTM). RECOR PRIOR TO RELEASING	OINTS. ERIFICATION TO THE D ACTUAL (HIGH/LO B PART. NOTE THAT	E 3D MODEL. W RANGE) ON MTM I PROFILE READINGS S	.D.C. HOULD REMAIN NEA				

	& Machine, Inc.						Pag Date:12/05 User ID: MCCORF
Vorkorder 4880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		0	ineer IE/DOUG MCCORKLE
	ENSURE THE FIXTURE DATUM TA RECORD PROFILE, MAGNETIC PEF SCANNED AND LINKED PRIOR TO Part Number: SE121-001P Part Description: NCSX PVVS Specification: PP476 Rev: Specification: ASTM A800 Rev: 2001 Specification: PP475 Rev: 4 Specification: PP477 Rev: Map(s): SE121-001P-1MTM Rev: 2A	MEABILITY, AND MATI	ERIAL THICKNES	S ON SE121-001P-1MTM			'ED BY ENGINEERIN
		IDC Count : 2	Dwg Count: 1	Pgm Count: 0	QAP Count: 7	NDT Count: 0	WPS Count: 0
peration ab: 1 / Seq: 70 (F)	Resource 230-FABRICATION - WEIDNER FABRICATION OPERATION # 3	QtyPer 1.00		Drawing ID / Rev SE121-001P / A			
	WELDING (INCLUDING TACK-WEI TACKING AND/OR WELDING ON T CWI VISUAL INSPECT EACH WELI EACH WELD PREP / WELD INTER- AFTER WELDING IS COMPLETE, R REQUIRED. LAYOUT THE PORT ASSEMBLY LO THE LASER TRACKER TO ENSURE WELD THE PORT EXTENSION SUB	HIS SURFACE MUST BE .) PASS 100% UNDER 8X PASS MUST BE CLEANE EMOVE ANY TEMPORA)CATION. (ANGULAR L POSITION PRIOR TO TA	APPROVED BY EN MAGNIFICATION D PER PP475 PRI RY STIFFENING / OCATION, OVER CK WELDING.	GINEERING. PER ASME CODE ART OR TO WELDING THE I SUPPORT / SHOP AID I	CLE 6, SECTION V. A NEXT SEQUENTIAL F DEVICES. BLEND / TO	ACCEPTANCE PER AV BEAD. OUCH UP ATTACHME	VS D1.6, 6.29.1. ENT WELDS AS

	Machine, Inc.						Pag Date:12/05 <u>User ID: MCCORK</u>
Vorkorder 4880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		8	ineer E/DOUG MCCORKLE
	Method: VT-PP-001 Rev: A Specification: PP475 Rev: 5						
	WPS291.5 Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL62 Notes: TIG WELD ONLY	IDC Count : 5 25_035_GMAW / INCON	Dwg Count: 1 IEL625_062_GTAW /	Pgm Count: 0 INCONEL625_093_GT	QAP Count: 6 AW	NDT Count: 0	WPS Count: 1
peration ıb: 1 / Seq: 71 (F)	Resource 265-PAINT BOOTH BAKE OUT AT 150 DEGREES C (30 TESTING). NOTE THAT THIS SEQ McCORKLE) AND SUBCONTRACT ADVISED. Part Number: SE121-001P Part Description: NCSX PVVS Furnace charts: FURNACE CHART Specification: BD475, Days 5	UENCE MUST BE COOI	1.00 1.00 REMOVE MOISTURE RDINATED WITH TH	E VACUUM TESTING	SERVICE OPERATIO	N. CONTACT ENGINE	ERING (DOUG
	Specification: PP475 Rev: 5	IDC Count : 0	Dwg Count: 5	Pgm Count: 0	QAP Count: 4	NDT Count: 0	WPS Count: 0
peration b: 1 / Seq: 72 (F)	Resource 230-FABRICATION - WEIDNER VACUUM TEST PREPARATION:	QtyPer 1.00	StartQty EndQt	t Drawing ID / Rev			
	PRIOR TO BEGINNING, NOTIFY EN FOR RESPONSE AND/OR FURTHER		IE PART IS READY A	ND AVAILABLE FOR	POSSIBLE CUSTOME	R HOLD / WITNESS PC	DINT INSPECTION. H
	SETUP AND PREPARE FOR SUBCO BE PERFORMED AT SEQUENCE 75 INSTALL THE SEAL AND VACUUM INSTALL AND TORQUE THE FLAN LAYOUT ALL STRUCTURAL WELD ASSIST WITH THE VACUUM TEST) AS FOLLOWS: A TEST CAP TO THE CO IGE INSTALLATION BO DS FOR 100% X-RAY.	ONFLAT FLANGE DLTS PER MANUFAC	TURERS INSTRUCTIO	DNS.	RADIOGRAPHIC INSP	ECTION (WHICH WII
	Caution: The vacuum test procedure v implosive/explosive reactions, ejected and dangerous noise levels. Unnecessa	parts		0	v 1		ipment could result in
	Specification: PP475 Rev: 2	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation	Resource	QtyPer	· StartQty EndQt	t Drawing ID / Rev		Serv	rice ID

	Major 3 Machine, Inc.							Page: Date:12/05/ User ID: MCCORK			
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /			ngineer LUE/DOUG MCCORKLE			
ub: 1 / Seq: 73 (F)	450-SUBLET 1.00 1.00 1.00 SE121-003P / MISC/SUBLET VACUUM TEST THE PORT EXTENSION SUB-ASSEMBLY (WELDED TO THE VESSEL WALL) PER PP478										
	MTM CONTRACT ADMINISTRATO WILL INIATE COORDINATION PR Part Number: SE121-001P Part Description: NCSX PVVS Customer: PPPL Test Certification: VACUUM TEST O	IOR TO BEGINNING TH				PRECEDING (BAKE (OUT) OPERATION.	PRODUCTION CONTRO			
	Specification: ASTM E 498 Rev: 95 Specification: PP475 Rev: 2										
	Specification: PP478 Rev:	IDC Count : 0	Dwg Count:	1	Pgm Count: 0	QAP Count: 7	NDT Count: 0	WPS Count: 0			
ıb: 1 / Seq: 75 (F)	818-MQS CONTRACTOR X-RAY 100% RADIOGRAPHIC INSPECT TI ASME SECTION VIII, DIVISION 1, 1 MAP THE FILM NUMBERS AND FI 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: 4	JW-51 LM LOCATIONS ON PAR ON MAP Rev:	LDS (LOCATIO	NS ID	SE121-001P / DENTIFIED ON PART) F Pgm Count: 0	ER THE FOLLOWING	G: NDT Count: 0	WPS Count: 0			
Operation ub: 1 / Seq: 80 (F)	Resource 817-SMX LASER INSPECTION OPERATION # 3 RE-INSPECT / VERIFY PART PROF INSPECTION POINT GRID: 6" CEN INCLUDE AT LEAST THREE DATU RECORD ACTUAL (INDIVIDUAL) INSPECT AND RECORD MAGNETI REPORT ANY OUT OF TOLERANC NOTIFY ENGINEERING (DOUG MAGNET) ENSURE THE FIXTURE DATUM T	I.00 ILE IS WITHIN APPLIED ITERS THROUGHOUT W JM TARGETS IN EACH P MEASUREMENTS ON IN C PERMEABILITY. E READINGS VIA MTM I CORKLE) FOR EVALUAT	1.00 TOLERANCE TTH 1" CENTE OINT CLOUD SPECTION FOR NCR. TION OF RESU	1.00 AND RS AT SCAN RM (S LTS F	Γ AND NEAR WELD JO J FOR ALIGMENT / VE E121-2MTM). RECORE PRIOR TO RELEASING	RUCTURAL WELDIN INTS. RIFICATION TO THE D ACTUAL (HIGH/LO' PART.	3D MODEL. W RANGE) ON MT				

	Major & Machine, Inc.						Page: Date:12/05/ User ID: MCCORK
Workorder 54880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		8	ineer E/DOUG MCCORKLE
	RECORD PROFILE, MAGNETIC PERM SCANNED AND LINKED PRIOR TO C Part Number: SE121-001P Part Description: NCSX PVVS Specification: PP475 Rev: 4 Specification: PP476 Rev: Specification: PP477 Rev:				1, RESULTS MUST BE	RECORDED, REVIEW	ED BY ENGINEERING
	Map(s): SE121-001P-1MTM Rev: 2A	IDC Count : 2	Dwg Count: 1	Pgm Count: 0	QAP Count: 6	NDT Count: 0	WPS Count: 0
Operation Sub: 1 / Seq: 90 (F)	Resource 230-FABRICATION - WEIDNER LAYOUT AND PLASMA CUT THE PO PLASMA CUT THE PORT OPENING II CIRCLE CUTTING DEVICE TO ENSUF REMOVE RECAST / HEAT AFFECTED SMOOTH (MAINTAINING PROPER S PREP THE EDGES OF THE PORT STU POSITION AND SKIP WELD THE BAY RE-INSTALL THE PORT EXTENSION GRIND AND BLEND THE PORT EXTI CWI VISUAL INSPECT EACH WELD I ENSURE ALL COSMETIC WELDING A	NTO THE VESSEL W E PROPER SIZE ANI ZONE FROM EACH IZE AND RELATION B AND PORT EXTER CKING RING (SE121 ASSEMBLY TO THE ENSION INTERIOR W PASS 100% UNDER 8	1.001.00BE OFF THE VESSELALL PER DRAWINGO ROUNDNESS.CUT SURFACE BY G(SHIP TO THE I.D. OFNSION TUBE FOR RE-003P-4) IN PLACE (TE PORT STUB AND WVELD SMOOTH.X MAGNIFICATION	(CUT UNDERSIZE ALL RINDING. GRIND / BL THE PORT EXTENSIO -INSTALLATION. TO THE END OF THE I /ELD IN PLACE PER D PER ASME CODE ART	OWING FOR GRINDI LEND THE PORT EXTE ON TUBE). DETACHED PORT EXT DRAWING SE121-003P ICLE 6, SECTION V. 4	NG / SIZING TO PORT ENSION EDGE AND VE EENSION TUBE) PER I ACCEPTANCE PER AW	SSEL WALL OPENING DRAWING SE121-003P 75 D1.6, 6.29.1.
	FINAL (EXTERIOR) BLAST AND FIN. Test Certification: VISUAL INSPECTIC 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: INCONEL625_ Notes: TIG WELD ONLY	N CERT Rev: Rev: 1996 IDC Count : 5	Dwg Count: 0 NEL625_062_GTAW /	Pgm Count: 0 INCONEL625_093_GT	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 OF	QtyPe 1.00 THE PORT STUB / F	1.00 1.00	t Drawing ID / Rev SE121-001P-1MTM /	/ 2A		

INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGMENT / VERIFICATION TO THE 3D MODEL. INSPECT MAGNETIC PERMEABILITY IN THE AREA OF THE PORT STUB / PORT EXTENSION WELDING. INSPECT THE INTERIOR SURFACE FINISH OF THE PORT EXTENSION.

	Major Machine, Inc.						Page Date:12/0 User ID: MCCOR
Workorder 54880/1.0	Part ID Qty Drawing ID / Rev 1 SE121-003P /						
	RECORD IDC DATA Part Number: SE121-003P Part Description: NCSX PVVS Specification: PP475 Rev: 4 Specification: PP476 Rev: Specification: PP477 Rev: Map(s): SE121-001P-1MTM Rev: 2A	IDC Count : 3	Dwg Count: 1	Pgm Count: 0	QAP Count: 6	NDT Count: 0	WPS Count: 0
Operation ub: 1 / Seq: 105 (U)	Resource 230-FABRICATION - WEIDNER INSTALL SUPPORT DEVICES TO LOC Drw N/A IDC N/A	QtyPer 1.00 CATE THE PART BACK IDC Count : 0	1.00 1.00	t Drawing ID / Rev JRE SURFACE (UNRES Pgm Count: 0	TRAINED) FOR FINA QAP Count: 0	L INSPECTION. NDT Count: 0	WPS Count: 0
Dperation ub: 1 / Seq: 110 (F)	Resource 260-SANDBLAST MASK THE INTERIOR SURFACES ANI Specification: PP475 Rev: 2	QtyPer 1.00 D CONFLAT FLANGE IDC Count : 0	1.00 1.00	t Drawing ID / Rev SE121 / A OUTSIDE SURFACE 10 Pgm Count: 0	00% USING 220 GRIT	VIRGIN ALUMINUM (NDT Count: 0	DXIDE. WPS Count: 0
		ibe count : 0	Dwg Count. 5	r gin count. o	QAI Count. I	NDT Count. 0	WIS Count. 0
Operation Sub: 1 / Seq: 115 (F)	Resource 230-FABRICATION - WEIDNER SET THE PVVS ONTO THE TEMPORA REMOVE MASKING AND PROTECTIV CLEAN PART PER PP475 INSTALL NAMEPLATE ENSURE ADEQUATE INERT GAS COV DISCOLORATION) Part Number: SE121-003P Part Description: NCSX PVVS	'E PLASTIC	1.00 1.00 ES AND TACK WEL		WELDING AND COOI	LING PROCESS TO AV	OID OXIDATION /
	Specification: PP475 Rev: 2	IDC Count : 5	Dwg Count: 5	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 2
Deration ub: 1 / Seq: 120 (F)	Resource 817-SMX LASER FINAL DIMENSIONAL INSPECTION /	QtyPer 1.00 Potential custom	1.00 1.00	t Drawing ID / Rev SE121-001P / A CTION.			
	PRIOR TO BEGINNING, NOTIFY ENGI FOR RESPONSE AND/OR FURTHER DI		E PART IS READY A	ND AVAILABLE FOR I	POSSIBLE CUSTOME	R HOLD / WITNESS P	DINT INSPECTION. F

	Kajor & Machine, Inc.						Page: 13 Date:12/05/03 <u>User ID: MCCORKL</u>
Workorder 64880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		Engi BLUE	neer E/DOUG MCCORKLE
	FINAL PROFILE INSPECTION. INSPE INCLUDE AT LEAST THREE DATUM FINAL MAGNETIC PERMEABLITY V VERIFY MAGNETIC PERMEABLITY FLANGE TO TUBE WELD. FINAL INTERIOR SURFACE FINISH V IRREGULARITIES, GRINDING / SANI INSPECT (APROXIMATE 6" GRID) W RECORD IDC DATA Part Number: SE121-003P Part Description: NCSX PVVS Specification: ASME B46.1 Rev: 95 Certification: MAG. PERM. CERTIFICA Certification: INT. SURF. FINISH CERTI Specification: PROFILE CERTIFICATIO Certification: PP475 Rev: 4 Specification: PP476 Rev: Specification: PP479 Rev: Map(s): SE121-001P-1MTM Rev: 2A	TARGETS IN EACH PO ERIFICATION. OF ALL STRUCTURAL ZERIFICATION. VISUAL DING MARKS, ETC EN ITH PROFILOMETER. F	INT CLOUD SCAN WELDS (1" increm L INSPECT THE EN ISURE THE ENTIR	N FOR ALIGMENT / VE ents), VESSEL WALL (6 ITIRE INTERIOR. VER E SURFACE CAN BE W	RIFICATION TO THE 5" grid), PORT EXTEN 1FY THE ENTIRE SUR /IPED CLEAN WITH A	3D MODEL. SION TUBE (6" grid), C FACE IS SMOOTH ANI LINT FREE WIPE WIT	ONFLAT FLANGE, D FREE OF PITS, DENTS HOUT SNAGGING.
Sub ID 14	Part ID SE121-001P-2 PANEL # 1		Qty 1	Drawing ID / Rev SE121-001P / A Parent Sub:1 Op:10			
Operation Sub: 14 / Seq: 10 (C)	Resource 820-RECEIVING INSPECTION INSPECT BLANK SIZE PER DEVELOF INSPECT MATERIAL THICKNESS PE VISUAL INSPECT SURFACE FINISH (SHOULD BE IN A CONDITION THAT FURTHER CLARIFICATION IS NEEDI SAMPLE INSPECT MAGNETIC PERM RELATIVE PERMEABILITY RATHER RECORD IDC DATA Specification: ASTM A800 Rev: 01 Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Customer: PPPL Specification: ASTM B443 Rev: 00 Specification: ASME B46.1 Rev: 95	1.00 PMENT DRAWING (AUD R PP477 PANEL SURFACE SHOU CAN BE READILY POLI ED) IEABILITY PER PP476, 7 THAN FERRITE CONTI	1.00 1.00 DIT DIMENSIONS W LD BE A SMOOTH ISHED WITHOUT D AND ASTM A800,	MILL PRODUCED SUF EXCESSIVE MATERIAI SUPPLIMENTARY REC	RFACE, WITHOUT SCF L REMOVAL (CONTA) QUIREMENT S1 (BUT	CT ENGINEERING (DC) THE MEASUREMENT	UG McCORKLE IF
MTTRAVI R arp	Specification. ASIME D40.1 Kev. 93					1	V-64880/1-0 /Inc Mat1 /

Tool S	Machine, Inc.							Page: Date:12/05 User ID: MCCORK
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /		8	ineer E/DOUG MCCORKLE
	Specification: PP476 Rev: A Specification: PP477 Rev: A Specification: PP475 Rev: 2							
	IDC Co	ount:3	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 9	NDT Count: 0	WPS Count: 0
Piece #	Part ID	, and the	2.19.004	Qty	Drawing ID / Rev	Vendor	Dimensions	
10	SE121-001P-2 PANEL # 1-PANEL BLANK .375 Vendor Part ID: SE121-001P-2 PANEL # 1	" THK INCON	NEL 625	1.0	SE121 /	1810		
(C)	PANEL BLANK AWJ CUT FROM .375" INCON (SE121-001P-2 PANEL # 1.DXF, REV) MATERIAL REQUIREMENTS: INCONEL 625 (MAGNETIC PERMEABILITY SHALL NOT EXC SURFACE MUST BE PROTECTED FROM CON CERTS & MILL TEST REPORTS REQ'D WITH APPROXIMATE OVERALL SIZE: 54.97*76.37	(UNS N06625) CEED 1.00 (RE TACT WITH I	PER ASTM EF. ASTM A	В 443-0 800).	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					QAP Count: 6		
Deration Sub: 14 / Seq: 18 (C)	Resource 105-DEBURR PLT 1 LOW BAY RADIUS ALL CUT EDGES PRIOR TO FORMING	QtyPer 1.00	StartQty 1.00	EndQ 1.00	t Drawing ID / Rev SE121-001P / A			
	Specification: PP475 Rev: 2 IDC Co	ount : 0	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation	Resource	QtyPer	StartQty		t Drawing ID / Rev			
Sub: 14 / Seq: 20 (F)	341-PACIFIC 750 1ST FORM OPERATION: LOAD, ALIGN, AND BOLT DIE SET # MTMFX	1.00 -2883 - MTMI	1.00 FX-2884 INT		SE121-001P / A 750 TON HYDRAULIC	PRESS.		
	ENSURE THE DIE SET FACES ARE CLEAN AN ENSURE THE PANEL BLANK IS CLEAN AND LOAD THE BANEL BLANK INTO THE DIE SE	FREE OF FOR	, ,		OREIGN MATTER, RAI	SED OR EMBEDDEI	D MATERIAL, ETC	
	LOAD THE PANEL BLANK INTO THE DIE SE HYDRAULIC FORM THE PANEL TO ACHIEVE NOTE THAT THE FINAL PANEL TO GAGE GA WATCH THE FORMING, WRINKLING, AND SI MATERIAL IS WORK HARDENING TO A DEG TO THE NEXT SEQUENTIAL OPERATION (BL	E THE GEOME P TOLERANC PRING-BACK REE THAT FO	CE IS .094" M CHARACTE DRMING BE	IAX. IT RISTIC COMES	' IS DESIRED TO GET A S OF THE MATERIAL I DIFFICULT, OR THE P	S CLOSE TO THIS A DURING THE FORMI HYSICAL INTEGRIT	AS POSSIBLE PRIOR TO NG PROCESS. WHEN I Y OF THE MATERIAL	T'S APPARENT THE IS AT RISK, PROCEEI
MTTRAVI R am	BEEN ANNEALED.				-			W·64880/1-0 /Inc Matl /Inc

Tool S	Hajor Machine, Inc.						Pag Date:12/(<u>User ID: MCCOR</u>
Workorder 54880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		0	neer E/DOUG MCCORKLI
	ENSURE THE PANEL MATERIAL EXTE RE-POSITIONING, RE-STRIKING, AND				PROVIDE ADEQUAT	E STOCK ALLOWANC	CE FOR
	Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2						
	•	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Operation Sub: 14 / Seq: 25	Resource 260-SANDBLAST	QtyPer 1.00		t Drawing ID / Rev SE121-001P / A			
(C)	SHOT BLAST THE ENTIRE PANEL 100% FORMING PROCESS. MAINTAIN AN APPROXIMATE BLAST Specification: PP475 Rev: 4			NUM OXIDE MEDIA TO	REMOVE ANY RESI	DUE / MARKINGS FRO	OM THE INITIAL
	*	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation Sub: 14 / Seq: 30 (C)	Resource 520-SUBLET, EXOTIC HEAT TREAT SOLUTION ANNEAL FORMED PANEL I ATTACH A MINIMUM OF THREE EQUA CHARGE FURNACE AND HEAT PART I	ALLY SPACED THER JNTIL THERMOCOU	1.00 1.00 G: MOCOUPLES TO PE READINGS AR	E WITHIN 1900 +/-15F.			ice ID ML TR/NA SA
	HOLD PART TEMPERATURE AT 1900 E RAPID COOL (VIA. WATER QUENCHIN Specification: AMS2774 Rev: JUL95 Certification: H/T CERTIFICATE Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Customer: PPPL		,	,	,	BIENT TEMP.	
	Furnace charts: FURNACE CHART	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 6	NDT Count: 0	WPS Count: 0
Operation Sub: 14 / Seq: 31 (U)	Resource 820-RECEIVING INSPECTION REVIEW HEAT TREAT CERTIFICATE A	QtyPer 1.00 ND FURNACE CHAF	1.00 1.00	t Drawing ID / Rev SE121-001P / A			
		IDC Count : 1	Dwg Count: 1	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation Sub: 14 / Seq: 35 (C)	Resource 805-INPROCESS INSPECTION - PLA VISUAL INSPECT SURFACE FOR DAMA ON THE INSIDE (CONCAVE SURFACE),		1.00 1.00 ES, SCRAPES ETC.		HAT MAY INHIBIT A	CHIEVING THE REQUI	RIED 32 MICRO-INC

Tool S	Major Machine, Inc.							Page: 1 Date:12/05/(<u>User ID: MCCORKI</u>
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /			ineer E/DOUG MCCORKLE
	FINISH REQURIEMENT. ON THE OUT NOTIFY ENGINEERING (DOUG McCOF 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:	RKLE) FOR CONCURR	ENCE	IFY THE	SURFACE FINISH ST	ΊLL MEETS THE REQ	UIREMENTS OF ASTM	B 443-00.
		IDC Count : 1	Dwg Cou	int: 1	Pgm Count: 0	QAP Count: 6	NDT Count: 0	WPS Count: 0
Operation Sub: 14 / Seq: 40 (C)	Resource 341-PACIFIC 750 2ND FORMING OPERATION ENSURE THE DIE SET FACES ARE CL LOAD THE PREFORMED / ANNEALEI "RE-STRIKE" HYDRAULIC FORM THE TOLERANCE: .094" MAX. NOTIFY INSPECTOR FOR Q/A IDC VEI Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2	D PANEL INTO THE I PANEL TO ACHIEVI	DIE SET.	1.00 RIME, F	OREIGN MATTER, RA			. PANEL TO GAGE GA
		IDC Count : 1	Dwg Cou	ınt: 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 PROCESS. MAINTAIN AN APPROXIMATE 20 - 40 Specification: PP475 Rev: 4			1.00 ALUMIN	t Drawing ID / Rev SE121-001P / A UM OXIDE MEDIA TO Pgm Count: 0	O REMOVE ANY RESI QAP Count: 1	DUE / MARKINGS FRO NDT Count: 0	DM THE FINAL FORMIN WPS Count: 0
Operation Sub: 14 / Seq: 60 (F)	Resource 230-FABRICATION - WEIDNER TRIM PERIMETER TO PROVIDED TRI 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	AGE (ADDITIONAL F	1.00 STOCK FOR ITTING / TR	1.00 R POSITI RIMMINO COMPL	G WILL BE REQUIRE	D AT INSTALLATION NG AND INSTALLATI) ON OF PROTECTIVE I	PLASTIC

	Major Machine, Inc.						Page: 1 Date:12/05/0 User ID: MCCORKL
Workorder 64880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		0	ineer E/DOUG MCCORKLE
	APPLY PROTECTIVE PLASTIC FILM STAGE PANEL FOR INSTALLATION Specification: PP475 Rev: 3	I (CONTACT DOUG M	cCORKLE FOR MAT	ERIAL)			
		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 G VERIFY PART PERIMETER EXCEEDS INSPECT AND RECORD INTERIOR SI INSPECT MAGNETIC PERMEABILIT PERMEABILITY RATHER THAN FER GRID. THE SURFACES AT AND NEA RECORD ACTUAL PERMEABILITY F INSPECT MATERIAL THICKNESS PE RECORD ACTUAL MATERIAL THICK Test Certification: SE121-001P-10MTM Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Specification: ASME B46.1 Rev: 95 Specification: PP475 Rev: 2 Specification: PP476 Rev: Specification: PP477 Rev: Specification: PP479 Rev:	S GAGE PERIMETER H IDE SURFACE FINISH 'Y PER PP476 AND AS RITE CONTENT. THE R WELDS WILL BE CI READINGS ON INSPEC ER PP477 (6" GRID) KNESS ON INSPECTIC A Rev: 2A	1.00 1.00 GAP TOLERANCE: FOR TRIMMING AND (LESS PERIMETER / TM A800, SUPPLEM E SURFACES OF THD HECKED ON A 1" GR CTION DRAWING	D FITTING AT ASSEME WELD ZONES) AND R ENTARY REQUIREME PVVS SHELL AND PC	BLY RECORD ACTUAL RE ENT S1 (BUT THE ME	ADINGS ON INSPECTI ASUREMENT SHALL	ON DRAWING BE TAKEN IN RELATIV
		IDC Count : 3	Dwg Count: 1	Pgm Count: 0	QAP Count: 9	NDT Count: 0	WPS Count: 0
Sub ID 15	Part ID SE121-001P-2 PANEL # 2		Qty 1	Drawing ID / Rev			
				Parent Sub:1 Op:10			
Operation Sub: 15 / Seq: 10 (C)	Resource 820-RECEIVING INSPECTION INSPECT BLANK SIZE PER DEVELO INSPECT MATERIAL THICKNESS PH VISUAL INSPECT SURFACE FINISH (SHOULD BE IN A CONDITION THAT FURTHER CLARIFICATION IS NEED SAMPLE INSPECT MAGNETIC PERM RELATIVE PERMEABILITY RATHEF RECORD IDC DATA	1.00 PMENT DRAWING (AU ER PP477 PANEL SURFACE SHO CAN BE READILY PC ED) MEABILITY PER PP470	1.00 1.00 UDIT DIMENSIONS DULD BE A SMOOTH DLISHED WITHOUT 5, AND ASTM A800,	I MILL PRODUCED SUI EXCESSIVE MATERIA SUPPLIMENTARY RE	RFACE, WITHOUT SC L REMOVAL (CONTA QUIREMENT S1 (BU'	RAPES, GOUGES, HEA ACT ENGINEERING (D I THE MEASUREMEN	OUG McCORKLE IF

Tool S	Machine, Inc.						Page: Date:12/05/ User ID: MCCORKI
Workorder 54880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		jineer JE/DOUG MCCORKLE	
	Part Number: SE121-001P-2 PANEL 2 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	²	Dura Counti 1	Part County ()	OAD County 0	NDT Count 0	WPS Count: 0
Piece #	IDC Cou	int : 3	Dwg Count: 1 Qty	Pgm Count: 0 Drawing ID / Rev	QAP Count: 9 Vendor	NDT Count: 0 Dimensions	WPS Count: 0
(C)	Vendor Part ID: SE121-001P-2 PANEL # 2 PANEL BLANK AWJ CUT FROM .375" INCONE (SE121-001P-2 PANEL # 2.DXF, REV) MATERIAL REQUIREMENTS: INCONEL 625 (U MAGNETIC PERMEABILITY SHALL NOT EXCI SURFACE MUST BE PROTECTED FROM CONT CERTS & MILL TEST REPORTS REQ'D WITH S APPROXIMATE OVERALL SIZE: 35.07*44.03 Material Certification: Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEL Specification: ASTM A800 Rev: 01 Specification: ASTM B443 Rev: 00	UNS N06625) EED 1.00 (RE ACT WITH II	PER ASTM B 443-(EF. ASTM A800).	00 ANNEALED			
	Specification: ASTM B46.1 Rev: 95				QAP Count: 6		
Deration 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		t Drawing ID / Rev SE121-001P / A			
	IDC Cou	unt : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Dperation Sub: 15 / Seq: 20 (C)	Resource 341-PACIFIC 750 1ST FORM OPERATION: LOAD, ALIGN, AND BOLT DIE SET # MTMFX- ENSURE THE DIE SET FACES ARE CLEAN AND F	D FREE OF D	1.00 1.00 FX-2886 INTO THE IRT, OIL, GRIME, F			D MATERIAL, ETC	
	ENSURE THE PANEL BLANK IS CLEAN AND F	KEE OF FOR	EION MATTER.				

- Tool 5	Kajor Machine, Inc.						Page: Date:12/05/ User ID: MCCORKI
Workorder 54880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		0	neer E/DOUG MCCORKLE
	LOAD THE PANEL BLANK INTO TH HYDRAULIC FORM THE PANEL TO A NOTE THAT THE FINAL PANEL TO C WATCH THE FORMING, WRINKLING MATERIAL IS WORK HARDENING T TO THE NEXT SEQUENTIAL OPERAT BEEN ANNEALED. ENSURE THE PANEL MATERIAL EX RE-POSITIONING, RE-STRIKING, AN	ACHIEVE THE GEOM GAGE GAP TOLERAN G, AND SPRING-BACK O A DEGREE THAT F FION (BLAST AND A) FENDS BEYOND THE	CE IS .094" MAX. IT CHARACTERISTICS ORMING BECOMES NNEAL). A FINAL FO PERIMETER OF TH	IS DESIRED TO GET A GOF 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 IG PROCESS. WHEN I 7 OF THE MATERIAL I NAL SIZING" AFTER 7	I'S APPARENT THE S AT RISK, PROCEED THE MATERIAL HAS
	Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEI Specification: PP475 Rev: 2						
		IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
ıb: 15 / Seq: 22 (C)	 230-FABRICATION - WEIDNER CUT OUT A LIFTING EYE FROM THE EDGE OF THE FORMED PANEL (WHI POSITIONING CONSIDERATIONS: 1. POSITION TO SUIT NORMAL HAN 2. POSITION TO SUIT SETTING IN A 3. SHAPE AND POSITION THE LIFTING RAPID COOLING CYCLE. Specification: PP475 Rev: 3 	CH STILL HAS EXCE IDLING AND LIFTING VERTICAL STANCE	SS TRIM STOCK REN 3. IN THE HEAT TREA	IAINING). T OVEN (WIDE SIDE	DOWN).		
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 1
Deration ub: 15 / 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 ALUMIN	Drawing ID / Rev SE121-001P / A UM OXIDE MEDIA TO) REMOVE ANY RESI	DUE / MARKINGS FRO	OM THE INITIAL
		IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
peration ıb: 15 / Seq: 30 (R)	Resource 520-SUBLET, EXOTIC HEAT TREAT SOLUTION ANNEAL FORMED PANE ATTACH A MINIMUM OF THREE EQ CHARGE FURNACE AND HEAT PAR'	UALLY SPACED THE	1.00 1.00 NG: ERMOCOUPLES TO T				ice ID ML TR/NA SA

	Major Machine, Inc.							Page Date:12/05 <u>User ID: MCCORF</u>
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /		0	ineer E/DOUG MCCORKLE
	RAPID COOL (VIA. WATER QUENCHI Specification: AMS2774 Rev: JUL95 Certification: H/T CERTIFICATE Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEL Customer: PPPL Furnace charts: FURNACE CHART Specification: PP475 Rev: 2	NG OR FORCED AIR IDC Count : 0	CIRCULATI Dwg Cou		1000 DEGREES F. OP	EN AIR COOL TO AM QAP Count: 7	BIENT TEMP. NDT Count: 0	WPS Count: 0
		04 P	<u> </u>	E 10/	D : 1D / D			
)peration ub: 15 / Seq: 31	Resource 820-RECEIVING INSPECTION	QtyPer 1.00	StartQty 1.00		Drawing ID / Rev SE121-001P / A			
(R)	REVIEW HEAT TREAT CERTIFICATE	AND FURNACE CHA	RT					
		IDC Count : 1	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
peration ıb: 15 / Seq: 35	Resource 805-INPROCESS INSPECTION - PLA	QtyPer 1.00	StartQty 1.00		Drawing ID / Rev SE121-001P / A			
	ON THE INSIDE (CONCAVE SURFACE FINISH REQURIEMENT. ON THE OUT NOTIFY ENGINEERING (DOUG McCOR VERIFY MAGNETIC PERMEABILITY A 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:	SIDE (CONVEX SURF KLE) FOR CONCURR AND RECORD I.D.C. I	FACE), VERI ENCE DATA	FY THE	SURFACE FINISH STI	LL MEETS THE REQU	JIREMENTS OF ASTM	B 443-00.
		IDC Count : 1	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 6	NDT Count: 0	WPS Count: 0
Deration ub: 15 / Seq: 40 (R)	Resource 341-PACIFIC 750 2ND FORMING OPERATION	1.00	1.00	1.00	Drawing ID / Rev SE121-001P / A			
(R)	ENSURE THE DIE SET FACES ARE CL LOAD THE PREFORMED / ANNEALEI "RE-STRIKE" HYDRAULIC FORM THE TOLERANCE: .094" MAX. NOTIFY INSPECTOR FOR Q/A IDC VEI	D PANEL INTO THE I PANEL TO ACHIEVE	DIE SET.	,	,		,	PANEL TO GAGE C
	Part Number: SE121-001P-2 PANEL 2							
	Part Description: DIE FORMED PANEL							

	Kajor & Machine, Inc.						Page: 2 Date:12/05/0 User ID: MCCORKL
Workorder 64880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		0	ineer E/DOUG MCCORKLE
	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 PANEI PROCESS. Specification: PP475 Rev: 2	QtyPer 1.00 100% USING 180-220 GR	1.00 1.00	t Drawing ID / Rev SE121-001P / A NUM OXIDE MEDIA TC	REMOVE ANY RESI	DUE / MARKINGS FRO	OM THE FINAL FORMIN
	Specification. FF475 Kev. 2	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation Sub: 15 / Seq: 60 (F)	Resource 230-FABRICATION - WEIDNER TRIM PERIMETER TO PROVIDED PREP IS NOT REQUIRED AT THIS HIGH PRESSURE WASH PER PP47 NOTIFY Q/A FOR FINAL PANEL F SAND AND POLISH THE INSIDE S CLEAN PANEL PER PP475 APPLY PROTECTIVE PLASTIC FI STAGE PANEL FOR INSTALLATION Specification: PP475 Rev: 3	S STAGE (ADDITIONAL F 5 PROFILE CONFIRMATIO SURFACE 100% TO ACHI LM (CONTACT DOUG M	1.00 1.00 STOCK FOR POSIT FITTING / TRIMMIN N PRIOR TO COMPI EVE A 32 MICRO SU	G WILL BE REQUIRED LETING THE POLISHIN JRFACE FINISH (WITH	O AT INSTALLATION)	ON OF PROTECTIVE I	PLASTIC
Operation Sub: 15 / Seq: 70 (F)	Resource 805-INPROCESS INSPECTION - PL VERIFY PROFILE TO INSPECTION VERIFY PART PERIMETER EXCEN INSPECT AND RECORD INTERIOF INSPECT MAGNETIC PERMEABIL PERMEABILITY RATHER THAN F GRID. THE SURFACES AT AND N RECORD ACTUAL PERMEABILIT INSPECT MATERIAL THICKNESS RECORD ACTUAL MATERIAL TH Test Certification: SE121-001P-10M	QtyPer A 1.00 N GAGE # MTMFX-2904. EDS GAGE PERIMETER F R SIDE SURFACE FINISH LITY PER PP476 AND AS FERRITE CONTENT. THE IEAR WELDS WILL BE CH Y READINGS ON INSPECTO S PER PP477 (6" GRID) IICKNESS ON INSPECTIO	StartQty EndQ 1.00 1.00 GAP TOLERANCE: OR TRIMMING ANI (LESS PERIMETER / TM A800, SUPPLEM SURFACES OF THI HECKED ON A 1" GR TION DRAWING	t Drawing ID / Rev SE121-001P / A .094" MAX. RECORD D FITTING AT ASSEME WELD ZONES) AND R IENTARY REQUIREME E PVVS SHELL AND PC	ACTUAL GAP READI BLY ECORD ACTUAL REA ENT S1 (BUT THE ME.	NGS ON INSPECTION ADINGS ON INSPECTION ASUREMENT SHALL	DRAWING DN DRAWING BE TAKEN IN RELATIV

Tool S	la jor Machine, Inc .							Page: 2 Date:12/05/0 User ID: MCCORKI
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /			;ineer JE/DOUG MCCORKLE
	Specification: PP476 Rev: Specification: PP477 Rev: Specification: PP479 Rev:	IDC Count : 3	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 9	NDT Count: 0	WPS Count: 0
Sub ID 16	Part ID SE121-001P-2 PANEL # 3			Qty 1	Drawing ID / Rev / Parent Sub:1 Op:10			
Operation Sub: 16 / Seq: 10 (C)	Resource 820-RECEIVING INSPECTION INSPECT BLANK SIZE PER DEVEN INSPECT MATERIAL THICKNESS VISUAL INSPECT SURFACE FINIS SHOULD BE IN A CONDITION TH FURTHER CLARIFICATION IS NE SAMPLE INSPECT MAGNETIC PE RELATIVE PERMEABILITY RATH RECORD IDC DATA	PER PP477 H (PANEL SURFACE SHO AT CAN BE READILY PC EDED) RMEABILITY PER PP476	1.00 JDIT DIMEN DULD BE A S DLISHED WIT 5, AND ASTM	1.00 SIONS V MOOTH THOUT 1 4 A800,	I MILL PRODUCED SUI EXCESSIVE MATERIA SUPPLIMENTARY REG	RFACE, WITHOUT SC L REMOVAL (CONTA QUIREMENT S1 (BU'	CRAPES, GOUGES, HE/ ACT ENGINEERING (D T THE MEASUREMEN	OUG McCORKLE IF
	Part Number: SE121-001P-2 PANEL Part Description: DIE FORMED PAN 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	NEL	Due Cou		Born County ()	OAB Counts 0	NDT Counts 0	WBS County 0
Piece #	Part ID	IDC Count : 3	Dwg Cou	nt: 1 Qty	Pgm Count: 0 Drawing ID / Rev	QAP Count: 9 Vendor	NDT Count: 0 Dimensions	WPS Count: 0
10	SE121-001P-2 PANEL # 3-PANEL Vendor Part ID: SE121-001P-2 PAN		NEL 625	1.0	SE121 /	1810		
(C)	PANEL BLANK AWJ CUT FROM (SE121-001P-2 PANEL # 1.DXF, RE MATERIAL REQUIREMENTS: IN MAGNETIC PERMEABILITY SHA SURFACE MUST BE PROTECTED CERTS & MILL TEST REPORTS R APPROXIMATE OVERALL SIZE:	375" INCONEL 625 TO PE EV) CONEL 625 (UNS N06625 LL NOT EXCEED 1.00 (R FROM CONTACT WITH EQ'D WITH SHIPMENT.) PER ASTM EF. ASTM A8	В 443-0 800).	0 ANNEALED			

Material Certification: Part Number: SE121-001P-2 PANEL # 1

	Kajor Machine, Inc.							Page: 2 Date:12/05/0 User ID: MCCORKL
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /		8	ineer IE/DOUG MCCORKLE
	Part Description: DIE FORMED PANEL 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 FORM Specification: PP475 Rev: 2	QtyPer 1.00 MING	StartQty 1.00		Drawing ID / Rev SE121-001P / A			
		C Count : 0	Dwg Cou	int: 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 # MTH ENSURE THE DIE SET FACES ARE CLEAN ENSURE THE PANEL BLANK IS CLEAN A LOAD THE PANEL BLANK IS CLEAN A LOAD THE PANEL BLANK INTO THE DH HYDRAULIC FORM THE PANEL TO ACHH NOTE THAT THE FINAL PANEL TO GAGE WATCH THE FORMING, WRINKLING, AN MATERIAL IS WORK HARDENING TO A H TO THE NEXT SEQUENTIAL OPERATION BEEN ANNEALED. ENSURE THE PANEL MATERIAL EXTENING RE-POSITIONING, RE-STRIKING, AND ACC Part Number: SE121-001P-2 PANEL 3 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2	N AND FREE OF D ND FREE OF FOR E SET. EVE THE GEOME E GAP TOLERANC D SPRING-BACK DEGREE THAT FC (BLAST AND AN DS BEYOND THE	1.00 EX-2892 INT IRT, OIL, G EIGN MATT TRICAL SH E IS .094" M CHARACTE ORMING BE NEAL). A F PERIMETEI	1.00 TO THE 7 RIME, F TER. IAPE CO MAX. IT ERISTICS COMES FINAL F R OF THI ANNEA	OREIGN MATTER, RA NFORMING TO INSPE IS DESIRED TO GET A S OF THE MATERIAL I DIFFICULT, OR THE F DRMING SEQUENCE I E GAGE (ENOUGH TO	ISED OR EMBEDDED ECTION GAGE # MTM AS CLOSE TO THIS AS DURING THE FORMIN PHYSICAL INTEGRITY S PROVIDED FOR "FI	FX-2905. 5 POSSIBLE PRIOR TC 1G PROCESS. WHEN I 7 OF THE MATERIAL NAL SIZING" AFTER '	T'S APPARENT THE IS AT RISK, PROCEED THE MATERIAL HAS
Operation 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	TILL HAS EXCES NG AND LIFTING. RTICAL STANCE I	1.00 K THAT WA S TRIM STO N THE HEA	1.00 AS REMO OCK REM AT TREA	IAINING). T OVEN (WIDE SIDE	DOWN).		
	3. SHAPE AND POSITION THE LIFTING H					·	THE PARTS FROM TH	IE HOT OVEN

Tool S	Machine, Inc.							Pag Date:12/0 <u>User ID: MCCOR</u>
Workorder 54880/1.0	Part ID			Qty 1	0	Engineer BLUE/DOUG MCCORKLI		
	RAPID COOLING CYCLE. Specification: PP475 Rev: 3							
	IDC	Count : 0	Dwg Coun	t: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 1
	WPS291.5 Rev:1 GTAW MAN GTAW - Manual Fillers: INCONEL625_035_G Notes: LIFTING DEVICE TO PANEL EDGE -					ΔW		
Operation	Resource	QtyPer			Drawing ID / Rev			
Sub: 16 / Seq: 25 (C)	260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% US FORMING PROCESS. MAINTAIN AN APPROXIMATE BLAST AND				SE121-001P / A UM OXIDE MEDIA TO	REMOVE ANY RESI	DUE / MARKINGS FRO	OM THE INITIAL
	Specification: PP475 Rev: 4 IDC	Count : 0	Dwg Coun	t: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Dperation Sub: 16 / Seq: 30	Resource 520-SUBLET, EXOTIC HEAT TREAT	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / A			ice ID ML TR/NA SA
(C)	SOLUTION ANNEAL FORMED PANEL PER ATTACH A MINIMUM OF THREE EQUALL CHARGE FURNACE AND HEAT PART UNT HOLD PART TEMPERATURE AT 1900 DEGF RAPID COOL (VIA. WATER QUENCHING O Specification: AMS2774 Rev: JUL95 Certification: H/T CERTIFICATE Part Number: SE121-001P-2 PANEL 3	Y SPACED THEF IL THERMOCOU REES F. (+/- 15 D	RMOCOUPLE PE READIN DEGREES) H	GS ARE OLD FO	E WITHIN 1900 +/-15F. DR 45 MINUTES (+/ 5 M	,	BIENT TEMP.	
	Part Description: DIE FORMED PANEL Customer: PPPL							
	Furnace charts: FURNACE CHART							
	Specification: PP475 Rev: 2 IDC	Count : 0	Dwg Coun	t: 1	Pgm Count: 0	QAP Count: 7	NDT Count: 0	WPS Count: 0
Operation Sub: 16 / Seq: 31	Resource 820-RECEIVING INSPECTION	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / A			
(U)	REVIEW HEAT TREAT CERTIFICATE AND	FURNACE CHAI	RT					
	IDC	Count : 1	Dwg Coun	t: 1	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation	Resource	QtyPer	~ •		Drawing ID / Rev			
Sub: 16 / Seq: 35 (R)	805-INPROCESS INSPECTION - PLA VISUAL INSPECT SURFACE FOR DAMAGE, ON THE INSIDE (CONCAVE SURFACE), LOO			S ETC		ΤΑΤ ΜΑΥ ΙΝΗΙΒΙΤ Δ <i>ι</i>	HIEVING THE REOU	RIED 32 MICROLING
	on the inside (concave sourace), Loc	JATOK ANT SU	KIACE DEFI		K IKKLOULAKITILƏ II		JILLY ING THE REQUI	NILD 52 MICKO-INC

	Major & Machine, Inc.							Page: 2 Date:12/05/0 User ID: MCCORKL
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /		0	ineer E/DOUG MCCORKLE
	FINISH REQURIEMENT. ON THE OUTSI NOTIFY ENGINEERING (DOUG McCORK VERIFY MAGNETIC PERMEABILITY AN 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:	LE) FOR CONCURF	RENCE DATA			-		
	Π	DC Count : 1	Dwg Count:	1	Pgm Count: 0	QAP Count: 6	NDT Count: 0	WPS Count: 0
Operation Sub: 16 / Seq: 40 (R)	Resource 341-PACIFIC 750 2ND FORMING OPERATION ENSURE THE DIE SET FACES ARE CLEA LOAD THE PREFORMED / ANNEALED H "RE-STRIKE" HYDRAULIC FORM THE P TOLERANCE: .094" MAX. NOTIFY INSPECTOR FOR Q/A IDC VERIN Part Number: SE121-001P-2 PANEL 3 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2	PANEL INTO THE ANEL TO ACHIEV	1.00 DIRT, OIL, GRIN DIE SET.	1.00 ME, F TRIC				. PANEL TO GAGE GA WPS Count: 0
Operation Sub: 16 / Seq: 50 (R)	Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% PROCESS. Specification: PP475 Rev: 2	QtyPer 1.00 USING 180-220 GR DC Count : 0	1.00	1.00 UMIN	Drawing ID / Rev SE121-001P / A UM OXIDE MEDIA TO Pgm Count: 0	REMOVE ANY RESI QAP Count: 1	DUE / MARKINGS FRO NDT Count: 0	OM THE FINAL FORMIN WPS Count: 0
Operation Sub: 16 / Seq: 60 (R)	Resource 230-FABRICATION - WEIDNER TRIM PERIMETER TO PROVIDED TRIM PREP IS NOT REQUIRED AT THIS STAG HIGH PRESSURE WASH PER PP475 NOTIFY Q/A FOR FINAL PANEL PROFIL SAND AND POLISH THE INSIDE SURFAC CLEAN PANEL PER PP475 APPLY PROTECTIVE PLASTIC FILM (CO	E (ADDITIONAL F LE CONFIRMATION CE 100% TO ACHIE	1.00 STOCK FOR PO TITTING / TRIM N PRIOR TO CO EVE A 32 MICR	1.00 OSITI IMINO OMPL	G WILL BE REQUIRED ETING THE POLISHIN RFACE FINISH (WITH	AT INSTALLATION) ON OF PROTECTIVE I	PLASTIC

	Major Machine, Inc.						Page: 2 Date:12/05/0 User ID: MCCORKL
Workorder 64880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		0	ineer IE/DOUG MCCORKLE
	STAGE PANEL FOR INSTALLATION Specification: PP475 Rev: 3	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
		ibe count : o	Dwg Count. 1	i gin count. o	Qui Count I	NDT Count. o	WIB Count. 0
Dperation ub: 16 / Seq: 70 (R)	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 RI INSPECT MATERIAL THICKNESS PEI RECORD ACTUAL MATERIAL THICK Test Certification: SE121-001P-10MTM Part Number: SE121-001P-2 PANEL 3 Part Description: DIE FORMED PANEL 3 Part Description: DIE FORMED PANEL 3 Specification: ASTM A800 Specification: PP475 Rev: 2 Specification: PP476 Rev: Specification: PP477 Rev:	GAGE PERIMETER F DE SURFACE FINISH Y PER PP476 AND AS RITE CONTENT. THE R WELDS WILL BE CI EADINGS ON INSPEC R PP477 (6" GRID) NESS ON INSPECTIO	1.001.00GAP TOLERANCE:OR TRIMMING AN(LESS PERIMETERTM A800, SUPPLENE SURFACES OF THHECKED ON A 1" GICTION DRAWING	D FITTING AT ASSEMI / WELD ZONES) AND R IENTARY REQUIREMI 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
	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			
7	SE121-001P-2 PANEL # 4		1	/ Parent Sub:1 Op:10			
Operation Sub: 17 / Seq: 10 (C)	Resource 820-RECEIVING INSPECTION INSPECT BLANK SIZE PER DEVELOP INSPECT MATERIAL THICKNESS PE VISUAL INSPECT SURFACE FINISH (F SHOULD BE IN A CONDITION THAT OF FURTHER CLARIFICATION IS NEEDE SAMPLE INSPECT MAGNETIC PERM RELATIVE PERMEABILITY RATHER RECORD IDC DATA	1.00 MENT DRAWING (AU R PP477 PANEL SURFACE SHO CAN BE READILY PC ED) EABILITY PER PP476	1.00 1.00 UDIT DIMENSIONS DULD BE A SMOOTI DLISHED WITHOUT 5, AND ASTM A800,	H MILL PRODUCED SU EXCESSIVE MATERIA SUPPLIMENTARY RE	RFACE, WITHOUT SC L REMOVAL (CONTA QUIREMENT S1 (BUT	RAPES, GOUGES, HEA ACT ENGINEERING (D I THE MEASUREMEN	OUG McCORKLE IF

Tool S	Machine, Inc.							Pag Date:12/(<u>User ID: MCCOR</u>	
Workorder 4880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /			Engineer BLUE/DOUG MCCORKL	
	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								
D: "	IDC Coun	t:3	Dwg Cou	-	Pgm Count: 0	QAP Count: 9	NDT Count: 0	WPS Count: 0	
Piece # 10	Part ID SE121 001D 2 DANEL # 4 DANEL BLANK 375" T	HK INCON	EL 625	Qty 1.0	Drawing ID / Rev SE121 /	Vendor 1810	Dimensions		
10	SE121-001P-2 PANEL # 4-PANEL BLANK .375" THK INCONEL 625 1.0 SE121 / 1810 Vendor Part ID: SE121-001P-2 PANEL # 4 10 SE121 / 1810								
(C)	PANEL BLANK AWJ CUT FROM .375" INCONEL 625 TO PROVIDED GEOMETRICAL SHAPE								
. ,	(SE121-001P-2 PANEL # 1.DXF, REV)								
	MATERIAL REQUIREMENTS: INCONEL 625 (UNS N06625) PER ASTM B 443-00 ANNEALED								
	MAGNETIC PERMEABILITY SHALL NOT EXCEED 1.00 (REF. ASTM A800). SURFACE MUST BE PROTECTED FROM CONTACT WITH IRON AND IRON ALLOY MATERIALS								
	SURFACE MUST BE PROTECTED FROM CONTA CERTS & MILL TEST REPORTS REQ'D WITH SH		RON AND II	RON AL	LOY MATERIALS				
	APPROXIMATE OVERALL SIZE: 54.97*76.37	II MILINI.							
	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. ASTM D40.1 Kev. 75					QAP Count: 6			
						C			
)	D	04	S4	E- JO	t Drawing ID / Rev				
Operation Sub: 17 / Seq: 18	Resource 105-DEBURR PLT 1 LOW BAY	QtyPer 1.00	StartQty 1.00		SE121-001P / A				
(C)	RADIUS ALL CUT EDGES PRIOR TO FORMING								
	Specification: PP475 Rev: 2								
	IDC Coun	t:0	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0	
Operation	Resource	QtyPer	StartQty	EndQ	t Drawing ID / Rev				
ub: 17 / Seq: 20	341-PACIFIC 750	1.00	1.00	1.00	SE121-001P / A				
(C)	1ST FORM OPERATION:		W 2000 D	0		DDEGG			
	LOAD, ALIGN, AND BOLT DIE SET # MTMFX-28						MATEDIAL PTO		
	ENSURE THE DIE SET FACES ARE CLEAN AND E				OREIGN MATTER, RAI	SED OK EMBEDDEL	D MATERIAL, ETC		
	ENSURE THE PANEL BLANK IS CLEAN AND FRI LOAD THE PANEL BLANK INTO THE DIE SET.	LE UP FURI	LION MATI	LR.					
	Long the trade beaux into the ble set.								

	S. Machine, Inc.						Date:12/05/ User ID: MCCORKI
Workorder 54880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /			neer E/DOUG MCCORKLE
	HYDRAULIC FORM THE PANEL TO AC NOTE THAT THE FINAL PANEL TO GA WATCH THE FORMING, WRINKLING, A MATERIAL IS WORK HARDENING TO TO THE NEXT SEQUENTIAL OPERATIC BEEN ANNEALED. ENSURE THE PANEL MATERIAL EXTE RE-POSITIONING, RE-STRIKING, AND	GE GAP TOLERANC AND SPRING-BACK A DEGREE THAT FC DN (BLAST AND AN NDS BEYOND THE	E IS .094" MAX. IT CHARACTERISTICS DRMING BECOMES NEAL). A FINAL FO 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 AS DURING THE FORMIN HYSICAL INTEGRITY S PROVIDED FOR "FI	S POSSIBLE PRIOR TO IG PROCESS. WHEN I Y OF THE MATERIAL I NAL SIZING" AFTER T	I'S APPARENT THE S AT RISK, PROCEED THE MATERIAL HAS
	Part Number: SE121-001P-2 PANEL 4 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2						
		IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Dperation Jub: 17 / Seq: 22	Resource 230-FABRICATION - WEIDNER	QtyPer 1.00	StartQty EndQt 1.00 1.00	Drawing ID / Rev			
	 EDGE OF THE FORMED PANEL (WHICH POSITIONING CONSIDERATIONS: 1. POSITION TO SUIT NORMAL HAND 2. POSITION TO SUIT SETTING IN A V 3. SHAPE AND POSITION THE LIFTING RAPID COOLING CYCLE. Specification: PP475 Rev: 3 	LING AND LIFTING ERTICAL STANCE	IN THE HEAT TREA	T OVEN (WIDE SIDE)	" WHEN REMOVING	THE PARTS FROM TH	
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 1
Deration ub: 17 / Seq: 25 (C)	Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% FORMING PROCESS. MAINTAIN AN APPROXIMATE BLAST Specification: PP475 Rev: 4		1.00 1.00 IT VIRGIN ALUMIN	: Drawing ID / Rev SE121-001P / A UM OXIDE MEDIA TO) REMOVE ANY RESI	DUE / MARKINGS FRO	OM THE INITIAL
	-	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
peration ab: 17 / Seq: 30 (C)	Resource 520-SUBLET, EXOTIC HEAT TREAT SOLUTION ANNEAL FORMED PANEL I		1.00 1.00 VG:	Drawing ID / Rev SE121-001P / A THE FORMED PANEL			ice ID ML TR/NA SA

Major & Machine, Inc.							Page: Date:12/05/ User ID: MCCORK
Part ID			Qty 1	Drawing ID / Rev SE121-003P /		8	i neer E/DOUG MCCORKLE
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	IDC Count : 0	Dwg Cour	nt: 1	Pgm Count: 0	QAP Count: 7	NDT Count: 0	WPS Count: 0
Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev			
820-RECEIVING INSPECTION REVIEW HEAT TREAT CERTIFICATE A	1.00	1.00		SE121-001P / A			
	IDC Count : 1	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
805-INPROCESS INSPECTION - PLA VISUAL INSPECT SURFACE FOR DAMA ON THE INSIDE (CONCAVE SURFACE), FINISH REQURIEMENT. ON THE OUTS NOTIFY ENGINEERING (DOUG McCORF VERIFY MAGNETIC PERMEABILITY A 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:	LOOK FOR ANY SU SIDE (CONVEX SURF KLE) FOR CONCURR	RFACE DEF ACE), VERI ENCE	S ETC ECTS OI FY THE	R IRREGULARITIES T		-	
Resource	OtyPor	StartOty	EndOt	Drawing ID / Rev			
341-PACIFIC 750 2ND FORMING OPERATION ENSURE THE DIE SET FACES ARE CLE LOAD THE PREFORMED / ANNEALED "RE-STRIKE" HYDRAULIC FORM THE I TOLERANCE: .094" MAX. NOTIFY INSPECTOR FOR Q/A IDC VER Part Number: SE121-001P-2 PANEL 4	1.00 AN AND FREE OF D PANEL INTO THE I PANEL TO ACHIEVE	1.00 IRT, OIL, GI DIE SET.	1.00 RIME, FO	SE121-001P / A DREIGN MATTER, RAI			PANEL TO GAGE G
Part Number: SE	2121-001P-2 PANEL 4	2121-001P-2 PANEL 4	121-001P-2 PANEL 4	2121-001P-2 PANEL 4	2121-001P-2 PANEL 4	121-001P-2 PANEL 4	121 001D 2 DANEL 4

	Major A Machine, Inc.						Page: 30 Date:12/05/03 <u>User ID: MCCORKLF</u>
Workorder 64880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		0	jineer JE/DOUG MCCORKLE
		IDC Count : 1	Dwg Count: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Operation Sub: 17 / Seq: 50 (F)	Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANEL PROCESS.	QtyPer 1.00 100% USING 180-220 GI	1.00 1.00	t Drawing ID / Rev SE121-001P / A IUM OXIDE MEDIA TO	D REMOVE ANY RESI	DUE / MARKINGS FRO	OM THE FINAL FORMINC
	Specification: PP475 Rev: 2	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation Sub: 17 / Seq: 60 (F)	Resource 230-FABRICATION - WEIDNER TRIM PERIMETER TO PROVIDED PREP IS NOT REQUIRED AT THIS HIGH PRESSURE WASH PER PP47: NOTIFY Q/A FOR FINAL PANEL P	STAGE (ADDITIONAL 1 5	1.00 1.00 STOCK FOR POSIT FITTING / TRIMMIN	G WILL BE REQUIREI	O AT INSTALLATION)	
	SAND AND POLISH THE INSIDE S CLEAN PANEL PER PP475 APPLY PROTECTIVE PLASTIC FII STAGE PANEL FOR INSTALLATIC Specification: PP475 Rev: 3	URFACE 100% TO ACHI LM (CONTACT DOUG M)N	EVE A 32 MICRO SU	RFACE FINISH (WITH ERIAL)	THE EXCEPTION OF	THE WELDING / TRIN	AMING ZONES).
		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 - PL VERIFY PROFILE TO INSPECTION VERIFY PART PERIMETER EXCEP INSPECT AND RECORD INTERIOR INSPECT MAGNETIC PERMEABIL PERMEABILITY RATHER THAN F GRID. THE SURFACES AT AND N RECORD ACTUAL PERMEABILITY INSPECT MATERIAL THICKNESS RECORD ACTUAL MATERIAL TH Test Certification: SE121-001P-10M Part Number: SE121-001P-2 PANEL Part Description: DIE FORMED PAN Specification: ASME B46.1 Rev: 95 Specification: PP475 Rev: 2 Specification: PP476 Rev:	I GAGE # MTMFX-2906. EDS GAGE PERIMETER I SIDE SURFACE FINISH JITY PER PP476 AND AS ERRITE CONTENT. THI EAR WELDS WILL BE CI Y READINGS ON INSPEC PER PP477 (6" GRID) ICKNESS ON INSPECTION TM Rev: 2A	1.00 1.00 GAP TOLERANCE: FOR TRIMMING ANI (LESS PERIMETER / TM A800, SUPPLEM E SURFACES OF THE HECKED ON A 1" GR CTION DRAWING	D FITTING AT ASSEMI WELD ZONES) AND F ENTARY REQUIREMI E PVVS SHELL AND PO	BLY RECORD ACTUAL REA ENT S1 (BUT THE ME	ADINGS ON INSPECTION ASUREMENT SHALL	ON DRAWING BE TAKEN IN RELATIVE

Tool S	lajor Machine, Inc.						Page Date:12/05 User ID: MCCORF	
Workorder 64880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		0	Engineer BLUE/DOUG MCCORKLE	
	Specification: PP477 Rev: Specification: PP479 Rev:	IDC Count : 3	Dwg Count: 1	Pgm Count: 0	QAP Count: 9	NDT Count: 0	WPS Count: 0	
			C	C				
Sub ID 18	Part ID SE121-001P-2 PANEL # 5		Qty 1	Drawing ID / Rev / Parent Sub:1 Op:10				
Deration ub: 18 / Seq: 10 (C)	Resource 820-RECEIVING INSPECTION INSPECT BLANK SIZE PER DEVEL INSPECT MATERIAL THICKNESS VISUAL INSPECT SURFACE FINIS SHOULD BE IN A CONDITION TH FURTHER CLARIFICATION IS NEL SAMPLE INSPECT MAGNETIC PE RELATIVE PERMEABILITY RATH RECORD IDC DATA Part Number: SE121-001P-2 PANEL Part Description: DIE FORMED PAN Specification: ASTM A800 Rev: 01 Customer: PPPL Specification: ASTM B443 Rev: 00 Specification: ASME B46.1 Rev: 95	S PER PP477 H (PANEL SURFACE SH AT CAN BE READILY P EDED) RMEABILITY PER PP47 IER THAN FERRITE CO	1.00 1.00 UDIT DIMENSIONS OULD BE A SMOOTH OLISHED WITHOUT 76, AND ASTM A800,	I MILL PRODUCED SUI EXCESSIVE MATERIA SUPPLIMENTARY REG	RFACE, WITHOUT S(L REMOVAL (CONT QUIREMENT S1 (BU	CRAPES, GOUGES, HEA ACT ENGINEERING (D T THE MEASUREMEN	OUG McCORKLE IF	
	Specification: PP475 Rev: 2 Specification: PP476 Rev: A Specification: PP477 Rev: A							
Piece # 10	Part ID SE121-001P-2 PANEL # 5-PANEL I		Dwg Count: 1 Qty DNEL 625 1.0	Pgm Count: 0 Drawing ID / Rev SE121 /	QAP Count: 9 Vendor 1810	NDT Count: 0 Dimensions	WPS Count: 0	
(C)	Vendor Part ID: SE121-001P-2 PAN PANEL BLANK AWJ CUT FROM . (SE121-001P-2 PANEL # 1.DXF, RE MATERIAL REQUIREMENTS: IN MAGNETIC PERMEABILITY SHA SURFACE MUST BE PROTECTED CERTS & MILL TEST REPORTS R APPROXIMATE OVERALL SIZE:	375" INCONEL 625 TO P EV) CONEL 625 (UNS N0662 LL NOT EXCEED 1.00 (I FROM CONTACT WITH EQ'D WITH SHIPMENT	5) PER ASTM B 443-(REF. ASTM A800). [IRON AND IRON AI	00 ANNEALED				
	Material Certification: Part Number: SE121-001P-2 PANEL Part Description: DIE FORMED PA1							

	Major Machine, Inc.							Page: 3 Date:12/05/(<u>User ID: MCCORKI</u>
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /		0	ineer IE/DOUG MCCORKLE
	Specification: ASTM A800 Rev: 01 Specification: ASTM B443 Rev: 00 Specification: ASTM B46.1 Rev: 95					QAP Count: 6		
						C		
Dperation Sub: 18 / Seq: 18 (C)	Resource 105-DEBURR PLT 1 LOW BAY RADIUS ALL CUT EDGES PRIOR TO FO Specification: PP475 Rev: 2	QtyPer 1.00 RMING	StartQty 1.00	EndQ 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: 18 / Seq: 20	Resource 341-PACIFIC 750	QtyPer 1.00	StartQty 1.00		t Drawing ID / Rev SE121-001P / A			
	LOAD, ALIGN, AND BOLT DIE SET # M ENSURE THE DIE SET FACES ARE CLE ENSURE THE PANEL BLANK IS CLEAN LOAD THE PANEL BLANK INTO THE I HYDRAULIC FORM THE PANEL TO AC NOTE THAT THE FINAL PANEL TO GA WATCH THE FORMING, WRINKLING, A MATERIAL IS WORK HARDENING TO A TO THE NEXT SEQUENTIAL OPERATIC BEEN ANNEALED. ENSURE THE PANEL MATERIAL EXTE RE-POSITIONING, RE-STRIKING, AND A	AN AND FREE OF D AND FREE OF FOR DIE SET. HIEVE THE GEOME GE GAP TOLERANC AND SPRING-BACK A DEGREE THAT FC DN (BLAST AND AN	IRT, OIL, G EIGN MATT TRICAL SH E IS .094" M CHARACTE DRMING BE NEAL). A F PERIMETER	RIME, F TER. APE CC IAX. IT RISTICS COMES INAL F R OF TH	OREIGN MATTER, RA ONFORMING TO INSP IS DESIRED TO GET S OF THE MATERIAL DIFFICULT, OR THE I ORMING SEQUENCE I E GAGE (ENOUGH TO	ISED OR EMBEDDED ECTION GAGE # MTM AS CLOSE TO THIS AS DURING THE FORMIN PHYSICAL INTEGRITY IS PROVIDED FOR "FI	FX-2907. S POSSIBLE PRIOR TO IG PROCESS. WHEN I Y OF THE MATERIAL NAL SIZING" AFTER	T'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 Count : 0	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Operation Sub: 18 / Seq: 22 (F)	Resource 230-FABRICATION - WEIDNER CUT OUT A LIFTING EYE FROM THE E EDGE OF THE FORMED PANEL (WHICH POSITIONING CONSIDERATIONS: 1. POSITION TO SUIT NORMAL HANDI 2. POSITION TO SUIT SETTING IN A V 3. SHAPE AND POSITION THE LIFTING RAPID COOLING CYCLE.	I STILL HAS EXCES LING AND LIFTING. ERTICAL STANCE I	1.00 K THAT WA S TRIM STC	1.00 S REMO OCK REM	MAINING). AT OVEN (WIDE SIDE	DOWN).		

Tool 5	Machine, Inc.						Pag Date:12/(<u>User ID: MCCOR</u>
Workorder 64880/1.0	Part ID			Qty Drawing ID / Rev 1 SE121-003P /	v	8	ineer E/DOUG MCCORKLI
	Specification: PP475 Rev: 3	IDC Count : 0	Dwg Count:	0 Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 1
Dperation Sub: 18 / Seq: 25 (R)	Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANEL FORMING PROCESS.	QtyPer 1.00 100% USING 180-220 GF	1.00	ndQt Drawing ID / Rev 1.00 SE121-001P / A JMINUM OXIDE MEDIA		IDUE / MARKINGS FRO	OM THE INITIAL
	MAINTAIN AN APPROXIMATE BLa Specification: PP475 Rev: 4	AST ANGLE OF 20 TO 4 IDC Count : 0	0 DEGREES Dwg Count:	1 Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation Sub: 18 / Seq: 30 (R)	Resource 520-SUBLET, EXOTIC HEAT TREA SOLUTION ANNEAL FORMED PAN ATTACH A MINIMUM OF THREE E CHARGE FURNACE AND HEAT PA HOLD PART TEMPERATURE AT 19 RAPID COOL (VIA. WATER QUENC Specification: AMS2774 Rev: JUL95 Certification: H/T CERTIFICATE Part Number: SE121-001P-2 PANEL S Part Description: DIE FORMED PANI Customer: PPPL Furnace charts: FURNACE CHART Specification: PP475 Rev: 2	EL PER THE FOLLOWI QUALLY SPACED THE RT UNTIL THERMOCO 00 DEGREES F. (+/- 15 CHING OR FORCED AIR	1.00 NG: ERMOCOUPLES UPE READINGS DEGREES) HOI	S ARE WITHIN 1900 +/-1 LD FOR 45 MINUTES (+, I) TO 1000 DEGREES F.	EL 15F. / 5 MINUTES)	THR	v ice ID ML TR/NA SA WPS Count: 0
Operation Sub: 18 / Seq: 31 (U)	Resource 820-RECEIVING INSPECTION REVIEW HEAT TREAT CERTIFICAT	QtyPer 1.00 FE AND FURNACE CHA IDC Count : 1	1.00	ndQt Drawing ID / Rev 1.00 SE121-001P / A 1 Pgm Count: 0		NDT Count: 0	WPS Count: 0
Operation Sub: 18 / Seq: 35 (F)	Resource 805-INPROCESS INSPECTION - PLA VISUAL INSPECT SURFACE FOR DA ON THE INSIDE (CONCAVE SURFA FINISH REQURIEMENT. ON THE O NOTIFY ENGINEERING (DOUG MCC VERIFY MAGNETIC PERMEABILIT Part Number: SE121-001P-2 PANEL	MAGE, PITTING, GOU CE), LOOK FOR ANY S UTSIDE (CONVEX SUR ORKLE) FOR CONCURI Y AND RECORD I.D.C.	1.00 GES, SCRAPES E URFACE DEFEC FACE), VERIFY RENCE	TS OR IRREGULARITIE	ES THAT MAY INHIBIT A	•	

	Marjor A Machine, Inc.							Page: 34 Date:12/05/03 <u>User ID: MCCORKLF</u>
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /		0	ineer JE/DOUG MCCORKLE
	Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2 Specification: ASTM B443 Rev: 00 Specification: PP476 Rev: Specification: PP479 Rev:	IDC Count : 1	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 6	NDT Count: 0	WPS Count: 0
Operation	Resource	QtyPer	StartQty	EndO	t Drawing ID / Rev			
Sub: 18 / Seq: 40	341-PACIFIC 750	1.00	1.00		SE121-001P / A			
	TOLERANCE: .094" MAX. NOTIFY INSPECTOR FOR Q/A IDC VE Part Number: SE121-001P-2 PANEL 5 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 2		Dwg Cou	nt- 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
		IDC Count . I	Dwg Cou	III. I	rgin Count. 0	QAF Count. 5	NDT Count. 0	wrs count. 0
Operation Sub: 18 / Seq: 50 (F)	Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 10 PROCESS.	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 RESII	DUE / MARKINGS FRO	OM THE FINAL FORMING
	Specification: PP475 Rev: 2	IDC Count : 0	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Operation Sub: 18 / 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	AGE (ADDITIONAL F FILE CONFIRMATION FACE 100% TO ACHIE	ITTING / TR N PRIOR TO EVE A 32 MIC	1.00 POSIT IMMIN COMPI CRO SU	G WILL BE REQUIREE LETING THE POLISHIN JRFACE FINISH (WITH	O AT INSTALLATION)) ON OF PROTECTIVE I	PLASTIC
	Specification: PP475 Rev: 3	IDC Count : 0	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
		IDC Count : 0	Dwg Cou	nt: I	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0

Tool S	Machine, Inc.					Page: 35 Date:12/05/03 User ID: MCCORKLE
Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev SE121-003P /		c c	jineer JE/DOUG MCCORKLE
Operation Sub: 18 / Seq: 70 (F)	ResourceQtyPerStart805-INPROCESS INSPECTION - PLA1.001.0VERIFY PROFILE TO INSPECTION GAGE # MTMFX-2907.GAP TOVERIFY PART PERIMETER EXCEEDS GAGE PERIMETER FOR TRUINSPECT AND RECORD INTERIOR SIDE SURFACE FINISH (LESS PINSPECT MAGNETIC PERMEABILITY PER PP476 AND ASTM A800PERMEABILITY RATHER THAN FERRITE CONTENT. THE SURFACEGRID. THE SURFACES AT AND NEAR WELDS WILL BE CHECKEDRECORD ACTUAL PERMEABILITY READINGS ON INSPECTION DINSPECT MATERIAL THICKNESS PER PP477 (6" GRID)RECORD ACTUAL MATERIAL THICKNESS ON INSPECTION DRAW	0 1.00 DERANCE: MMING ANE ERIMETER / 0, SUPPLEM CES OF THE 0 ON A 1" GR RAWING) FITTING AT ASSEMB WELD ZONES) AND RI ENTARY REQUIREME PVVS SHELL AND PO	LY ECORD ACTUAL READ NT S1 (BUT THE MEAS	DINGS ON INSPECTIONS SUREMENT SHALL	ON DRAWING BE TAKEN IN RELATIVE
	Test Certification: SE121-001P-10MTM Rev: 2A 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: Specification: PP479 Rev: IDC Count : 3 Dwg	g Count: 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)	ResourceQtyPerStart410-BURNOUT TABLE1.001.0BURNOUT TEST PLATES PER MATERIAL CARD.DEBURR AND SAND EDGES SMOOTH (WITH UNCONTAMINATEDFORWARD ONE PLATE TO ENGINEERING (DOUG McCORKLE) AN IDC Count : 0Dwg	0 1.00 O GRINDING	,	FOLLOWING ROUTIN	G STEPS. NDT Count: 0	WPS Count: 0
Piece # 10 (C)	Part ID INCONEL 625_670-SHEET,NICKEL ALLOY .25" THK INCONEL 625 SHEET, .25" THICK PER AMS 5599. CERT AND MILL TEST REPORT REQ'D WITH SHIPMENT.	Qty 480.0	Drawing ID / Rev	Vendor	Dimensions 480	
	Material Certification: NONE REQ'D TEST SAMPLE			QAP Count: 1		

	Machine, Inc.		Page Date:12/0 User ID: MCCOR
Workorder 64880/1.0	Part ID Qty 1	Drawing ID / Rev SE121-003P /	Engineer BLUE/DOUG MCCORKLE
Operation Sub: 24 / Seq: 20 (C)		t Drawing ID / Rev SE121 / A E FINISH Pgm Count: 0 QAP Count: 0 NDT Cour	nt: 0 WPS Count: 0
Operation Sub: 24 / Seq: 25 (C)		t Drawing ID / Rev SE121 / A T VIRGIN ALUMINUM OXIDE. Pgm Count: 0 QAP Count: 0 NDT Cour	nt: 0 WPS Count: 0
Operation Sub: 24 / Seq: 28 (C)		t Drawing ID / Rev PP475 / RT IN PLASTIC FOAM. Pgm Count: 0 QAP Count: 0 NDT Coun	nt: 0 WPS Count: 0
Operation Sub: 24 / Seq: 30 (C)		t Drawing ID / Rev SE121 / A SMOOTH BLASTED SURFACE SIDE OPPOSITE (NO PITS, S Pgm Count: 0 QAP Count: 0 NDT Coun	
Sub ID 26	Part IDQtySE121-001P-2 TEST PANEL NOTE:1	Drawing ID / Rev / Parent Sub:1 Op:10	
Operation Sub: 26 / Seq: 60 (R)		IIMIZE WELDING DISTORTION. ENSURE THE PART IS R	

Tool S	lajor Machine, Inc .							Page Date:12/05 <u>User ID: MCCORF</u>
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /			ineer E/DOUG MCCORKLE
	CLEAN TEST PANEL PER CLEANI ENGINEERING / PRODUCTION RE Specification: PP475 Rev: 3 WPS291.5 Rev:1 GTAW MAN GTAW - Manual Fillers: INCONEL62 Notes:	VIEW REQUIRED UPON IDC Count : 0	Dwg Count:	1	Pgm Count: 0 NCONEL625_093_GTA	QAP Count: 1 W	NDT Count: 0	WPS Count: 1
Operation Sub: 26 / Seq: 70 (R)	Resource 805-INPROCESS INSPECTION - PLA VERIFY PROFILE TO INSPECTION INSPECT AND RECORD INTERIOR INSPECT AND RECORD MAGNETI Test Certification: SE121-001P-10M ⁷ Part Number: SE121-001P-2 TEST P. Part Description: DIE FORMED PAN Specification: PP475 Rev: 3	GAGE # MTMFX-2903. SIDE SURFACE FINISH. C PERMEABILY. I'M Rev: 2A ANEL	1.00	1.00 NCE:	Drawing ID / Rev SE121-001P / A .188" MAX. 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 NOTIFY WELDING ENGINEERING		1.00 LIABLE	1.00	Drawing ID / Rev			
Piece # 10	Part ID INCONEL 625_5-PLATE,NICKEL A Vendor Part ID: INCONEL 625_5	IDC Count : 0		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
(C)	INCONEL 625 (UNS N06625) PER A ANNEALED MAGNETIC PERMEABILITY SHAL SURFACE MUST BE PROTECTED I CERTS & MILL TEST REPORTS RE	L NOT EXCEED 1.00 (RI ROM CONTACT WITH I			LOY MATERIALS			
						QAP Count: 2		

	Major Machine, Inc.							Page Date:12/05 User ID: MCCORI
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /		,	gineer JE/DOUG MCCORKLE
	IDC Cour	nt : 0	Dwg Cou	int: 0	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 per the requir IDC Cour		StartQty 1.00 ASME Sect. II Dwg Cou	1.00 X, AWS 1	Drawing ID / Rev D1.1, and AWS B2.1. Pgm Count: 0	MTM NDT certification QAP Count: 0	form required NDT Count: 0	WPS Count: 0
Operation Sub: 30 / Seq: 40 (C)	Resource 818-MQS CONTRACTOR X-RAY Radiographically inspect PQR test plate per the requ	QtyPer 1.00 irements of	1.00	1.00	Drawing ID / Rev D1.1, and AWS B2.1.	Reference acceptance to	all three specification:	s on the reader sheet.
	IDC Cour	nt : 0	Dwg Cou	int: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation Sub: 30 / Seq: 50 (C)	 Resource 450-SUBLET * Perform destructive testing (ref: 2 tensile tests, 2 f ASME Sect. IX, AWS D1.1, and AWS B2. * All test samples and remaining plate to be returne * Separate test reports are required for each specific * All NDT has been performed by Major Tool and N * A reference sheet with pertinent welding data is in * Test plate info: One plate - 3/8" thick 304L stainless steel One plate - 3/8" thick Inconel 625 Both plates butt welded using filler material ERNi No post-weld heat treatment is required. Test plate is supplied in the as-welded condition. 	d to Major T ation. Test Aachine. A cluded with CrMo-3 (Inc	Fool and Mac reports are to copy of the r the test plate	1.00 t bend te: hine whe o reference adiograph	n complete. e the PQR number and	must provide the tensile	TES pecifications; failure locations/chara	vice ID STNG/MISC cterss. WPS Count: 0
Sub ID 37	Part ID PQR PROCESS			Qty 1	Drawing ID / Rev			
Operation Sub: 37 / Seq: 20 (C)	Resource 230-FABRICATION - WEIDNER PLASMA CUT TWO TEST PIECES 7"*18* CLEANUP, REMOVE HEAT AFFECTED ZONE. INSPECT MAGNETIC PERMEABILITY AND REC PREP, WELD PQR PLATE PER WELDING ENGIN		1.00	EndQt 1.00	Parent Sub:26 Op:60 Drawing ID / Rev			

Tool S	Machine, Inc.						Page Date:12/0 <u>User ID: MCCOR</u>
Workorder 54880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /			gineer JE/DOUG MCCORKLI
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation Sub: 37 / Seq: 30	Resource 705-WELD ENGINEERING/ CWI	QtyPer 1.00	StartQty EndQ 1.00 1.00	t Drawing ID / Rev			
(C)	CWI to visually inspect PQR test plate			D1.1, and AWS B2.1. Pgm Count: 0	. MTM NDT certification QAP Count: 0	form required NDT Count: 1	WPS Count: 0
peration	Resource	QtyPer		t Drawing ID / Rev			
ub: 37 / Seq: 40 (C)	818-MQS CONTRACTOR X-RAY Radiographically inspect PQR test pla * PQR390 * Test plate material: .375" thick In	conel 625.	1.00 1.00 ASME Sect. IX, AWS	5 D1.1, and AWS B2.1	1. Reader sheet to state ac	ceptance to all three spo	ecifications.
	* Butt weld using Inconel 625 filler /	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
peration ub: 37 / Seq: 50	Resource 450-SUBLET	QtyPer 1.00	StartQty EndQ 1.00 1.00	t Drawing ID / Rev			vice ID STNG/MISC
(R)	 * Perform destructive testing (ref: 2 t ASME Sect. IX, AWS D1.1, and AW * All test samples and remaining plat * Separate test reports are required fo * All NDT has been performed by Ma * A reference sheet with pertinent weils * 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 - No post-weld heat treatment is requ - Test plate is supplied in the as-weld 	VS B2.1 e to be returned to Major 7 or each specification. Test ajor Tool and Machine. A lding data is included with material ERNiCrMo-3 (In- ired. ed condition.	Fool and Machine who reports are to referen- copy of the radiograp the test plate.	en complete. ce the PQR number an hic report is included	nd must provide the tensile with the test plate for refe	failure locations/chara	
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
ub ID 4	Part ID SOURCE NOTIFICATION		Qty 1	Drawing ID / Rev / Parent Sub:1 Op:30			
Deration ub: 34 / Seq: 10 (U)	Resource 830-Source Witness Point -in After Tack Welding, and Pri		1.00 1.00	t Drawing ID / Rev IS REQUIRED. CUS'	TOMER DECISION WILI	L FOLLOW. NOTIFIC	ATION VIA CFT.
ATTRAVI R arm							W·64880/1-0 /Inc Matl /It

Tool S	Machine, Inc.							Page Date:12/05 User ID: MCCORI
Workorder 54880/1.0	Part ID				awing ID / Rev 121-003P /			ineer JE/DOUG MCCORKLE
		IDC Count : 0	Dwg Count:	0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Sub ID 19	Part ID SE121 PORT SUB-ASSEMBLY			1 /	awing ID / Rev rent Sub:1 Op:70			
Operation Sub: 19 / Seq: 10 (F)	Resource 230-FABRICATION - WEIDNER POSITION, INSTALL AND WELD CO FIT AND TRIM THE LENGTH FOR IN GRIND / BLEND THE INTERIOR WEI POLISH THE ENTIRE INSIDE SURFA 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	NSTALLATION. PREP 1 LD SMOOTH. CE SMOOTH TO ACHI KTENSION TUBE TO C	1.00 UBE PER DRAV FOR WELDING EVE A 32 MICR	1.00 SE WING. G IN PLAC RO SURFA	E. .CE FINISH. CLEA		R ASME CODE ARTIO	CLE 6, SECTION V.
	Certification: CWI CERTIFICATION WPS328.5 Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL625 Notes: INCO TUBE TO SST FLNG.	IDC Count : 5 _035_GMAW / INCONE	Dwg Count:		Pgm Count: 0 DNEL625_093_GT.	QAP Count: 4	NDT Count: 0	WPS Count: 1
Operation	Resource	QtyPer			awing ID / Rev			
Sub: 19 / Seq: 20 (F)	805-INPROCESS INSPECTION - PLA VERIFY CLEANLINESS INSPECT THE INTERIOR SURFACE F INSPECT THE MAGNETIC PERMEAN 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		UB-ASSY.			ROUNDING AREA. QAP Count: 8	NDT Count: 0	WPS Count: 0
				<u> </u>				
Sub ID	Part ID			Qty Dr	awing ID / Rev			

Tool S.	Ajor Machine, Inc.					Page: Date:12/05 User ID: MCCORK
orkorder 880/1.0	Part ID	Q t 1	y Drawing ID / Rev SE121-003P /			gineer UE/DOUG MCCORKLE
			Parent Sub:19 Op:10			
eration b: 20 / Seq: 10 (C)	820-RECEIVING INSPECTION 1.00 RECEIVING INSPECTION RECEIVE AND INSPECT THE FOLLOWING PARTS: (THEY SHOULD ALL ARRIVE TOGETHER) F1000000NC4 FG1000CI FG1000VU FB1000C12S GC0275S	1.00 1.0	IQt Drawing ID / Rev 00 SE121 / A			
Piece # 10 (C)	CONTACT ENGINEERING (DOUG McCORKLE) WHEN PARTS A IDC N/A IDC Count : 0 Part ID F10000000NC4-FLANGE, CONFLAT, NON-ROTATE, 10.00" FLANGE, CONFLAT, NON-ROTATABLE 10.00 X BLANK X 0.97", CLEAR BOLT HOLES, 304L	ARRIVE. Dwg Count: 5 Q1 1.		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" VARIAN VACUUM TECHNOLOGIES	Q1 1. ' CONFLAT FI	0	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	Q 1.		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 VARIAN VACUUM TECHNOLOGIES	1.		Vendor FLANGE	Dimensions	

Tool S	Agior Machine, Inc.							Page Date:12/0 <u>User ID: MCCOR</u>
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /			Engineer BLUE/DOUG MCCORKLE
	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	
	Material Certification: Part Number: GC0275S							
						QAP Count: 2		
Sub: 20 / Seq: 20 (F)	108-TOOL ROOM - PLANT 1 1. **HOLD FOR ENGINEERING PROCESS DRAWING. MACHINE SPECIAL PORT FEATURE FOR VACUUM TI SPOTFACE, DRILL A CENTER DRILL SPOT IN THE CI IDC Count : 0	ENTER O			FOR INSTALLATION Pgm Count: 0	/ POSITIONING AID QAP Count: 0). NDT Count:	0 WPS Count: 0
Sub ID 21	Part ID PORT EXTENSION TUBE			Qty 1	Drawing ID / Rev			
					Parent Sub:19 Op:10			
Operation Sub: 21 / Seq: 10 (C)	230-FABRICATION - WEIDNER 1. INSPECT DIAMETERS AND LENGTH RECORD IDC INFORMATION NOTIFY ENGINEERING (DOUG McCORKLE) OF RESU WELD / BLEND MIS-ALIGNMENT OF MANUFACTURE POLISH THE ENTIRE INSIDE SURFACE TO A 32 MICR	.00 ILTS ERS WEL RO-INCH S	1.00 DS SURFACE	1.00 E FINISH			INSTALLATION	
	LAYOUT ONE AND CUT ONE END SQUARE FOR FLA IDC Count : 0		Dwg Cour		Pgm Count: 0	QAP Count: 0	NDT Count:	,
Piece # 10	Part ID SE121-001P-5-INCO 625 TUBE 8.0" OD X .12" WA. X 1 Vendor Part ID: SE121-001P-5		C A	Qty 1.0	Drawing ID / Rev	Vendor 5647	Dimensions	
(C)	TUBE, ROUND, INCONEL 625, SEAMLESS OR WELDE MTM AUTHORIZATION OF WELDING PROCEDURE R NOTE THAT THE FOLLOWING REQUIREMENTS WIL / ENSURE SUCESS MUST BE MAINTAINED:	REQUIRE	D PRIOR	TO STA	RTING WORK.	& MACHINE AFTER	R DELIVERY. AL	L EFFORTS TO ACCOMOI

	Machine, Inc.						Page: Date:12/05 User ID: MCCORK
Workorder 54880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		0	ineer E/DOUG MCCORKLE
	MAGNETIC PERMEABILITY REQUIR VACUUM INTEGRITY REQUIREMENT INTERIOR SURFACE FINISH REQUIRI MICRO SURFACE FINISH AND VERIFI EXTERIOR SURFACE FINISH: MILL SU MATERIAL CERTIFICATION AND TE WPS291.5 Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL625_U Notes: TIG WELD ONLY	T: TOTAL HELIUM LI EMENT: INTERIOR W ED PER ASME B46.1. URFACE ACCEPTABLE ST REPORTS REQ'D V	ELD BEADS WILL E. NO PITS, SCRAI VITH SHIPMENT.	BE GROUND FLUSH. 1 PES OR GOUGES.	THE ENTIRE INTERI		
					QAP Count: 3		
Sub ID 29	Part ID PORT EXTENSION TUBE (TAKE 2)		Qty 1	Drawing ID / Rev / Parent Sub:19 Op:10			
(C)	PRIOR TO CUTTING / FORMING, INS			RMEABILITY OF THE	SHEET (COORDINA	TE WITH MATERIALS	DEPT. AND INSPECT
	THE APPROXIMATE PART ENVELO Part Number: SE121-001P-3 Part Description: PVVS PORT EXTENS Specification: PP476 Rev: A	ON TUBE IDC Count : 1	Dwg Count: 0	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Operation Sub: 29 / Seq: 20 (C)	Part Number: SE121-001P-3 Part Description: PVVS PORT EXTENSI	IDC Count : 1 QtyPer 1.00 AL CARD DIMENSION NG. LEAVE TRIM STO ATS RESULTANT FRO	StartQty EndQ 1.00 1.00 S DCK OVERLAPPE DM STARTING AN	t Drawing ID / Rev D (FABRICATOR WILL D FINISHING THE ROLI	TRIM). ENSURE ON		
ub: 29 / Seq: 20 (C)	Part Number: SE121-001P-3 Part Description: PVVS PORT EXTENSI Specification: PP476 Rev: A Resource 415-ROLLING/SHEAR/BRAKE PRESS 1. SHEAR RECTANGLE PER MATERL 2. ROLL TO 8" O.D. =/-0.03" X 20" LO DIAMETER REMOVING ANY ROLL FI	IDC Count : 1 QtyPer 1.00 AL CARD DIMENSION NG. LEAVE TRIM STO LATS RESULTANT FRO MAGNETIC PERMEAN IDC Count : 0 LLOY .125" THK ER	StartQty EndQ 1.00 1.00 S DCK OVERLAPPE DM STARTING AN BILITY VERIFICA' Dwg Count: 0	ot Drawing ID / Rev D (FABRICATOR WILL D FINISHING THE ROLI FION. Pgm Count: 0 Drawing ID / Rev	TRIM). ENSURE ON		
Sub: 29 / Seq: 20 (C) Piece # 10	Part Number: SE121-001P-3 Part Description: PVVS PORT EXTENSI Specification: PP476 Rev: A Resource 415-ROLLING/SHEAR/BRAKE PRESS 1. SHEAR RECTANGLE PER MATERIA 2. ROLL TO 8" O.D. =/-0.03" X 20" LO DIAMETER REMOVING ANY ROLL FI 3. NOTIFY Q/A FOR DIMENSIONAL / Part ID INCONEL 625_660-SHEET,NICKEL AN INCONEL 625 SHEET, .125" THICK PI AMS 5599 / ASTM B443 (UNS N06625)	IDC Count : 1 QtyPer 1.00 AL CARD DIMENSION NG. LEAVE TRIM STO ATS RESULTANT FRO MAGNETIC PERMEAN IDC Count : 0 LLOY .125" THK ER D WITH SHIPMENT.	StartQty EndQ 1.00 1.00 S DCK OVERLAPPE DM STARTING AN BILITY VERIFICA Dwg Count: 0 Qty	ot Drawing ID / Rev D (FABRICATOR WILL D FINISHING THE ROLI FION. Pgm Count: 0 Drawing ID / Rev	TRIM). ENSURE OV LING SEQUENCE. QAP Count: 0	PERLAP IS ADEQUATE NDT Count: 0 Dimensions	TO TRIM AND FIT T

Tool S	Kajor Machine, Inc.							Page: 4 Date:12/05/0 User ID: MCCORKI
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /			ineer IE/DOUG MCCORKLE
Operation Sub: 29 / Seq: 30 (C)	Resource 805-INPROCESS INSPECTION - PLA INSPECT AND RECORD MAGNETIC PEI Part Number: SE121-001P-3 Part Description: PVVS PORT EXTENSIO Specification: PP476 Rev: A	× ·	StartQty 1.00 R ROLLING	1.00	Drawing ID / Rev SE121 /			
		IDC Count : 1	Dwg Cour	nt: 0	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Operation Sub: 29 / Seq: 40 (C)	Resource 230-FABRICATION - WEIDNER TRIM, FIT, (PURGE WELD JOINT WITH TACK WELD INTO 8" O.D. TUBE. CLEAN AND PREPARE FOR PLASMA A Specification: PP475 Rev: 2		1.00	1.00	t Drawing ID / Rev SE11 / L MUST BE MADE FR(DM EITHER 625 INCC	ONEL OR 300 SERIES	STAINLESS STEEL) AN
	WPS291.5 Rev:1 GTAW MAN GTAW - Manual Fillers: INCONEL625_03 Notes:	IDC Count : 0 5_GMAW / INCONE	Dwg Cour L625_062_G		Pgm Count: 0 INCONEL625_093_GTA	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 1009 PLASMA ARC WELD THE AXIAL JOINT CWI VISUAL INSPECT THE PORT EXTE AWS D1.6, 6.29.1. Test Certification: CWI CERTIFICATE R Part Number: SE121-001P-3 Part Description: PORT EXTENSION TUB	Y PER DRAWING. ENSION TUBE AXIA ev:		1.00 RIAL M				
	•	IDC Count : 5	Dwg Cour L625_062_G		Pgm Count: 0 NCONEL625_093_GTA	QAP Count: 3 W	NDT Count: 0	WPS Count: 1
Operation Sub: 29 / Seq: 60 (F)	Resource 230-FABRICATION - WEIDNER BLEND THE INTERIOR WELD SURFACT POLISH THE ENTIRE INTERIOR OF THE CLEAN PER PP475 Specification: PP475 Rev: 2			1.00 IAL.	t Drawing ID / Rev SE121 / H RA SURFACE FINISH			
	*	IDC Count : 0	Dwg Cour	nt: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 1

	Machine, Inc.							Page Date:12/0 <u>User ID: MCCOR</u>
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /			ineer JE/DOUG MCCORKLE
	WPS291.5 Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL625_035_GN Notes: TIG WELD ONLY	1AW / INCONE	L625_062_C	GTAW / I	NCONEL625_093_GT	TAW		
Deration ub: 29 / Seq: 70 (F)	Resource 805-INPROCESS INSPECTION - PLA INSPECT DIAMETER, ROUNDNESS, WELDIN	QtyPer 1.00 IG DISTORTION	1.00	1.00	Drawing ID / Rev SE121 / IEABILITY, AND INT	ERIOR SURFACE FINIS	SH.	
	RECORD IDC DATA Part Number: SE121-001P-3 Part Description: PVVS PORT EXTENSION TU Specification: PP475 Rev: 2 Specification: PP476 Rev: A Specification: PP477 Rev: A Specification: ASME B46.1 Rev: 95 Specification: A800 Rev: 97	BE						
		Count : 2	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 7	NDT Count: 0	WPS Count: 0
Sub ID	Part ID PLASMA PQR			Qty 1	Drawing ID / Rev			
					Parent Sub:29 Op:50			
Dperation Sub: 32 / Seq: 10 (C)	Resource 705-WELD ENGINEERING/ CWI CWI to visually inspect PQR test plate per the re IDC C	QtyPer 1.00 quirements of As Count : 0	1.00	1.00 K, AWS I	Drawing ID / Rev D1.1, and AWS B2.1. 1 Pgm Count: 0	MTM NDT certification f QAP Count: 0	orm required NDT Count: 1	WPS Count: 0
Operation	Resource	QtyPer	StartQty	EndOt	Drawing ID / Rev			
ub: 32 / Seq: 20 (C)	818-MQS CONTRACTOR X-RAY Radiographically inspect PQR test plate per the r	1.00	1.00	1.00	C	Reference acceptance to	all three specifications	on the reader sheet.
	IDC C	Count : 0	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation Sub: 32 / Seq: 30	Resource 450-SUBLET	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev			vice ID TNG/MISC
(C)	 * Perform destructive testing (ref: 2 tensile tests ASME Sect. IX, AWS D1.1, and AWS B2. * All test samples and remaining plate to be retu * Separate test reports are required for each spec * All NDT has been performed by Major Tool an * A reference sheet with pertinent welding data in 	rned to Major To ification. Test r 1d Machine. A c	ool and Macl eports are to copy of the ra	nine whe referenc adiograph	n complete. e the PQR number and	must provide the tensile	failure locations/charac	eterss.

Tool S	Ajor Machine, Inc.							Page: Date:12/05 User ID: MCCORK
Workorder 54880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /		Engineer BLUE/DOUG MCCORKLE	
	 * Test plate info: One plate - 3/8" thick Inconel 625 One plate - 3/8" thick Inconel 625 Both plates butt welded using filler mate No post-weld heat treatment is required. Test plate is supplied in the as-welded complete the supplied of the supplied in the supplied complete the supplied in the supplied complete the supplied in the supplied complete the supplied in the supplication. 		onel 625)					
		IDC Count : 0	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Sub ID 33	Part ID ASTM B 705 MECHANICAL TEST PIE			Qty 1	Drawing ID / Rev / Parent Sub:19 Op:10			
Deration Sub: 33 / Seq: 10 (F)	Resource 415-ROLLING/SHEAR/BRAKE PRESS 1. SHEAR RECTANGLE PER MATERIA 2. ROLL TO 8" O.D. =/-0.03" X 6" LONO DIAMETER REMOVING ANY ROLL FLA	6. LEAVE TRIM STO	CK OVERL	1.00 APPED (NG AND			ERLAP IS ADEQUATE NDT Count: 0	TO TRIM AND FIT TI WPS Count: 0
Piece # 10 (F)	Part ID INCONEL 625_660-SHEET,NICKEL AL INCONEL 625 SHEET, .125" THICK PEJ AMS 5599 / ASTM B443 (UNS N06625). CERT AND MILL TEST REPORT REQ'I	LOY .125" THK R	Dwg Cou	Qty 180.0	Drawing ID / Rev	Vendor	Dimensions 6*30	WIS Count. 0
	Material Certification: Part Number: SE121-001P-3 Part Description: PORT EXTENSION TU	BE						
						QAP Count: 0		
Deration hub: 33 / Seq: 20 (F)	Resource 205-PLASMA WORKCENTER TRIM FIT AND TACK WELD CYLINDE SETUP, PURGE WELD JOINT WITH 100 PLASMA ARC WELD THE JOINT	1.00 R.	1.00	1.00		EITHER 625 INCONE	EL OR 300 SERIES STA	INLESS STEEL, AND
	WPS380-PPPL Rev:2 PAW MAC PAW - Machine Fillers: INCONEL625_03 Notes: PLASMA WELDING	IDC Count : 0 5_GMAW / INCONEL	Dwg Cou .625_062_G		Pgm Count: 0 NCONEL625_093_GTA	QAP Count: 0	NDT Count: 0	WPS Count: 1

	Machine, Inc.					Page: Date:12/05 User ID: MCCORK
Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev SE121-003P /			ineer IE/DOUG MCCORKLE
Sub: 33 / Seq: 30 (F)	230-FABRICATION - WEIDNER 1.00 TRIM BOTH ENDS TO PRODUCE A TEST PIECE 4" MINIMU PERFORM A FLATTENING TEST PER ASTM B 705, 7.2 (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 IDC Count : 0	1.00 1.00 JM LENGTH Dwg Count: 0	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
	ibe count . o	Dwg Count. 0	rgin Count. 0	QAF Count. 5	NDT Count. 0	wrs count. o
Sub ID 35	Part ID SOURCE NOTIFICATION	Qty 1	Drawing ID / Rev			
			Parent Sub:1 Op:72			
Operation Sub: 35 / Seq: 10 (U)	ResourceQtyPer830-SOURCE WITNESS POINT -IN P1.00SOURCE NOTIFICATION REQURIED ONE TO TWO WEEKSNOTIFICATION VIA CFT	1.00 1.00	t Drawing ID / Rev M TESTING PORT SUB-	ASSEMBLY. CUST	OMER DECISION WILL	FOLLOW.
	Drw N/A IDC N/A IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Sub ID 25	Drw N/A IDC N/A IDC Count : 0 Part ID PORT EXTENSION WELD BACKING RI	Dwg Count: 0 Qty 1	Pgm Count: 0 Drawing ID / Rev / Parent Sub:1 Op:90	QAP Count: 0	NDT Count: 0	WPS Count: 0
	Part ID PORT EXTENSION WELD BACKING RI Resource QtyPer 415-ROLLING/SHEAR/BRAKE PRESS 1.00 1. SHEAR STRIP PER MATERIAL CARD AND DEBURR. 2. ROLL THE EASY WAY TO A 8.093" I.D. OBJ (0.031" WEL 3. NOTIFY Q/A FOR DIMENSIONAL / MAGNETIC PERMEAN	Qty 1 StartQty EndQu 1.00 1.00 D SHRINKAGE AL	Drawing ID / Rev / Parent Sub:1 Op:90 t Drawing ID / Rev SE121-003P / 0 LOWANCE).	QAP Count: 0	NDT Count: 0	WPS Count: 0
25 Operation Sub: 25 / Seq: 10 (C)	Part ID PORT EXTENSION WELD BACKING RI Resource QtyPer 415-ROLLING/SHEAR/BRAKE PRESS 1.00 1. SHEAR STRIP PER MATERIAL CARD AND DEBURR. 1.00 2. ROLL THE EASY WAY TO A 8.093" I.D. OBJ (0.031" WEL 3. NOTIFY Q/A FOR DIMENSIONAL / MAGNETIC PERMEAN Specification: PP475 Rev: 2 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.	Qty 1 StartQty EndQu 1.00 1.00 D SHRINKAGE AL BILITY VERIFICAT Dwg Count: 0	Drawing ID / Rev / Parent Sub:1 Op:90 t Drawing ID / Rev SE121-003P / 0 LOWANCE). ION. Pgm Count: 0 Drawing ID / Rev	QAP Count: 0 QAP Count: 1 Vendor	NDT Count: 0 NDT Count: 0 Dimensions 4.5*36	WPS Count: 0
25 Operation Sub: 25 / Seq: 10 (C) Piece # 10	Part ID PORT EXTENSION WELD BACKING RI Resource QtyPer 415-ROLLING/SHEAR/BRAKE PRESS 1.00 1. SHEAR STRIP PER MATERIAL CARD AND DEBURR. 1.00 2. ROLL THE EASY WAY TO A 8.093" I.D. OBJ (0.031" WEL 3. NOTIFY Q/A FOR DIMENSIONAL / MAGNETIC PERMEAN Specification: PP475 Rev: 2 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).	Qty 1 StartQty EndQu 1.00 1.00 D SHRINKAGE AL BILITY VERIFICAT Dwg Count: 0 Qty	Drawing ID / Rev / Parent Sub:1 Op:90 t Drawing ID / Rev SE121-003P / 0 LOWANCE). ION. Pgm Count: 0 Drawing ID / Rev	QAP Count: 1	NDT Count: 0 Dimensions	

Tool 5	Major Machine, Inc.							Page: Date:12/05/ User ID: MCCORK
Workorder 64880/1.0	Part ID			Qty 1	Drawing ID / Rev SE121-003P /			gineer UE/DOUG MCCORKLE
Operation Sub: 25 / Seq: 15 (C)	Resource 805-INPROCESS INSPECTION - PLA INSPECT AND RECORD MAGNETIC PERMEAB Part Number: SE121-001P-4 Part Description: PVVS PORT EXTENSION WELL Specification: PP475 Rev: 2 Specification: PP476 Rev:		StartQty 1.00 ER ROLLINC	1.00	Drawing ID / Rev SE121 /			
	IDC Cou	int : 1	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 4	NDT Count: 0	WPS Count: 0
Operation Sub: 25 / Seq: 20 (F)	Resource 230-FABRICATION - WEIDNER 1. TRIM AND FIT TO VESSEL CONTOUR, CUT 2. WELD PER DRAWING (SIZE TO EXISTING F 3. BLEND WELD FLUSH TO BASE METAL	<i>.</i>	1.00 EP	EndQt 1.00	Drawing ID / Rev SE121-003P / 0			
	 4. CWI VISUAL INSPECT WELD 100% UNDER Specification: PP475 Rev: 5 Part Number: SE121-003P-4 	8X MAGNIF	ICATION PE	ER ASME	E CODE ARTICLE 6, SE	ECTION V. ACCEPTA	NCE PER AWS D1.6,	6.29.1.
	Part Description: WELD BACKING RING Certification: CWI CERTIFICATE							
	IDC Cou WPS291.5 Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL625_035_GMA Notes: TIG WELD ONLY		Dwg Cou EL625_062_0		Pgm Count: 0	QAP Count: 4	NDT Count: 0	WPS Count: 1
Operation Sub: 25 / Seq: 30 (F)	Resource 415-ROLLING/SHEAR/BRAKE PRESS RE-ROLL / ROUND UP BAND (IF NECESSARY) Specification: PP475 Rev: 2	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121 / A			
	IDC Cou	int : 0	Dwg Cou	nt: 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 DIMENSIONAL CONDITION VERIFY MAGNETIC PERMEABILITY VERIFY CLEANLINESS RECORD I.D.C. DATA Part Number: PVVS PORT EXTENSION TUBE Specification: ASTM A800 Rev: 2001 Specification: PP476 Rev: 2 Specification: PP475 Rev: 5	QtyPer 1.00	StartQty 1.00		Drawing ID / Rev SE121 / A			

Tool S	Machine, Inc.							Page: 49 Date:12/05/03 User ID: MCCORKLE		
Workorder 64880/1.0	Part ID		Qty 1				Engineer BLUE/DOUG MCCORKLE			
		IDC Count : 2	Dwg Cou	int: 5	Pgm Count: 0	QAP Count: 4	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)	ResourceQtyPerStartQtyEndQtDrawing ID / Rev425-SHIPPING - PLANTS 1 & 21.001.00SE121 / ABUILD A CUSTOM STORAGE / SHIPPING CRATE PER ENGINEERING DIRECTION TO SUIT THE FOLLOWING REQUIREMENTS:1. THE CONTAINER MUST PROTECT THE PART FROM DAMAGE AND CONTAMINATION DURING STORAGE / HANDLING DURING THE MANUFACTURING PROCESS AT MTM.2. THE PART RESTS / SUPPORTS MUST BE HARDWOOD AND CONFIGURED SO NO NAILS OR SCREWS COME INTO CONTACT WITH THE PART.3. THE CONTAINER MUST HAVE PROVISIONS TO BE LIFTED AND HANDLED BY EITHER A FORKLIFT, OR CRANE / LIFTING STRAPS.									
		IDC Count : 0	Dwg Cou		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 C DEBURR EDGES AND CLEANUP	QtyPer 1.00 ARD	StartQty 1.00	EndQt 1.00	Drawing ID / Rev					
Piece # 10 (C)	NOTIFY Q/A AND HAVE THE MAGNET Part ID INCONEL 625_660-SHEET,NICKEL ALI INCONEL 625 SHEET, .125" THICK PER AMS 5599 / ASTM B443 (UNS N06625). CERT AND MILL TEST REPORT REQ'D Material Certification: TRACE ID: 92220	IDC Count : 1 LOY .125" THK	CHECKED (. Dwg Cou		CORDED) PRIOR TO SU Pgm Count: 0 Drawing ID / Rev	UBCONTRACTING. QAP Count: 0 Vendor	NDT Count: 0 Dimensions 4*6	WPS Count: 0		
	Part Number: NAMEPLATE					QAP Count: 2				
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev					

 Operation
 Resource
 Otyper
 StartOty
 EndQt
 Drawing iD / Rev

 Sub: 31 / Seq: 11
 260-SANDBLAST
 1.00
 1.00
 1.00
 1.00

 (C)
 BLAST 100% WITH 180-220 VIRGIN ALUMINUM OXIDE MEDIA
 CLEANUP AND WIPE DOWN WITH ISOPROPANOL USING LINT FREE WIPES (AVAILABLE IN Q/A)

 CONTACT ENGINEERING (DOUG McCORKLE) FOR VISUAL INSPECTION.

 AFTER ACCEPTED, WRAP AND TAPE WITH FOAM PROTECTION.

	Major Machine, Inc.						Page: 50 Date:12/05/03 User ID: MCCORKLE		
Workorder 64880/1.0	Part ID		Qty 1	Engineer BLUE/DOUG MCCORKLE					
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0		
Operation Sub: 31 / Seq: 15 (F)	Resource 450-SUBLET ETCH THE FOLLOWING INFORMA MAJOR TOOL & MACHINE, INC. LO PPPL LOGO (USE FURNISHED ART	OGO (USE FURNISHED		Service ID ENGRVNG/ETCHNG					
	SE121-01 NATIONAL COMPACT STELLARA PROTOTYPE VACUUM VESSEL SEC PRIME-CONTRACT: DE-AC02-76-0 SUB-CONTRACT: S-04344-F SCOPE: NCSX-SOW-121-01-02 SPECIFICATION: NCSX-CSPEC-121 MANUFACTURER: MAJOR TOOL A MTM #: 64880	GMENT CH03073 -01-01							
	NOTES: THE SUPPLIED DRAWING IS ONLY A CONCEPT AND IS PROVIDED TO DEFINE THE NECESSARY IDENTIFICATION INFORMATION. THE FINAL COMPOSITION IS TO BE DETERMINED BY THE MANUFACTURER. VENDOR IS TO PROVIDE PROTOTYPE SAMPLES (EITHER A PHYSICAL SAMPLE OR RENDERING) OF I.D. TAG DESIGN / COMPOSITION FOR MTM APPROVAL PRIOR TO PRODUCING THE FINAL ARTICLE. THE MATERIAL OF THE TAG (625 INCONEL, OR 316L STAINLESS) HAS BEEN SELECTED BASED ON IT'S LOW MAGNETIC PERMEABILITY PROPERTIES. EXTREME CARE MUST BE MAINTAINED DURING THE PROCESSING AND HANDLING OF THE TAG. ALL EFFORTS MUST BE MADE TO AVOID THE INDUCTION OF MAGNETIC PROPERTIES BY MEANS OF CONTAMINATION FROM CONTACT WITH IRON BASED MATERIALS (EG PLATTENS, WORK TABLES, HAND TOOLS, ETC) THE METHOD OF PART MARKING ALSO MUST NOT AFFECT MAGNETIC PERMEABILITY. REFERENCE MTM CLEANLINESS CONTROL PROCEDURE PP475								
	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)	Resource 820-RECEIVING INSPECTION RECEIVE AND INSPECT NAMEPLA INSPECT MAGNETIC PERMEABLIT Specification: PP476 Rev:		StartQty EndQ 1.00 1.00 ASE ORDER	Drawing ID / Rev	-				
	Specification 11 170 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					

Page Date:12/05 Tool & Machine, Inc.							
Workorder 64880/1.0	Part ID		Qty 1	Drawing ID / Rev SE121-003P /		0	ineer E/DOUG MCCORKLE
				Parent Sub:1 Op:120			
Operation Sub: 36 / Seq: 10 (U)	Resource 831-SOURCE INSPECTION - FINAL FINAL SOURCE INSPECTION NOTIFI NOTIFICATION VIA CFT.	QtyPer 1.00 CATION REQUIRED O IDC Count : 0	1.00 1.00		SPECTION. CUSTOM QAP Count: 0	IER DECISION WILL F NDT Count: 0	FOLLOW. WPS Count: 0