

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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NSCX PROTOTYPE VACUUM VESSEL SEGMENT
 SCOPE OF WORK: NCSX-SOW-121-01-02
 SPECIFICATION: NCSX-CSPEC-121-01-01

Sub ID 0	Part ID NSCX PROTOTYPE VACUUM VESSEL SEGMENT	Qty 1	Drawing ID / Rev /
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SCOPE OF WORK: N

Operation Sub: 0 / Seq: 10 (R)	Resource 700-BLUE TEAM, ENGINEERING SOW 3.2.1 TASK 2 MIT/QA PLANS FOR PVVS FOR VVSA	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121 / A
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IDC Count : 0 Dwg Count: 5 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
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10	INCONEL625_062_GTAW-WELD WIRE/GTAW, .062 DIA Vendor Part ID: INCONEL625_062_GTAW Mfg Part ID: INCONEL 625 (R) ASME/AWS SFA 5.14, ERNiCrMo-3	52.0		4434	
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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 IDENTIFIED AT MINIMUM WITH THE AWS WELD WIRE CLASS.

MATERIAL CERTIFICATION REQ'D WITH SHIPMENT

Material Certification: TRACE ID: 38561
 Part Number: SE121-001P
 Part Description: PVVS PRIMARY WELDMENT

QAP Count: 3

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
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30	INCONEL625_093_GTAW-WELD WIRE/GTAW, .093 DIA Vendor Part ID: INCONEL625_093_GTAW Mfg Part ID: INCONEL 625 (R) ASME/AWS SFA 5.14, ERNiCrMo-3	72.0		4434	
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INCONEL 625 WELD WIRE, CUT LENGTH
 0.093" DIA. X 36" LONG.
 SUPPLIED IN 10 LB TUBES.

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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EACH PIECE OF CUT LENGTH WIRE MUST BE IDENTIFIED AT MINIMUM WITH THE AWS WELD WIRE CLASS.

MATERIAL CERTIFICATION REQ'D WITH SHIPMENT

Material Certification: TRACE ID: 41171
 Material Certification:
 Part Number: SE121-001P
 Part Description: PVVS PRIMARY WELDMENT

QAP Count: 4

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
40	INCONEL625_035_GMAW-WELD WIRE/GMAW, .035 DIA	6.0			
(R)	Mfg Part ID: INCONEL 625 ASME/AWS SFA 5.14, ERNiCrMo-3				

INCONEL625_035_GMAW
 WELD WIRE, GMAW .035 DIA.
 CERTS AND MILL TEST REPORTS REQUIRED WITH SHIPMENT

Material Certification:
 Part Number: SE121-001P
 Part Description: PVVS PRIMARY WELDMENT

QAP Count: 3

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev					
Sub: 0 / Seq: 11 (R)	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 VVSA	1.00	1.00	1.00						
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0			

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev					
Sub: 0 / Seq: 12 (R)	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	1.00	1.00	1.00						
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0			

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 0 / Seq: 13 (R)	700-BLUE TEAM, ENGINEERING ENGINEERING, PLANNING & PROJECT MGT TASK 9	1.00	1.00	1.00	

FOLLOWING IS A LIST STANDARD OPERATING PROCEDURES AND WORK INSTRUCTIONS THAT APPLY IN PART OR IN WHOLE TO THE EXECUTION OF THIS WORK ORDER.

ENGINEERING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURES: ENGSOP01 - Mfg. Quality Plans; ENGSOP02 - Specification-Standard Control; ENGSOP03 - Internal Drawing Generation; ENGSOP04 - Drawing Control.

CAD / CAM OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURE: CADSOP01 - CNC Program Control;

MANUFACTURING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURES: MFGSOP01 - Project Manufacturing; MFGSOP02 - Material Handling and Storage; MTL SOP01 - Material Storage; PCSOP01 - Production Control; QASOP01 - Nonconformance Control; QASOP03 - Traceability-Identification

QUALITY ASSURANCE AND INSPECTION OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURES: QASOP01 - Nonconformance Control; QASOP05 - Calibration

RECEIVING INSPECTION OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURE: QASOP04 - Receiving Inspection

IN-PROCESS INSPECTION OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURE: QASOP02 - In Process Inspection

SHIPPING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURE: SHSOP01 - Shipping-Packaging

MACHINING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURE: TLGSOP01 - Cutting Tool Control

WELDING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURES: WLDSOP02 - Qualification of Welders and WPS; WLDSOP03 - Welding Process Development; WLDSOP04 - Stores Control of Weld Wire; WLDSOP05 - Weld Mapping; WLDSOP06 - Welding Filler Metal and Flux Procurement

ENGINEERING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: ENGWI001 - Material Card; ENGWI002 - Drawing Control; ENGWI003 - Bill of Manufacturing; ENGWI005 - Engineering Contract Review; ENGWI007 - Work Order Review Release; ENGWI008 - Operation Cards; ENGWI009 - Quality Planning; ENGWI010 - Service Cards; ENGWI013 - Work Order Header Card Maintenance; ENGWI014 - Inspection Fields; ENGWI019 - Nonconformance to Customers.

CAD / CAM OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: CADWI004 - Developing a CAD/CAM program; CADWI005 - Updating CAD/CAM Program or File

MANUFACTURING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: MFGWI018 - Workmanship; PCWI001 - Use of MTM Routing; PCWI004 - Scheduling System Procedures

CLEANING / WASHING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTION: MFGWI005 - High Pressure-High Temperature Water Cleaning of Parts

SUBCONTRACT OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTION: PCWI005 - Subcontract Procedure; PURWI002 - Vendor Setup and Assessment

NON-DESTRUCTIVE TESTING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: NDTWI001 - NDT Exam Personnel Qualification; NDTWI011 - Visual Weld Inspection

QUALITY ASSURANCE, IN-PROCESS INSPECTION OPERATIONS AND/OR RECEIVING INSPECTION OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: QAWI001 - MTM Inspection Method Guidelines; QAWI006 - Sampling Inspection Criteria; QAWI008 - Receiving Ordered Material; QAWI010 - Calibration; QAWI015 - Checking Out and Returning Gauges; QAWI017 - Recording Inspection Results; QAWI018 - Quality Sign Off Control; QAWI020 - Organization and Control of Quality Records; QAWI021 - Quality Record Storage and Retention; QAWI023 - Nonconformance System Navigation; QAWI026 - Part Relocation with SMX; QAWI027 - SMX Part Inspection Checklist; QAWI028 - QAP Data Package Generation; QAWI029 - Scanning Certifications; QAWI031 - Material Certification Program.

SHIPPING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: SHWI002 - Guidelines for Shipping Documentation; SHWI003 - General Guidelines for Building Containers; SHWI004 - Guidelines for Loading Parts for Shipment; SHWI005 - General Guidelines for Packaging Parts; SHWI007 - Guidelines for Coordinating Transport.

WELDING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: WLDWI003 - Welding Personnel Training; WLDWI004 - Welder

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Performance Qualification; WLDWI005 - Storage and Maintenance of Welding Documents; WLDWI006 - Welding Engineering Work Order Review Process; WLDWI007 - Weld Wire and Stub Control; WLDWI008 - Assessment of Welder's Ability
 BLAST BOOTH OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: SBWI001 - General Sandblast Guidelines;
 MATERIAL PROCUREMENT OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: PURWI001 - Purchasing Data; PURWI002 - Vendor Setup and Assessment

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0

Operation Sub: 0 / Seq: 14 (R)	Resource 700-BLUE TEAM, ENGINEERING ENGINEERING TECHNICAL SUPPORT	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	IDC Count : 0	Dwg Count : 0	Pgm Count : 0	QAP Count : 0	NDT Count : 0	WPS Count : 0
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Operation Sub: 0 / Seq: 15 (R)	Resource 805-INPROCESS INSPECTION - PLA QUALITY ENGINEERING REVIEW OF CUSTOMER PRODUCT SPECIFICATION AND STATEMENT OF WORK. REFERANCE SPEC NCSX-CSPEC-121-01-01 OR NCSX-SOW-121-01-02 IN LIBRARIAN BY SEARCHING UNDER THE REFERANCE DOCUMENT ID FOR SPECIFIC SPEC NUMBER OR PPPL.	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev PPPL / 0	IDC Count : 0	Dwg Count : 2	Pgm Count : 0	QAP Count : 0	NDT Count : 0	WPS Count : 0
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Operation Sub: 0 / Seq: 20 (R)	Resource 825-FINAL INSPECTION - PLANTS 1 FINAL VISUAL INSPECTION (ENGINEERING CONCURRENCE REQUIRED). FINAL CLEANLINESS VERIFICATION PER PP475 AND PREPARE CERTIFICATION / CLEANLINESS REPORT COMPILE ELECTRONIC DATA BOOK INFORMATION PER MTM QAP. TAKE SEVERAL PHOTOGRAPHS OF PART PREPARE C OF C AND REQUEST FOR SHIPPING RELEASE (CONTACT ENGINEERING (DOUG McCORKLE) FOR RELEASE FORM IF NOT AVAILABLE ELECTRONICALLY. WITNESS AND PHOTOGRAPH THE PACKAGING / PREPARATION FOR SHIPMENT (NEXT SEQUENTIAL OPERATION). Test Certification: CLEANLINESS CERTIFICATION Rev: Part Number: SE121-003P Rev: 0 Part Description: NCSX PVVS COMPLETE Specification: PP475 Rev: 8	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121 / A	IDC Count : 0	Dwg Count : 5	Pgm Count : 0	QAP Count : 4	NDT Count : 0	WPS Count : 0
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Operation Sub: 0 / Seq: 30 (R)	Resource 425-SHIPPING - PLANTS 1 & 2 SHIP PER CUSTOMER RELEASE FORM (CONTAINER MANUFACTURED IN SUB I.D. 28) AT A MINIMUM ENSURE THE PART IS COMPLETELY WRAPPED WITH PLASTIC FOAM AND SHRINK WRAP. DO NOT APPLY TAPE TO THE PART. THE PLASTIC FOAM CAN BE TAPED ONLY TO ITSELF TO HOLD POSITION UNTIL SHRINK WRAP IS APPLIED.	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121 / A	IDC Count : 0	Dwg Count : 5	Pgm Count : 0	QAP Count : 4	NDT Count : 0	WPS Count : 0
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Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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SPECIAL CRATE REQUIREMENTS:
 CONTAINER MUST BE CLEARLY MARKED WITH THE FOLLOWING INFORMATION:
 SUPPLIER:
 MAJOR TOOL & MACHINE, INC.
 1458 E. 19TH ST.
 INDIANAPOLIS, IN 46218
 CONTENTS:
 SE121 NCSX PVVS
 Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 5 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 0

Operation Sub: 0 / Seq: 9876	Resource 601-AUTOMATED SCHEDULING BU Drw N/A IDC N/A	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	Service ID TESTNG/MISC
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0 WPS Count: 0

Sub ID 1	Part ID SE121 PROTOTYPE VACUUM VESSEL	Qty 1	Drawing ID / Rev SE121 / A Parent Sub:0 Op:20
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Operation Sub: 1 / Seq: 10 (R)	Resource 230-FABRICATION - WEIDNER OPERATION SEQUENCE DELETED ADVANCE TO SUB ID 45 FOR PANEL SUB-SET 2-5, SUB ID 41 FOR PANEL SUB-SET 2-5-4	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	Service ID
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0 WPS Count: 0

Operation Sub: 1 / Seq: 70 (R)	Resource 230-FABRICATION - WEIDNER OPERATION SEQUENCE DELETED ADVANCE TO SUB ID 40 FOR PORT EXTENSION INSTALLATION	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / 0	Service ID
		IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 0	NDT Count: 0 WPS Count: 0

Operation Sub: 1 / Seq: 90 (R)	Resource 230-FABRICATION - WEIDNER OPERATION SEQUENCE DELETED ADVANCE TO SUB ID 39 FOR FINAL FABRICATION OPERATION	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-002P / 0	Service ID
		IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 0	NDT Count: 0 WPS Count: 0

Operation Sub: 1 / Seq: 115	Resource 230-FABRICATION - WEIDNER	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-003P / 0	Service ID
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Workorder	Part ID	Qty	Drawing ID / Rev	Engineer
64880/1.0		1	/	BLUE/DOUG MCCORKLE
(R)	OPERATION SEQUENCE DELETED ADVANCE TO SUB ID 39 FOR FINAL FABRICATION OPERATION			
	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 0 NDT Count: 0 WPS Count: 0

Sub ID	Part ID	Qty	Drawing ID / Rev
14	SE121-001P-2 PANEL # 1	1	SE121-001P / 0
			Parent Sub:1 Op:10

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 14 / Seq: 10	820-RECEIVING INSPECTION	1.00	1.00	1.00	SE121-001P / A
(R)	INSPECT BLANK SIZE PER DEVELOPMENT DRAWING (AUDIT DIMENSIONS WILL BE PROVIDED BY DOUG McCORKLE) INSPECT MATERIAL THICKNESS PER PP477 VISUAL INSPECT SURFACE FINISH (PANEL SURFACE SHOULD BE A SMOOTH MILL PRODUCED SURFACE, WITHOUT SCRAPES, GOUGES, HEAVY PITS, ETC... IT SHOULD BE IN A CONDITION THAT CAN BE READILY POLISHED WITHOUT EXCESSIVE MATERIAL REMOVAL (CONTACT ENGINEERING (DOUG McCORKLE IF FURTHER CLARIFICATION IS NEEDED) SAMPLE INSPECT MAGNETIC PERMEABILITY PER PP476, AND ASTM A800, SUPPLIMENTARY REQUIREMENT S1 (BUT THE MEASUREMENT SHALL BE TAKEN IN RELATIVE PERMEABILITY RATHER THAN FERRITE CONTENT). SAMPLE LOT SIZE: AT LEAST 10 EVENLY SPACED LOCATIONS. RECORD IDC DATA				
	Specification: ASTM A800 Rev: 2001 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 Specification: PP476 Rev: 4 Specification: PP477 Rev: 5 Specification: PP475 Rev: 8 Specification: ASTM A380 Rev: 99				
	IDC Count : 3	Dwg Count: 0	Pgm Count: 0	QAP Count: 10	NDT Count: 0 WPS Count: 0

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
10	SE121-001P-2 PANEL # 1-PANEL BLANK .375" THK INCONEL 625	1.0	SE121 / --	1810	
(C)	Vendor Part ID: SE121-001P-2 PANEL # 1 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 CERTS & MILL TEST REPORTS REQ'D WITH SHIPMENT. APPROXIMATE OVERALL SIZE: 54.97*76.37				

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

Workorder: 64880/1.0 Part ID: Qty: 1 Drawing ID / Rev: / Engineer: BLUE/DOUG MCCORKLE

Part Description: DIE FORMED PANEL
 Specification: ASTM A800 Rev: 2001
 Specification: ASTM B443 Rev: 00
 Specification: ASTM B46.1 Rev: 95

QAP Count: 6

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	IDC Count	Dwg Count	Pgm Count	QAP Count	NDT Count	WPS Count
Sub: 14 / Seq: 18 (C)	105-DEBURR PLT 1 LOW BAY RADIUS ALL CUT EDGES PRIOR TO FORMING Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / A	0	0	0	1	0	0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	IDC Count	Dwg Count	Pgm Count	QAP Count	NDT Count	WPS Count
Sub: 14 / Seq: 20 (R)	341-PACIFIC 750 1ST FORM OPERATION: LOAD, ALIGN, AND BOLT DIE SET # MTMFX-2883 - MTMFX-2884 INTO THE 750 TON HYDRAULIC PRESS. ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... ENSURE THE PANEL BLANK IS CLEAN AND FREE OF FOREIGN MATTER. LOAD THE PANEL BLANK INTO THE DIE SET. HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE # MTMFX-2903. NOTE THAT THE FINAL PANEL TO GAGE GAP TOLERANCE IS .094" MAX. IT IS DESIRED TO GET AS CLOSE TO THIS AS POSSIBLE PRIOR TO ANNEALING. CLOSELY WATCH THE FORMING, WRINKLING, AND SPRING-BACK CHARACTERISTICS OF THE MATERIAL DURING THE FORMING PROCESS. WHEN IT'S APPARENT THE MATERIAL IS WORK HARDENING TO A DEGREE THAT FORMING BECOMES DIFFICULT, OR THE PHYSICAL INTEGRITY OF THE MATERIAL IS AT RISK, PROCEED TO THE NEXT SEQUENTIAL OPERATION (BLAST AND ANNEAL). A FINAL FORMING SEQUENCE IS PROVIDED FOR "FINAL SIZING" AFTER THE MATERIAL HAS BEEN ANNEALED. ENSURE THE PANEL MATERIAL EXTENDS BEYOND THE PERIMETER OF THE GAGE (ENOUGH TO PROVIDE ADEQUATE STOCK ALLOWANCE FOR RE-POSITIONING, RE-STRIKING, AND ACCURATE TRIMMING AFTER ANNEALING).	1.00	1.00	1.00	SE121-001P / 0	0	1	0	3	0	0
	Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 8					0	1	0	3	0	0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	IDC Count	Dwg Count	Pgm Count	QAP Count	NDT Count	WPS Count
Sub: 14 / Seq: 25 (C)	260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE / MARKINGS FROM THE INITIAL FORMING PROCESS. MAINTAIN AN APPROXIMATE BLAST ANGLE OF 20 TO 40 DEGREES BLOW OFF ALL RESIDUAL BLAST MEDIA PRIOR TO HANDLING. Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / A	0	0	0	1	0	0

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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	Service ID
Sub: 14 / Seq: 30 (C)	520-SUBLET, EXOTIC HEAT TREAT SOLUTION ANNEAL FORMED PANEL PER THE FOLLOWING: ATTACH A MINIMUM OF THREE EQUALLY SPACED THERMOCOUPLES TO THE FORMED PANEL CHARGE FURNACE AND HEAT PART UNTIL THERMOCOUPLE READINGS ARE WITHIN 1900 +/-15F. HOLD PART TEMPERATURE AT 1900 DEGREES F. (+/- 15 DEGREES) HOLD FOR 45 MINUTES (+/ 5 MINUTES) RAPID COOL (VIA. WATER QUENCHING OR FORCED AIR CIRCULATION) TO 1000 DEGREES F. OPEN AIR COOL TO AMBIENT TEMP. Specification: AMS2774 Rev: JUL95 Certification: H/T CERTIFICATE Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Customer: PPPL Furnace charts: FURNACE CHART	1.00	1.00	1.00	SE121-001P / A	THRML TR/NA SA
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 6	NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	Service ID
Sub: 14 / Seq: 31 (R)	820-RECEIVING INSPECTION REVIEW HEAT TREAT CERTIFICATE AND FURNACE CHART Part Number: SE121-001P-2 PANEL 1	1.00	1.00	1.00	SE121-001P / 0	
		IDC Count : 1	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	Service ID
Sub: 14 / Seq: 35 (R)	805-INPROCESS INSPECTION - PLA VISUAL INSPECT SURFACE FOR DAMAGE, PITTING, GOUGES, SCRAPES ETC..... ON THE INSIDE (CONCAVE SURFACE), LOOK FOR ANY SURFACE DEFECTS OR IRREGULARITIES THAT MAY INHIBIT ACHIEVING THE REQUIRED 32 MICRO-INCH FINISH REQUIREMENT. ON THE OUTSIDE (CONVEX SURFACE), VERIFY THE SURFACE FINISH STILL MEETS THE REQUIREMENTS OF ASTM B 443-00. NOTIFY ENGINEERING (DOUG McCORKLE) FOR CONCURRENCE VERIFY MAGNETIC PERMEABILITY AND RECORD I.D.C. DATA Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 8 Specification: ASTM B443 Rev: 00 Specification: PP476 Rev: 4	1.00	1.00	1.00	SE121-001P / A	
		IDC Count : 1	Dwg Count: 0	Pgm Count: 0	QAP Count: 5	NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	Service ID
Sub: 14 / Seq: 40 (C)	341-PACIFIC 750 2ND FORMING OPERATION ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC....	1.00	1.00	1.00	SE121-001P / A	

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LOAD THE PREFORMED / ANNEALED PANEL INTO THE DIE SET.
 "RE-STRIKE" HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE # MTMFX-2903. PANEL TO GAGE GAP TOLERANCE: .094" MAX.
 NOTIFY INSPECTOR FOR Q/A IDC VERIFICATION

Part Number: SE121-001P-2 PANEL 1
 Part Description: DIE FORMED PANEL
 Specification: PP475 Rev: 8

IDC Count : 1 Dwg Count: 0 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 14 / Seq: 50 (C)	260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE / MARKINGS FROM THE FINAL FORMING PROCESS. MAINTAIN AN APPROXIMATE 20 - 40 DEGREE BLAST ANGLE Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / A

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 14 / Seq: 60 (R)	230-FABRICATION - WEIDNER TRIM PERIMETER TO PROVIDED TRIM-LINES (LEAVING STOCK FOR POSITIONING AND FITTING ON THE FAB FIXTURE). NOTE THAT INSTALLING THE WELD PREP IS NOT REQUIRED AT THIS STAGE (ADDITIONAL FITTING / TRIMMING WILL BE REQUIRED AT INSTALLATION) HIGH PRESSURE WASH PER PP475 NOTIFY Q/A FOR FINAL PANEL PROFILE CONFIRMATION PRIOR TO COMPLETING THE POLISHING AND INSTALLATION OF PROTECTIVE PLASTIC SAND AND POLISH THE INSIDE SURFACE 100% TO ACHIEVE A 32 MICRO SURFACE FINISH (WITH THE EXCEPTION OF THE WELDING / TRIMMING ZONES). CLEAN PANEL PER PP475 APPLY PROTECTIVE PLASTIC FILM (CONTACT DOUG McCORKLE FOR MATERIAL) STAGE PANEL FOR INSTALLATION Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / 0

IDC Count : 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 14 / Seq: 70 (R)	805-INPROCESS INSPECTION - PLA VERIFY PROFILE TO INSPECTION GAGE # MTMFX-2903. GAP TOLERANCE: .094" MAX. RECORD ACTUAL GAP READINGS ON INSPECTION DRAWING VERIFY PART PERIMETER EXCEEDS GAGE PERIMETER FOR TRIMMING AND FITTING AT ASSEMBLY INSPECT AND RECORD INTERIOR SIDE SURFACE FINISH (LESS PERIMETER / WELD ZONES) AND RECORD ACTUAL READINGS ON INSPECTION DRAWING INSPECT MAGNETIC PERMEABILITY PER PP476 AND ASTM A800, SUPPLEMENTARY REQUIREMENT S1 (BUT THE MEASUREMENT SHALL BE TAKEN IN RELATIVE PERMEABILITY RATHER THAN FERRITE CONTENT. THE SURFACES OF THE PVVS SHELL AND PORT EXTENSION SHALL BE CHECKED AND DOCUMENTED ON A 6" GRID. THE SURFACES AT AND NEAR WELDS WILL BE CHECKED ON A 1" GRID. RECORD ACTUAL PERMEABILITY READINGS ON INSPECTION DRAWING INSPECT MATERIAL THICKNESS PER PP477 (6" GRID)	1.00	1.00	1.00	SE121-001P / 0

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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RECORD ACTUAL MATERIAL THICKNESS ON INSPECTION DRAWING

Test Certification: SE121-001P-10MTM Rev: 2A
 Part Number: SE121-001P-2 PANEL 1
 Part Description: DIE FORMED PANEL
 Specification: ASME B46.1 Rev: 95
 Specification: ASTM A800 Rev: 2001
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Specification: PP479 Rev: 3

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
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 15 / Seq: 10 (R)	820-RECEIVING INSPECTION INSPECT BLANK SIZE PER DEVELOPMENT DRAWING (AUDIT DIMENSIONS WILL BE PROVIDED BY DOUG McCORKLE) INSPECT MATERIAL THICKNESS PER PP477 VISUAL INSPECT SURFACE FINISH (PANEL SURFACE SHOULD BE A SMOOTH MILL PRODUCED SURFACE, WITHOUT SCRAPES, GOUGES, HEAVY PITS, ETC... IT SHOULD BE IN A CONDITION THAT CAN BE READILY POLISHED WITHOUT EXCESSIVE MATERIAL REMOVAL (CONTACT ENGINEERING (DOUG McCORKLE IF FURTHER CLARIFICATION IS NEEDED) SAMPLE INSPECT MAGNETIC PERMEABILITY PER PP476, AND ASTM A800, SUPPLEMENTARY REQUIREMENT S1 (BUT THE MEASUREMENT SHALL BE TAKEN IN RELATIVE PERMEABILITY RATHER THAN FERRITE CONTENT). SAMPLE LOT SIZE: AT LEAST 10 EVENLY SPACED LOCATIONS. RECORD IDC DATA	1.00	1.00	1.00	SE121-001P / A

Part Number: SE121-001P-2 PANEL 2
 Part Description: DIE FORMED PANEL
 Specification: ASTM A800 Rev: 2001
 Customer: PPPL
 Specification: ASTM B443 Rev: 00
 Specification: ASME B46.1 Rev: 95
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Specification: ASTM A380 Rev: 99

IDC Count : 3 Dwg Count: 0 Pgm Count: 0 QAP Count: 10 NDT Count: 0 WPS Count: 0

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
10 (C)	SE121-001P-2 PANEL # 2-PANEL BLANK .375" THK INCONEL 625 Vendor Part ID: SE121-001P-2 PANEL # 2 PANEL BLANK AWJ CUT FROM .375" INCONEL 625 TO PROVIDED GEOMETRICAL SHAPE	1.0	SE121 / --	1810	

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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(SE121-001P-2 PANEL # 2.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
 CERTS & MILL TEST REPORTS REQ'D WITH SHIPMENT.
 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
 Specification: ASTM B46.1 Rev: 95

QAP Count: 6

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev						
Sub: 15 / Seq: 18 (C)	105-DEBURR PLT 1 LOW BAY RADIUS ALL CUT EDGES PRIOR TO FORMING Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / A	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev						
Sub: 15 / Seq: 20 (C)	341-PACIFIC 750 1ST FORM OPERATION: LOAD, ALIGN, AND BOLT DIE SET # MTMFX-2885 - MTMFX-2886 INTO THE 750 TON HYDRAULIC PRESS. ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... ENSURE THE PANEL BLANK IS CLEAN AND FREE OF FOREIGN MATTER. LOAD THE PANEL BLANK INTO THE DIE SET. HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE # MTMFX-2904. NOTE THAT THE FINAL PANEL TO GAGE GAP TOLERANCE IS .094" MAX. IT IS DESIRED TO GET AS CLOSE TO THIS AS POSSIBLE PRIOR TO ANNEALING. CLOSELY WATCH THE FORMING, WRINKLING, AND SPRING-BACK CHARACTERISTICS OF THE MATERIAL DURING THE FORMING PROCESS. WHEN IT'S APPARENT THE MATERIAL IS WORK HARDENING TO A DEGREE THAT FORMING BECOMES DIFFICULT, OR THE PHYSICAL INTEGRITY OF THE MATERIAL IS AT RISK, PROCEED TO THE NEXT SEQUENTIAL OPERATION (BLAST AND ANNEAL). A FINAL FORMING SEQUENCE IS PROVIDED FOR "FINAL SIZING" AFTER THE MATERIAL HAS BEEN ANNEALED. ENSURE THE PANEL MATERIAL EXTENDS BEYOND THE PERIMETER OF THE GAGE (ENOUGH TO PROVIDE ADEQUATE STOCK ALLOWANCE FOR RE-POSITIONING, RE-STRIKING, AND ACCURATE TRIMMING AFTER ANNEALING).	1.00	1.00	1.00	SE121-001P / A	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
	Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 8										

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev						
Sub: 15 / Seq: 22 (C)	230-FABRICATION - WEIDNER CUT OUT A LIFTING EYE FROM THE EXCESS TRIM STOCK THAT WAS REMOVED DURING THE FORMING CYCLE. INSTALL AND WELD IT TO THE PERIPHERAL EDGE OF THE FORMED PANEL (WHICH STILL HAS EXCESS TRIM STOCK REMAINING). POSITIONING CONSIDERATIONS: 1. POSITION TO SUIT NORMAL HANDLING AND LIFTING. 2. POSITION TO SUIT SETTING IN A VERTICAL STANCE IN THE HEAT TREAT OVEN (WIDE SIDE DOWN). 3. SHAPE AND POSITION THE LIFTING HOOK FOR A "QUICK AND EASY GAFF HOOK STYLE GRAB" WHEN REMOVING THE PARTS FROM THE HOT OVEN FOR A RAPID COOLING CYCLE. Specification: PP475 Rev: 8	1.00	1.00	1.00		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 1
WPS115 Rev:1 GTAW MAN GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW Notes: LIFTING HOOK TO PANEL EDGE											

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev						
Sub: 15 / Seq: 25 (C)	260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE / MARKINGS FROM THE INITIAL FORMING PROCESS. MAINTAIN AN APPROXIMATE BLAST ANGLE OF 20 TO 40 DEGREES BLOW OFF ALL RESIDUAL BLAST MEDIA PRIOR TO HANDLING. Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / A	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	Service ID
Sub: 15 / Seq: 30 (C)	520-SUBLET, EXOTIC HEAT TREAT SOLUTION ANNEAL FORMED PANEL PER THE FOLLOWING: ATTACH A MINIMUM OF THREE EQUALLY SPACED THERMOCOUPLES TO THE FORMED PANEL CHARGE FURNACE AND HEAT PART UNTIL THERMOCOUPLE READINGS ARE WITHIN 1900 +/-15F. HOLD PART TEMPERATURE AT 1900 DEGREES F. (+/- 15 DEGREES) HOLD FOR 45 MINUTES (+/ 5 MINUTES) RAPID COOL (VIA. WATER QUENCHING OR FORCED AIR CIRCULATION) TO 1000 DEGREES F. OPEN AIR COOL TO AMBIENT TEMP. 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: 8	1.00	1.00	1.00	SE121-001P / A	THRML TR/NA SA
IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 0						

Workorder	Part ID	Qty	Drawing ID / Rev	Engineer							
64880/1.0		1	/	BLUE/DOUG MCCORKLE							
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	IDC Count	Dwg Count	Pgm Count	QAP Count	NDT Count	WPS Count
Sub: 15 / Seq: 31 (R)	820-RECEIVING INSPECTION REVIEW HEAT TREAT CERTIFICATE AND FURNACE CHART Part Number: SE121-001P-2 PANEL 2	1.00	1.00	1.00	SE121-001P / 0	1	1	0	1	0	0
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	IDC Count	Dwg Count	Pgm Count	QAP Count	NDT Count	WPS Count
Sub: 15 / Seq: 35 (R)	805-INPROCESS INSPECTION - PLA VISUAL INSPECT SURFACE FOR DAMAGE, PITTING, GOUGES, SCRAPES ETC..... ON THE INSIDE (CONCAVE SURFACE), LOOK FOR ANY SURFACE DEFECTS OR IRREGULARITIES THAT MAY INHIBIT ACHIEVING THE REQUIRED 32 MICRO-INCH FINISH REQUIREMENT. ON THE OUTSIDE (CONVEX SURFACE), VERIFY THE SURFACE FINISH STILL MEETS THE REQUIREMENTS OF ASTM B 443-00. NOTIFY ENGINEERING (DOUG McCORKLE) FOR CONCURRENCE VERIFY MAGNETIC PERMEABILITY AND RECORD I.D.C. DATA Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 8 Specification: ASTM B443 Rev: 00 Specification: PP476 Rev: 4	1.00	1.00	1.00	SE121-001P / 0	1	1	0	5	0	0
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	IDC Count	Dwg Count	Pgm Count	QAP Count	NDT Count	WPS Count
Sub: 15 / Seq: 40 (R)	341-PACIFIC 750 2ND FORMING OPERATION ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... LOAD THE PREFORMED / ANNEALED PANEL INTO THE DIE SET. "RE-STRIKE" HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE # MTMFX-2904. PANEL TO GAGE GAP TOLERANCE: .094" MAX. NOTIFY INSPECTOR FOR Q/A IDC VERIFICATION Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / 0	1	1	0	3	0	0
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	IDC Count	Dwg Count	Pgm Count	QAP Count	NDT Count	WPS Count
Sub: 15 / Seq: 50 (R)	260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE / MARKINGS FROM THE FINAL FORMING PROCESS. Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / 0	0	1	0	1	0	0

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev					
Sub: 15 / Seq: 60 (R)	230-FABRICATION - WEIDNER	1.00	1.00	1.00	SE121-001P / 0					
	TRIM PERIMETER TO PROVIDED TRIM-LINES (LEAVING STOCK FOR POSITIONING AND FITTING ON THE FAB FIXTURE). NOTE THAT INSTALLING THE WELD PREP IS NOT REQUIRED AT THIS STAGE (ADDITIONAL FITTING / TRIMMING WILL BE REQUIRED AT INSTALLATION)									
	HIGH PRESSURE WASH PER PP475									
	NOTIFY Q/A FOR FINAL PANEL PROFILE CONFIRMATION PRIOR TO COMPLETING THE POLISHING AND INSTALLATION OF PROTECTIVE PLASTIC SAND AND POLISH THE INSIDE SURFACE 100% TO ACHIEVE A 32 MICRO SURFACE FINISH (WITH THE EXCEPTION OF THE WELDING / TRIMMING ZONES).									
	CLEAN PANEL PER PP475									
	APPLY PROTECTIVE PLASTIC FILM (CONTACT DOUG McCORKLE FOR MATERIAL)									
	STAGE PANEL FOR INSTALLATION									
	Specification: PP475 Rev: 8									
	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0				

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev					
Sub: 15 / Seq: 70 (R)	805-INPROCESS INSPECTION - PLA	1.00	1.00	1.00	SE121-001P / 0					
	VERIFY PROFILE TO INSPECTION GAGE # MTMFX-2904. GAP TOLERANCE: .094" MAX. RECORD ACTUAL GAP READINGS ON INSPECTION DRAWING									
	VERIFY PART PERIMETER EXCEEDS GAGE PERIMETER FOR TRIMMING AND FITTING AT ASSEMBLY									
	INSPECT AND RECORD INTERIOR SIDE SURFACE FINISH (LESS PERIMETER / WELD ZONES) AND RECORD ACTUAL READINGS ON INSPECTION DRAWING									
	INSPECT MAGNETIC PERMEABILITY PER PP476 AND ASTM A800, SUPPLEMENTARY REQUIREMENT S1 (BUT THE MEASUREMENT SHALL BE TAKEN IN RELATIVE PERMEABILITY RATHER THAN FERRITE CONTENT. THE SURFACES OF THE PVVS SHELL AND PORT EXTENSION SHALL BE CHECKED AND DOCUMENTED ON A 6" GRID. THE SURFACES AT AND NEAR WELDS WILL BE CHECKED ON A 1" GRID.									
	RECORD ACTUAL PERMEABILITY READINGS ON INSPECTION DRAWING									
	INSPECT MATERIAL THICKNESS PER PP477 (6" GRID)									
	RECORD ACTUAL MATERIAL THICKNESS ON INSPECTION DRAWING									
	Test Certification: SE121-001P-10MTM Rev: 2A									
	Part Number: SE121-001P-2 PANEL 2									
	Part Description: DIE FORMED PANEL									
	Specification: ASME B46.1 Rev: 95									
	Specification: ASTM A800 Rev: 2001									
	Specification: PP475 Rev: 8									
	Specification: PP476 Rev: 4									
	Specification: PP477 Rev: 5									
	Specification: PP479 Rev: 3									
	IDC Count : 3	Dwg Count: 1	Pgm Count: 0	QAP Count: 9	NDT Count: 0	WPS Count: 0				

Sub ID	Part ID	Qty	Drawing ID / Rev
16	SE121-001P-2 PANEL # 3	1	/
			Parent Sub:1 Op:10

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
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Workorder	Part ID	Qty	Drawing ID / Rev	Engineer	
64880/1.0		1	/	BLUE/DOUG MCCORKLE	
Sub: 16 / Seq: 10 (R)	820-RECEIVING INSPECTION	1.00	1.00	1.00	SE121-001P / A
	INSPECT BLANK SIZE PER DEVELOPMENT DRAWING (AUDIT DIMENSIONS WILL BE PROVIDED BY DOUG MCCORKLE)				
	INSPECT MATERIAL THICKNESS PER PP477				
	VISUAL INSPECT SURFACE FINISH (PANEL SURFACE SHOULD BE A SMOOTH MILL PRODUCED SURFACE, WITHOUT SCRAPES, GOUGES, HEAVY PITS, ETC... IT SHOULD BE IN A CONDITION THAT CAN BE READILY POLISHED WITHOUT EXCESSIVE MATERIAL REMOVAL (CONTACT ENGINEERING (DOUG MCCORKLE IF FURTHER CLARIFICATION IS NEEDED)				
	SAMPLE INSPECT MAGNETIC PERMEABILITY PER PP476, AND ASTM A800, SUPPLEMENTARY REQUIREMENT S1 (BUT THE MEASUREMENT SHALL BE TAKEN IN RELATIVE PERMEABILITY RATHER THAN FERRITE CONTENT). SAMPLE LOT SIZE: AT LEAST 10 EVENLY SPACED LOCATIONS.				
	RECORD IDC DATA				

Part Number: SE121-001P-2 PANEL 3
 Part Description: DIE FORMED PANEL
 Specification: ASTM A800 Rev: 2001
 Customer: PPPL
 Specification: ASTM B443 Rev: 00
 Specification: ASME B46.1 Rev: 95
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Specification: ASTM A380 Rev: --

IDC Count : 3 Dwg Count: 0 Pgm Count: 0 QAP Count: 10 NDT Count: 0 WPS Count: 0

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
10	SE121-001P-2 PANEL # 3-PANEL BLANK .375" THK INCONEL 625	1.0	SE121 / --	1810	
	Vendor Part ID: SE121-001P-2 PANEL # 3				
(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 CERTS & MILL TEST REPORTS REQ'D WITH SHIPMENT.				
	APPROXIMATE OVERALL SIZE: 54.97*76.37				

Material Certification:
 Part Number: SE121-001P-2 PANEL # 1
 Part Description: DIE FORMED PANEL
 Specification: ASTM A800 Rev: 01
 Specification: ASTM B443 Rev: 00
 Specification: ASTM B46.1 Rev: 95

QAP Count: 6

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 16 / Seq: 18 (C)	105-DEBURR PLT 1 LOW BAY	1.00	1.00	1.00	SE121-001P / A
	RADIUS ALL CUT EDGES PRIOR TO FORMING				

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 16 / Seq: 20 (C)	341-PACIFIC 750 1ST FORM OPERATION: LOAD, ALIGN, AND BOLT DIE SET # MTMFX-2887 - MTMFX-2892 INTO THE 750 TON HYDRAULIC PRESS. ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... ENSURE THE PANEL BLANK IS CLEAN AND FREE OF FOREIGN MATTER. LOAD THE PANEL BLANK INTO THE DIE SET. HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE # MTMFX-2905. NOTE THAT THE FINAL PANEL TO GAGE GAP TOLERANCE IS .094" MAX. IT IS DESIRED TO GET AS CLOSE TO THIS AS POSSIBLE PRIOR TO ANNEALING. CLOSELY WATCH THE FORMING, WRINKLING, AND SPRING-BACK CHARACTERISTICS OF THE MATERIAL DURING THE FORMING PROCESS. WHEN IT'S APPARENT THE MATERIAL IS WORK HARDENING TO A DEGREE THAT FORMING BECOMES DIFFICULT, OR THE PHYSICAL INTEGRITY OF THE MATERIAL IS AT RISK, PROCEED TO THE NEXT SEQUENTIAL OPERATION (BLAST AND ANNEAL). A FINAL FORMING SEQUENCE IS PROVIDED FOR "FINAL SIZING" AFTER THE MATERIAL HAS BEEN ANNEALED. ENSURE THE PANEL MATERIAL EXTENDS BEYOND THE PERIMETER OF THE GAGE (ENOUGH TO PROVIDE ADEQUATE STOCK ALLOWANCE FOR RE-POSITIONING, RE-STRIKING, AND ACCURATE TRIMMING AFTER ANNEALING).	1.00	1.00	1.00	SE121-001P / A
	Part Number: SE121-001P-2 PANEL 3 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 8				

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 16 / Seq: 22 (C)	230-FABRICATION - WEIDNER CUT OUT A LIFTING EYE FROM THE EXCESS TRIM STOCK THAT WAS REMOVED DURING THE FORMING CYCLE. INSTALL AND WELD IT TO THE PERIPHERAL EDGE OF THE FORMED PANEL (WHICH STILL HAS EXCESS TRIM STOCK REMAINING). POSITIONING CONSIDERATIONS: 1. POSITION TO SUIT NORMAL HANDLING AND LIFTING. 2. POSITION TO SUIT SETTING IN A VERTICAL STANCE IN THE HEAT TREAT OVEN (WIDE SIDE DOWN). 3. SHAPE AND POSITION THE LIFTING HOOK FOR A "QUICK AND EASY GAFF HOOK STYLE GRAB" WHEN REMOVING THE PARTS FROM THE HOT OVEN FOR A RAPID COOLING CYCLE.	1.00	1.00	1.00	
	Specification: PP475 Rev: 8				

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 1

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 16 / Seq: 25 (C)	260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE / MARKINGS FROM THE INITIAL FORMING PROCESS. MAINTAIN AN APPROXIMATE BLAST ANGLE OF 20 TO 40 DEGREES	1.00	1.00	1.00	SE121-001P / A

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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BLOW OFF ALL RESIDUAL BLAST MEDIA PRIOR TO HANDLING.
 Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 0

Operation Sub: 16 / Seq: 30 (C)	Resource 520-SUBLET, EXOTIC HEAT TREAT	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / A	Service ID THRML TR/NA SA
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SOLUTION ANNEAL FORMED PANEL PER THE FOLLOWING:
 ATTACH A MINIMUM OF THREE EQUALLY SPACED THERMOCOUPLES TO THE FORMED PANEL
 CHARGE FURNACE AND HEAT PART UNTIL THERMOCOUPLE READINGS ARE WITHIN 1900 +/-15F.
 HOLD PART TEMPERATURE AT 1900 DEGREES F. (+/- 15 DEGREES) HOLD FOR 45 MINUTES (+/ 5 MINUTES)
 RAPID COOL (VIA. WATER QUENCHING OR FORCED AIR CIRCULATION) TO 1000 DEGREES F. OPEN AIR COOL TO AMBIENT TEMP.
 Specification: AMS2774 Rev: JUL95
 Certification: H/T CERTIFICATE
 Part Number: SE121-001P-2 PANEL 3
 Part Description: DIE FORMED PANEL
 Customer: PPPL
 Furnace charts: FURNACE CHART
 Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 0

Operation Sub: 16 / Seq: 31 (R)	Resource 820-RECEIVING INSPECTION	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / 0	
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REVIEW HEAT TREAT CERTIFICATE AND FURNACE CHART
 Part Number: SE121-001P-2 PANEL 3

IDC Count : 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 0

Operation Sub: 16 / Seq: 35 (R)	Resource 805-INPROCESS INSPECTION - PLA	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / 0	
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VISUAL INSPECT SURFACE FOR DAMAGE, PITTING, GOUGES, SCRAPES ETC.....
 ON THE INSIDE (CONCAVE SURFACE), LOOK FOR ANY SURFACE DEFECTS OR IRREGULARITIES THAT MAY INHIBIT ACHIEVING THE REQUIRED 32 MICRO-INCH
 FINISH REQUIREMENT. ON THE OUTSIDE (CONVEX SURFACE), VERIFY THE SURFACE FINISH STILL MEETS THE REQUIREMENTS OF ASTM B 443-00.
 NOTIFY ENGINEERING (DOUG MCCORKLE) FOR CONCURRENCE
 VERIFY MAGNETIC PERMEABILITY AND RECORD I.D.C. DATA
 Part Number: SE121-001P-2 PANEL 3
 Part Description: DIE FORMED PANEL
 Specification: PP475 Rev: 8
 Specification: ASTM B443 Rev: 00
 Specification: PP476 Rev: 4

IDC Count : 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 5 NDT Count: 0 WPS Count: 0

Workorder	Part ID	Qty	Drawing ID / Rev	Engineer					
64880/1.0		1	/	BLUE/DOUG MCCORKLE					
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev				
Sub: 16 / Seq: 40 (R)	341-PACIFIC 750 2ND FORMING OPERATION ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... LOAD THE PREFORMED / ANNEALED PANEL INTO THE DIE SET. "RE-STRIKE" HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE # MTMFX-2905. PANEL TO GAGE GAP TOLERANCE: .094" MAX. NOTIFY INSPECTOR FOR Q/A IDC VERIFICATION Part Number: SE121-001P-2 PANEL 3 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / 0				
		IDC Count : 1	Dwg Count: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0		
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev				
Sub: 16 / Seq: 50 (R)	260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE / MARKINGS FROM THE FINAL FORMING PROCESS. Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / 0				
		IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0		
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev				
Sub: 16 / Seq: 60 (R)	230-FABRICATION - WEIDNER TRIM PERIMETER TO PROVIDED TRIM-LINES (LEAVING STOCK FOR POSITIONING AND FITTING ON THE FAB FIXTURE). NOTE THAT INSTALLING THE WELD PREP IS NOT REQUIRED AT THIS STAGE (ADDITIONAL FITTING / TRIMMING WILL BE REQUIRED AT INSTALLATION) HIGH PRESSURE WASH PER PP475 NOTIFY Q/A FOR FINAL PANEL PROFILE CONFIRMATION PRIOR TO COMPLETING THE POLISHING AND INSTALLATION OF PROTECTIVE PLASTIC SAND AND POLISH THE INSIDE SURFACE 100% TO ACHIEVE A 32 MICRO SURFACE FINISH (WITH THE EXCEPTION OF THE WELDING / TRIMMING ZONES). CLEAN PANEL PER PP475 APPLY PROTECTIVE PLASTIC FILM (CONTACT DOUG McCORKLE FOR MATERIAL) STAGE PANEL FOR INSTALLATION Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / 0				
		IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0		
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev				
Sub: 16 / Seq: 70 (R)	805-INPROCESS INSPECTION - PLA VERIFY PROFILE TO INSPECTION GAGE # MTMFX-2905. GAP TOLERANCE: .094" MAX. RECORD ACTUAL GAP READINGS ON INSPECTION DRAWING VERIFY PART PERIMETER EXCEEDS GAGE PERIMETER FOR TRIMMING AND FITTING AT ASSEMBLY INSPECT AND RECORD INTERIOR SIDE SURFACE FINISH (LESS PERIMETER / WELD ZONES) AND RECORD ACTUAL READINGS ON INSPECTION DRAWING INSPECT MAGNETIC PERMEABILITY PER PP476 AND ASTM A800, SUPPLEMENTARY REQUIREMENT S1 (BUT THE MEASUREMENT SHALL BE TAKEN IN RELATIVE PERMEABILITY RATHER THAN FERRITE CONTENT. THE SURFACES OF THE PVVS SHELL AND PORT EXTENSION SHALL BE CHECKED AND DOCUMENTED ON A 6"	1.00	1.00	1.00	SE121-001P / 0				

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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GRID. THE SURFACES AT AND NEAR WELDS WILL BE CHECKED ON A 1" GRID.
 RECORD ACTUAL PERMEABILITY READINGS ON INSPECTION DRAWING
 INSPECT MATERIAL THICKNESS PER PP477 (6" GRID)
 RECORD ACTUAL MATERIAL THICKNESS ON INSPECTION DRAWING

Test Certification: SE121-001P-10MTM Rev: 2A
 Part Number: SE121-001P-2 PANEL 3
 Part Description: DIE FORMED PANEL
 Specification: ASME B46.1 Rev: 95
 Specification: ASTM A800 Rev: 2001
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Specification: PP479 Rev: 3

IDC Count : 3 Dwg Count: 1 Pgm Count: 0 QAP Count: 9 NDT Count: 0 WPS Count: 0

Sub ID 17	Part ID SE121-001P-2 PANEL # 4	Qty 1	Drawing ID / Rev /	Parent Sub:1 Op:10
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 17 / Seq: 10 (C)	820-RECEIVING INSPECTION	1.00	1.00	1.00	SE121-001P / A
	INSPECT BLANK SIZE PER DEVELOPMENT DRAWING (AUDIT DIMENSIONS WILL BE PROVIDED BY DOUG McCORKLE)				
	INSPECT MATERIAL THICKNESS PER PP477				
	VISUAL INSPECT SURFACE FINISH (PANEL SURFACE SHOULD BE A SMOOTH MILL PRODUCED SURFACE, WITHOUT SCRAPES, GOUGES, HEAVY PITS, ETC... IT SHOULD BE IN A CONDITION THAT CAN BE READILY POLISHED WITHOUT EXCESSIVE MATERIAL REMOVAL (CONTACT ENGINEERING (DOUG McCORKLE IF FURTHER CLARIFICATION IS NEEDED)				
	SAMPLE INSPECT MAGNETIC PERMEABILITY PER PP476, AND ASTM A800, SUPPLEMENTARY REQUIREMENT S1 (BUT THE MEASUREMENT SHALL BE TAKEN IN RELATIVE PERMEABILITY RATHER THAN FERRITE CONTENT). SAMPLE LOT SIZE: AT LEAST 10 EVENLY SPACED LOCATIONS.				
	RECORD IDC DATA				

Part Number: SE121-001P-2 PANEL 4
 Part Description: DIE FORMED PANEL
 Specification: ASTM A800 Rev: 2001
 Customer: PPPL
 Specification: ASTM B443 Rev: 00
 Specification: ASME B46.1 Rev: 95
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Specification: ASTM A380 Rev: 99

IDC Count : 3 Dwg Count: 0 Pgm Count: 0 QAP Count: 10 NDT Count: 0 WPS Count: 0

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
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Workorder	Part ID	Qty	Drawing ID / Rev	Engineer
64880/1.0		1	/	BLUE/DOUG MCCORKLE
10	SE121-001P-2 PANEL # 4-PANEL BLANK .375" THK INCONEL 625	1.0	SE121 / --	1810
(C)	<p>Vendor Part ID: SE121-001P-2 PANEL # 4</p> <p>PANEL BLANK AWJ CUT FROM .375" INCONEL 625 TO PROVIDED GEOMETRICAL SHAPE (SE121-001P-2 PANEL # 1.DXF, REV. --)</p> <p>MATERIAL REQUIREMENTS: INCONEL 625 (UNS N06625) PER ASTM B 443-00 ANNEALED MAGNETIC PERMEABILITY SHALL NOT EXCEED 1.00 (REF. ASTM A800).</p> <p>SURFACE MUST BE PROTECTED FROM CONTACT WITH IRON AND IRON ALLOY MATERIALS CERTS & MILL TEST REPORTS REQ'D WITH SHIPMENT.</p> <p>APPROXIMATE OVERALL SIZE: 54.97*76.37</p> <p>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</p> <p style="text-align: right;">QAP Count: 6</p>			

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Sub: 17 / Seq: 18 (C)	105-DEBURR PLT 1 LOW BAY RADIUS ALL CUT EDGES PRIOR TO FORMING Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / A						

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 17 / Seq: 20 (C)	341-PACIFIC 750 1ST FORM OPERATION: LOAD, ALIGN, AND BOLT DIE SET # MTMFX-2888 - MTMFX-2889 INTO THE 750 TON HYDRAULIC PRESS. ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... ENSURE THE PANEL BLANK IS CLEAN AND FREE OF FOREIGN MATTER. LOAD THE PANEL BLANK INTO THE DIE SET. HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE # MTMFX-2906. NOTE THAT THE FINAL PANEL TO GAGE GAP TOLERANCE IS .094" MAX. IT IS DESIRED TO GET AS CLOSE TO THIS AS POSSIBLE PRIOR TO ANNEALING. CLOSELY WATCH THE FORMING, WRINKLING, AND SPRING-BACK CHARACTERISTICS OF THE MATERIAL DURING THE FORMING PROCESS. WHEN IT'S APPARENT THE MATERIAL IS WORK HARDENING TO A DEGREE THAT FORMING BECOMES DIFFICULT, OR THE PHYSICAL INTEGRITY OF THE MATERIAL IS AT RISK, PROCEED TO THE NEXT SEQUENTIAL OPERATION (BLAST AND ANNEAL). A FINAL FORMING SEQUENCE IS PROVIDED FOR "FINAL SIZING" AFTER THE MATERIAL HAS BEEN ANNEALED. ENSURE THE PANEL MATERIAL EXTENDS BEYOND THE PERIMETER OF THE GAGE (ENOUGH TO PROVIDE ADEQUATE STOCK ALLOWANCE FOR RE-POSITIONING, RE-STRIKING, AND ACCURATE TRIMMING AFTER ANNEALING).	1.00	1.00	1.00	SE121-001P / A
	Part Number: SE121-001P-2 PANEL 4 Part Description: DIE FORMED PANEL				

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	
Sub: 17 / Seq: 22 (C)	230-FABRICATION - WEIDNER CUT OUT A LIFTING EYE FROM THE EXCESS TRIM STOCK THAT WAS REMOVED DURING THE FORMING CYCLE. INSTALL AND WELD IT TO THE PERIPHERAL EDGE OF THE FORMED PANEL (WHICH STILL HAS EXCESS TRIM STOCK REMAINING). POSITIONING CONSIDERATIONS: 1. POSITION TO SUIT NORMAL HANDLING AND LIFTING. 2. POSITION TO SUIT SETTING IN A VERTICAL STANCE IN THE HEAT TREAT OVEN (WIDE SIDE DOWN). 3. SHAPE AND POSITION THE LIFTING HOOK FOR A "QUICK AND EASY GAFF HOOK STYLE GRAB" WHEN REMOVING THE PARTS FROM THE HOT OVEN FOR A RAPID COOLING CYCLE.	1.00	1.00	1.00		
	Specification: PP475 Rev: 8					

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 1

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	
Sub: 17 / Seq: 25 (C)	260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE / MARKINGS FROM THE INITIAL FORMING PROCESS. MAINTAIN AN APPROXIMATE BLAST ANGLE OF 20 TO 40 DEGREES BLOW OFF ALL RESIDUAL BLAST MEDIA PRIOR TO HANDLING.	1.00	1.00	1.00	SE121-001P / A	
	Specification: PP475 Rev: 8					

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	Service ID
Sub: 17 / Seq: 30 (C)	520-SUBLET, EXOTIC HEAT TREAT SOLUTION ANNEAL FORMED PANEL PER THE FOLLOWING: ATTACH A MINIMUM OF THREE EQUALLY SPACED THERMOCOUPLES TO THE FORMED PANEL CHARGE FURNACE AND HEAT PART UNTIL THERMOCOUPLE READINGS ARE WITHIN 1900 +/-15F. HOLD PART TEMPERATURE AT 1900 DEGREES F. (+/- 15 DEGREES) HOLD FOR 45 MINUTES (+/ 5 MINUTES) RAPID COOL (VIA. WATER QUENCHING OR FORCED AIR CIRCULATION) TO 1000 DEGREES F. OPEN AIR COOL TO AMBIENT TEMP.	1.00	1.00	1.00	SE121-001P / A	THRML TR/NA SA
	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: 8					

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 0

Workorder	Part ID	Qty	Drawing ID / Rev	Engineer							
64880/1.0		1	/	BLUE/DOUG MCCORKLE							
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	IDC Count	Dwg Count	Pgm Count	QAP Count	NDT Count	WPS Count
Sub: 17 / Seq: 31 (R)	820-RECEIVING INSPECTION REVIEW HEAT TREAT CERTIFICATE AND FURNACE CHART Part Number: SE121-001P-2 PANEL 4	1.00	1.00	1.00	SE121-001P / 0	1	1	0	1	0	0
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	IDC Count	Dwg Count	Pgm Count	QAP Count	NDT Count	WPS Count
Sub: 17 / Seq: 35 (R)	805-INPROCESS INSPECTION - PLA VISUAL INSPECT SURFACE FOR DAMAGE, PITTING, GOUGES, SCRAPES ETC..... ON THE INSIDE (CONCAVE SURFACE), LOOK FOR ANY SURFACE DEFECTS OR IRREGULARITIES THAT MAY INHIBIT ACHIEVING THE REQUIRED 32 MICRO-INCH FINISH REQUIREMENT. ON THE OUTSIDE (CONVEX SURFACE), VERIFY THE SURFACE FINISH STILL MEETS THE REQUIREMENTS OF ASTM B 443-00. NOTIFY ENGINEERING (DOUG McCORKLE) FOR CONCURRENCE VERIFY MAGNETIC PERMEABILITY AND RECORD I.D.C. DATA Part Number: SE121-001P-2 PANEL 4 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 8 Specification: ASTM B443 Rev: 00 Specification: PP476 Rev: 4	1.00	1.00	1.00	SE121-001P / 0	1	1	0	5	0	0
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	IDC Count	Dwg Count	Pgm Count	QAP Count	NDT Count	WPS Count
Sub: 17 / Seq: 40 (R)	341-PACIFIC 750 2ND FORMING OPERATION ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... LOAD THE PREFORMED / ANNEALED PANEL INTO THE DIE SET. "RE-STRIKE" HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE # MTMFX-2906. PANEL TO GAGE GAP TOLERANCE: .094" MAX. NOTIFY INSPECTOR FOR Q/A IDC VERIFICATION Part Number: SE121-001P-2 PANEL 4 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / 0	1	1	0	3	0	0
Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	IDC Count	Dwg Count	Pgm Count	QAP Count	NDT Count	WPS Count
Sub: 17 / Seq: 50 (R)	260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE / MARKINGS FROM THE FINAL FORMING PROCESS. Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / 0	0	1	0	1	0	0

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev											
Sub: 17 / Seq: 60 (R)	230-FABRICATION - WEIDNER	1.00	1.00	1.00	SE121-001P / 0	TRIM PERIMETER TO PROVIDED TRIM-LINES (LEAVING STOCK FOR POSITIONING AND FITTING ON THE FAB FIXTURE). NOTE THAT INSTALLING THE WELD PREP IS NOT REQUIRED AT THIS STAGE (ADDITIONAL FITTING / TRIMMING WILL BE REQUIRED AT INSTALLATION) HIGH PRESSURE WASH PER PP475 NOTIFY Q/A FOR FINAL PANEL PROFILE CONFIRMATION PRIOR TO COMPLETING THE POLISHING AND INSTALLATION OF PROTECTIVE PLASTIC SAND AND POLISH THE INSIDE SURFACE 100% TO ACHIEVE A 32 MICRO SURFACE FINISH (WITH THE EXCEPTION OF THE WELDING / TRIMMING ZONES). CLEAN PANEL PER PP475 APPLY PROTECTIVE PLASTIC FILM (CONTACT DOUG McCORKLE FOR MATERIAL) STAGE PANEL FOR INSTALLATION Specification: PP475 Rev: 8					IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev											
Sub: 17 / Seq: 70 (R)	805-INPROCESS INSPECTION - PLA	1.00	1.00	1.00	SE121-001P / 0	VERIFY PROFILE TO INSPECTION GAGE # MTMFX-2906. GAP TOLERANCE: .094" MAX. RECORD ACTUAL GAP READINGS ON INSPECTION DRAWING VERIFY PART PERIMETER EXCEEDS GAGE PERIMETER FOR TRIMMING AND FITTING AT ASSEMBLY INSPECT AND RECORD INTERIOR SIDE SURFACE FINISH (LESS PERIMETER / WELD ZONES) AND RECORD ACTUAL READINGS ON INSPECTION DRAWING INSPECT MAGNETIC PERMEABILITY PER PP476 AND ASTM A800, SUPPLEMENTARY REQUIREMENT S1 (BUT THE MEASUREMENT SHALL BE TAKEN IN RELATIVE PERMEABILITY RATHER THAN FERRITE CONTENT. THE SURFACES OF THE PVVS SHELL AND PORT EXTENSION SHALL BE CHECKED AND DOCUMENTED ON A 6" GRID. THE SURFACES AT AND NEAR WELDS WILL BE CHECKED ON A 1" GRID. RECORD ACTUAL PERMEABILITY READINGS ON INSPECTION DRAWING INSPECT MATERIAL THICKNESS PER PP477 (6" GRID) RECORD ACTUAL MATERIAL THICKNESS ON INSPECTION DRAWING Test Certification: SE121-001P-10MTM Rev: 2A Part Number: SE121-001P-2 PANEL 4 Part Description: DIE FORMED PANEL Specification: ASME B46.1 Rev: 95 Specification: ASTM A800 Rev: 2001 Specification: PP475 Rev: 8 Specification: PP476 Rev: 4 Specification: PP477 Rev: 5 Specification: PP479 Rev: 3					IDC Count : 3	Dwg Count: 1	Pgm Count: 0	QAP Count: 9	NDT Count: 0	WPS Count: 0

Sub ID 18	Part ID SE121-001P-2 PANEL # 5	Qty 1	Drawing ID / Rev /	Parent Sub:1 Op:10
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
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Workorder	Part ID	Qty	Drawing ID / Rev	Engineer
64880/1.0		1	/	BLUE/DOUG MCCORKLE
Sub: 18 / Seq: 10 (R)	820-RECEIVING INSPECTION	1.00	1.00	1.00 SE121-001P / A
	INSPECT BLANK SIZE PER DEVELOPMENT DRAWING (AUDIT DIMENSIONS WILL BE PROVIDED BY DOUG MCCORKLE)			
	INSPECT MATERIAL THICKNESS PER PP477			
	VISUAL INSPECT SURFACE FINISH (PANEL SURFACE SHOULD BE A SMOOTH MILL PRODUCED SURFACE, WITHOUT SCRAPES, GOUGES, HEAVY PITS, ETC... IT SHOULD BE IN A CONDITION THAT CAN BE READILY POLISHED WITHOUT EXCESSIVE MATERIAL REMOVAL (CONTACT ENGINEERING (DOUG MCCORKLE IF FURTHER CLARIFICATION IS NEEDED)			
	SAMPLE INSPECT MAGNETIC PERMEABILITY PER PP476, AND ASTM A800, SUPPLEMENTARY REQUIREMENT S1 (BUT THE MEASUREMENT SHALL BE TAKEN IN RELATIVE PERMEABILITY RATHER THAN FERRITE CONTENT). SAMPLE LOT SIZE: AT LEAST 10 EVENLY SPACED LOCATIONS.			
	RECORD IDC DATA			

Part Number: SE121-001P-2 PANEL 5
 Part Description: DIE FORMED PANEL
 Specification: ASTM A800 Rev: 2001
 Customer: PPPL
 Specification: ASTM B443 Rev: 00
 Specification: ASME B46.1 Rev: 95
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Specification: ASTM A380 Rev: 99

IDC Count : 3 Dwg Count: 0 Pgm Count: 0 QAP Count: 10 NDT Count: 0 WPS Count: 0

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
10	SE121-001P-2 PANEL # 5-PANEL BLANK .375" THK INCONEL 625	1.0	SE121 / --	1810	
	Vendor Part ID: SE121-001P-2 PANEL # 5				
(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 CERTS & MILL TEST REPORTS REQ'D WITH SHIPMENT.				
	APPROXIMATE OVERALL SIZE: 54.97*76.37				

Material Certification:
 Part Number: SE121-001P-2 PANEL # 1
 Part Description: DIE FORMED PANEL
 Specification: ASTM A800 Rev: 01
 Specification: ASTM B443 Rev: 00
 Specification: ASTM B46.1 Rev: 95

QAP Count: 6

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 18 / Seq: 18 (C)	105-DEBURR PLT 1 LOW BAY	1.00	1.00	1.00	SE121-001P / A
	RADIUS ALL CUT EDGES PRIOR TO FORMING				

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 18 / Seq: 20 (C)	341-PACIFIC 750 1ST FORM OPERATION: LOAD, ALIGN, AND BOLT DIE SET # MTMFX-2890 - MTMFX-2891 INTO THE 750 TON HYDRAULIC PRESS. ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... ENSURE THE PANEL BLANK IS CLEAN AND FREE OF FOREIGN MATTER. LOAD THE PANEL BLANK INTO THE DIE SET. HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE # MTMFX-2907. NOTE THAT THE FINAL PANEL TO GAGE GAP TOLERANCE IS .094" MAX. IT IS DESIRED TO GET AS CLOSE TO THIS AS POSSIBLE PRIOR TO ANNEALING. CLOSELY WATCH THE FORMING, WRINKLING, AND SPRING-BACK CHARACTERISTICS OF THE MATERIAL DURING THE FORMING PROCESS. WHEN IT'S APPARENT THE MATERIAL IS WORK HARDENING TO A DEGREE THAT FORMING BECOMES DIFFICULT, OR THE PHYSICAL INTEGRITY OF THE MATERIAL IS AT RISK, PROCEED TO THE NEXT SEQUENTIAL OPERATION (BLAST AND ANNEAL). A FINAL FORMING SEQUENCE IS PROVIDED FOR "FINAL SIZING" AFTER THE MATERIAL HAS BEEN ANNEALED. ENSURE THE PANEL MATERIAL EXTENDS BEYOND THE PERIMETER OF THE GAGE (ENOUGH TO PROVIDE ADEQUATE STOCK ALLOWANCE FOR RE-POSITIONING, RE-STRIKING, AND ACCURATE TRIMMING AFTER ANNEALING).	1.00	1.00	1.00	SE121-001P / A
	Part Number: SE121-001P-2 PANEL 5 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 8				

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 18 / Seq: 22 (C)	230-FABRICATION - WEIDNER CUT OUT A LIFTING EYE FROM THE EXCESS TRIM STOCK THAT WAS REMOVED DURING THE FORMING CYCLE. INSTALL AND WELD IT TO THE PERIPHERAL EDGE OF THE FORMED PANEL (WHICH STILL HAS EXCESS TRIM STOCK REMAINING). POSITIONING CONSIDERATIONS: 1. POSITION TO SUIT NORMAL HANDLING AND LIFTING. 2. POSITION TO SUIT SETTING IN A VERTICAL STANCE IN THE HEAT TREAT OVEN (WIDE SIDE DOWN). 3. SHAPE AND POSITION THE LIFTING HOOK FOR A "QUICK AND EASY GAFF HOOK STYLE GRAB" WHEN REMOVING THE PARTS FROM THE HOT OVEN FOR A RAPID COOLING CYCLE.	1.00	1.00	1.00	
	Specification: PP475 Rev: 8 WPS115 Rev:1 GTAW MAN GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW Notes: LIFTING HOOK TO PANEL EDGE				

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 1

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 18 / Seq: 25	260-SANDBLAST	1.00	1.00	1.00	SE121-001P / A

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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(C) SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE / MARKINGS FROM THE INITIAL FORMING PROCESS.
 MAINTAIN AN APPROXIMATE BLAST ANGLE OF 20 TO 40 DEGREES
 BLOW OFF ALL RESIDUAL BLAST MEDIA PRIOR TO HANDLING.
 Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 0

Operation Sub: 18 / Seq: 30	Resource 520-SUBLET, EXOTIC HEAT TREAT	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / A	Service ID THRML TR/NA SA
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(C) SOLUTION ANNEAL FORMED PANEL PER THE FOLLOWING:
 ATTACH A MINIMUM OF THREE EQUALLY SPACED THERMOCOUPLES TO THE FORMED PANEL
 CHARGE FURNACE AND HEAT PART UNTIL THERMOCOUPLE READINGS ARE WITHIN 1900 +/-15F.
 HOLD PART TEMPERATURE AT 1900 DEGREES F. (+/- 15 DEGREES) HOLD FOR 45 MINUTES (+/ 5 MINUTES)
 RAPID COOL (VIA. WATER QUENCHING OR FORCED AIR CIRCULATION) TO 1000 DEGREES F. OPEN AIR COOL TO AMBIENT TEMP.
 Specification: AMS2774 Rev: JUL95
 Certification: H/T CERTIFICATE
 Part Number: SE121-001P-2 PANEL 5
 Part Description: DIE FORMED PANEL
 Customer: PPPL
 Furnace charts: FURNACE CHART
 Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 0

Operation Sub: 18 / Seq: 31	Resource 820-RECEIVING INSPECTION	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / 0	
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(C) REVIEW HEAT TREAT CERTIFICATE AND FURNACE CHART
 Part Number: SE121-001P-2 PANEL 5

IDC Count : 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 0

Operation Sub: 18 / Seq: 35	Resource 805-INPROCESS INSPECTION - PLA	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / 0	
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(R) VISUAL INSPECT SURFACE FOR DAMAGE, PITTING, GOUGES, SCRAPES ETC.....
 ON THE INSIDE (CONCAVE SURFACE), LOOK FOR ANY SURFACE DEFECTS OR IRREGULARITIES THAT MAY INHIBIT ACHIEVING THE REQUIRED 32 MICRO-INCH FINISH REQUIREMENT. ON THE OUTSIDE (CONVEX SURFACE), VERIFY THE SURFACE FINISH STILL MEETS THE REQUIREMENTS OF ASTM B 443-00.
 NOTIFY ENGINEERING (DOUG MCCORKLE) FOR CONCURRENCE
 VERIFY MAGNETIC PERMEABILITY AND RECORD I.D.C. DATA
 Part Number: SE121-001P-2 PANEL 5
 Part Description: DIE FORMED PANEL
 Specification: PP475 Rev: 8
 Specification: ASTM B443 Rev: 00
 Specification: PP476 Rev: 4

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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IDC Count : 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 5 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 18 / Seq: 40 (R)	341-PACIFIC 750 2ND FORMING OPERATION ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... LOAD THE PREFORMED / ANNEALED PANEL INTO THE DIE SET. "RE-STRIKE" HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE # MTMFX-2907. PANEL TO GAGE GAP TOLERANCE: .094" MAX. NOTIFY INSPECTOR FOR Q/A IDC VERIFICATION	1.00	1.00	1.00	SE121-001P / 0
	Part Number: SE121-001P-2 PANEL 5 Part Description: DIE FORMED PANEL Specification: PP475 Rev: 8				

IDC Count : 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 18 / Seq: 50 (R)	260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE / MARKINGS FROM THE FINAL FORMING PROCESS. Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / 0

IDC Count : 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 18 / Seq: 60 (R)	230-FABRICATION - WEIDNER TRIM PERIMETER TO PROVIDED TRIM-LINES (LEAVING STOCK FOR POSITIONING AND FITTING ON THE FAB FIXTURE). NOTE THAT INSTALLING THE WELD PREP IS NOT REQUIRED AT THIS STAGE (ADDITIONAL FITTING / TRIMMING WILL BE REQUIRED AT INSTALLATION) HIGH PRESSURE WASH PER PP475 NOTIFY Q/A FOR FINAL PANEL PROFILE CONFIRMATION PRIOR TO COMPLETING THE POLISHING AND INSTALLATION OF PROTECTIVE PLASTIC SAND AND POLISH THE INSIDE SURFACE 100% TO ACHIEVE A 32 MICRO SURFACE FINISH (WITH THE EXCEPTION OF THE WELDING / TRIMMING ZONES). CLEAN PANEL PER PP475 APPLY PROTECTIVE PLASTIC FILM (CONTACT DOUG McCORKLE FOR MATERIAL) STAGE PANEL FOR INSTALLATION Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / 0

IDC Count : 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 18 / Seq: 70 (R)	805-INPROCESS INSPECTION - PLA VERIFY PROFILE TO INSPECTION GAGE # MTMFX-2907. GAP TOLERANCE: .094" MAX. RECORD ACTUAL GAP READINGS ON INSPECTION DRAWING VERIFY PART PERIMETER EXCEEDS GAGE PERIMETER FOR TRIMMING AND FITTING AT ASSEMBLY	1.00	1.00	1.00	SE121-001P / 0

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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INSPECT AND RECORD INTERIOR SIDE SURFACE FINISH (LESS PERIMETER / WELD ZONES) AND RECORD ACTUAL READINGS ON INSPECTION DRAWING
 INSPECT MAGNETIC PERMEABILITY PER PP476 AND ASTM A800, SUPPLEMENTARY REQUIREMENT S1 (BUT THE MEASUREMENT SHALL BE TAKEN IN RELATIVE PERMEABILITY RATHER THAN FERRITE CONTENT. THE SURFACES OF THE PVVS SHELL AND PORT EXTENSION SHALL BE CHECKED AND DOCUMENTED ON A 6" GRID. THE SURFACES AT AND NEAR WELDS WILL BE CHECKED ON A 1" GRID.
 RECORD ACTUAL PERMEABILITY READINGS ON INSPECTION DRAWING
 INSPECT MATERIAL THICKNESS PER PP477 (6" GRID)
 RECORD ACTUAL MATERIAL THICKNESS ON INSPECTION DRAWING

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 Rev: 2001
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Specification: PP479 Rev: 3

IDC Count : 3 Dwg 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)	Resource 410-BURNOUT TABLE BURNOUT TEST PLATES PER MATERIAL CARD. DEBURR AND SAND EDGES SMOOTH (WITH UNCONTAMINATED GRINDING WHEEL ONLY). FORWARD ONE PLATE TO ENGINEERING (DOUG McCORKLE) AND PROCESS THE OTHER PER THE FOLLOWING ROUTING STEPS.	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / A	IDC Count : 0	Dwg Count : 0	Pgm Count : 0	QAP Count : 0	NDT Count : 0	WPS Count : 0
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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
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Material Certification: NONE REQ'D TEST SAMPLE
 QAP Count: 1

Operation Sub: 24 / Seq: 10 (C)	Resource 230-FABRICATION - WEIDNER SAND AND POLISH THE TEST PIECE (ONE SIDE) TO A 32 RA MICRO SURFACE FINISH	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / A	IDC Count : 0	Dwg Count : 0	Pgm Count : 0	QAP Count : 0	NDT Count : 0	WPS Count : 0
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Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev				
Sub: 24 / Seq: 25 (C)	260-SANDBLAST MASK THE POLISHED SIDE AND BLAST THE OTHER SIDE WITH 180-220 GRIT VIRGIN ALUMINUM OXIDE.	1.00	1.00	1.00	SE121-001P / A				
	Drw N/A	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0		

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev				
Sub: 24 / Seq: 28 (C)	230-FABRICATION - WEIDNER CLEAN SAMPLE MATERIAL SURFACES PER PP475, 5.7 & 5.8. WRAP THE PART IN PLASTIC FOAM.	1.00	1.00	1.00	PP475 / 6				
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0		

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev				
Sub: 24 / Seq: 30 (R)	805-INPROCESS INSPECTION - PLA VERIFY THE FOLLOWING TEST SAMPLE ATTRIBUTES: SURFACE FINISH (PER ASME B46.1-1995) POLISHED 32 MICRO ON ONE SIDE, SMOOTH BLASTED SURFACE SIDE OPPOSITE (NO PITS, SCRAPES, GOUGES, ETC...). CLEANLINESS PER PP475. MAGNETIC PERMEABILITY (1.01 MAX) REPORT RESULTS TO ENGINEERING (DOUG McCORKLE) FOR FINAL DEVELOPMENT OF PP479.	1.00	1.00	1.00	SE121-001P / A				
		IDC Count : 3	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0		

Sub ID	Part ID	Qty	Drawing ID / Rev
26	SE121-001P-2 TEST PANEL NOTE:	1	/
		Parent Sub:1 Op:10	

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev				
Sub: 26 / Seq: 60 (R)	230-FABRICATION - WEIDNER OBTAIN THE DIE SET NUMBER ONE DEVELOPMENT PANEL (PRODUCED UNDER 64880/2, SUB ID 1) SPLIT THE PANEL TO SIMULATE PRODUCTION WELD JOINT(S). PREP, FIT AND WELD JOINTS TO DEVELOP WELDING SEQUENCES AND MINIMIZE WELDING DISTORTION. ENSURE THE PART IS RESTRAINED IN A MANNER SIMULATING PRODUCTION THROUGHOUT THE WELDING PROCESS. MAXIMUM INTERIOR (CONCAVE) SURFACE WELD FACE: 1 BEAD WIDTH CWI VISUAL INSPECT WELDS (CERTIFY EACH PASS) 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1. NO CERTIFICATE REQUIRED. THIS IS A TEST PIECE. REVIEW RESULTS WITH ENGINEERING (DOUG McCORKLE) SAND AND POLISH THE INSIDE (CONCAVE SIDE) SURFACE 100% TO ACHIEVE A 32 MICRO SURFACE FINISH. CLEAN TEST PANEL PER CLEANING PROCEDURE PP475. ENGINEERING / PRODUCTION REVIEW REQUIRED UPON COMPLETION.	1.00	1.00	1.00	SE121-001P / 0				
	Specification: PP475 Rev: 8 Specification: PP479 Rev: 3	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 2	NDT Count: 0	WPS Count: 1		

Workorder: 64880/1.0 Part ID: Qty: 1 Drawing ID / Rev: / Engineer: BLUE/DOUG MCCORKLE

WPS390-PPPL Rev:0 GTAW MAN
GTAW - Manual Fillers: INCONEL625_062_GTAW / INCONEL625_093_GTAW
Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev						
Sub: 26 / Seq: 70 (R)	805-INPROCESS INSPECTION - PLA VERIFY PROFILE TO INSPECTION GAGE # MTMFX-2903. GAP TOLERANCE: .188" MAX. INSPECT AND RECORD INTERIOR SIDE SURFACE FINISH. INSPECT AND RECORD MAGNETIC PERMEABILIY. Part Number: SE121-001P-2 TEST PANEL Part Description: DIE FORMED PANEL Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / 0	IDC Count : 3	Dwg Count: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0

Sub ID	Part ID	Qty	Drawing ID / Rev								
30	PQR PROCESS	1	/	Parent Sub:26 Op:60							

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev						
Sub: 30 / Seq: 10 (C)	410-BURNOUT TABLE BURN OUT TWO TEST PLATES 6 X 15 AND CLEANUP. NOTIFY WELDING ENGINEERING WHEN PARTS ARE AVAILIABLE	1.00	1.00	1.00		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions						
10	INCONEL 625_5-PLATE,NICKEL ALLOY .375" THK Vendor Part ID: INCONEL 625_5	338.3		1810	15.375*22						
(C)	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 CERTS & MILL TEST REPORTS REQ'D WITH SHIPMENT.					QAP Count: 2					

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev						
Sub: 30 / Seq: 20 (C)	230-FABRICATION - WEIDNER WELD PQR PLATE PER WELDING ENGINEERING DIRECTION.	1.00	1.00	1.00		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 1	WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev						
Sub: 30 / Seq: 30	705-WELD ENGINEERING/ CWI	1.00	1.00	1.00							

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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(C) CWI to visually inspect PQR test plate per the requirements of ASME Sect. IX, AWS D1.1, and AWS B2.1. MTM NDT certification form required
 IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 0 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 requirements of ASME Sect. IX, AWS D1.1, and AWS B2.1. Reference acceptance to all three specifications on the reader sheet.	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	Service ID TESTNG/MISC
		IDC Count : 0	Dwg Count: 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 face bend tests, and 2 root bend tests) to the requirements of the following three specifications; ASME Sect. IX, AWS D1.1, and AWS B2. * All test samples and remaining plate to be returned to Major Tool and Machine when complete. * Separate test reports are required for each specification. Test reports are to reference the PQR number and must provide the tensile failure locations/characterss. * All NDT has been performed by Major Tool and Machine. A copy of the radiographic report is included with the test plate for reference. * A reference sheet with pertinent welding data is included with the test plate. * 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 ERNiCrMo-3 (Inconel 625) - No post-weld heat treatment is required. - Test plate is supplied in the as-welded condition.	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	Service ID TESTNG/MISC
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0 WPS Count: 0

Sub ID 37	Part ID PQR PROCESS	Qty 1	Drawing ID / Rev /	Parent Sub:26 Op:60
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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 RECORD IDC PREP, WELD PQR PLATE PER WELDING ENGINEERING DIRECTION.	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	Service ID
		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 1.00	EndQt 1.00	Drawing ID / Rev	Service ID
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Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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(C) CWI to visually inspect PQR test plate per the requirements of ASME Sect. IX, AWS D1.1, and AWS B2.1. MTM NDT certification form required

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 0 NDT Count: 1 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev				
Sub: 37 / Seq: 40	818-MQS CONTRACTOR X-RAY	1.00	1.00	1.00					
(C)	Radiographically inspect PQR test plate per the requirements of ASME Sect. IX, AWS D1.1, and AWS B2.1. Reader sheet to state acceptance to all three specifications.								
	* PQR390								
	* Test plate material: .375" thick Inconel 625.								
	* Butt weld using Inconel 625 filler / GTAW process.								
	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0			

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	Service ID
Sub: 37 / Seq: 50	450-SUBLET	1.00	1.00	1.00		TESTNG/MISC
(C)	* Perform destructive testing (ref: 2 tensile tests, 2 face bend tests, and 2 root bend tests) per the requirements of the following three specifications; ASME Sect. IX, AWS D1.1, and AWS B2.1					
	* All test samples and remaining plate to be returned to Major Tool and Machine when complete.					
	* Separate test reports are required for each specification. Test reports are to reference the PQR number and must provide the tensile failure locations/characteristics.					
	* All NDT has been performed by Major Tool and Machine. A copy of the radiographic report is included with the test plate for reference.					
	* A reference sheet with pertinent welding data is included with the test plate.					
	* 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 material ERNiCrMo-3 (Inconel 625)					
	- No post-weld heat treatment is required.					
	- Test plate is supplied in the as-welded condition.					
	Test Certification: VENDOR FORM					
	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0

Sub ID	Part ID	Qty	Drawing ID / Rev
19	SE212-003P-3-PORT EXTENSION	1	SE121-001P / 0
			Parent Sub:1 Op:70

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 19 / Seq: 10	230-FABRICATION - WEIDNER	1.00	1.00	1.00	SE121-001P / 0
(R)	POSITION, INSTALL AND WELD CONFLAT FLANGE TO TUBE PER DRAWING.				
	FIT AND TRIM THE LENGTH FOR INSTALLATION. PREP FOR WELDING IN PLACE.				
	GRIND / BLEND THE INTERIOR WELD SMOOTH.				
	POLISH THE ENTIRE INSIDE SURFACE SMOOTH TO ACHIEVE A 32 MICRO SURFACE FINISH. CLEAN PER PP475				
	CWI VISUAL INSPECT THE PORT EXTENSION TUBE TO CONFLAT FLANGE WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V.				

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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ACCEPTANCE PER AWS D1.6, 6.29.1.
 Part Number: SE212-003P-3
 Specification: PP475 Rev: 8
 Part Description: PORT EXTENSION
 Certification: CWI CERTIFICATION
 Specification: PP479 Rev: 3

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 5 NDT Count: 0 WPS Count: 1

WPS328.5-PPPL Rev:2 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 19 / Seq: 20 (R)	805-INPROCESS INSPECTION - PLA VERIFY CLEANLINESS INSPECT THE INTERIOR SURFACE FINISH OF THE PORT SUB-ASSY. INSPECT THE MAGNETIC PERMEABILITY OF THE PORT EXTENSION TO FLANGE WELD AND SURROUNDING AREA. RECORD IDC DATA Part Number: SE212-003P-3 Part Description: PORT EXTENSION Customer: PPPL Specification: ASME B46.1 Rev: 95 Specification: A800 Rev: 2001 Specification: PP476 Rev: 4 Specification: PP477 Rev: 5 Specification: PP475 Rev: 8 Specification: PP479 Rev: 3	1.00	1.00	1.00	SE121-001P / 0
		IDC Count : 2	Dwg Count: 1	Pgm Count: 0	QAP Count: 9 NDT Count: 0 WPS Count: 0

Sub ID	Part ID	Qty	Drawing ID / Rev
20	CONFLAT FLANGE	1	/
			Parent Sub:19 Op:10

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 20 / Seq: 10 (C)	820-RECEIVING INSPECTION RECEIVING INSPECTION RECEIVE AND INSPECT THE FOLLOWING PARTS: (THEY SHOULD ALL ARRIVE TOGETHER) F10000000NC4 FG1000CI FG1000VU FB1000C12S GC0275S	1.00	1.00	1.00	SE121-002P / --

Workorder 64880/1.0 Part ID Qty Drawing ID / Rev Engineer BLUE/DOUG MCCORKLE

CONTACT ENGINEERING (DOUG MCCORKLE) WHEN PARTS ARRIVE.

IDC N/A IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
10	F1000000NC4-FLANGE, CONFLAT, NON-ROTATE, 10.00"	1.0			
(C)	FLANGE, CONFLAT, NON-ROTATABLE 10.00 X BLANK X 0.97", CLEAR BOLT HOLES, 304L				

Material Certification:
Part Number: F1000000NC4

QAP Count: 2

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
20	FG1000CI-GASKET KIT (10/PK), COPPER, FOR 10" CFF	1.0			
(C)	GASKET KIT (10/PACK), COPPER, INDIVIDUAL SEAL, FOR 10" CONFLAT FLANGE VARIAN VACUUM TECHNOLOGIES				

Material Certification:
Part Number: FG1000CI

QAP Count: 2

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
30	FG1000VU-GASKET, VITON, FOR 10" CFF	1.0			
(C)	GASKET, VITON, FOR 10" CONFLAT FLANGE VARIAN VACUUM TECHNOLOGIES				

Material Certification:
Part Number: FG1000VU

QAP Count: 2

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
40	FB1000C12S-BOLT AND NUT KIT, 12 PT, SILVER PLATED	1.0			
(C)	BOLT AND NUT KIT (25/PACK), 12 POINT, ASTM A193 GR. B8 SILVER PLATED, FOR 10" CONFLAT FLANGE VARIAN VACUUM TECHNOLOGIES				

Material Certification:
Part Number: FB1000C12S

QAP Count: 2

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
50	GC0275S-GASKET CLIP KIT (10/PK), FOR 10" CFF	1.0			
(C)	GASKET CLIP KIT (10/PACK) FOR 10" CONFLAT FLANGE VARIAN VACUUM TECHNOLOGIES				

Material Certification:

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Part Number: GC0275S

QAP Count: 2

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	IDC Count	Dwg Count	Pgm Count	QAP Count	NDT Count	WPS Count
Sub: 20 / Seq: 20 (R)	108-TOOL ROOM - PLANT 1 **HOLD FOR ENGINEERING PROCESS DRAWING. MACHINE SPECIAL PORT FEATURE FOR VACUUM TESTING. SPOTFACE, DRILL A CENTER DRILL SPOT IN THE CENTER OF THE FLANGE (FOR INSTALLATION / POSITIONING AID).	1.00	1.00	1.00	SE121-002P / 0	0	1	0	0	0	0

Sub ID 21	Part ID PORT EXTENSION TUBE	Qty 1	Drawing ID / Rev /	Parent Sub:19 Op:10
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	IDC Count	Dwg Count	Pgm Count	QAP Count	NDT Count	WPS Count
Sub: 21 / Seq: 10 (C)	230-FABRICATION - WEIDNER OPERATION SEQUENCE DELETED	1.00	1.00	1.00	SE121-002P / --	0	0	0	0	0	0
Piece # 10	Part ID SE121-001P-5-INCO 625 TUBE 8.0" OD X .12" WA. X 18.0" Vendor Part ID: SE121-001P-5			Qty 1.0	Drawing ID / Rev			Vendor 5647		Dimensions	
(C)	TUBE, ROUND, INCONEL 625, SEAMLESS OR WELDED. ASTM B444 OR ASTM B705 MTM AUTHORIZATION OF WELDING PROCEDURE REQUIRED PRIOR TO STARTING WORK. NOTE THAT THE FOLLOWING REQUIREMENTS WILL BE PERFORMED / TESTED BY MAJOR TOOL & MACHINE AFTER DELIVERY. ALL EFFORTS TO ACCOMODATE / ENSURE SUCESS MUST BE MAINTAINED: MAGNETIC PERMEABILITY REQUIREMENT: 1.01 MAX. VACUUM INTEGRITY REQUIREMENT: TOTAL HELIUM LEAK RATE FOR THE TUBE SHALL BE LESS THAN OR EQUAL TO 1.7 X 10(-9) TORR-L/S INTERIOR SURFACE FINISH REQUIREMENT: INTERIOR WELD BEADS WILL BE GROUND FLUSH. THE ENTIRE INTERIOR SURFACE WILL BE POLISHED TO A 32 MICRO SURFACE FINISH AND VERIFIED PER ASME B46.1. EXTERIOR SURFACE FINISH: MILL SURFACE ACCEPTABLE. NO PITS, SCRAPES OR GOUGES. MATERIAL CERTIFICATION AND TEST REPORTS REQ'D WITH SHIPMENT.										

QAP Count: 3

Sub ID 29	Part ID PORT EXTENSION TUBE (TAKE 2)	Qty 1	Drawing ID / Rev SE121-002P / 0	Parent Sub:19 Op:10
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 29 / Seq: 10 (R)	805-INPROCESS INSPECTION - PLA PRIOR TO CUTTING / FORMING, INSPECT AND RECORD THE MAGNETIC PERMEABILITY OF THE SHEET (COORDINATE WITH MATERIALS DEPT. AND INSPECT THE APPROXIMATE PART ENVELOPE WITHIN THE STOCK SHEET)	1.00	1.00	1.00	SE121-002P / --

Workorder: 64880/1.0 Part ID: Qty: 1 Drawing ID / Rev: / Engineer: BLUE/DOUG MCCORKLE

Part Number: SE121-001P-3
 Part Description: PVVS PORT EXTENSION TUBE
 Specification: PP476 Rev: 4
 Specification: PP475 Rev: 8

IDC Count : 1 Dwg Count: 0 Pgm Count: 0 QAP Count: 4 NDT Count: 0 WPS Count: 0

Operation **Resource** **QtyPer** **StartQty** **EndQt** **Drawing ID / Rev**
 Sub: 29 / Seq: 20 415-ROLLING/SHEAR/BRAKE PRESS 1.00 1.00 1.00 SE121-002P / --
 (C) 1. SHEAR RECTANGLE PER MATERIAL CARD DIMENSIONS
 2. ROLL TO 8" O.D. +/-0.03" X 20" LONG. LEAVE TRIM STOCK OVERLAPPED (FABRICATOR WILL TRIM). ENSURE OVERLAP IS ADEQUATE TO TRIM AND FIT THE DIAMETER REMOVING ANY ROLL FLATS RESULTANT FROM STARTING AND FINISHING THE ROLLING SEQUENCE.
 3. NOTIFY Q/A FOR DIMENSIONAL / MAGNETIC PERMEABILITY VERIFICATION.
 Part Number: SE121-001P-3
 Part Description: PVVS PORT EXTENSION TUBE
 Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Piece # **Part ID** **Qty** **Drawing ID / Rev** **Vendor** **Dimensions**
 10 INCONEL 625_660-SHEET,NICKEL ALLOY .125" THK 760.0 20*38
 (C) INCONEL 625 SHEET, .125" THICK PER
 AMS 5599 / ASTM B443 (UNS N06625).
 CERT AND MILL TEST REPORT REQ'D WITH SHIPMENT.

Material Certification:
 Part Number: SE121-001P-3
 Part Description: PORT EXTENSION TUBE

QAP Count: 3

Operation **Resource** **QtyPer** **StartQty** **EndQt** **Drawing ID / Rev**
 Sub: 29 / Seq: 30 805-INPROCESS INSPECTION - PLA 1.00 1.00 1.00 SE121-002P / --
 (C) 1. INSPECT DIAMETER AND OVERALL LENGTH.
 2. INSPECT AND RECORD MAGNETIC PERMEABILITY (AFTER ROLLING)
 Part Number: SE121-001P-3
 Part Description: PVVS PORT EXTENSION TUBE
 Specification: PP476 Rev: 4
 Specification: PP475 Rev: 8

IDC Count : 1 Dwg Count: 0 Pgm Count: 0 QAP Count: 4 NDT Count: 0 WPS Count: 0

Operation **Resource** **QtyPer** **StartQty** **EndQt** **Drawing ID / Rev**
 Sub: 29 / Seq: 40 230-FABRICATION - WEIDNER 1.00 1.00 1.00 SE121-002P / --
 (C) TRIM, FIT, (PURGE WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL) AND TACK WELD INTO 8" O.D. TUBE.

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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CLEAN AND PREPARE FOR PLASMA ARC WELDING
 Specification: PP475 Rev: 8
 Part Number: SE121-001P-3
 Part Description: PVVS PORT EXTENSION TUBE

IDC Count : 6 Dwg Count: 0 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 29 / Seq: 50 (R)	205-PLASMA WORKCENTER PORT EXTENSION TUBE WELDING OPERATION	1.00	1.00	1.00	SE121-001P / 0

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.
 CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 SETUP, PURGE WELD JOINT WITH 100% ARGON.
 PLASMA ARC WELD THE AXIAL WELD SEAM.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.

Test Certification: CWI CERTIFICATE Rev:
 Part Number: SE121-001P-3
 Part Description: PORT EXTENSION TUBE
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 1

WPS380-PPPL Rev:2 PAW MAC
 PAW - Machine Fillers: INCONEL625_035_GMAW
 Notes: PLASMA WELDING

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 29 / Seq: 60 (R)	230-FABRICATION - WEIDNER BLEND THE INTERIOR WELD SURFACE FLUSH TO THE BASE MATERIAL.	1.00	1.00	1.00	SE121-001P / 0

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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POLISH THE ENTIRE INTERIOR OF THE TUBE TO ACHIEVE A 32 MICRO-INCH RA SURFACE FINISH.
CLEAN PER PP475
Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
GTAW - Manual Fillers: INCONEL625_062_GTAW / INCONEL625_093_GTAW
Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev						
Sub: 29 / Seq: 70 (R)	805-INPROCESS INSPECTION - PLA INSPECT DIAMETER, WALL THICKNESS, ROUNDNESS, WELDING DISTORTION, MAGNETIC PERMEABILITY, AND INTERIOR SURFACE FINISH. RECORD IDC DATA Part Number: SE121-001P-3 Part Description: PVVS PORT EXTENSION TUBE Specification: PP475 Rev: 8 Specification: PP476 Rev: 4 Specification: PP477 Rev: 5 Specification: ASME B46.1 Rev: 95 Specification: A800 Rev: 2001 Specification: PP479 Rev: 3	1.00	1.00	1.00	SE121-001P / 0	IDC Count : 3	Dwg Count: 1	Pgm Count: 0	QAP Count: 8	NDT Count: 0	WPS Count: 0

Sub ID	Part ID	Qty	Drawing ID / Rev								
32	PLASMA PQR	1	/	Parent Sub:29 Op:50							

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev						
Sub: 32 / Seq: 10 (C)	705-WELD ENGINEERING/ CWI CWI to visually inspect PQR test plate per the requirements of ASME Sect. IX, AWS D1.1, and AWS B2.1. MTM NDT certification form required	1.00	1.00	1.00		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 1	WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev						
Sub: 32 / Seq: 20 (C)	818-MQS CONTRACTOR X-RAY Radiographically inspect PQR test plate per the requirements of ASME Sect. IX, AWS D1.1, and AWS B2.1. Reference acceptance to all three specifications on the reader sheet.	1.00	1.00	1.00		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	Service ID
Sub: 32 / Seq: 30 (C)	450-SUBLET * Perform destructive testing (ref: 2 tensile tests, 2 face bend tests, and 2 root bend tests) to the requirements of the following three specifications;	1.00	1.00	1.00		TESTNG/MISC

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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- ASME Sect. IX, AWS D1.1, and AWS B2.
- * All test samples and remaining plate to be returned to Major Tool and Machine when complete.
 - * Separate test reports are required for each specification. Test reports are to reference the PQR number and must provide the tensile failure locations/characters.
 - * All NDT has been performed by Major Tool and Machine. A copy of the radiographic report is included with the test plate for reference.
 - * A reference sheet with pertinent welding data is included with the test plate.
 - * Test plate info:
 - One plate - 3/8" thick Inconel 625
 - One plate - 3/8" thick Inconel 625
 - Both plates butt welded using filler material ERNiCrMo-3 (Inconel 625)
 - No post-weld heat treatment is required.
 - Test plate is supplied in the as-welded condition.

IDC Count : 0 Dwg Count: 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
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 33 / Seq: 10 (R)	415-ROLLING/SHEAR/BRAKE PRESS	1.00	1.00	1.00	
	1. SHEAR RECTANGLE PER MATERIAL CARD DIMENSIONS				
	2. ROLL TO 8" O.D. +/-0.03" X 6" LONG. LEAVE TRIM STOCK OVERLAPPED (FABRICATOR WILL TRIM). ENSURE OVERLAP IS ADEQUATE TO TRIM AND FIT THE DIAMETER REMOVING ANY ROLL FLATS RESULTANT FROM STARTING AND FINISHING THE ROLLING SEQUENCE.				

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
10 (R)	INCONEL 625_660-SHEET,NICKEL ALLOY .125" THK	180.0			6*30
	INCONEL 625 SHEET, .125" THICK PER AMS 5599 / ASTM B443 (UNS N06625). CERT AND MILL TEST REPORT REQ'D WITH SHIPMENT.				

Material Certification:
Part Number: SE121-001P-3
Part Description: PORT EXTENSION TUBE

QAP Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 33 / Seq: 20 (R)	205-PLASMA WORKCENTER	1.00	1.00	1.00	SE121 / --
	TRIM FIT AND TACK WELD CYLINDER. SETUP, PURGE WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL, AND PLASMA ARC WELD THE JOINT				

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 1

WPS380-PPPL Rev:2 PAW MAC

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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PAW - Machine Fillers: INCONEL625_035_GMAW
Notes: PLASMA WELDING

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev						
Sub: 33 / Seq: 30 (R)	230-FABRICATION - WEIDNER TRIM BOTH ENDS TO PRODUCE A TEST PIECE 4" MINIMUM LENGTH 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	1.00	1.00	1.00		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0

Sub ID	Part ID	Qty	Drawing ID / Rev
25	SE121-003P-4-PORT EXTENSION WELD BACKING RING	1	/
Parent Sub:1 Op:90			

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev						
Sub: 25 / Seq: 10 (R)	415-ROLLING/SHEAR/BRAKE PRESS 1. SHEAR STRIP PER MATERIAL CARD AND DEBURR. 2. ROLL THE EASY WAY TO A 8.093" I.D. OBJ (0.031" WELD SHRINKAGE ALLOWANCE). 3. NOTIFY Q/A FOR DIMENSIONAL / MAGNETIC PERMEABILITY VERIFICATION. Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-003P / 0	IDC Count : 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0

Piece #	Part ID	Qty	Drawing ID / Rev	Vendor	Dimensions
10 (C)	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. Material Certification: Part Number: SE121-003P-4 Part Description: WELD BACKING RING	162.0			4.5*36
QAP Count: 3					

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 25 / Seq: 15 (C)	805-INPROCESS INSPECTION - PLA INSPECT AND RECORD MAGNETIC PERMEABILITY (AFTER ROLLING) Part Number: SE121-001P-4 Part Description: PVVS PORT EXTENSION WELD RING	1.00	1.00	1.00	SE121 / --

Workorder	Part ID	Qty	Drawing ID / Rev	Engineer
64880/1.0		1	/	BLUE/DOUG MCCORKLE
	Specification: PP475 Rev: 8 Specification: PP476 Rev: 4			
	IDC Count : 1	Dwg Count: 0	Pgm Count: 0	QAP Count: 4
				NDT Count: 0
				WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 25 / Seq: 20 (R)	230-FABRICATION - WEIDNER 1. TRIM AND FIT TO VESSEL CONTOUR, CUT WIDTH, PREP 2. WELD PER DRAWING (SIZE TO EXISTING PORT TUBE) 3. BLEND WELD FLUSH TO BASE METAL 4. CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1. 5. COORDINATE RE-ROLLING IF NECESSARY TO IMPROVE ROUNDNESS. Specification: PP475 Rev: 8 Part Number: SE121-003P-4 Part Description: PORT EXTENSION WELD RING Certification: CWI CERTIFICATE	1.00	1.00	1.00	SE121-003P / 0
	IDC Count : 5	Dwg Count: 1	Pgm Count: 0	QAP Count: 4	NDT Count: 0
	WPS390-PPPL Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL625_062_GTAW / INCONEL625_093_GTAW Notes:				WPS Count: 1

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 25 / Seq: 30 (R)	415-ROLLING/SHEAR/BRAKE PRESS RE-ROLL / ROUND UP BAND (IF NECESSARY) FABRICATOR WILL ADVISE... Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121 / A
	IDC Count : 0	Dwg Count: 5	Pgm Count: 0	QAP Count: 1	NDT Count: 0
					WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 25 / Seq: 40 (R)	805-INPROCESS INSPECTION - PLA VERIFY DIMENSIONAL CONDITION / FIT-UP TO EXISTING PORT EXTENSION TUBE VERIFY MAGNETIC PERMEABILITY VERIFY WALL THICKNESS VERIFY CLEANLINESS RECORD I.D.C. DATA Part Number: SE121-003P-4 Specification: ASTM A800 Rev: 2001 Specification: PP476 Rev: 4 Specification: PP475 Rev: 8 Part Description: PORT EXTENSION WELD RING Specification: PP479 Rev: 3	1.00	1.00	1.00	SE121-003P / 0
	IDC Count : 2	Dwg Count: 1	Pgm Count: 0	QAP Count: 6	NDT Count: 0
					WPS Count: 0

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Sub ID 28	Part ID STORAGE / SHIPPING CRATE	Qty 1	Drawing ID / Rev /	Parent Sub:1 Op:115
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Operation Sub: 28 / Seq: 10 (R)	Resource 425-SHIPPING - PLANTS 1 & 2 BUILD 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.	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121 / A	IDC Count : 0	Dwg Count: 5	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
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Sub ID 31	Part ID NAMEPLATE	Qty 1	Drawing ID / Rev /	Parent Sub:1 Op:115
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Operation Sub: 31 / Seq: 10 (C)	Resource 415-ROLLING/SHEAR/BRAKE PRESS SHEAR RECTANGLE PER MATERIAL CARD DEBURR EDGES AND CLEANUP NOTIFY Q/A AND HAVE THE MAGNETIC PERMEABILITY CHECKED (AND RECORDED) PRIOR TO SUBCONTRACTING.	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	IDC Count : 1	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
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Piece # 10 (C)	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. Material Certification: TRACE ID: 92220 Part Number: NAMEPLATE	Qty 24.0	Drawing ID / Rev	Vendor	Dimensions 4*6	QAP Count: 2
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Operation Sub: 31 / Seq: 11 (C)	Resource 260-SANDBLAST 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.	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
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Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Operation Sub: 31 / Seq: 15 (R)	Resource 450-SUBLET ETCH THE FOLLOWING INFORMATION PER PROVIDED DRAWING: MAJOR TOOL & MACHINE, INC. LOGO (USE FURNISHED ARTWORK) PPPL LOGO (USE FURNISHED ARTWORK)	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	Service ID ENGRVNG/ETCHNG
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SE121-01
NATIONAL COMPACT STELLARATOR EXPERIMENT
PROTOTYPE VACUUM VESSEL SEGMENT
PRIME-CONTRACT: DE-AC02-76-CH03073
SUB-CONTRACT: S-04344-F
SCOPE: NCSX-SOW-121-01-02
SPECIFICATION: NCSX-CSPEC-121-01-01
MANUFACTURER: MAJOR TOOL AND MACHINE, INC.
MTM #: 64880

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: 8
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 (R)	Resource 820-RECEIVING INSPECTION RECEIVE AND INSPECT NAMEPLATE PER MTM PURCHASE ORDER INSPECT MAGNETIC PERMEABILITY AND RECORD IDC DATA Specification: PP476 Rev: 4	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	Service ID
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IDC Count : 1 Dwg Count: 0 Pgm Count: 0 QAP Count: 1 NDT Count: 0 WPS Count: 0

Sub ID 38	Part ID FIXED DATUM TARGETS FOR PROFIL	Qty 1	Drawing ID / Rev / Parent Sub:1 Op:115
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Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Operation Sub: 38 / Seq: 10 (R)	Resource 820-RECEIVING INSPECTION RECEIVE AND INSPECT	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
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Sub ID 39	Part ID SE121-003P NCSX PVVS COMPLETE	Qty 1	Drawing ID / Rev /	Parent Sub:0 Op:20
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Operation Sub: 39 / Seq: 10 (R)	Resource 230-FABRICATION - WEIDNER LAYOUT AND PLASMA CUT THE PORT EXTENSION TUBE OFF THE VESSEL WALL (NORMAL TO VESSEL SURFACE) PER DRAWING. PLASMA CUT THE PORT OPENING INTO THE VESSEL WALL PER DRAWING (CUT UNDERSIZE ALLOWING FOR GRINDING / SIZING TO PORT EXTENSION I.D.) USE A CIRCLE CUTTING DEVICE TO ENSURE PROPER SIZE AND ROUNDNESS. REMOVE THE RE-CAST / HEAT AFFECTED ZONE FROM EACH CUT SURFACE BY GRINDING. GRIND / BLEND THE PORT EXTENSION EDGE AND VESSEL WALL OPENING SMOOTH (MAINTAINING PROPER SIZE AND RELATIONSHIP TO THE I.D. OF THE PORT EXTENSION TUBE). PREP THE EDGES OF THE PORT STUB AND PORT EXTENSION TUBE FOR RE-INSTALLATION. POSITION AND SKIP WELD THE BACKING RING (SE121-003P-4) IN PLACE (TO THE END OF THE DETACHED PORT EXTENSION TUBE) PER DRAWING SE121-003P SET THE PART ON THE RE-POSITIONING RISERS, USE THE PORT LOCATING FEATURE FOR POSITIONING, AND RE-INSTALL THE PORT EXTENSION ASSEMBLY TO THE PORT STUB AND WELD IN PLACE PER DRAWING SE121-003P. GRIND AND BLEND THE PORT EXTENSION INTERIOR WELD SMOOTH. CWI VISUAL INSPECT EACH WELD PASS 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1. ENSURE ALL COSMETIC WELDING AND BLENDING IS COMPETE, ENSURE ALL INTERIOR SURFACES ARE POLISHED AND CLEANED, MASK THE INTERIOR SURFACES AND CONFLAT FLANGE FACE, AND PREPARE PART FOR FINAL (EXTERIOR) BLAST AND FINAL INSPECTION.	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-002P / 0
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Part Number: SE121-003P Rev: 0
Part Description: NCSX PVVS COMPLETE
Specification: ASNT 2055 SNT-TC-1A Rev: 1996
Method: VT-PP-001 Rev: B
Specification: PP475 Rev: 8
NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
Notes:

Operation Sub: 39 / Seq: 20 (R)	Resource 260-SANDBLAST BLAST THE OUTSIDE SURFACE 100% USING 220 GRIT VIRGIN ALUMINUM OXIDE. Specification: PP475 Rev: 8 Part Number: SE121-003P	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121 / A
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Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Part Description: NCSX PVVS COMPLETE

IDC Count : 0 Dwg Count: 5 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 39 / Seq: 30 (R)	230-FABRICATION - WEIDNER 1. REMOVE MASKING AND PROTECTIVE PLASTIC 2. CLEAN THE PVVS 3. SET THE PVVS ONTO THE TEMPORARY SUPPORT DEVICES AND TACK WELD IN PLACE 4. INSTALL TOOLING BALL MONUMENTS TO THE PERIPHERY, TACK WELD IN PLACE. FINAL LOCATION / POSITION TO BE DETERMINED BY Q/A AND APPROVED BY ENGINEERING PRIOR TO WELDING. ENSURE ADEQUATE INERT GAS COVERAGE IS MAINTAINED (on both surfaces) THROUGHOUT THE WELDING AND COOLING PROCESS TO AVOID OXIDATION / DISCOLORATION) 5. INSTALL NAMEPLATE PER ENGINEERING DIRECTION 6. ENSURE PART IS PREPARED FOR FINAL INSPECTION	1.00	1.00	1.00	SE121-003P / 0

Part Number: SE121-003P Rev: 0

Part Description: NCSX PVVS

Specification: PP475 Rev: 8

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN

GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW

Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 39 / Seq: 40 (R)	817-SMX LASER FINAL DIMENSIONAL INSPECTION / POTENTIAL CUSTOMER SOURCE INSPECTION. 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. FINAL PROFILE INSPECTION. INSPECT AND RECORD THE VESSEL PROFILE, TRIM LINES (20 DEGREE SURFACES), AND PORT EXTENSION POSITION. INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGMENT / VERIFICATION TO THE 3D MODEL. FINAL MAGNETIC PERMEABLITY VERIFICATION. VERIFY MAGNETIC PERMEABILITY OF ALL STRUCTURAL WELDS (1" increments), VESSEL WALL (6" grid), PORT EXTENSION TUBE (6" grid), CONFLAT FLANGE, FLANGE TO TUBE WELD. RECORD THE COORDINANTS OF EACH ATTACHED MONUMENT (ENGINEERING INPUT REQUIRED). THESE COODINANTS WILL BE USED TO SETUP FOR PROFILE VERIFICATION AT PRINCETON. FINAL INTERIOR SURFACE FINISH VERIFICATION. VISUAL INSPECT THE ENTIRE INTERIOR. VERIFY THE ENTIRE SURFACE IS SMOOTH AND FREE OF PITS, DENTS, IRREGULARITIES, GRINDING / SANDING MARKS, ETC... ENSURE THE ENTIRE SURFACE CAN BE WIPED CLEAN WITH A LINT FREE WIPE WITHOUT SNAGGING. INSPECT (APPROXIMATE 6" GRID) WITH PROFILOMETER. REFERENCE PP479 RECORD FINAL SURFACE FINISH INFORMATION ON THE INSPECTION DRAWING RECORD IDC DATA Part Number: SE121-003P Part Description: NCSX PVVS COMPLETE	1.00	1.00	1.00	SE121-003P / 0

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Specification: ASME B46.1 Rev: 95
 Certification: MAG. PERM. CERTIFICATION
 Certification: PROFILE CERTIFICATION
 Certification: INT. SURF. FINISH CERT.
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 Specification: PP476 Rev: 4
 Specification: PP479 Rev: 3
 Map(s): SE121-001P-1MTM Rev: 2A

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 11 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 39 / Seq: 50 (R)	230-FABRICATION - WEIDNER REMOVE PART FROM INSPECTION SUPPORTS ENSURE CLEANLINESS IS MAINTAINED FORWARD TO QUALITY LAB FOR FINAL VISUAL INSPECTION AND PREPARATION FOR SHIPMENT Part Number: SE121-003P Specification: PP475 Rev: 8 Part Description: NCSX PVVS COMPLETE	1.00	1.00	1.00	
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 3 NDT Count: 0 WPS Count: 0

Sub ID	Part ID	Qty	Drawing ID / Rev
40	PVVS PRIMARY FABRICATION JOIN	1	/
			Parent Sub:39 Op:10

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 10 (R)	230-FABRICATION - WEIDNER PRIMARY FABRICATION FITUP OPERATION # 1	1.00	1.00	1.00	SE121-001P / 0
	INSTALL PANEL SUB-SET 2-5-4 ONTO THE BUILD FIXTURE. UTILIZE THE LASER TRACKER FOR PROFILE VERIFICATION DURING THE POSITIONING AND TACK WELDING. TACK WELD THE PANEL SUB SET TO THE FIXTURE AND INSTALL TEMPORARY BRACING TO THE CENTER OF THE EDGES TO BE MACHINED Part Number: SE121-001P Rev: 0 Part Description: PVVS PRIMARY FABRICATION Specification: PP475 Rev: 8	IDC Count : 5	Dwg Count: 1	Pgm Count: 0	QAP Count: 3 NDT Count: 0 WPS Count: 1
	WPS390-PPPL Rev:0 GTAW MAN GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW Notes:				

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
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Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Sub: 40 / Seq: 20
(R)
 817-SMX LASER 1.00 1.00 1.00 SE121-001P / 0
 PRIMARY FABRICATION FITUP VERIFICATION OPERATION # 1
 LASER TRACKER ASSIST FABRICATOR WITH PANEL POSITIONING AND ALIGNMENT (PREVIOUS SEQUENCE).
 Part Number: SE121-001P
 Part Description: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation Sub: 40 / Seq: 30 (R)	Resource 162-DORRIES SCHARMANN GANTR N/C MACHINE SEAM NUMBERS 1-2, AND 3-4 TO FINISH PER PROGRAM	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P-1MTM / 0A
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NOTE: THE MACHINING WILL BE DONE ON THE PANEL SUB-SET NUMBER 2-5-4. THE NEXT SET WILL BE SCRIBED ONLY.
 REFER TO DRAWING FOR PICTORIAL REPRESENTATION.
 Part Number: SE121-001P
 Part Description: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation Sub: 40 / Seq: 40 (R)	Resource 230-FABRICATION - WEIDNER PRIMARY FABRICATION FITUP OPERATION # 2	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / 0
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REMOVE THE 2-5-4 PANEL SUB-SET FROM THE FIXTURE. DEBURR THE MACHINING. SPRAY WASH / CLEAN THE SUB-SET AND PREPARE IT FOR RE-INSTALLATION
 INSTALL AND TACK WELD THE 1-3 PANEL SUB-SET ONTO THE FIXTURE (UTILIZING THE LASER TRACKER TO ENSURE PROFILE LIMITS ARE MAINTAINED)
 NOTE THAT EXTRA BRACING SHOULD NOT BE REQUIRED FOR THIS STEP SINCE THE MACHINE WILL BE MERELY SCRIBING THE WELD SEAM LOCATION AS APPOSED TO THE MACHINING PERFORMED ON SUB-SET 2-5-4.

Part Number: SE121-001P Rev: 0
 Part Description: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation Sub: 40 / Seq: 50 (R)	Resource 817-SMX LASER PRIMARY FABRICATION FITUP VERIFICATION OPERATION # 2	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / 0
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LASER TRACKER ASSIST FABRICATOR WITH PANEL POSITIONING AND ALIGNMENT (PREVIOUS SEQUENCE).

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Part Number: SE121-001P
Part Description: PVVS PRIMARY FABRICATION
Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 60 (R)	162-DORRIES SCHARMANN GANTR N/C SCRIBE SEAM NUMBERS 1-2, AND 3-4 ONTO PANEL SUB-SET 1-3 (AT +0.100" STOCK) PER PROGRAM. Part Number: SE121-001P Part Description: PVVS PRIMARY FABRICATION Specification: PP475 Rev: 8	1.00	1.00	1.00	
		IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 70 (R)	230-FABRICATION - WEIDNER PRIMARY FABRICATION OPERATION # 1	1.00	1.00	1.00	SE121-001P / 0
	REMOVE PANEL 1-3 SUB-SET FROM THE FIXTURE HIGH PRESSURE WASH THE PANEL SUB-SET AND FIXTURE. RE-INSTALL PANEL SUB-SET 2-5-4 ONTO THE BUILD FIXTURE (UTILIZE THE LAZER TRACKER TO ENSURE PROFILE / PROPER POSITION IS MAINTAINED) AND TACK WELD IN PLACE. TRIM, FIT, AND POSTITION PANEL SUB-SET 1-3 TO THE FIXTURE AND PANEL SUB-SET 2-5-4 (UTILIZING THE LASER TRACKER TO ENSURE PROPER POSTITION AND PROFILE TOLERANCE IS MAINTAINED). TACK WELD IN PLACE. NOTE THAT THE INTERIOR PROFILE FIXTURE REST STOP SURFACES ARE DESIGNED AT NOMINAL GEOMETRIC POSITION TO AVOID STARTING ANY LOWER THAN MID-TOLERANCE. SHIM IF NECESSARY TO MAINTAIN AN AVERAGE PROFILE STARTING POSITION OF (+.090"). UTILIZE THE LASER TRACKER TO ENSURE PROFILE IS MAINTAINED AND TOLERANCE IS OPTIMIZED PRIOR TO TACK-WELDING THE SEAM. ENSURE THE UPPER AND LOWER EDGES PROTRUDE AT LEAST .06" ABOVE (AND BELOW) THE FIXTURE FACES TO COMPENSATE FOR NORMAL LONGITUDINAL WELD SHRINKAGE AND FINAL TRIMMING THE OVERALL HEIGHT TO THE FIXTURE REGISTER FACES. ONCE THE TWO SUB-SETS ARE IN OPTIMUM POSITION, THE MATING SEAMS ARE FIT (AND ACCEPTED BY ENGINEERING), INSTALL POSITIVE REST STOPS TO ENSURE ACCURATE RELOCATION AFTER THE PANEL IS REMOVED FOR GRINDING THE WELD PREP AND CLEANING. REMOVE THE PANELS AND GRIND WELD PREPS. ***NOTE: THE WELD JOINT ROOT / FACE GEOMETRY MUST BE CONFIGURED AND ORIENTATED TO MINIMIZE DISTORTION AND KEEP THE BEAD WIDTH ON THE INTERIOR SIDE OF THE VESSEL (VACUUM SIDE) AS NARROW AS POSSIBLE. INTERIOR (VACUUM FACING) SIDE WELD FACES MUST BE KEPT AS NARROW AS POSSIBLE (1 WELD BEAD WIDTH MAX). ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDED / POLISHING THE WELDS. NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST. CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS) REINSTALL THE PANELS TO THE FIXTURE REST STOPS. UTILIZE THE LASER TRACKER TO CONFIRM PROFILE / PART ORIENTATION HAS BEEN MAINTAINED. ENSURE EACH PANEL IS RE-ALIGNED (SMOOTH AND CONTINUOUS) TO ITS ADJACENT MEMBER AND MIS-MATCH IS MINIMIZED. CWI / ENGINEERING CONCURRENCE REQUIRED. NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.				

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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TACK-WELD THE PANELS TOGETHER.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P
 Part Description: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5

IDC Count : 9 Dwg Count: 1 Pgm Count: 0 QAP Count: 4 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 80 (R)	817-SMX LASER PRIMARY FABRICATION INSPECTION OPERATION # 1	1.00	1.00	1.00	SE121-001P / 0

LASER TRACKER ASSIST FABRICATOR WITH SUB-SET POSITIONING AND ALIGNMENT (PREVIOUS SEQUENCE).
 AFTER THE SUB-SETS ARE COMPLETELY POSITIONED AND TACK WELDED, INSPECT / VERIFY POSITIONING, FIT-UP, AND PROFILE OF EACH TACK WELDED SUB-SET PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / 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 GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 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: PVVS PRIMARY WELDMENT
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Operation Sub: 40 / Seq: 90 (R)	Resource 230-FABRICATION - WEIDNER PRIMARY FABRICATION OPERATION # 2	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / 0
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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.

CLEAN THE WELD JOINTS AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)

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

WELD THE ROOT PASSES UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.

ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.

NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.

NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.

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.

CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.

ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P
Part Description: PVVS PRIMARY FABRICATION
Specification: PP475 Rev: 8
Specification: PP477 Rev: 5
NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
Method: VT-PP-001 Rev: B
Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 8 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
Notes:

Operation Sub: 40 / Seq: 100 (R)	Resource 817-SMX LASER PRIMARY FABRICATION INSPECTION OPERATION # 2	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / 0
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AFTER THE ROOT WELDS ARE COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:

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

ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.02" BELOW NOMINAL GEOMETRY (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.

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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INSPECTION POINT GRID: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% NEAR WELDS, AND APPROXIMATELY 10% WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
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: PVVS PRIMARY FABRICATION
Specification: PP475 Rev: 8
Specification: PP476 Rev: 4
Specification: PP477 Rev: 5
Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 110 (R)	230-FABRICATION - WEIDNER PRIMARY FABRICATION OPERATION # 3	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINTS AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
WELD THE FIRST INTER-PASS (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.
NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
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.
CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P
Part Description: PVVS PRIMARY FABRICATION
Specification: PP475 Rev: 8
Specification: PP477 Rev: 5
NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
Method: VT-PP-001 Rev: B
Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 8 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 120 (R)	817-SMX LASER PRIMARY FABRICATION INSPECTION OPERATION # 3	1.00	1.00	1.00	SE121-001P / 0

AFTER THE FIRST INTER-PASS WELDS ARE COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.04" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 130 (R)	230-FABRICATION - WEIDNER PRIMARY FABRICATION OPERATION # 4	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINTS AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE SECOND INTER-PASSES (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1. ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P
 Part Description: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 8 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 140 (R)	817-SMX LASER PRIMARY FABRICATION INSPECTION OPERATION # 4	1.00	1.00	1.00	SE121-001P / 0

AFTER THE SECOND INTER-PASS WELDS ARE COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING: INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL. ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.06" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS. ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA). 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: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 150 (R)	230-FABRICATION - WEIDNER PRIMARY FABRICATION OPERATION # 5	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINTS AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE THIRD INTER-PASSES (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS. NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P
 Part Description: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 8 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 160 (R)	817-SMX LASER PRIMARY FABRICATION INSPECTION OPERATION # 5	1.00	1.00	1.00	SE121-001P / 0

AFTER THE THIRD INTER-PASS WELDS ARE COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.08" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 170 (R)	230-FABRICATION - WEIDNER PRIMARY FABRICATION OPERATION # 6	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINTS AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE FOURTH INTER-PASSES (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS. NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P
 Part Description: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 8 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 180 (R)	817-SMX LASER PRIMARY FABRICATION INSPECTION OPERATION # 6	1.00	1.00	1.00	SE121-001P / 0

AFTER THE FOURTH INTER-PASS WELDS ARE COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.100" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
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: PVVS PRIMARY FABRICATION
Specification: PP475 Rev: 8
Specification: PP476 Rev: 4
Specification: PP477 Rev: 5
Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 190 (R)	230-FABRICATION - WEIDNER PRIMARY FABRICATION OPERATION # 7	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINTS AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
WELD THE INTERIOR COVER PASSES UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.
NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
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.
CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
ASSIST Q/A WITH PROFILE VERIFICATION.

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Part Number: SE121-001P
 Part Description: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 8 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 200 (R)	817-SMX LASER PRIMARY FABRICATION INSPECTION OPERATION # 7	1.00	1.00	1.00	SE121-001P / 0

AFTER THE INTERIOR COVER PASS WELDS ARE COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.120" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 210	230-FABRICATION - WEIDNER	1.00	1.00	1.00	SE121-001P / 0

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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(R) PRIMARY FABRICATION OPERATION # 8

BACK GRIND THE EXTERIOR SIDE OF THE WELD JOINTS.
 CLEAN THE WELD JOINTS AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 CWI VISUAL INSPECT BACK GRIND 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE EXTERIOR COVER PASSES UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P
 Part Description: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 8 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 220 (R)	817-SMX LASER PRIMARY FABRICATION INSPECTION OPERATION # 8	1.00	1.00	1.00	SE121-001P / 0

AFTER THE EXTERIOR COVER PASS WELDS ARE COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.140" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 230 (R)	230-FABRICATION - WEIDNER PRIMARY FABRICATION OPERATION # 9	1.00	1.00	1.00	SE121-001P / --
<p>PRE-CLEAN, POSITION, TRIM, FIT, PREP, AND TACK WELD THE PORT EXTENSION IN PLACE PER DRAWING. INTILIZE THE FIXTURE POSITIONING PROVISIONS TO ENSURE PROPER LOCATION. Part Number: SE121-001P Part Description: PVVS PRIMARY FABRICATION Specification: PP475 Rev: 8</p>					
<p>IDC Count : 5 Dwg Count: 0 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0</p>					

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 240 (R)	817-SMX LASER PRIMARY FABRICATION INSPECTION OPERATION # 9	1.00	1.00	1.00	SE121-001P / 0
<p>AFTER THE PORT EXTENSION SUB-ASSEMBLY IS TACK WELDED IN PLACE, INSPECT AND RECORD THE POSITION OF THE PORT EXTENSION, AND PROFILE OF THE VESSEL WALL IN THE GENERAL AREA OF THE PORT EXTENSION PER THE FOLLOWING: INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL. ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.140" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS. ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA). 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.</p>					

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Part Number: SE121-001P
Part Description: PVVS PRIMARY FABRICATION
Specification: PP475 Rev: 8
Specification: PP476 Rev: 4
Specification: PP477 Rev: 5
Map(s): SE121-001P-IMTM Rev: 0A

IDC Count : 3 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 250 (R)	230-FABRICATION - WEIDNER PRIMARY FABRICATION OPERATION # 10	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
WELD THE PORT EXTENSION TO VESSEL ROOT PASS UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS. NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
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.
CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P
Part Description: PVVS PRIMARY FABRICATION
Specification: PP475 Rev: 8
Specification: PP477 Rev: 5
NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
Method: VT-PP-001 Rev: B
Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 260 (R)	817-SMX LASER PRIMARY FABRICATION INSPECTION OPERATION # 10	1.00	1.00	1.00	SE121-001P / 0

Workorder
64880/1.0

Part ID

Qty Drawing ID / Rev
1 /

Engineer
BLUE/DOUG MCCORKLE

AFTER THE PORT EXTENSION SUB-ASSEMBLY ROOT WELD IS COMPLETE, INSPECT AND RECORD THE POSITION OF THE PORT EXTENSION, AND PROFILE OF THE VESSEL WALL IN THE GENERAL AREA OF THE PORT EXTENSION PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.160" (LOCALIZED) BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 3 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 270 (R)	230-FABRICATION - WEIDNER PRIMARY FABRICATION OPERATION # 11	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL.
 THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PORT EXTENSION TO VESSEL INTER-PASS UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDED / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P
 Part Description: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW

Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 280 (R)	817-SMX LASER PRIMARY FABRICATION INSPECTION OPERATION # 11	1.00	1.00	1.00	SE121-001P / 0

AFTER THE PORT EXTENSION SUB-ASSEMBLY INTER-PASS WELD IS COMPLETE, INSPECT AND RECORD THE POSITION OF THE PORT EXTENSION, AND PROFILE OF THE VESSEL WALL IN THE GENERAL AREA OF THE PORT EXTENSION PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.170" (LOCALIZED) BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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: PVVS PRIMARY FABRICATION
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 3 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 290 (R)	230-FABRICATION - WEIDNER PRIMARY FABRICATION OPERATION # 12	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
WELD THE PORT EXTENSION TO VESSEL COVER PASS UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDED / POLISHING THE WELDS.
NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
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.
CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
TRIM AND SAND THE OVERALL HEIGHT FLUSH TO THE FIXTURE FACES (FINISHING THE HEIGHT OF THE 20 DEGREE SEGMENT)
CLEAN THE PART, AND ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P
Part Description: PVVS PRIMARY FABRICATION
Specification: PP475 Rev: 8
Specification: PP477 Rev: 5
NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
Method: VT-PP-001 Rev: B
Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 300 (R)	817-SMX LASER PRIMARY FABRICATION INSPECTION OPERATION # 12	1.00	1.00	1.00	SE121-001P / 0

FINAL INSPECTION ON FIXTURE.
AFTER THE PORT EXTENSION SUB-ASSEMBLY COVER PASS WELD IS COMPLETE, AND THE PART HAS BEEN TRIMMED TO FINISH HEIGHT, INSPECT AND RECORD THE POSITION OF THE PORT EXTENSION, OVERALL HEIGHT, AND PROFILE OF THE ENTIRE VESSEL PER THE FOLLOWING:
INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.180" (LOCALIZED) BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
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.

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Part Number: SE121-001P
Part Description: PVVS PRIMARY FABRICATION
Specification: PP475 Rev: 8
Specification: PP476 Rev: 4
Specification: PP477 Rev: 5
Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 3 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 310 (R)	230-FABRICATION - WEIDNER PRIMARY FABRICATION OPERATION # 13	1.00	1.00	1.00	SE121-001P / --

1. INSTALL TEMPORARY SUPPORTS TO RELOCATE THE PART FOR FINAL DIMENSIONAL INSPECTION (IN A FREE STATE).
2. REMOVE THE FABRICATION FROM THE FIXTURE.
3. POLISH AND CLEAN THE ENTIRE INTERIOR SURFACE OF THE PVVS (INCLUDING PORT EXTENSION).
4. INSTALL THE CONFLAT FLANGE COMPONENTS
5. CLEAN, LAYOUT, AND PREPARE THE PART FOR RADIOGRAPHIC INSPECTION.

Part Number: SE121-001P
Part Description: PVVS PRIMARY FABRICATION
Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 320 (R)	818-MQS CONTRACTOR X-RAY 100% RADIOGRAPHIC INSPECT THE SEAM 1-2, AND 3-4 STRUCTURAL WELDS (LOCATIONS IDENTIFIED ON PART) PER THE FOLLOWING: ASME SECTION VIII, DIVISION 1, UW-51 MAP THE FILM NUMBERS AND FILM LOCATIONS ON MTM INSPECTION DRAWING. Specification: ASME SECTION VIII Map(s): SE121-001P-1MTM Rev: 0A Part Number: SE121-001P Part Description: PVVS PRIMARY FABRICATION Material Type: 625 INCONEL Test Certification: RADIOGRAPHIC CERTIFICATE Rev: Material Thickness: .375" Specification: 20.A.100 Rev: Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / 0

IDC Count : 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 9 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 330	110-ASSEMBLY - RIGGING	1.00	1.00	1.00	SE121 / A

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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(R) BAKE OUT AT 150 DEGREES C (302F) FOR 6 HOURS TO REMOVE MOISTURE IN PREPARATION FOR THE NEXT SEQUENTIAL OPERATION (VACUUM / LEAK TESTING). NOTE THAT THIS SEQUENCE MUST BE COORDINATED WITH THE VACUUM TESTING SERVICE OPERATION. CONTACT ENGINEERING (DOUG McCORKLE) AND SUBCONTRACT ADMINISTRATOR (BOB JOACHIM) PRIOR TO BEGINNING FOR TIMING AND COORDINATION. CYCLE START TIME WILL BE ADVISED.

Part Number: SE121-001P Rev: 0
Part Description: PVVS PRIMARY FABRICATION
Furnace charts: FURNACE CHART
Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 5 Pgm Count: 0 QAP Count: 4 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 340 (R)	230-FABRICATION - WEIDNER VACUUM TEST PREPARATION:	1.00	1.00	1.00	

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.

SETUP AND PREPARE FOR SUBCONTRACT VACUUM TESTING (WHICH WILL BE PERFORMED AT SEQUENCE 73) AND RADIOGRAPHIC INSPECTION (WHICH WILL BE PERFORMED AT SEQUENCE 75) AS FOLLOWS:
INSTALL THE SEAL AND VACUUM TEST CAP TO THE CONFLAT FLANGE
INSTALL AND TORQUE THE FLANGE INSTALLATION BOLTS PER MANUFACTURERS INSTRUCTIONS.
LAYOUT ALL STRUCTURAL WELDS FOR 100% X-RAY.
ASSIST WITH THE VACUUM TEST AND ENSURE THE FOLLOWING PRECAUTIONS ARE OBSERVED:

Caution: The vacuum test procedure will subject the vessel to an internal vacuum that generates tremendous forces. Failure of any part of the vessel or test equipment could result in implosive/explosive reactions, ejected parts and dangerous noise levels. Unnecessary personnel should vacate the test area whenever a vacuum is present in the vessel (Except essential personnel).

Specification: PP475 Rev: 8
Part Number: SE121-001P
Part Description: PVVS PRIMARY FABRICATION

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev	Service ID
Sub: 40 / Seq: 350 (R)	450-SUBLET VACUUM TEST THE PORT EXTENSION SUB-ASSEMBLY (WELDED TO THE VESSEL WALL) PER PP478	1.00	1.00	1.00	SE121-003P / 0	MISC/SUBLET

MTM CONTRACT ADMINISTRATOR NOTE: THIS SEQUENCE MUST BE COORDINATED WITH THE PRECEDING (BAKE-OUT) OPERATION. PRODUCTION CONTROL WILL INITIATE COORDINATION PRIOR TO SCHEDULING / BEGINNING THE BAKE-OUT OPERATION SEQUENCE.

Part Number: SE121-001P Rev: 0
Part Description: PVVS PRIMARY WELDMENT
Customer: PPPL

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Test Certification: VACUUM TEST REPORT Rev:
 Specification: ASTM E 498 Rev: 95
 Specification: PP475 Rev: 8
 Specification: PP478 Rev: 5

IDC Count : 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 40 / Seq: 360 (R)	805-INPROCESS INSPECTION - PLA ASSIST / WITNESS VACUUM TESTING (PREVIOUS SEQUENCE. REVIEW / SIGNOFF ON DOCUMENTATION / CERTIFICATIONS Specification: PP475 Rev: 8 Specification: PP478 Rev: 5	1.00	1.00	1.00	
IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 2 NDT Count: 0 WPS Count: 0					

Sub ID	Part ID	Qty	Drawing ID / Rev
41	PANEL SUB-SET 2-5-4	1	/
Parent Sub:40 Op:10			

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 10 (R)	230-FABRICATION - WEIDNER PANEL 2-5-4 SUB-SET FABRICATION OPERATION # 1	1.00	1.00	1.00	SE121-001P / --

ACQUIRE THE FOLLOWING DIE FORMED PANELS:

SE121-001P-2 PANEL 4
 SE121-001P-2 PANEL 2-5 (SUB-SET)

INSTALL FIT, TRIM, AND TACK-WELD PANEL 4 AND PANEL SUB-SET 2-5 TO THE BUILD FIXTURE. START BY SETTING EACH PANEL / SUB-SET INDIVIDUALLY ONTO THE MACHINED REGISTER OF THE BUILD FIXTURE BASE-PLATE (THE DATUM -B- SURFACE (10 DEGREE OFFSET) DOWN). POSITION AND TAB TO THE FIXTURE. NOTE THAT THE INTERIOR PROFILE FIXTURE REST STOP SURFACES ARE DESIGNED AT NOMINAL GEOMETRIC POSITION TO AVOID STARTING ANY LOWER THAN MID-TOLERANCE. SHIM IF NECESSARY TO MAINTAIN AN AVERAGE PROFILE STARTING POSITION OF (+.090").

UTILIZE THE LASER TRACKER TO ENSURE PROFILE IS MAINTAINED AND TOLERANCE IS OPTIMIZED PRIOR TO TACK-WELDING THE SEAM. ENSURE THERE IS EXCESS STOCK REMAINING ON THE TWO OTHER WELD SEAM PANEL EDGES (FOR FOLLOWING OPERATION FITTING AND TRIMMING). ENSURE THE UPPER AND LOWER EDGES PROTRUDE AT LEAST .06" ABOVE (AND BELOW) THE FIXTURE FACES TO COMPENSATE FOR NORMAL LONGITUDINAL WELD SHRINKAGE AND FINAL TRIMMING THE OVERALL HEIGHT TO THE FIXTURE REGISTER FACES.

ONCE THE TWO PANELS ARE IN OPTIMUM POSITION, THE MATING SEAM IS FIT (AND ACCEPTED BY ENGINEERING), AND THE REMAINING PERIPHERAL EDGES ARE TRIMMED AS DESIRED, INSTALL POSITIVE REST STOPS TO ENSURE ACCURATE RELOCATION AFTER THE PANEL IS REMOVED FOR GRINDING THE WELD PREP AND CLEANING.

REMOVE THE PANELS AND GRIND WELD PREPS. ***NOTE: THE WELD JOINT ROOT / FACE GEOMETRY MUST BE CONFIGURED AND ORIENTATED TO MINIMIZE DISTORTION AND KEEP THE BEAD WIDTH ON THE INTERIOR SIDE OF THE VESSEL (VACUUM SIDE) AS NARROW AS POSSIBLE. INTERIOR (VACUUM FACING) SIDE WELD FACES MUST BE KEPT AS NARROW AS POSSIBLE (1 WELD BEAD WIDTH MAX).

ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 REINSTALL THE PANELS TO THE FIXTURE REST STOPS. UTILIZE THE LASER TRACKER TO CONFIRM PROFILE / PART ORIENTATION HAS BEEN MAINTAINED.
 ENSURE EACH PANEL IS RE-ALIGNED (SMOOTH AND CONTINUOUS) TO ITS ADJACENT MEMBER AND MIS-MATCH IS MINIMIZED. CWI / ENGINEERING CONCURRENCE REQUIRED.
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 TACK-WELD THE PANELS TOGETHER.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 AFTER EACH PANEL IS POSITIONED, FIT, TRIMMED, AND TACK-WELDED IN PLACE; 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 INSPECTION LOCATIONS 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 / BLENDED / BLASTING, ETC. LIGHTLY SAND OF ANY RAISED and/or DISPLACED MATERIAL (SHOULD BE MINIMAL) THAT MAY HAVE RESULTED FROM THE PUNCH.
 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.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 2-5-4
 Part Description: PANEL 2-5-4 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5

IDC Count : 8 Dwg Count: 0 Pgm Count: 0 QAP Count: 4 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 20 (R)	817-SMX LASER PANEL 2-5-4 SUB-SET INSPECTION OPERATION # 1	1.00	1.00	1.00	SE121-001P / --

LASER TRACKER ASSIST FABRICATOR WITH PANEL POSITIONING AND ALIGNMENT (PREVIOUS SEQUENCE).
 AFTER THE SUB-SET IS COMPLETELY POSITIONED AND TACK WELDED, INSPECT / VERIFY POSITIONING, FIT-UP, AND PROFILE OF EACH TACK WELDED SUB-SET PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / 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 GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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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 2-5-4
 Part Description: PANEL 2-5-4 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 0 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 30 (R)	230-FABRICATION - WEIDNER PANEL 2-5-4 SUB-SET FABRICATION OPERATION # 2	1.00	1.00	1.00	SE121-001P / --

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.
 CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PANEL 2-5-4 SUB-SET ROOT PASS UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 2-5-4
 Part Description: PANEL 2-5-4 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 0 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 40 (R)	817-SMX LASER PANEL 2-5-4 SUB-SET INSPECTION OPERATION # 2	1.00	1.00	1.00	SE121-001P / --

AFTER THE ROOT WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.02" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% NEAR WELDS, AND APPROXIMATELY 10% WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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 2-5-4
 Part Description: PANEL 2-5-4 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 0 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 50 (R)	230-FABRICATION - WEIDNER PANEL 2-5-4 SUB-SET FABRICATION OPERATION # 3	1.00	1.00	1.00	SE121-001P / --

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PANEL 2-5-4 SUB-SET FIRST INTER-PASS (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Part Number: SE121-001P 2-5-4
Part Description: PANEL 2-5-4 SUB-SET
Specification: PP475 Rev: 8
Specification: PP477 Rev: 5
NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
Method: VT-PP-001 Rev: B
Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 0 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 60 (R)	817-SMX LASER PANEL 2-5-4 SUB-SET INSPECTION OPERATION # 3	1.00	1.00	1.00	SE121-001P / --

AFTER THE FIRST INTER-PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.04" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
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 2-5-4
Part Description: PANEL 2-5-4 SUB-SET
Specification: PP475 Rev: 8
Specification: PP476 Rev: 4
Specification: PP477 Rev: 5
Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 0 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 70 (R)	230-FABRICATION - WEIDNER PANEL 2-5-4 SUB-SET FABRICATION OPERATION # 4	1.00	1.00	1.00	SE121-001P / --

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PANEL 2-5-4 SUB-SET SECOND INTER-PASS (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS. NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 2-5-4
 Part Description: PANEL 2-5-4 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 0 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 80 (R)	817-SMX LASER PANEL 2-5-4 SUB-SET INSPECTION OPERATION # 4	1.00	1.00	1.00	SE121-001P / --

AFTER THE SECOND INTER-PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.06" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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.

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Part Number: SE121-001P 2-5-4
Part Description: PANEL 2-5-4 SUB-SET
Specification: PP475 Rev: 8
Specification: PP476 Rev: 4
Specification: PP477 Rev: 5
Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 0 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 90 (R)	230-FABRICATION - WEIDNER PANEL 2-5-4 SUB-SET FABRICATION OPERATION # 5	1.00	1.00	1.00	SE121-001P / --

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
WELD THE PANEL 2-5-4 SUB-SET THIRD INTER-PASS (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.
NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
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.
CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 2-5-4
Part Description: PANEL 2-5-4 SUB-SET
Specification: PP475 Rev: 8
Specification: PP477 Rev: 5
NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
Method: VT-PP-001 Rev: B
Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 0 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 100 (R)	817-SMX LASER PANEL 2-5-4 SUB-SET INSPECTION OPERATION # 5	1.00	1.00	1.00	SE121-001P / --

Workorder
64880/1.0

Part ID

Qty Drawing ID / Rev
1 /

Engineer
BLUE/DOUG MCCORKLE

AFTER THE THIRD INTER-PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.08" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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 2-5-4
 Part Description: PANEL 2-5-4 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 0 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 110 (R)	230-FABRICATION - WEIDNER PANEL 2-5-4 SUB-SET FABRICATION OPERATION # 6	1.00	1.00	1.00	SE121-001P / --

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PANEL 2-5-4 SUB-SET FOURTH INTER-PASS (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDED / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 2-5-4
 Part Description: PANEL 2-5-4 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 0 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 120 (R)	817-SMX LASER PANEL 2-5-4 SUB-SET INSPECTION OPERATION # 6	1.00	1.00	1.00	SE121-001P / --

AFTER THE FOURTH INTER-PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.100" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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 2-5-4
 Part Description: PANEL 2-5-4 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 0 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 130 (R)	230-FABRICATION - WEIDNER PANEL 2-5-4 SUB-SET FABRICATION OPERATION # 7	1.00	1.00	1.00	SE121-001P / --

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL.
 THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.

Workorder
64880/1.0

Part ID

Qty Drawing ID / Rev
1 /

Engineer
BLUE/DOUG MCCORKLE

WELD THE PANEL 2-5-4 SUB-SET INTERIOR COVER PASS UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDED / POLISHING THE WELDS.
NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
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.
CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 2-5-4
Part Description: PANEL 2-5-4 SUB-SET
Specification: PP475 Rev: 8
Specification: PP477 Rev: 5
NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
Method: VT-PP-001 Rev: B
Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 0 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 140 (R)	817-SMX LASER PANEL 2-5-4 SUB-SET INSPECTION OPERATION # 7	1.00	1.00	1.00	SE121-001P / --

AFTER THE INTERIOR COVER PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.120" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
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 2-5-4
Part Description: PANEL 2-5-4 SUB-SET
Specification: PP475 Rev: 8
Specification: PP476 Rev: 4

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
Specification: PP477 Rev: 5 Map(s): SE121-001P-1MTM Rev: 0A				
IDC Count : 2		Dwg Count: 0	Pgm Count: 0	QAP Count: 6
			NDT Count: 0	WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 150 (R)	230-FABRICATION - WEIDNER PANEL 2-5-4 SUB-SET FABRICATION OPERATION # 8	1.00	1.00	1.00	SE121-001P / --

BACK GRIND THE EXTERIOR SIDE OF THE WELD JOINT.
 CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 CWI VISUAL INSPECT BACK GRIND 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PANEL 2-5-4 SUB-SET EXTERIOR COVER PASS UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDED / POLISHING THE WELDS. NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 2-5-4
 Part Description: PANEL 2-5-4 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5	Dwg Count: 0	Pgm Count: 0	QAP Count: 8	NDT Count: 0	WPS Count: 1
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WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 160 (R)	818-MQS CONTRACTOR X-RAY PANEL 2-5-4 SUB-SET INSPECTION OPERATION # 8	1.00	1.00	1.00	SE121-001P / --

AFTER THE EXTERIOR COVER PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.140" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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 2-5-4
 Part Description: PANEL 2-5-4 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 0 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 170 (R)	230-FABRICATION - WEIDNER PANEL 2-5-4 SUB-SET FABRICATION OPERATION # 9	1.00	1.00	1.00	

REMOVE THE PANEL SUB-SET 1,3 FROM THE BUILD FIXTURE
 BLEND INTERIOR WELD SMOOTH TO VESSEL WALL SURFACE
 CLEAN PANEL SUB SET AND PREPARE FOR RADIOGRAPHIC INSPECTION.
 Part Number: SE121-001P 2-5-4
 Part Description: PANEL 2-5-4 SUB-SET
 Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 41 / Seq: 180 (R)	818-MQS CONTRACTOR X-RAY 100% RADIOGRAPHIC INSPECT THE PANEL 2-5-4 SUB-SET STRUCTURAL WELD (LOCATIONS IDENTIFIED ON PART) PER THE FOLLOWING: ASME SECTION VIII, DIVISION 1, UW-51 MAP THE FILM NUMBERS AND FILM LOCATIONS ON MTM INSPECTION DRAWING.	1.00	1.00	1.00	SE121-001P /

Specification: ASME SECTION VIII
 Map(s): SE121-001P-1MTM Rev: 0A
 Part Number: SE121-001P 2-5-4
 Part Description: PANEL 2-5-4 SUB-SET
 Material Type: 625 INCONEL

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Test Certification: RADIOGRAPHIC CERTIFICATE Rev:
 Material Thickness: .375"
 Specification: 20.A.100 Rev:
 Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 9 NDT Count: 0 WPS Count: 0

Sub ID 45	Part ID PANEL SUB-SET 2-5	Qty 1	Drawing ID / Rev /	Parent Sub:41 Op:10
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Operation Sub: 45 / Seq: 10 (R)	Resource 230-FABRICATION - WEIDNER PANEL 2-5 SUB-SET FABRICATION OPERATION # 1	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / 0
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ACQUIRE THE FOLLOWING DIE FORMED PANELS:

SE121-001P-2 PANEL 2
 SE121-001P-2 PANEL 5

INSTALL FIT, TRIM, AND TACK-WELD PANEL 2 AND 5 TO THE BUILD FIXTURE. START BY SETTING EACH PANEL INDIVIDUALLY ONTO THE MACHINED REGISTER OF THE BUILD FIXTURE BASE-PLATE (THE DATUM -B- SURFACE (10 DEGREE OFFSET) DOWN). POSITION AND TAB TO THE FIXTURE. NOTE THAT THE INTERIOR PROFILE FIXTURE REST STOP SURFACES ARE DESIGNED AT NOMINAL GEOMETRIC POSITION TO AVOID STARTING ANY LOWER THAN MID-TOLERANCE. SHIM IF NECESSARY TO MAINTAIN AN AVERAGE PROFILE STARTING POSITION OF (+.090").

UTILIZE THE LASER TRACKER TO ENSURE PROFILE IS MAINTAINED AND TOLERANCE IS OPTIMIZED PRIOR TO TACK-WELDING THE SEAM. ENSURE THERE IS EXCESS STOCK REMAINING ON THE TWO OTHER WELD SEAM PANEL EDGES (FOR FOLLOWING OPERATION FITTING AND TRIMMING). ENSURE THE UPPER AND LOWER EDGES PROTRUDE AT LEAST .06" ABOVE (AND BELOW) THE FIXTURE FACES TO COMPENSATE FOR NORMAL LONGITUDINAL WELD SHRINKAGE AND FINAL TRIMMING THE OVERALL HEIGHT TO THE FIXTURE REGISTER FACES.

ONCE THE TWO PANELS ARE IN OPTIMUM POSITION, THE MATING SEAM IS FIT (AND ACCEPTED BY ENGINEERING), AND THE REMAINING PERIPHERAL EDGES ARE TRIMMED AS DESIRED, INSTALL POSITIVE REST STOPS TO ENSURE ACCURATE RELOCATION AFTER THE PANEL IS REMOVED FOR GRINDING THE WELD PREP AND CLEANING.

REMOVE THE PANELS AND GRIND WELD PREPS. ***NOTE: THE WELD JOINT ROOT / FACE GEOMETRY MUST BE CONFIGURED AND ORIENTATED TO MINIMIZE DISTORTION AND KEEP THE BEAD WIDTH ON THE INTERIOR SIDE OF THE VESSEL (VACUUM SIDE) AS NARROW AS POSSIBLE. INTERIOR (VACUUM FACING) SIDE WELD FACES MUST BE KEPT AS NARROW AS POSSIBLE (1 WELD BEAD WIDTH MAX).

ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDED / POLISHING THE WELDS. NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)

REINSTALL THE PANELS TO THE FIXTURE REST STOPS. UTILIZE THE LASER TRACKER TO CONFIRM PROFILE / PART ORIENTATION HAS BEEN MAINTAINED. ENSURE EACH PANEL IS RE-ALIGNED (SMOOTH AND CONTINUOUS) TO ITS ADJACENT MEMBER AND MIS-MATCH IS MINIMIZED. CWI / ENGINEERING CONCURRENCE REQUIRED.

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

TACK-WELD THE PANELS TOGETHER.

Workorder
64880/1.0

Part ID

Qty Drawing ID / Rev
1 /

Engineer
BLUE/DOUG MCCORKLE

NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 AFTER EACH PANEL IS POSITIONED, FIT, TRIMMED, AND TACK-WELDED IN PLACE; 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 INSPECTION LOCATIONS 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. LIGHTLY SAND OF ANY RAISED and/or DISPLACED MATERIAL (SHOULD BE MINIMAL) THAT MAY HAVE RESULTED FROM THE PUNCH.
 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.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 2-5
 Part Description: PANEL 2-5 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5

IDC Count : 8 Dwg Count: 1 Pgm Count: 0 QAP Count: 4 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 20 (R)	817-SMX LASER PANEL 2-5 SUB-SET INSPECTION OPERATION # 1	1.00	1.00	1.00	SE121-001P / 0

LASER TRACKER ASSIST FABRICATOR WITH PANEL POSITIONING AND ALIGNMENT (PREVIOUS SEQUENCE).
 AFTER THE SUB-SET IS COMPLETELY POSITIONED AND TACK WELDED, INSPECT / VERIFY POSITIONING, FIT-UP, AND PROFILE OF EACH TACK WELDED SUB-SET PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / 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 GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 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 2-5
 Part Description: PANEL 2-5 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Map(s): SE121-001P-IMTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 30 (R)	230-FABRICATION - WEIDNER PANEL 2-5 SUB-SET FABRICATION OPERATION # 2	1.00	1.00	1.00	SE121-001P / 0

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.

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)

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

WELD THE PANEL 2-5 SUB-SET ROOT PASS UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.

ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS. NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.

NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.

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.

CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.

ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 2-5

Part Description: PANEL 2-5 SUB-SET

Specification: PP475 Rev: 8

Specification: PP477 Rev: 5

NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM

Method: VT-PP-001 Rev: B

Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN

GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW

Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 40 (R)	817-SMX LASER PANEL 2-5 SUB-SET INSPECTION OPERATION # 2	1.00	1.00	1.00	SE121-001P / 0

AFTER THE ROOT WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:

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

ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.02" BELOW NOMINAL GEOMETRY (INWARD).

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% NEAR WELDS, AND APPROXIMATELY 10%
 WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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 2-5
 Part Description: PANEL 2-5 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 50 (R)	230-FABRICATION - WEIDNER PANEL 2-5 SUB-SET FABRICATION OPERATION # 3	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PANEL 2-5 SUB-SET FIRST INTER-PASS (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDED / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 2-5
 Part Description: PANEL 2-5 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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WPS390-PPPL Rev:0 GTAW MAN
GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 60 (R)	817-SMX LASER PANEL 2-5 SUB-SET INSPECTION OPERATION # 3	1.00	1.00	1.00	SE121-001P / 0

AFTER THE FIRST INTER-PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.04" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
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 2-5
Part Description: PANEL 2-5 SUB-SET
Specification: PP475 Rev: 8
Specification: PP476 Rev: 4
Specification: PP477 Rev: 5
Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 70 (R)	230-FABRICATION - WEIDNER PANEL 2-5 SUB-SET FABRICATION OPERATION # 4	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
WELD THE PANEL 2-5 SUB-SET SECOND INTER-PASS (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDED / POLISHING THE WELDS.
NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 2-5
 Part Description: PANEL 2-5 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 80 (R)	817-SMX LASER PANEL 2-5 SUB-SET INSPECTION OPERATION # 4	1.00	1.00	1.00	SE121-001P / 0

AFTER THE SECOND INTER-PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.06" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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 2-5
 Part Description: PANEL 2-5 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 90 (R)	230-FABRICATION - WEIDNER PANEL 2-5 SUB-SET FABRICATION OPERATION # 5	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PANEL 2-5 SUB-SET THIRD INTER-PASS (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS. NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 2-5
 Part Description: PANEL 2-5 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 100 (R)	817-SMX LASER PANEL 2-5 SUB-SET INSPECTION OPERATION # 5	1.00	1.00	1.00	SE121-001P / 0

AFTER THE THIRD INTER-PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.08" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
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 2-5
Part Description: PANEL 2-5 SUB-SET
Specification: PP475 Rev: 8
Specification: PP476 Rev: 4
Specification: PP477 Rev: 5
Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 110 (R)	230-FABRICATION - WEIDNER PANEL 2-5 SUB-SET FABRICATION OPERATION # 6	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
WELD THE PANEL 2-5 SUB-SET FOURTH INTER-PASS (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.
NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
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.
CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 2-5
Part Description: PANEL 2-5 SUB-SET
Specification: PP475 Rev: 8
Specification: PP477 Rev: 5
NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
Method: VT-PP-001 Rev: B
Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
Notes:

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Operation Sub: 45 / Seq: 120 (R)	Resource 817-SMX LASER PANEL 2-5 SUB-SET INSPECTION OPERATION # 6	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / 0
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AFTER THE FOURTH INTER-PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING: INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL. ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.100" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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 2-5
 Part Description: PANEL 2-5 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation Sub: 45 / Seq: 130 (R)	Resource 230-FABRICATION - WEIDNER PANEL 2-5 SUB-SET FABRICATION OPERATION # 7	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / 0
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CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PANEL 2-5 SUB-SET INTERIOR COVER PASS UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Part Number: SE121-001P 2-5
 Part Description: PANEL 2-5 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 140 (R)	817-SMX LASER PANEL 2-5 SUB-SET INSPECTION OPERATION # 7	1.00	1.00	1.00	SE121-001P / 0

AFTER THE INTERIOR COVER PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.120" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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 2-5
 Part Description: PANEL 2-5 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 150 (R)	230-FABRICATION - WEIDNER PANEL 2-5 SUB-SET FABRICATION OPERATION # 8	1.00	1.00	1.00	SE121-001P / 0

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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BACK GRIND THE EXTERIOR SIDE OF THE WELD JOINT.
 CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 CWI VISUAL INSPECT BACK GRIND 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PANEL 2-5 SUB-SET EXTERIOR COVER PASS UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 2-5
 Part Description: PANEL 2-5 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 8 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 160 (R)	818-MQS CONTRACTOR X-RAY PANEL 2-5 SUB-SET INSPECTION OPERATION # 8	1.00	1.00	1.00	SE121-001P / 0

AFTER THE EXTERIOR COVER PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.140" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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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 2-5
Part Description: PANEL 2-5 SUB-SET
Specification: PP475 Rev: 8
Specification: PP476 Rev: 4
Specification: PP477 Rev: 5
Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 170 (R)	230-FABRICATION - WEIDNER PANEL 2-5 SUB-SET FABRICATION OPERATION # 9	1.00	1.00	1.00	

REMOVE THE PANEL SUB-SET 1,3 FROM THE BUILD FIXTURE
BLEND INTERIOR WELD SMOOTH TO VESSEL WALL SURFACE
CLEAN PANEL SUB SET AND PREPARE FOR RADIOGRAPHIC INSPECTION.
Part Number: SE121-001P 2-5
Part Description: PANEL 2-5 SUB-SET
Specification: PP475 Rev: 8

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 45 / Seq: 180 (R)	818-MQS CONTRACTOR X-RAY 100% RADIOGRAPHIC INSPECT THE PANEL 2-5 SUB-SET STRUCTURAL WELD (LOCATIONS IDENTIFIED ON PART) PER THE FOLLOWING: ASME SECTION VIII, DIVISION 1, UW-51 MAP THE FILM NUMBERS AND FILM LOCATIONS ON MTM INSPECTION DRAWING. Specification: ASME SECTION VIII Map(s): SE121-001P-1MTM Rev: 0A Part Number: SE121-001P 2-5 Part Description: PANEL 2-5 SUB-SET Material Type: 625 INCONEL Test Certification: RADIOGRAPHIC CERTIFICATE Rev: Material Thickness: .375" Specification: 20.A.100 Rev: Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / 0

IDC Count : 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 9 NDT Count: 0 WPS Count: 0

Sub ID 46	Part ID SOURCE NOTIFICATION	Qty 1	Drawing ID / Rev /
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Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Parent Sub: 45 Op: 30

Operation Sub: 46 / Seq: 10 (R)	Resource 830-SOURCE WITNESS POINT -IN P AFTER TACK WELDING, AND PRIOR TO WELDING SOURCE NOTIFICATION IS REQUIRED. CUSTOMER DECISION WILL FOLLOW. NOTIFICATION VIA CFT.	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
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Sub ID 47	Part ID SOURCE NOTIFICATION	Qty 1	Drawing ID / Rev /	Parent Sub: 41 Op: 30
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Operation Sub: 47 / Seq: 10 (R)	Resource 830-SOURCE WITNESS POINT -IN P AFTER TACK WELDING, AND PRIOR TO WELDING SOURCE NOTIFICATION IS REQUIRED. CUSTOMER DECISION WILL FOLLOW. NOTIFICATION VIA CFT.	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
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Sub ID 42	Part ID	Qty 1	Drawing ID / Rev /	Parent Sub: 40 Op: 30
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Operation Sub: 42 / Seq: 10 (R)	Resource 753-CAD/CAM - LARGE MILLING N/C PROGRAM TO MACHINE WELD SEAM NUMBERS 1-2, AND 3-4 TO FINISH ON PANEL SUB-SET 2-5-4. ELECTRONIC MODEL DEFINING VESSEL GEOMETRY AND WELD SEAM POSITION WILL BE PROVIDED BY ENGINEERING. REFER TO DRAWING FOR PICTORIAL REPRESENTATION	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P-1MTM / 0A	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
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Sub ID 43	Part ID PANEL SUB-SET 1,3	Qty 1	Drawing ID / Rev /	Parent Sub: 40 Op: 40
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Operation Sub: 43 / Seq: 10 (R)	Resource 230-FABRICATION - WEIDNER PANEL 1-3 SUB-SET FABRICATION OPERATION # 1	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / 0
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ACQUIRE THE FOLLOWING DIE FORMED PANELS:

SE121-001P-2 PANEL 1
 SE121-001P-2 PANEL 3

INSTALL FIT, TRIM, AND TACK-WELD PANEL 1 AND 3 TO THE BUILD FIXTURE. START BY SETTING EACH PANEL INDIVIDUALLY ONTO THE MACHINED

Workorder
64880/1.0

Part ID

Qty Drawing ID / Rev
1 /

Engineer
BLUE/DOUG MCCORKLE

REGISTER OF THE BUILD FIXTURE BASE-PLATE (THE DATUM -B- SURFACE (10 DEGREE OFFSET) DOWN). POSITION AND TAB TO THE FIXTURE. NOTE THAT THE INTERIOR PROFILE FIXTURE REST STOP SURFACES ARE DESIGNED AT NOMINAL GEOMETRIC POSITION TO AVOID STARTING ANY LOWER THAN MID-TOLERANCE. SHIM IF NECESSARY TO MAINTAIN AN AVERAGE PROFILE STARTING POSITION OF (+.090").

UTILIZE THE LASER TRACKER TO ENSURE PROFILE IS MAINTAINED AND TOLERANCE IS OPTIMIZED PRIOR TO TACK-WELDING THE SEAM. ENSURE THERE IS EXCESS STOCK REMAINING ON THE TWO OTHER WELD SEAM PANEL EDGES (FOR FOLLOWING OPERATION FITTING AND TRIMMING). ENSURE THE UPPER AND LOWER EDGES PROTRUDE AT LEAST .06" ABOVE (AND BELOW) THE FIXTURE FACES TO COMPENSATE FOR NORMAL LONGITUDINAL WELD SHRINKAGE AND FINAL TRIMMING THE OVERALL HEIGHT TO THE FIXTURE REGISTER FACES.

ONCE THE TWO PANELS ARE IN OPTIMUM POSITION, THE MATING SEAM IS FIT (AND ACCEPTED BY ENGINEERING), AND THE REMAINING PERIPHERAL EDGES ARE TRIMMED AS DESIRED, INSTALL POSITIVE REST STOPS TO ENSURE ACCURATE RELOCATION AFTER THE PANEL IS REMOVED FOR GRINDING THE WELD PREP AND CLEANING.

REMOVE THE PANELS AND GRIND WELD PREPS. ***NOTE: THE WELD JOINT ROOT / FACE GEOMETRY MUST BE CONFIGURED AND ORIENTATED TO MINIMIZE DISTORTION AND KEEP THE BEAD WIDTH ON THE INTERIOR SIDE OF THE VESSEL (VACUUM SIDE) AS NARROW AS POSSIBLE. INTERIOR (VACUUM FACING) SIDE WELD FACES MUST BE KEPT AS NARROW AS POSSIBLE (1 WELD BEAD WIDTH MAX).

ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDED / POLISHING THE WELDS. NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)

REINSTALL THE PANELS TO THE FIXTURE REST STOPS. UTILIZE THE LASER TRACKER TO CONFIRM PROFILE / PART ORIENTATION HAS BEEN MAINTAINED. ENSURE EACH PANEL IS RE-ALIGNED (SMOOTH AND CONTINUOUS) TO ITS ADJACENT MEMBER AND MIS-MATCH IS MINIMIZED. CWI / ENGINEERING CONCURRENCE REQUIRED.

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

TACK-WELD THE PANELS TOGETHER.

NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.

AFTER EACH PANEL IS POSITIONED, FIT, TRIMMED, AND TACK-WELDED IN PLACE; 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 INSPECTION LOCATIONS 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 / BLENDED / BLASTING, ETC. LIGHTLY SAND OF ANY RAISED and/or DISPLACED MATERIAL (SHOULD BE MINIMAL) THAT MAY HAVE RESULTED FROM THE PUNCH.

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.

ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 1-3
 Part Description: PANEL 1-3 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5

IDC Count : 8 Dwg Count: 1 Pgm Count: 0 QAP Count: 4 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
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Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Sub: 43 / Seq: 20 (R)	817-SMX LASER PANEL 1-3 SUB-SET INSPECTION OPERATION # 1	1.00	1.00	1.00	SE121-001P / 0
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LASER TRACKER ASSIST FABRICATOR WITH PANEL POSITIONING AND ALIGNMENT (PREVIOUS SEQUENCE).
 AFTER THE SUB-SET IS COMPLETELY POSITIONED AND TACK WELDED, INSPECT / VERIFY POSITIONING, FIT-UP, AND PROFILE OF EACH TACK WELDED SUB-SET PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / 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 GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 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 1-3
 Part Description: PANEL 1-3 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation Sub: 43 / Seq: 30 (R)	Resource 230-FABRICATION - WEIDNER PANEL 1-3 SUB-SET FABRICATION OPERATION # 2	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121-001P / 0
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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.
 CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PANEL 1-3 SUB-SET ROOT PASS UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 1-3
Part Description: PANEL 1-3 SUB-SET
Specification: PP475 Rev: 8
Specification: PP477 Rev: 5
NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
Method: VT-PP-001 Rev: B
Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 40 (R)	817-SMX LASER PANEL 1-3 SUB-SET INSPECTION OPERATION # 2	1.00	1.00	1.00	SE121-001P / 0

AFTER THE ROOT WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.02" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% NEAR WELDS, AND APPROXIMATELY 10% WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
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 1-3
Part Description: PANEL 1-3 SUB-SET
Specification: PP475 Rev: 8
Specification: PP476 Rev: 4
Specification: PP477 Rev: 5
Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 50	230-FABRICATION - WEIDNER	1.00	1.00	1.00	SE121-001P / 0

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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(R) PANEL 1-3 SUB-SET FABRICATION OPERATION # 3

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
WELD THE PANEL 1-3 SUB-SET FIRST INTER-PASS (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION. ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS. NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
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.
CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 1-3
Part Description: PANEL 1-3 SUB-SET
Specification: PP475 Rev: 8
Specification: PP477 Rev: 5
NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
Method: VT-PP-001 Rev: B
Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 60 (R)	817-SMX LASER PANEL 1-3 SUB-SET INSPECTION OPERATION # 3	1.00	1.00	1.00	SE121-001P / 0

AFTER THE FIRST INTER-PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.04" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
RECORD PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS ON SE121-001P-1MTM.

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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RESULTS MUST BE RECORDED, REVIEWED BY ENGINEERING, SCANNED AND LINKED PRIOR TO COMPLETING THE INSPECTION SEQUENCE.

Part Number: SE121-001P 1-3
 Part Description: PANEL 1-3 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 70 (R)	230-FABRICATION - WEIDNER PANEL 1-3 SUB-SET FABRICATION OPERATION # 4	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PANEL 1-3 SUB-SET SECOND INTER-PASS (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDED / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 1-3
 Part Description: PANEL 1-3 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 80 (R)	817-SMX LASER PANEL 1-3 SUB-SET INSPECTION OPERATION # 4	1.00	1.00	1.00	SE121-001P / 0

Workorder
64880/1.0

Part ID

Qty Drawing ID / Rev
1 /

Engineer
BLUE/DOUG MCCORKLE

AFTER THE SECOND INTER-PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.06" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
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 1-3
Part Description: PANEL 1-3 SUB-SET
Specification: PP475 Rev: 8
Specification: PP476 Rev: 4
Specification: PP477 Rev: 5
Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 90 (R)	230-FABRICATION - WEIDNER PANEL 1-3 SUB-SET FABRICATION OPERATION # 5	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL.
THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
WELD THE PANEL 1-3 SUB-SET THIRD INTER-PASS (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDED / POLISHING THE WELDS.
NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
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.
CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 1-3
Part Description: PANEL 1-3 SUB-SET
Specification: PP475 Rev: 8

Workorder: 64880/1.0 Part ID: Qty: 1 Drawing ID / Rev: / Engineer: BLUE/DOUG MCCORKLE

Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 100 (R)	817-SMX LASER PANEL 1-3 SUB-SET INSPECTION OPERATION # 5	1.00	1.00	1.00	SE121-001P / 0

AFTER THE THIRD INTER-PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.08" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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 1-3
 Part Description: PANEL 1-3 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 110 (R)	230-FABRICATION - WEIDNER PANEL 1-3 SUB-SET FABRICATION OPERATION # 6	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL.

Workorder
64880/1.0

Part ID

Qty Drawing ID / Rev
1 /

Engineer
BLUE/DOUG MCCORKLE

THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PANEL 1-3 SUB-SET FOURTH INTER-PASS (STRINGER) UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDED / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 1-3
 Part Description: PANEL 1-3 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 120 (R)	817-SMX LASER PANEL 1-3 SUB-SET INSPECTION OPERATION # 6	1.00	1.00	1.00	SE121-001P / 0

AFTER THE FOURTH INTER-PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.100" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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 1-3
 Part Description: PANEL 1-3 SUB-SET
 Specification: PP475 Rev: 8

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 130 (R)	230-FABRICATION - WEIDNER PANEL 1-3 SUB-SET FABRICATION OPERATION # 7	1.00	1.00	1.00	SE121-001P / 0

CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PANEL 1-3 SUB-SET INTERIOR COVER PASS UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDED / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 1-3
 Part Description: PANEL 1-3 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B
 Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN
 GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW
 Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 140 (R)	817-SMX LASER PANEL 1-3 SUB-SET INSPECTION OPERATION # 7	1.00	1.00	1.00	SE121-001P / 0

AFTER THE INTERIOR COVER PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
 INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
 ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.120" BELOW NOMINAL GEOMETRY (INWARD).

Workorder: 64880/1.0 Part ID: Qty: 1 Drawing ID / Rev: / Engineer: BLUE/DOUG MCCORKLE

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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
 ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
 AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
 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 1-3
 Part Description: PANEL 1-3 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP476 Rev: 4
 Specification: PP477 Rev: 5
 Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 150 (R)	230-FABRICATION - WEIDNER PANEL 1-3 SUB-SET FABRICATION OPERATION # 8	1.00	1.00	1.00	SE121-001P / 0

BACK GRIND THE EXTERIOR SIDE OF THE WELD JOINT.
 CLEAN THE WELD JOINT AND APPROXIMATELY THREE INCHES OF THE SURROUNDING AREA PER THE APPLICABLE SECTION OF PP475. (NOTE THAT CLEANLINESS IS TO BE MONITORED AND MAINTAINED THROUGHOUT THE MANUFACTURING PROCESS)
 CWI VISUAL INSPECT BACK GRIND 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 NOTE: PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL. THE PURGE IS TO BE MAINTAINED THROUGHOUT THE WELDING PROCESS ON ALL JOINTS.
 WELD THE PANEL 1-3 SUB-SET EXTERIOR COVER PASS UTILIZING THE BACK-STEPPING METHOD TO MINIMIZE WELD DISTORTION.
 ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW NORMAL REDUCTION THAT WILL OCCUR FROM GRINDING / BLENDING / POLISHING THE WELDS.
 NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.
 NOTIFY Q/A FOR PROFILE, MAGNETIC PERMEABILITY, AND MATERIAL THICKNESS VERIFICATION.
 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.
 CWI VISUAL INSPECT WELD 100% UNDER 8X MAGNIFICATION PER ASME CODE ARTICLE 6, SECTION V. ACCEPTANCE PER AWS D1.6, 6.29.1.
 ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121-001P 1-3
 Part Description: PANEL 1-3 SUB-SET
 Specification: PP475 Rev: 8
 Specification: PP477 Rev: 5
 NDT/LPI/FPI/VI: MTM WELD INSPECTION FORM
 Method: VT-PP-001 Rev: B

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Specification: ASNT 2055 SNT-TC-1A Rev: 1996

IDC Count : 5 Dwg Count: 1 Pgm Count: 0 QAP Count: 7 NDT Count: 0 WPS Count: 1

WPS390-PPPL Rev:0 GTAW MAN

GTAW - Manual Fillers: INCONEL625_035_GMAW / INCONEL625_062_GTAW / INCONEL625_093_GTAW

Notes:

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 160 (R)	818-MQS CONTRACTOR X-RAY PANEL 1-3 SUB-SET INSPECTION OPERATION # 8	1.00	1.00	1.00	SE121-001P / 0

AFTER THE EXTERIOR COVER PASS WELD IS COMPLETE, INSPECT AND RECORD THE PANEL SUB-SET PROFILE PER THE FOLLOWING:
INCLUDE AT LEAST THREE DATUM TARGETS IN EACH POINT CLOUD SCAN FOR ALIGNMENT / VERIFICATION TO THE 3D MODEL.
ENSURE THE PART PROFILE IS WITHIN THE FOLLOWING TOLERANCE ZONE: VERIFY THAT NO INSPECTION POINT IS ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR 0.140" BELOW NOMINAL GEOMETRY (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: APPROXIMATE 6" CENTERS THROUGHOUT WITH APPROXIMATE 1" CENTERS AT AND NEAR WELD JOINTS.
ENSURE THE FIXTURE DATUM TARGETS ARE ADEQUATELY POSITIONED FOR THE REPOSITIONING AT THE NEXT SEQUENTIAL INSPECTION
AUDIT INSPECT AND RECORD THE MAGNETIC PERMEABILITY AND MATERIAL THICKNESS (APPROXIMATELY 25% (RANDOM) NEAR WELDS, AND APPROXIMATELY 10% (RANDOM) WITHIN THE REMAINDER OF THE PANEL SURFACE AREA).
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 1-3
Part Description: PANEL 1-3 SUB-SET
Specification: PP475 Rev: 8
Specification: PP476 Rev: 4
Specification: PP477 Rev: 5
Map(s): SE121-001P-1MTM Rev: 0A

IDC Count : 2 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 170 (R)	230-FABRICATION - WEIDNER PANEL 1-3 SUB-SET FABRICATION OPERATION # 9	1.00	1.00	1.00	

REMOVE THE PANEL SUB-SET 1,3 FROM THE BUILD FIXTURE
BLEND INTERIOR WELD SMOOTH TO VESSEL WALL SURFACE
CLEAN PANEL SUB SET AND PREPARE FOR RADIOGRAPHIC INSPECTION.

Part Number: SE121-001P 1-3
Part Description: PANEL 1-3 SUB-SET
Specification: PP475 Rev: 8

Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 43 / Seq: 180 (R)	818-MQS CONTRACTOR X-RAY 100% RADIOGRAPHIC INSPECT THE PANEL 1-3 SUB-SET STRUCTURAL WELD (LOCATIONS IDENTIFIED ON PART) PER THE FOLLOWING: ASME SECTION VIII, DIVISION 1, UW-51 MAP THE FILM NUMBERS AND FILM LOCATIONS ON MTM INSPECTION DRAWING. Specification: ASME SECTION VIII Map(s): SE121-001P-1MTM Rev: 0A Part Number: SE121-001P 1-3 Part Description: PANEL 1-3 SUB-SET Material Type: 625 INCONEL Test Certification: RADIOGRAPHIC CERTIFICATE Rev: Material Thickness: .375" Specification: 20.A.100 Rev: Specification: PP475 Rev: 8	1.00	1.00	1.00	SE121-001P / 0

IDC Count : 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 9 NDT Count: 0 WPS Count: 0

Sub ID 48	Part ID SOURCE NOTIFICATION	Qty 1	Drawing ID / Rev /	Parent Sub:43 Op:30
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 48 / Seq: 10 (R)	830-SOURCE WITNESS POINT -IN P AFTER TACK WELDING, AND PRIOR TO WELDING SOURCE NOTIFICATION IS REQUIRED. CUSTOMER DECISION WILL FOLLOW. NOTIFICATION VIA CFT.	1.00	1.00	1.00	

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0

Sub ID 44	Part ID	Qty 1	Drawing ID / Rev /	Parent Sub:40 Op:60
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Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 44 / Seq: 10 (R)	753-CAD/CAM - LARGE MILLING N/C PROGRAM TO SCRIBE WELD SEAM NUMBERS 1-2, AND 3-4 TO (+0.100" STOCK) ON PANEL SUB-SET 1-3. ELECTRONIC MODEL DEFINING VESSEL GEOMETRY AND WELD SEAM POSITION WILL BE PROVIDED BY ENGINEERING. REFER TO DRAWING FOR PICTORIAL REPRESENTATION	1.00	1.00	1.00	SE121-001P-1MTM / 0A

IDC Count : 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0

Sub ID 49	Part ID SOURCE NOTIFICATION	Qty 1	Drawing ID / Rev /
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Workorder 64880/1.0	Part ID	Qty 1	Drawing ID / Rev /	Engineer BLUE/DOUG MCCORKLE
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Parent Sub:40 Op:90

Operation Sub: 49 / Seq: 10 (R)	Resource 830-SOURCE WITNESS POINT -IN P AFTER TACK WELDING, AND PRIOR TO WELDING SOURCE NOTIFICATION IS REQUIRED. CUSTOMER DECISION WILL FOLLOW. NOTIFICATION VIA CFT.	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
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Sub ID 51	Part ID SOURCE NOTIFICATION	Qty 1	Drawing ID / Rev /	Parent Sub:40 Op:340
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Operation Sub: 51 / Seq: 10 (R)	Resource 830-SOURCE WITNESS POINT -IN P SOURCE NOTIFICATION REQRUED ONE TO TWO WEEKS PRIOR TO VACUUM TESTING PORT SUB-ASSEMBLY. CUSTOMER DECISION WILL FOLLOW. NOTIFICATION VIA CFT	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
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Sub ID 50	Part ID SOURCE NOTIFICATION	Qty 1	Drawing ID / Rev /	Parent Sub:39 Op:40
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Operation Sub: 50 / Seq: 10 (R)	Resource 831-SOURCE INSPECTION - FINAL FINAL SOURCE INSPECTION NOTIFICATION REQUIRED ONE TO TWO WEEKS PRIOR TO FINAL INSPECTION. CUSTOMER DECISION WILL FOLLOW. NOTIFICATION VIA CFT.	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev	IDC Count : 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
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