

Workorder 64880/1	Part ID			Qty 1	Drawing ID / Rev SE121 / A		•	gineer UE/DOUG MCCORKLE
	NSCX PROTOTYPE VACUUM VESSEL	SEGMENT						
Sub ID	Part ID NSCX PROTOTYPE VACUUM VESSEL	SEGMENT		Qty 1	Drawing ID / Rev SE121 / A			
Operation Sub: 0 / Seq: 10 (F)	Resource 700-BLUE TEAM, ENGINEERING SOW 3.2.1 TASK 2 MIT/QA PLANS FOR PVVS FOR VVSA	QtyPer 1.00	StartQty 1.00	_	Drawing ID / Rev SE121 / A			
Piece # 10 (F)	Part ID INCONEL625_062_GTAW-WELD WIR Vendor Part ID: INCONEL625_062_GTA Mfg Part ID: INCONEL 625		Dwg Cou	Qty 10.0	Pgm Count: 0 Drawing ID / Rev	QAP Count: 1 Vendor 4434	NDT Count: 0 Dimensions	WPS Count: 0
Piece # 30 (F)	Part ID INCONEL625_093_GTAW-WELD WIR Vendor Part ID: INCONEL625_093_GTA Mfg Part ID: INCONEL 625			Qty 15.0	Drawing ID / Rev	Vendor 4434	Dimensions	
Operation Sub: 0 / Seq: 11 (F)	Resource 700-BLUE TEAM, ENGINEERING SOW 3.1 TASK 1 3.1.1 METHODS FOR FABRICATING V 3.1.2 DESIGN CHANGES 3.1.3 PRELIMINARY MIT/AQ FOR VVS 3.1.4 BUDGETARY COST/SCHEDULE I	SA	StartQty 1.00	EndQt 1.00	Drawing ID / Rev			
		IDC Count: 0	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation Sub: 0 / Seq: 12 (F)	Resource 700-BLUE TEAM, ENGINEERING SOW 3.3.1 & SOW 3.3.2 Task 8 3.3.1 FINAL MIT/QA FOR VVSA 3.3.2 FINAL COST/SCHEDULE FOR VV	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev			
		IDC Count: 0	Dwg Cou	int: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0



Workorder 64880/1

(F)

Part ID

Qty Drawing ID / Rev 1 SE121 / A

BLUE/DOUG MCCORKLE

Engineer

NDT Count: 0

QAP Count: 0

WPS Count: 0

OperationResourceQtyPerStartQtyEndQtDrawing ID / RevSub: 0 / Seq: 13700-BLUE TEAM, ENGINEERING1.001.001.00

(F) ENGINEERING, PLANNING & PROJECT MGT TASK 9

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: ENG-SOP-01; ENG-SOP-02; ENG-SOP-03; ENG-SOP-04.

CAD / CAM OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURE: CAD-SOP-01;

MANUFACTURING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURES: MFG-SOP-01; MFG-SOP-02; MTL-SOP-01; PC-SOP-01; QA-SOP-01; QA-SOP-03;

QUALITY ASSURANCE AND INSPECTION OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURES: QA-SOP-01; QA-SOP-05 RECEIVING INSPECTION OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURE: QA-SOP-04

IN-PROCESS INSPECTION OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURE: QA-SOP-02

SHIPPING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURE: SH-SOP-01

MACHINING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURE: TLG-SOP-01

WELDING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING STANDARD OPERATING PROCEDURES: WLD-SOP-02; WLD-SOP-03; WLD-SOP-05; WLD-SOP-06

ENGINEERING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: ENG-WI-001; ENG-WI-002; ENG-WI-003; ENG-WI-005; ENG-WI-007; ENG-WI-010; ENG-WI-013; ENG-WI-014; ENG-WI-015.

CAD / CAM OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: CAD-WI-004; CAD-WI-005

MANUFACTURING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: MFG-WI-018; PC-WI-001; PC-WI-003; PC-WI-004;

CLEANING / WASHING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTION: MFG-WI-005

MACHINING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: MFG-WI-008; MFG-WI-009; MFG-WI-010;

SUBCONTRACT OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTION: PC-WI-005: PUR-WI-002

NON-DESTRUCTIVE TESTING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: NDT-WI-001; NDT-WI-011

QUALITY ASSURANCE, IN-PROCESS INSPECTION OPERATIONS AND/OR RECEIVING INSPECTION OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: QA-WI-001; QA-WI-006; QA-WI-007; QA-WI-008; QA-WI-010; QA-WI-012; QA-WI-015; QA-WI-017; QA-WI-020; QA-WI-021; QA-WI-022; QA-WI-023; QA-WI-026; QA-WI-029; QA-WI-029; QA-WI-031.

SHIPPING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: SH-WI-002; SH-WI-003; SH-WI-003; SH-WI-004; SH-WI-005; SH-WI-007. MACHINING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: TLG-WI-001:

WELDING OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: WLD-WI-001; WLD-WI-002; WLD-WI-003; WLD-WI-004; WLD-WI-005; WLD-WI-006; WLD-WI-007; WLD-WI-008

BLAST BOOTH OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: SB-WI-001; SB-WI-002; SB-WI-003

Dwg Count: 0

MATERIAL PROCUREMENT OPERATIONS WILL BE PERFORMED PER THE FOLLOWING WORK INSTRUCTIONS: PUR-WI-001; PUR-WI-002; PUR-WI-003; PUR-WI-008;

Pgm Count: 0

OperationResourceQtyPerStartQtyEndQtDrawing ID / RevSub: 0 / Seq: 20825-FINAL INSPECTION - PLANTS 11.001.001.00\$E121 / A

IDC Count: 0

FINAL VISUAL INSPECTION (ENGINEERING CONCURRENCE REQUIRED).

VERIFY CLEANLINESS PER 64880-NCSX-CSPEC-120-01-00-3.3.2.4



WorkorderPart IDQtyDrawing ID / RevEngineer64880/11SE121 / ABLUE/DOUG MCCORKLE

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.

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

OperationResourceQtyPerStartQtyEndQtDrawing ID / RevSub: 0 / Seq: 30425-SHIPPING - PLANTS 1 & 21.001.001.00SE121 / A

(F) 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.

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

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

OperationResourceQtyPerStartQtyEndQtDrawing ID / RevService IDSub: 0 / Seq: 9999600-DO NOT USE - PC AUTO PROJE1.001.001.00

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

Sub ID Part ID Qty Drawing ID / Rev

SE121 PROTOTYPE VACUUM VESSEL 1 SE121 / A
Parent Sub:0 Op:20

OperationResourceQtyPerStartQtyEndQtDrawing ID / RevSub: 1 / Seq: 10230-FABRICATION - WEIDNER1.001.001.00SE121-001P / A

(F) FABRICATION OPERATION # 1

INSTALL THE FOLLOWING DIE FORMED PANELS ONTO FABRICATION FIXTURE:

SE121-001P-2 PANEL 1

SE121-001P-2 PANEL 2

SE121-001P-2 PANEL 3

SE121-001P-2 PANEL 4

SE121-001P-2 PANEL 5

START BY SETTING THE DATUM -B- SURFACE (10 DEGREE OFFSET) ONTO THE MACHINED REGISTER OF THE BUILD FIXTURE BASE-PLATE. TRIM, FIT, AND ALIGN EACH PANEL TO IT'S RESPECTIVE ADJACENT PANEL AND FIXTURE REST STOPS. NOTE THAT THE FIXTURE REST STOPS ARE POSITIONED AT NOMINAL (+.090") GEOMETRIC POSITION TO AVOID STARTING ANY LOWER THAN MID-TOLERANCE. GAPS BETWEEN THE PRODUCTION PANELS AND FIXTURE REST STOPS (UP TO .090") ARE PERMITTED.

THE TOP EDGE OF EACH PANEL SHOULD REST APPROXIMATELY .04" ABOVE THE FIXTURE RISER FACE.

ENSURE THE MATERIAL THICKNESS IS ADEQUATE TO ALLOW TYPICAL REDUCTION RESULTING FROM GRINDING / BENDING / POLISHING THE WELDS. INSPECT



Workorder 64880/1

Part ID

Qty Drawing ID / Rev SE121 / A

Engineer BLUE/DOUG MCCORKLE

THICKNESS WITH A U-T GAGE. NOTIFY ENGINEERING (DOUG McCORKLE) IF CONCERNS EXIST.

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

PURGE EACH WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL.

TACK WELD ALL FIVE PANELS TOGETHER. ASSIST Q/A WITH PROFILE VERIFICATION.

Part Number: SE121

Part Description: NCSX PVVS

IDC Count: 2

Dwg Count: 1

Pgm Count: 0

QAP Count: 2

NDT Count: 0

WPS Count: 1

Operation Sub: 1 / Seq: 20

(F)

Resource 805-INPROCESS INSPECTION - PLA

INSPECTION OPERATION #1

QtyPer StartQty EndQt Drawing ID / Rev 1.00 SE121-001P / A 1.00 1.00

AFTER PART IS COMPLETELY TACK WELDED, INSPECT / VERIFY POSITIONING, FITUP, AND PROFILE OF TACK WELDED PER THE FOLLOWING: ENSURE THE PART PROFILE IS WITHIN THE UPPER HALF OF THE APPLIED BI-LATERAL TOLERANCE AS FOLLOWS: VARIFY THAT NO INSPECTION POINT IS

ABOVE THE HIGH LIMIT OF TOLERANCE (OUTWARD) OR BELOW NOMINAL (INWARD). RECORD ACTUAL (HIGH/LOW RANGE) ON MTM IDC

REPORT ANY OUT OF TOLERANCE READINGS VIA MTM NCR

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

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

INSPECT AND RECORD THE MAGNETIC PERMEABILITY OF THE WELD ZONES.

Part Number: SE121

Part Description: NCSX PVVS

IDC Count: 2

Dwg Count: 1

Pgm Count: 0

OAP Count: 2

NDT Count: 0

WPS Count: 0

Operation Sub: 1 / Seq: 30 (F)

Resource 230-FABRICATION - WEIDNER FABRICATION OPERATION # 2

1.00

StartQty EndQt Drawing ID / Rev

SE121-001P / A

INSTALL STIFFENER (FIXTURING) TO THE TOP OF THE VESSEL. TACK WELD THE STIFFENER TO THE PART.

NOTE THAT THE STIFFENER MATERIAL IS ALSO INCO 625, NO TABS REQUIRED.

OtvPer

1.00

BACK PURGE THE WELD JOINT SURFACES WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL.

WELD ROOT PASSES (INCREMENTALLY, USING BACK-STEPPING METHOD TO MINIMIZE SHRINKAGE) ON ALL FIVE WELD JOINTS.

NOTE THAT THE BACK SIDE OF THE JOINT MUST REMAIN PURGED UNTIL THE ENTIRE JOINT IS COMPLETELY FILLED.

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

1.00

Test Certification: CWI CERTIFICATE Rev:

Part Number: SE121

Part Description: NCSX PVVS

IDC Count: 0

Dwg Count: 1

Pgm Count: 0

QAP Count: 3

NDT Count: 0

WPS Count: 1

Operation

Resource

QtyPer StartQty EndQt Drawing ID / Rev



(F)

Workorder 64880/1	Part ID			Qty 1	Drawing ID / Rev SE121 / A		Engi BLUI	neer E/DOUG MCCORKLE
Sub: 1 / Seq: 40 (F)	805-INPROCESS INSPECTION - PLA INSPECTION OPERATION # 2	1.00	1.00	1.00	SE121-001P / A			
	AFTER THE ROOT WELDS ARE COL AND RECORD WELDING SHRINKAG RECORD ACTUAL (INDIVIDUAL) M INSPECT AND RECORD MAGNETIC REPORT ANY OUT OF TOLERANCE NOTIFY ENGINEERING (DOUG McC TO ABOVE NOMINAL. INWARD DI PRIOR TO COMPLETING WELDING ENSURE THE FIXTURE DATUM TA Part Number: SE121 Part Description: NCSX PVVS	GE / DISTORTION REA EASUREMENTS ON IN PERMEABILITY. READINGS VIA MTM ORKLE) FOR EVALUA STORTION APPROACE PROCESS.	LIZED TO T SPECTION I NCR. TION OF RE HING THE LO	HIS POI FORM (S SULTS I OW LIM	NT. E121-2MTM). RECOR PRIOR TO RELEASING IT OF TOLERANCE M	RD ACTUAL (HIGH/LOV G PART. NOTE THAT P JUST BE ADDRESSED (W RANGE) ON MTM I.I PROFILE READINGS SE (AND CORRECTIVE AC	D.C. HOULD REMAIN NEAR
	rait Description. NebX 1 v vb	IDC Count: 2	Dwg Cou	ınt: 1	Pgm Count: 0	QAP Count: 2	NDT Count: 0	WPS Count: 0
Operation Sub: 1 / Seq: 70 (F)	Resource 230-FABRICATION - WEIDNER FABRICATION OPERATION # 3	QtyPer 1.00	StartQty 1.00	_	Drawing ID / Rev SE121-001P / A			
	AFTER OBTAINING ENGINEERING SEQUENCE WELDING TO MINIMIZE CWI VISUAL INSPECT EACH WELD AFTER WELDING IS COMPLETE, RELAYOUT THE PORT ASSEMBLY LO TRACKER TO ENSURE POSITION. WELD THE PORT EXTENSION SUBBACK PURGE THE WELD JOINT SUBSTEEL. NOTE THAT THE BACK SIDE OF THE CWI VISUAL INSPECT THE PORT EXECUTED IN 1991. FINISH POLISHING AND CLEANING CLEANING PROCEDURE # 64880NS INSTALL THE VACUUM TEST CAP	E DISTORTION AND NU PASS 100% UNDER 8X EMOVE ANY STIFFENI CATION. (ANGULAR E ASSEMBLY IN PLACE RFACES WITH 100% AND ANGULAR E JOINT MUST REMANTENSION WELD 100% THE INTERIOR SURFACX-CSPEC-120-01-00-3	JMBER OF I MAGNIFIC NG / SUPPO LOCATION / PER DRAWI RGON. PUR JIN PURGED UNDER 8X ACES OF THE 3.2.4.	NTER-P. ATION I RT DEVI OVERA NG. GE DAM UNTIL	ASSES. PER ASME CODE ART ICES. BLEND / TOUC ILL LENGTH AND OU I MATERIAL MUST BI THE ENTIRE JOINT I	FICLE 6, SECTION V. A H UP ATTACHMENT W UTLINE ARE SCRIBED E MADE FROM EITHER S COMPLETELY FILLE E CODE ARTICLE 6, SE	ACCEPTANCE PER AW VELDS AS REQUIRED. ON FIXTURE). UTILIZ R 625 INCONEL OR 300 ED. ECTION V. ACCEPTAN	S D1.6, 6.29.1. ZE THE LASER SERIES STAINLESS ICE PER AWS D1.6,
	Test Certification: CWI CERTIFICATI Part Number: SE121 Part Description: NCSX PVVS		D		P. G. + 0	OAD C	NDT G	WPG G
		IDC Count : 0	Dwg Cou		Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 1
Operation Sub: 1 / Seq: 73	Resource 450-SUBLET	QtyPer 1.00	StartQty 1.00	1.00	t Drawing ID / Rev SE121-001P / A	IE EOLI OWING	Servi MISC	ce ID //SUBLET

MTTRAVLR.qrp
W:64880/1-0 /Inc Matl /Inc Legs

VACUUM TEST THE PORT EXTENSION SUB-ASSEMBLY (WELDED TO THE VESSEL WALL) PER THE FOLLOWING:



WorkorderPart IDQtyDrawing ID / RevEngineer64880/11SE121 / ABLUE/DOUG MCCORKLE

THE PORT UNDER TEST SHALL BE EVACUATED USING A TURBO MOLECULAR PUMP TO AN INTERNAL PRESSURE OF LESS THAN OR EQUAL TO 1 X 10(-7) TORR. THE TOTAL HELIUM LEAK RATE FOR THE PORT EXTENSION SHALL BE LESS THAN OR EQUAL TO 1.7 X 10(-9) TORR-L/S.

Part Number: SE121

Part Description: NCSX PVVS

Customer: PPPL

Test Certification: VACUUM TEST CERTIFICATE Rev:

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

OperationResourceQtyPerStartQtyEndQtDrawing ID / RevSub: 1 / Seq: 75818-MQS CONTRACTOR X-RAY1.001.001.00\$E121-001P /

(F) 100% RADIOGRAPHIC INSPECT THE 5 STRUCTURAL WELDS (LOCATIONS IDENTIFIED ON PART) PER THE FOLLOWING:TBD.......

Specification: TBD Method: TBD Acceptance: TBD

Map(s): RADIOGRAPHIC INSPECTION MAP Rev:

Part Number: SE121

Part Description: NCSX PVVS Material Type: 625 INCONEL

Test Certification: RADIOGRAPHIC CERTIFICATE Rev:

Material Thickness: .375"

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

OperationResourceQtyPerStartQtyEndQtDrawing ID / RevSub: 1 / Seq: 80805-INPROCESS INSPECTION - PLA1.001.001.00SE121-001P / A

(F) INSPECTION OPERATION # 3

RE-INSPECT / VERIFY PART PROFILE IS WITHIN APPLIED TOLERANCE AND RECORD PRIMARY STRUCTURAL WELDING SHRINKAGE / DISTORTION.

RECORD ACTUAL (INDIVIDUAL) MEASUREMENTS ON INSPECTION FORM (SE121-2MTM). RECORD ACTUAL (HIGH/LOW RANGE) ON MTM IDC

INSPECT AND RECORD MAGNETIC PERMEABILITY.

REPORT ANY OUT OF TOLERANCE READINGS VIA MTM NCR.

NOTIFY ENGINEERING (DOUG McCORKLE) FOR EVALUATION OF RESULTS PRIOR TO RELEASING PART.

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

Part Number: SE121

Part Description: NCSX PVVS

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

OperationResourceQtyPerStartQtyEndQtDrawing ID / RevSub: 1 / Seq: 90230-FABRICATION - WEIDNER1.001.001.00\$E121-002P / --

(F) FABRICATION OPERATION # 4

LAYOUT AND CUT THE PORT EXTENSION TUBE OFF OF THE VESSEL PER DRAWING (NORMAL TO VESSEL WALL).

PLASMA CUT THE PORT OPENING IN THE VESSEL WALL PER DRAWING. (CUT UNDERSIZE TO ALLOW FOR ADEQUATE SIZING / CLEANUP). UTILIZE A CIRCLE

CUTTING DEVICE TO ENSURE SIZE AND ROUNDNESS.



Workorder 64880/1 Part ID

Qty Drawing ID / Rev 1 SE121 / A Engineer

BLUE/DOUG MCCORKLE

GRIND / BLEND THE OPENING SMOOTH MAINTAINING THE DIMENSIONAL RELATIONSHIP OF THE OPENING AND PORT STUB PER DRAWING.

PREP THE EDGES OF THE PORT STUB AND PORT EXTENSION TUBE FOR RE-INSTALLATION AND WELDING.

 $POSITION\ AND\ WELD\ THE\ WELD\ BACKING\ RING\ (SE121-003P-4)\ IN\ PLACE\ (TO\ THE\ END\ OF\ THE\ DETACHED\ PORT\ EXTENSION)\ PER\ DRAWING\ SE121-003P.$

RE-INSTALL THE PORT EXTENSION TO THE PORT STUB AND WELD IN PLACE PER DRAWING SE121-003P...

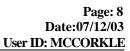
GRIND / POLISH THE PORT SUB-ASSEMBLY INTERIOR WELD SMOOTH.

ASSIST Q/A WITH PROFILE AND PORT EXTENSION POSITION VERIFICATION.

AFTER INSPECTION IS COMPLETE, REMOVE PART FROM FIXTURE.

PERFORM FINAL COSMETIC UPGRADE. PREPARE PART FOR FINAL BLAST AND FINAL VISUAL INSPECTION.

		IDC Count : 0	David Carrett O	David Carriet O	OAR County O	NDT County 0	WDC Com (1
		IDC Count: 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 1
Operation Sub: 1 / Seq: 100 (F)	Resource 805-INPROCESS INSPECTION - PLA INSPECT PROFILE IN THE AREA OF INSPECT MAGNETIC PERMEABILIT' INSPECT THE INTERIOR SURFACE F RECORD IDC DATA Part Number: SE121 Part Description: NCSX PVVS	Y IN THE AREA OF TH	1.00 1.0 RT EXTENSION. HE PORT STUB / P		DING.		
	Tart Description: IVESAT VVS	IDC Count: 3	Dwg Count: 0	Pgm Count: 0	QAP Count: 2	NDT Count: 0	WPS Count: 0
Operation Sub: 1 / Seq: 110 (F)	Resource 260-SANDBLAST MASK THE INTERIOR SURFACES AN	QtyPer 1.00 D FLANGE FACE. BLA IDC Count : 0	1.00 1.0	Qt Drawing ID / Rev 0 SE121 / A E SURFACE 100% USINO Pgm Count: 0	G 220 GRIT VIRGIN AL QAP Count: 0	UMINUM OXIDE. NDT Count: 0	WPS Count: 0
Operation Sub: 1 / Seq: 115 (F)	Resource 230-FABRICATION - WEIDNER REMOVE MASKING AND PROTECTIVE CLEAN PART PER	QtyPer 1.00 /E PLASTIC		Qt Drawing ID / Rev 0 SE121 / A			
		IDC Count: 0	Dwg Count: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation Sub: 1 / Seq: 120 (F)	Resource 805-INPROCESS INSPECTION - PLA FINAL PROFILE INSPECTION. INSPE FINAL MAGNETIC PERMEABLITY V VERIFY MAGNETIC PERMEABILITY RECORD IDC DATA Part Number: SE121 Part Description: NCSX PVVS	ERIFICATION.	1.00 1.0 E VESSEL PROFIL	E AND PORT EXTENSION		FLANGE, FLANGE TO NDT Count: 0	O TUBE WELD. WPS Count: 0
Sub ID	Part ID	12 0 Count . 0	Qty		QIII Count. 2	Tib I Counti 0	,, i b Count. 0
14	SE121-001P-2 PANEL # 1		1	I /			





Workorder 64880/1

(F)

Part ID

Qty Drawing ID / Rev SE121 / A

Engineer BLUE/DOUG MCCORKLE

Parent Sub:1 Op:10

Operation QtyPer StartQty EndQt Drawing ID / Rev Resource Sub: 14 / Seq: 10 410-BURNOUT TABLE 1.00 1.00 1.00 SE121-001P / A

> 1. PRIOR TO BEGINNING WORK, CONTACT Q/A TO PERFORM A SERIES OF MATERIAL THICKNESS AND MAGNETIC PERMEABILITY TESTS ON THE RAW MATEIRAL (PRIOR TO MATERIAL PROCESSING AND HANDLING BY MTM).

2. NEST AND PROGRAM PER PROVIDED GEOMETRY.

3. BURNOUT AND CLEANUP PANEL PER NESTING / PROGRAM.

4. CLEANUP EDGES / RADIUS CORNERS (.03" MIN. RAD). ENSURE ALL DROSS AND RE-CAST LAYER IS REMOVED. ENSURE THE CUT SURFACE IS BLENDED SMOOTH.

5. NOTIFY Q/A FOR VERIFICATION PRIOR TO MOVING TO THE NEXT WORK CENTER.

Specification: ASTM A800 Rev: 91 Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL Customer: PPPL

Specification: ASTM B443 Rev: 93

IDC Count: 1 Dwg Count: 1 Pgm Count: 0 OAP Count: 0 NDT Count: 0 WPS Count: 0 Piece # Vendor Part ID Qty Drawing ID / Rev **Dimensions** 10 INCONEL 625_5-PLATE, NICKEL ALLOY .375" THK 1.0 1810

Vendor Part ID: INCONEL 625_5

(F) 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.

Material Certification: Part Number: SE121-2A

Part Description: DIE FORMED PANEL # 1

Part Description: DIE FORMED PANEL

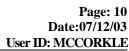
Customer: PPPL

Operation	Resource	QtyPer	StartQty	EndQt	Drawing ID / Rev
Sub: 14 / Seq: 15	805-INPROCESS INSPECTION - PLA	1.00	1.00	1.00	SE121-001P / A
(F)	INSPECT BLANK SIZE PER DRAWING				
	VERIFY EDGES ARE SMOOTH AND CORNERS	HAVE RADII	APPLIED PI	ER PREV	IOUS SEQUENCE.
	INSPECT MATERIAL THICKNESS PER ASTM	B443			
	VISUAL INSPECT SURFACE FINISH PER ASTM	И В443			
	INSPECT MAGNETIC PERMEABILITY PER A	STM A800			
	RECORD IDC DATA				
	APPLY PROTECTIVE PLASTIC TO BOTH SID	ES OF PANEL			
	(AVAILABLE IN WIP STORAGE)				
	Specification: ASTM A800 Rev: 91				
	Part Number: SE121-001P-2 PANEL 1				

W:64880/1-0/Inc Matl/Inc Legs MTTRAVLR.qrp



Workorder Part ID Qty Drawing ID / Rev Engineer 64880/1 SE121 / A BLUE/DOUG MCCORKLE Specification: ASTM B443 Rev: 93 IDC Count: 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 5 NDT Count: 0 WPS Count: 0 Operation StartQty EndQt Drawing ID / Rev Resource **QtyPer** 1.00 SE121-001P / A Sub: 14 / Seq: 18 415-ROLLING/SHEAR/BRAKE PRESS 1.00 1.00 ROLL PANEL BLANK INTO A CONE PER PROCESS DRAWING. (F) ENSURE PLATE ROLLS ARE COMPLETELY CLEAN AND FREE OF DIRT, GRIME, FOREIGN MATTER, AND RAISED METAL PRIOR TO ROLLING. ENSURE THE PANEL BLANKS ARE PROTECTED WITH PLASTIC SHEET DURING THE ENTIRE PROCESS. NOTIFY ENGINEERING (DOUG McCORKLE) PRIOR TO PROCEEDING. IDC Count: 0 Dwg Count: 1 Pgm Count: 0 OAP Count: 0 NDT Count: 0 WPS Count: 0 Operation Resource OtvPer StartOtv EndQt Drawing ID / Rev Sub: 14 / Seq: 20 1.00 1.00 1.00 SE121-001P / A 341-PACIFIC 750 (F) LOAD, ALIGN, AND BOLT DIE SET # ___ 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.... LOAD THE PANEL BLANK (OR CONE) INTO THE DIE SET. HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE #____ PANEL TO GAGE GAP TOLERANCE: .08" MAX. NOTIFY Q/A FOR PROFILE IDC VERIFICATION ENSURE THE PANEL MATERIAL EXTENDS BEYOND THE PERIMETER OF THE TRIM-LINES OF THE GAGE BY AT LEAST 1" (TO PROVIDE ADEQUATE STOCK ALLOWANCE FOR RE-POSITIONING, RE-STRIKING, AND ACCURATE TRIMMING). Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL IDC Count: 1 Dwg Count: 1 Pgm Count: 0 OAP Count: 2 NDT Count: 0 WPS Count: 0 Operation StartQty EndQt Drawing ID / Rev Resource OtvPer Sub: 14 / Seq: 25 260-SANDBLAST 1.00 1.00 1.00 SE121-001P / A (F) SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE FROM THE FORMING PROCESS. IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0 Operation Resource OtvPer StartQty EndQt Drawing ID / Rev Sub: 14 / Seq: 27 1.00 1.00 SE121-001P / A 230-FABRICATION - WEIDNER INSTALL AND WELD ANNEAL BRACING IN PLACE PER ENGINEERING SKETCH (F) ENSURE PART IS CLEAN AND READY FOR SOLUTION ANNEAL CYCLE WPS Count: 1 IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 Operation StartQty EndQt Drawing ID / Rev Service ID Resource QtyPer Sub: 14 / Seq: 30 520-SUBLET, EXOTIC HEAT TREAT 1.00 1.00 1.00 SE121-001P / A THRML TR/NA SA (F) SOLUTION ANNEAL FORMED PANEL PER THE FOLLOWING: HOLD AT 1900 DEGREES F. (+/- 15 DEGREES) HOLD FOR 45 MINUTES (+/ 5 MINUTES) Specification: AMS2774 Rev: JUL95 Certification: H/T CERTIFICATE Part Number: SE121-001P-2 PANEL 1

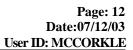




Workorder Part ID Qty Drawing ID / Rev Engineer SE121 / A 64880/1 BLUE/DOUG MCCORKLE Part Description: DIE FORMED PANEL Customer: PPPL Furnace charts: FURNACE CHART IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 6 NDT Count: 0 WPS Count: 0 Operation QtyPer StartQty EndQt Drawing ID / Rev Resource Sub: 14 / Seq: 32 1.00 1.00 1.00 SE121-001P / A 230-FABRICATION - WEIDNER REMOVE ANNEAL BRACING AND PREPARE PANEL FOR RE-STRIKE / FINAL FORMIMG. ENSURE ALL WELDS ARE COMLPETELY REMOVED AND BLENDED FLUSH (F) AND SMOOTH TO THE BASE MATERIAL. USE CAUTION TO AVOID GOUGES and/or HEAVY SCRATCHES ON THE PANEL SURFACES. IDC Count: 0 Dwg Count: 1 Pgm Count: 0 NDT Count: 0 WPS Count: 0 QAP Count: 0 Operation Resource QtyPer StartQty EndQt Drawing ID / Rev Sub: 14 / Seq: 35 1.00 1.00 1.00 SE121-001P / A 805-INPROCESS INSPECTION - PLA (F) VISUAL INSPECT SURFACE FOR DAMAGE, PITTING, GOUGES, SCRAPES ETC..... 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 IDC Count: 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 2 NDT Count: 0 WPS Count: 0 Operation Resource QtyPer StartQty EndQt Drawing ID / Rev Sub: 14 / Seq: 40 1.00 1.00 1.00 SE121-001P / A 341-PACIFIC 750 (F) INTO THE 750 TON HYDRAULIC PRESS. LOAD, ALIGN, AND BOLT DIE SET # ____ ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... LOAD THE PREFORMED PANEL INTO THE DIE SET. "RE-STRIKE" HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE #_ PANEL TO GAGE GAP TOLERANCE: .08" MAX. __. GAP TOLERANCE: .08" MAX. VERIFY PROFILE TO INSPECTION GAGE #_ NOTIFY INSPECTOR FOR Q/A IDC VERIFICATION LAYOUT AND PRICK-PUNCH TRIM-LINES ON THE PANEL ESTABLISHED FROM THE MACHINED PERIMETER OF THE INSPECTION GAGE. Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL IDC Count: 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 2 NDT Count: 0 WPS Count: 0 Operation QtyPer StartQty EndQt Drawing ID / Rev Resource Sub: 14 / Seq: 50 1.00 260-SANDBLAST 1.00 1.00 SE121-001P / A SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE FROM THE FORMING PROCESS. (F) IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0 Operation **QtyPer** StartQty EndQt Drawing ID / Rev Resource Sub: 14 / Seq: 60 230-FABRICATION - WEIDNER 1.00 1.00 1.00 SE121-001P / A (F) TRIM PERIMETER TO PROVIDED TRIM-LINES. NOTE THAT INSTALLING THE WELD PREP IS NOT REQUIRED AT THIS STAGE (ADDITIONAL FITTING / TRIMMING MAY BE REQUIRED AT INSTALLATION)



Workorder Part ID Qty Drawing ID / Rev Engineer 64880/1 SE121 / A BLUE/DOUG MCCORKLE 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 CLEANING PROCDURE 64880NSCX-CSPEC-120-01-00-3.3.2.4. (PRE-PRODUCTION NOTE: DOCUMENT IS PRELIMINARY AND WILL BE REVISED / RE-NAMED PRIOR TO USE) IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0 Operation QtyPer StartQty EndQt Drawing ID / Rev Resource Sub: 14 / Seq: 70 1.00 1.00 1.00 SE121-001P / A 805-INPROCESS INSPECTION - PLA (F) . GAP TOLERANCE: .08" MAX. PERIMETER SHOULD FALL WITHIN .03" OF GAGE PERIMETER. VERIFY PROFILE TO INSPECTION GAGE #__ INSPECT AND RECORD INTERIOR SIDE SURFACE FINISH. INSPECT AND RECORD MAGNETIC PERMEABILY. Test Certification: DIMENSIONAL INSPECTION MAP Rev: Part Number: SE121-001P-2 PANEL 1 Part Description: DIE FORMED PANEL IDC Count: 3 Dwg Count: 1 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0 Drawing ID / Rev Sub ID Part ID Qty 15 SE121-001P-2 PANEL # 2 Parent Sub:1 Op:10 Operation Resource OtvPer StartQty EndQt Drawing ID / Rev Sub: 15 / Seq: 10 410-BURNOUT TABLE 1.00 1.00 1.00 SE121-001P / A 1. PRIOR TO BEGINNING WORK, CONTACT Q/A TO PERFORM A SERIES OF MATERIAL THICKNESS AND MAGNETIC PERMEABILITY TESTS ON THE RAW (F) MATEIRAL (PRIOR TO MATERIAL PROCESSING AND HANDLING BY MTM). 2. NEST AND PROGRAM PER PROVIDED GEOMETRY. 3. BURNOUT AND CLEANUP PANEL PER NESTING / PROGRAM. 4. CLEANUP EDGES / RADIUS CORNERS (.03" MIN. RAD). ENSURE ALL DROSS AND RE-CAST LAYER IS REMOVED. ENSURE THE CUT SURFACE IS BLENDED SMOOTH. 5. NOTIFY Q/A FOR VERIFICATION PRIOR TO MOVING TO THE NEXT WORK CENTER. Specification: ASTM A800 Rev: 91 Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEL Customer: PPPL Specification: ASTM B443 Rev: 93 IDC Count: 1 Dwg Count: 1 Pgm Count: 0 OAP Count: 0 NDT Count: 0 WPS Count: 0 Part ID Piece # Qty Drawing ID / Rev Vendor **Dimensions** INCONEL 625_5-PLATE, NICKEL ALLOY .375" THK 1810 10 1.0 Vendor Part ID: INCONEL 625_5 INCONEL 625 (UNS N06625) PER ASTM B 443-00 (F) 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. Material Certification: Part Number: SE121-2B

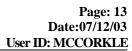




WorkorderPart IDQtyDrawing ID / RevEngineer64880/11SE121 / ABLUE/DOUG MCCORKLE

Part Description: DIE FORMED PANEL # 2

Operation Resource OtvPer StartQty EndQt Drawing ID / Rev Sub: 15 / Seq: 15 805-INPROCESS INSPECTION - PLA 1.00 1.00 1.00 SE121-001P / A (F) INSPECT BLANK SIZE PER DRAWING VERIFY EDGES ARE SMOOTH AND CORNERS HAVE RADII APPLIED PER PREVIOUS SEQUENCE. INSPECT MATERIAL THICKNESS PER ASTM B443 VISUAL INSPECT SURFACE FINISH PER ASTM B443 INSPECT MAGNETIC PERMEABILITY PER ASTM A800 RECORD IDC DATA APPLY PROTECTIVE PLASTIC TO BOTH SIDES OF PANEL (AVAILABLE IN WIP STORAGE) Specification: ASTM A800 Rev: 91 Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEL Customer: PPPL Specification: ASTM B443 Rev: 93 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: 15 / Seq: 18 1.00 1.00 1.00 SE121-001P / A 415-ROLLING/SHEAR/BRAKE PRESS (F) ROLL PANEL BLANK INTO A CONE PER PROCESS DRAWING. ENSURE PLATE ROLLS ARE COMPLETELY CLEAN AND FREE OF DIRT, GRIME, FOREIGN MATTER, AND RAISED METAL PRIOR TO ROLLING. ENSURE THE PANEL BLANKS ARE PROTECTED WITH PLASTIC SHEET DURING THE ENTIRE PROCESS. NOTIFY ENGINEERING (DOUG McCORKLE) PRIOR TO PROCEEDING. IDC Count: 0 Dwg Count: 1 WPS Count: 0 Pgm Count: 0 QAP Count: 0 NDT Count: 0 Operation QtyPer StartQty EndQt Drawing ID / Rev Resource Sub: 15 / Seq: 20 341-PACIFIC 750 1.00 1.00 1.00 SE121-001P / A INTO THE 750 TON HYDRAULIC PRESS. (F) LOAD, ALIGN, AND BOLT DIE SET # ___ ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... LOAD THE PANEL BLANK (OR CONE) INTO THE DIE SET. HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE # PANEL TO GAGE GAP TOLERANCE: .08" MAX. NOTIFY Q/A FOR PROFILE IDC VERIFICATION ENSURE THE PANEL MATERIAL EXTENDS BEYOND THE PERIMETER OF THE TRIM-LINES OF THE GAGE BY AT LEAST 1" (TO PROVIDE ADEQUATE STOCK ALLOWANCE FOR RE-POSITIONING, RE-STRIKING, AND ACCURATE TRIMMING). Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEL IDC Count: 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 2 NDT Count: 0 WPS Count: 0 QtyPer StartQty EndQt Drawing ID / Rev Operation Resource





Workorder 64880/1	Part ID			Qty 1	Drawing ID / Rev SE121 / A		,	gineer JE/DOUG MCCORKLE
Sub: 15 / Seq: 25 (F)	260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100% USING 13 IDC Count		1.00 T VIRGIN A Dwg Cou		SE121-001P / A UM OXIDE MEDIA TO Pgm Count: 0	REMOVE ANY RESID QAP Count: 0	OUE FROM THE FORM NDT Count: 0	MING PROCESS. WPS Count: 0
Operation Sub: 15 / Seq: 27 (F)	Resource 230-FABRICATION - WEIDNER INSTALL AND WELD ANNEAL BRACING IN PLACE ENSURE PART IS CLEAN AND READY FOR SOLU		1.00 GINEERING	1.00 G SKETO				
	IDC Count	: 0	Dwg Cour	nt: 1	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 1
Operation Sub: 15 / Seq: 30 (F)	Resource 520-SUBLET, EXOTIC HEAT TREAT SOLUTION ANNEAL FORMED PANEL PER THE F HOLD AT 1900 DEGREES F. (+/- 15 DEGREES) HO			1.00	Drawing ID / Rev SE121-001P / A			vice ID RML TR/NA SA
	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							
	IDC Count	: 0	Dwg Cour	nt: 1	Pgm Count: 0	QAP Count: 6	NDT Count: 0	WPS Count: 0
Operation Sub: 15 / Seq: 32 (U)	Resource 230-FABRICATION - WEIDNER REMOVE ANNEAL BRACING AND PREPARE PAN AND SMOOTH TO THE BASE MATERIAL. USE CA	AUTION TO		1.00 FINAL F OUGES a				AND BLENDED FLUS WPS Count: 0
Operation Sub: 15 / Seq: 35 (F)	Resource 805-INPROCESS INSPECTION - PLA VISUAL INSPECT SURFACE FOR DAMAGE, PITTI NOTIFY ENGINEERING (DOUG McCORKLE) FOR OVERIFY MAGNETIC PERMEABILITY AND RECOP Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEL	CONCURRI	ENCE	1.00	Drawing ID / Rev SE121-001P / A			
	IDC Count	: 1	Dwg Cour	nt: 1	Pgm Count: 0	QAP Count: 2	NDT Count: 0	WPS Count: 0
Operation Sub: 15 / Seq: 40 (F)	Resource 341-PACIFIC 750 LOAD, ALIGN, AND BOLT DIE SET # ENSURE THE DIE SET FACES ARE CLEAN AND F LOAD THE PREFORMED PANEL INTO THE DIE "RE-STRIKE" HYDRAULIC FORM THE PANEL TO PANEL TO GAGE GAP TOLERANCE: .08" MAX.	1.00 _ INTO TH FREE OF DI SET.	1.00 E 750 TON : IRT, OIL, GI	1.00 HYDRA RIME, F				



Workorder Part ID Drawing ID / Rev Engineer 64880/1 SE121 / A BLUE/DOUG MCCORKLE VERIFY PROFILE TO INSPECTION GAGE #__ _. GAP TOLERANCE: .08" MAX. NOTIFY INSPECTOR FOR Q/A IDC VERIFICATION LAYOUT AND PRICK-PUNCH TRIM-LINES ON THE PANEL ESTABLISHED FROM THE MACHINED PERIMETER OF THE INSPECTION GAGE. Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEL WPS Count: 0 IDC Count: 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 2 NDT Count: 0 QtyPer StartQty EndQt Drawing ID / Rev Operation Resource Sub: 15 / Seq: 50 260-SANDBLAST 1.00 1.00 1.00 SE121-001P / A (F) SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE FROM THE FORMING PROCESS. IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0 Operation StartQty EndQt Drawing ID / Rev Resource OtvPer Sub: 15 / Seq: 60 1.00 SE121-001P / A 230-FABRICATION - WEIDNER 1.00 1.00 TRIM PERIMETER TO PROVIDED TRIM-LINES. NOTE THAT INSTALLING THE WELD PREP IS NOT REQUIRED AT THIS STAGE (ADDITIONAL FITTING / TRIMMING (F) MAY BE REQUIRED AT INSTALLATION) 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 CLEANING PROCDURE 64880NSCX-CSPEC-120-01-00-3.3.2.4. (PRE-PRODUCTION NOTE: DOCUMENT IS PRELIMINARY AND WILL BE REVISED / RE-NAMED PRIOR TO USE) IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0 Operation OtvPer StartQty EndQt Drawing ID / Rev Resource Sub: 15 / Seq: 70 805-INPROCESS INSPECTION - PLA 1.00 SE121-001P / A 1.00 1.00 (F) VERIFY PROFILE TO INSPECTION GAGE # GAP TOLERANCE: .08" MAX. PERIMETER SHOULD FALL WITHIN .03" OF GAGE PERIMETER. INSPECT AND RECORD INTERIOR SIDE SURFACE FINISH. INSPECT AND RECORD MAGNETIC PERMEABILY. Test Certification: DIMENSIONAL INSPECTION MAP Rev: Part Number: SE121-001P-2 PANEL 2 Part Description: DIE FORMED PANEL 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 16 SE121-001P-2 PANEL # 3 1 Parent Sub:1 Op:10 Operation QtyPer StartQty EndQt Drawing ID / Rev Resource Sub: 16 / Seq: 10 1.00 410-BURNOUT TABLE 1.00 1.00 SE121-001P / A (F) 1. PRIOR TO BEGINNING WORK, CONTACT Q/A TO PERFORM A SERIES OF MATERIAL THICKNESS AND MAGNETIC PERMEABILITY TESTS ON THE RAW MATEIRAL (PRIOR TO MATERIAL PROCESSING AND HANDLING BY MTM). 2. NEST AND PROGRAM PER PROVIDED GEOMETRY. 3. BURNOUT AND CLEANUP PANEL PER NESTING / PROGRAM. 4. CLEANUP EDGES / RADIUS CORNERS (.03" MIN. RAD). ENSURE ALL DROSS AND RE-CAST LAYER IS REMOVED. ENSURE THE CUT SURFACE IS BLENDED SMOOTH. 5. NOTIFY Q/A FOR VERIFICATION PRIOR TO MOVING TO THE NEXT WORK CENTER.



Workorder Part ID Qty Drawing ID / Rev **Engineer** 64880/1 SE121 / A BLUE/DOUG MCCORKLE Specification: ASTM A800 Rev: 91 Part Number: SE121-001P-2 PANEL 3 Part Description: DIE FORMED PANEL Customer: PPPL Specification: ASTM B443 Rev: 93 OAP Count: 0 NDT Count: 0 WPS Count: 0 IDC Count: 1 Dwg Count: 1 Pgm Count: 0 Piece # Part ID Drawing ID / Rev Vendor **Dimensions** Qty 10 INCONEL 625_5-PLATE, NICKEL ALLOY .375" THK 1.0 1810 Vendor Part ID: INCONEL 625_5 (F) 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. Material Certification: Part Number: SE121-2C Part Description: DIE FORMED PANEL # 3 Operation Resource QtyPer StartQty EndQt Drawing ID / Rev Sub: 16 / Seq: 15 1.00 SE121-001P / A 805-INPROCESS INSPECTION - PLA 1.00 1.00 (F) INSPECT BLANK SIZE PER DRAWING VERIFY EDGES ARE SMOOTH AND CORNERS HAVE RADII APPLIED PER PREVIOUS SEQUENCE. INSPECT MATERIAL THICKNESS PER ASTM B443 VISUAL INSPECT SURFACE FINISH PER ASTM B443 INSPECT MAGNETIC PERMEABILITY PER ASTM A800 RECORD IDC DATA APPLY PROTECTIVE PLASTIC TO BOTH SIDES OF PANEL (AVAILABLE IN WIP STORAGE) Specification: ASTM A800 Rev: 91 Part Number: SE121-001P-2 PANEL 3 Part Description: DIE FORMED PANEL Customer: PPPL Specification: ASTM B443 Rev: 93 IDC Count: 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 5 NDT Count: 0 WPS Count: 0

OperationResourceQtyPerStartQtyEndQtDrawing ID / RevSub: 16 / Seq: 18415-ROLLING/SHEAR/BRAKE PRESS1.001.001.00SE121-001P / A

(F) ROLL PANEL BLANK INTO A CONE PER PROCESS DRAWING.

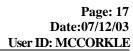
ENSURE PLATE ROLLS ARE COMPLETELY CLEAN AND FREE OF DIRT, GRIME, FOREIGN MATTER, AND RAISED METAL PRIOR TO ROLLING.

ENSURE THE PANEL BLANKS ARE PROTECTED WITH PLASTIC SHEET DURING THE ENTIRE PROCESS.

NOTIFY ENGINEERING (DOUG McCORKLE) PRIOR TO PROCEEDING.



Workorder Part ID Drawing ID / Rev Engineer SE121 / A 64880/1 BLUE/DOUG MCCORKLE IDC Count: 0 QAP Count: 0 WPS Count: 0 Dwg Count: 1 Pgm Count: 0 NDT Count: 0 Operation QtyPer StartQty EndQt Drawing ID / Rev Resource Sub: 16 / Seq: 20 341-PACIFIC 750 1.00 1.00 1.00 SE121-001P / A INTO THE 750 TON HYDRAULIC PRESS. (F) LOAD, ALIGN, AND BOLT DIE SET # __ ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... LOAD THE PANEL BLANK (OR CONE) INTO THE DIE SET. HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE #__ PANEL TO GAGE GAP TOLERANCE: .08" MAX. NOTIFY Q/A FOR PROFILE IDC VERIFICATION ENSURE THE PANEL MATERIAL EXTENDS BEYOND THE PERIMETER OF THE TRIM-LINES OF THE GAGE BY AT LEAST 1" (TO PROVIDE ADEQUATE STOCK ALLOWANCE FOR RE-POSITIONING, RE-STRIKING, AND ACCURATE TRIMMING). Part Number: SE121-001P-2 PANEL 3 Part Description: DIE FORMED PANEL IDC Count: 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 2 NDT Count: 0 WPS Count: 0 Operation Resource **QtyPer** StartQty EndQt Drawing ID / Rev Sub: 16 / Seq: 25 SE121-001P / A 260-SANDBLAST 1.00 1.00 1.00 (F) SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE FROM THE FORMING PROCESS. IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0 Operation Resource QtyPer StartQty EndQt Drawing ID / Rev Sub: 16 / Seq: 27 230-FABRICATION - WEIDNER 1.00 1.00 1.00 SE121-001P / A INSTALL AND WELD ANNEAL BRACING IN PLACE PER ENGINEERING SKETCH (F) ENSURE PART IS CLEAN AND READY FOR SOLUTION ANNEAL CYCLE IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 1 Operation StartQty EndQt Drawing ID / Rev Service ID Resource QtyPer Sub: 16 / Seq: 30 520-SUBLET, EXOTIC HEAT TREAT 1.00 1.00 1.00 SE121-001P / A THRML TR/NA SA (F) SOLUTION ANNEAL FORMED PANEL PER THE FOLLOWING: HOLD AT 1900 DEGREES F. (+/- 15 DEGREES) HOLD FOR 45 MINUTES (+/ 5 MINUTES) 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 Dwg Count: 1 WPS Count: 0 IDC Count: 0 Pgm Count: 0 QAP Count: 6 NDT Count: 0 Operation StartQty EndQt Drawing ID / Rev Resource **QtyPer** Sub: 16 / Seq: 32 230-FABRICATION - WEIDNER 1.00 1.00 SE121-001P / A REMOVE ANNEAL BRACING AND PREPARE PANEL FOR RE-STRIKE / FINAL FORMIMG. ENSURE ALL WELDS ARE COMLPETELY REMOVED AND BLENDED FLUSH (U) AND SMOOTH TO THE BASE MATERIAL. USE CAUTION TO AVOID GOUGES and/or HEAVY SCRATCHES ON THE PANEL SURFACES. IDC Count: 0 Dwg Count: 1 Pgm Count: 0 OAP Count: 0 NDT Count: 0 WPS Count: 0





WorkorderPart IDQtyDrawing ID / RevEngineer64880/11SE121 / ABLUE/DOUG MCCORKLE

Operation Resource OtvPer StartQty EndQt Drawing ID / Rev Sub: 16 / Seq: 35 805-INPROCESS INSPECTION - PLA 1.00 1.00 SE121-001P / A 1.00 VISUAL INSPECT SURFACE FOR DAMAGE, PITTING, GOUGES, SCRAPES ETC..... (F) 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 IDC Count: 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 2 NDT Count: 0 WPS Count: 0 Operation Resource OtvPer StartQty EndQt Drawing ID / Rev Sub: 16 / Seq: 40 341-PACIFIC 750 1.00 1.00 1.00 SE121-001P / A INTO THE 750 TON HYDRAULIC PRESS. (F) LOAD, ALIGN, AND BOLT DIE SET # _ ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... LOAD THE PREFORMED PANEL INTO THE DIE SET. "RE-STRIKE" HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE #____ PANEL TO GAGE GAP TOLERANCE: .08" MAX. VERIFY PROFILE TO INSPECTION GAGE #_ ____. GAP TOLERANCE: .08" MAX. NOTIFY INSPECTOR FOR Q/A IDC VERIFICATION LAYOUT AND PRICK-PUNCH TRIM-LINES ON THE PANEL ESTABLISHED FROM THE MACHINED PERIMETER OF THE INSPECTION GAGE. Part Number: SE121-001P-2 PANEL 3 Part Description: DIE FORMED PANEL IDC Count: 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 2 NDT Count: 0 WPS Count: 0 Operation StartQty EndQt Drawing ID / Rev Resource OtvPer Sub: 16 / Seq: 50 1.00 1.00 1.00 SE121-001P / A 260-SANDBLAST (F) SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE FROM THE FORMING PROCESS. IDC Count: 0 Dwg Count: 1 Pgm Count: 0 NDT Count: 0 WPS Count: 0 OAP Count: 0 Operation StartQty EndQt Drawing ID / Rev Resource QtyPer Sub: 16 / Seq: 60 230-FABRICATION - WEIDNER 1.00 1.00 1.00 SE121-001P / A (F) TRIM PERIMETER TO PROVIDED TRIM-LINES. NOTE THAT INSTALLING THE WELD PREP IS NOT REQUIRED AT THIS STAGE (ADDITIONAL FITTING / TRIMMING MAY BE REQUIRED AT INSTALLATION) 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 CLEANING PROCDURE 64880NSCX-CSPEC-120-01-00-3.3.2.4. (PRE-PRODUCTION NOTE: DOCUMENT IS PRELIMINARY AND WILL BE REVISED / RE-NAMED PRIOR TO USE) IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0 Operation EndQt Drawing ID / Rev Resource **QtyPer** StartQty Sub: 16 / Seq: 70 805-INPROCESS INSPECTION - PLA 1.00 1.00 SE121-001P / A GAP TOLERANCE: .08" MAX. PERIMETER SHOULD FALL WITHIN .03" OF GAGE PERIMETER. (F) VERIFY PROFILE TO INSPECTION GAGE #__ INSPECT AND RECORD INTERIOR SIDE SURFACE FINISH. INSPECT AND RECORD MAGNETIC PERMEABILY.



Workorder Part ID Qty Drawing ID / Rev Engineer

64880/1 1 SE121 / A BLUE/DOUG MCCORKLE

Test Certification: DIMENSIONAL INSPECTION MAP Rev:

Part Number: SE121-001P-2 PANEL 3
Part Description: DIE FORMED PANEL

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

17 SE121-001P-2 PANEL # 4 1 /

Parent Sub:1 Op:10

OperationResourceQtyPerStartQtyEndQtDrawing ID / RevSub: 17 / Seq: 10410-BURNOUT TABLE1.001.001.00SE121-001P / A

(F) 1. PRIOR TO BEGINNING WORK, CONTACT Q/A TO PERFORM A SERIES OF MATERIAL THICKNESS AND MAGNETIC PERMEABILITY TESTS ON THE RAW

MATEIRAL (PRIOR TO MATERIAL PROCESSING AND HANDLING BY MTM).

2. NEST AND PROGRAM PER PROVIDED GEOMETRY.

3. BURNOUT AND CLEANUP PANEL PER NESTING / PROGRAM.

4. CLEANUP EDGES / RADIUS CORNERS (.03" MIN. RAD). ENSURE ALL DROSS AND RE-CAST LAYER IS REMOVED. ENSURE THE CUT SURFACE IS BLENDED SMOOTH.

5. NOTIFY Q/A FOR VERIFICATION PRIOR TO MOVING TO THE NEXT WORK CENTER.

Specification: ASTM A800 Rev: 91 Part Number: SE121-001P-2 PANEL 4 Part Description: DIE FORMED PANEL

Customer: PPPL

Specification: ASTM B443 Rev: 93

IDC Count: 1 Dwg Count: 1 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 1.0 1810

INCONEL 625_5-PLATE,NICKEL ALLOY .375" THK Vendor Part ID: INCONEL 625_5

(F) 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.

Material Certification: Part Number: SE121-2D

Part Description: DIE FORMED PANEL # 4

OperationResourceQtyPerStartQtyEndQtDrawing ID / RevSub: 17 / Seq: 15805-INPROCESS INSPECTION - PLA1.001.001.00SE121-001P / A

(F) INSPECT BLANK SIZE PER DRAWING

VERIFY EDGES ARE SMOOTH AND CORNERS HAVE RADII APPLIED PER PREVIOUS SEQUENCE.

INSPECT MATERIAL THICKNESS PER ASTM B443 VISUAL INSPECT SURFACE FINISH PER ASTM B443 INSPECT MAGNETIC PERMEABILITY PER ASTM A800



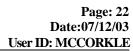
Workorder Part ID Qty Drawing ID / Rev Engineer 64880/1 SE121 / A BLUE/DOUG MCCORKLE RECORD IDC DATA APPLY PROTECTIVE PLASTIC TO BOTH SIDES OF PANEL (AVAILABLE IN WIP STORAGE) Specification: ASTM A800 Rev: 91 Part Number: SE121-001P-2 PANEL 4 Part Description: DIE FORMED PANEL Customer: PPPL Specification: ASTM B443 Rev: 93 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: 17 / Seq: 18 1.00 SE121-001P / A 415-ROLLING/SHEAR/BRAKE PRESS 1.00 1.00 (F) ROLL PANEL BLANK INTO A CONE PER PROCESS DRAWING. ENSURE PLATE ROLLS ARE COMPLETELY CLEAN AND FREE OF DIRT, GRIME, FOREIGN MATTER, AND RAISED METAL PRIOR TO ROLLING. ENSURE THE PANEL BLANKS ARE PROTECTED WITH PLASTIC SHEET DURING THE ENTIRE PROCESS. NOTIFY ENGINEERING (DOUG McCORKLE) PRIOR TO PROCEEDING. WPS Count: 0 IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 Operation StartQty EndQt Drawing ID / Rev Resource OtvPer Sub: 17 / Seq: 20 341-PACIFIC 750 1.00 1.00 SE121-001P / A INTO THE 750 TON HYDRAULIC PRESS. (F) LOAD, ALIGN, AND BOLT DIE SET # __ ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... LOAD THE PANEL BLANK (OR CONE) INTO THE DIE SET. HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE #_ PANEL TO GAGE GAP TOLERANCE: .08" MAX. NOTIFY Q/A FOR PROFILE IDC VERIFICATION ENSURE THE PANEL MATERIAL EXTENDS BEYOND THE PERIMETER OF THE TRIM-LINES OF THE GAGE BY AT LEAST 1" (TO PROVIDE ADEQUATE STOCK ALLOWANCE FOR RE-POSITIONING, RE-STRIKING, AND ACCURATE TRIMMING). Part Number: SE121-001P-2 PANEL 4 Part Description: DIE FORMED PANEL IDC Count: 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 2 NDT Count: 0 WPS Count: 0 Operation StartQty EndQt Drawing ID / Rev Resource **QtyPer** Sub: 17 / Seq: 25 260-SANDBLAST 1.00 1.00 1.00 SE121-001P / A SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE FROM THE FORMING PROCESS. (F) IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0 StartQty EndQt Drawing ID / Rev Operation Resource OtvPer Sub: 17 / Seq: 27 230-FABRICATION - WEIDNER 1.00 1.00 1.00 SE121-001P / A (F) INSTALL AND WELD ANNEAL BRACING IN PLACE PER ENGINEERING SKETCH ENSURE PART IS CLEAN AND READY FOR SOLUTION ANNEAL CYCLE IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 1



Workorder Part ID Qty Drawing ID / Rev Engineer 64880/1 SE121 / A BLUE/DOUG MCCORKLE QtyPer StartQty EndQt Drawing ID / Rev Service ID Operation Resource Sub: 17 / Seq: 30 520-SUBLET, EXOTIC HEAT TREAT 1.00 1.00 1.00 SE121-001P / A THRML TR/NA SA (F) SOLUTION ANNEAL FORMED PANEL PER THE FOLLOWING: HOLD AT 1900 DEGREES F. (+/- 15 DEGREES) HOLD FOR 45 MINUTES (+/ 5 MINUTES) 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 Dwg Count: 1 WPS Count: 0 IDC Count: 0 Pgm Count: 0 QAP Count: 6 NDT Count: 0 Operation QtyPer StartQty EndQt Drawing ID / Rev Resource Sub: 17 / Seq: 32 230-FABRICATION - WEIDNER 1.00 1.00 1.00 SE121-001P / A REMOVE ANNEAL BRACING AND PREPARE PANEL FOR RE-STRIKE / FINAL FORMIMG. ENSURE ALL WELDS ARE COMLPETELY REMOVED AND BLENDED FLUSH (U) AND SMOOTH TO THE BASE MATERIAL. USE CAUTION TO AVOID GOUGES and/or HEAVY SCRATCHES ON THE PANEL SURFACES. IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0 Operation Resource QtyPer StartQty EndQt Drawing ID / Rev Sub: 17 / Seq: 35 1.00 SE121-001P / A 805-INPROCESS INSPECTION - PLA 1.00 1.00 (F) VISUAL INSPECT SURFACE FOR DAMAGE, PITTING, GOUGES, SCRAPES ETC..... 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 IDC Count: 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 2 NDT Count: 0 WPS Count: 0 Operation Resource OtvPer StartQty EndQt Drawing ID / Rev Sub: 17 / Seq: 40 341-PACIFIC 750 1.00 1.00 1.00 SE121-001P / A INTO THE 750 TON HYDRAULIC PRESS. (F) LOAD, ALIGN, AND BOLT DIE SET # __ ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... LOAD THE PREFORMED PANEL INTO THE DIE SET. "RE-STRIKE" HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE #PANEL TO GAGE GAP TOLERANCE: .08" MAX. VERIFY PROFILE TO INSPECTION GAGE #______. GAP TOLERANCE: .08" MAX. NOTIFY INSPECTOR FOR Q/A IDC VERIFICATION LAYOUT AND PRICK-PUNCH TRIM-LINES ON THE PANEL ESTABLISHED FROM THE MACHINED PERIMETER OF THE INSPECTION GAGE. Part Number: SE121-001P-2 PANEL 4 Part Description: DIE FORMED PANEL IDC Count: 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 2 NDT Count: 0 WPS Count: 0 Operation StartQty EndQt Drawing ID / Rev Resource **QtyPer** Sub: 17 / Seq: 50 1.00 SE121-001P / A 260-SANDBLAST 1.00 1.00



Workorder 64880/1	Part ID			Qty 1	Drawing ID / Rev SE121 / A		U	ineer E/DOUG MCCORKLE
(F)	SHOT BLAST THE ENTIRE PANEL 100% USI	ING 180-220 GR Count : 0	IT VIRGIN A Dwg Cou		UM OXIDE MEDIA TO Pgm Count: 0	REMOVE ANY RESI QAP Count: 0	DUE FROM THE FORM NDT Count: 0	UNG PROCESS. WPS Count: 0
Operation Sub: 17 / Seq: 60 (F)	Resource 230-FABRICATION - WEIDNER TRIM PERIMETER TO PROVIDED TRIM-LII MAY BE REQUIRED AT INSTALLATION) SAND AND POLISH THE INSIDE SURFACE CLEAN PANEL PER CLEANING PROCDURE RE-NAMED PRIOR TO USE) IDC	100% TO ACHIE	1.00 AT INSTALI EVE A 32 MIC	1.00 LING TH CRO SU -00-3.3.2	RFACE FINISH (WITH	THE EXCEPTION OF	THE WELDING / TRIM	IMING ZONES).
Operation Sub: 17 / Seq: 70 (F)	Resource 805-INPROCESS INSPECTION - PLA VERIFY PROFILE TO INSPECTION GAGE #, INSPECT AND RECORD INTERIOR SIDE SUI INSPECT AND RECORD MAGNETIC PERME Test Certification: DIMENSIONAL INSPECTION Part Number: SE121-001P-2 PANEL 4 Part Description: DIE FORMED PANEL IDC	RFACE FINISH. ABILY.	1.00	1.00 NCE: .08	Pgm Count: 0	SHOULD FALL WITH QAP Count: 3	HIN .03" OF GAGE PER	IMETER. WPS Count: 0
Sub ID 18	Part ID SE121-001P-2 PANEL # 5			Qty 1	Drawing ID / Rev / Parent Sub:1 Op:10			
Operation Sub: 18 / Seq: 10 (F)	Resource 410-BURNOUT TABLE 1. PRIOR TO BEGINNING WORK, CONTACT MATEIRAL (PRIOR TO MATERIAL PROCES 2. NEST AND PROGRAM PER PROVIDED G 3. BURNOUT AND CLEANUP PANEL PER N 4. CLEANUP EDGES / RADIUS CORNERS (.0 5. NOTIFY Q/A FOR VERIFICATION PRIOR Specification: ASTM A800 Rev: 91 Part Number: SE121-001P-2 PANEL 5 Part Description: DIE FORMED PANEL Customer: PPPL Specification: ASTM B443 Rev: 93	SING AND HAN EOMETRY. IESTING / PROC 3" MIN. RAD). I TO MOVING T	1.00 DRM A SERI IDLING BY I GRAM. ENSURE ALI O THE NEX	1.00 ES OF M MTM). L DROS	S AND RE-CAST LAYE CCENTER.	R IS REMOVED. ENS	SURE THE CUT SURFAC	CE IS BLENDED SMOOTH.
Piece # 10 (F)	IDC Part ID INCONEL 625_5-PLATE,NICKEL ALLOY .3 Vendor Part ID: INCONEL 625_5 INCONEL 625 (UNS N06625) PER ASTM B 4		Dwg Cou	nt: 1 Qty 1.0	Pgm Count: 0 Drawing ID / Rev	QAP Count: 0 Vendor 1810	NDT Count: 0 Dimensions	WPS Count: 0





Workorder Part ID Qty Drawing ID / Rev Engineer
64880/1 SE121 / A BLUE/DOUG MCCORKLE

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.

Material Certification: Part Number: SE121-2E

Part Description: DIE FORMED PANEL # 5

OperationResourceQtyPerStartQtyEndQtDrawing ID / RevSub: 18 / Seq: 15805-INPROCESS INSPECTION - PLA1.001.001.00SE121-001P / A

(F) INSPECT BLANK SIZE PER DRAWING

VERIFY EDGES ARE SMOOTH AND CORNERS HAVE RADII APPLIED PER PREVIOUS SEQUENCE.

INSPECT MATERIAL THICKNESS PER ASTM B443 VISUAL INSPECT SURFACE FINISH PER ASTM B443 INSPECT MAGNETIC PERMEABILITY PER ASTM A800

RECORD IDC DATA

APPLY PROTECTIVE PLASTIC TO BOTH SIDES OF PANEL

(AVAILABLE IN WIP STORAGE) Specification: ASTM A800 Rev: 91 Part Number: SE121-001P-2 PANEL 5 Part Description: DIE FORMED PANEL

Customer: PPPL

Specification: ASTM B443 Rev: 93

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

OperationResourceQtyPerStartQtyEndQtDrawing ID / RevSub: 18 / Seq: 18415-ROLLING/SHEAR/BRAKE PRESS1.001.001.00\$E121-001P / A

(F) ROLL PANEL BLANK INTO A CONE PER PROCESS DRAWING.

ENSURE PLATE ROLLS ARE COMPLETELY CLEAN AND FREE OF DIRT, GRIME, FOREIGN MATTER, AND RAISED METAL PRIOR TO ROLLING.

ENSURE THE PANEL BLANKS ARE PROTECTED WITH PLASTIC SHEET DURING THE ENTIRE PROCESS.

NOTIFY ENGINEERING (DOUG McCORKLE) PRIOR TO PROCEEDING.

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

 Operation
 Resource
 QtyPer
 StartQty
 EndQt
 Drawing ID / Rev

 Sub: 18 / Seq: 20
 341-PACIFIC 750
 1.00
 1.00
 1.00
 SE121-001P / A

(F) LOAD, ALIGN, AND BOLT DIE SET # _____ 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....

LOAD THE PANEL BLANK (OR CONE) INTO THE DIE SET.

HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE #_____.

PANEL TO GAGE GAP TOLERANCE: .08" MAX. NOTIFY Q/A FOR PROFILE IDC VERIFICATION

WPS Count: 1

WPS Count: 0



Operation

Workorder Part ID Drawing ID / Rev Engineer SE121 / A 64880/1 BLUE/DOUG MCCORKLE ENSURE THE PANEL MATERIAL EXTENDS BEYOND THE PERIMETER OF THE TRIM-LINES OF THE GAGE BY AT LEAST 1" (TO PROVIDE ADEQUATE STOCK ALLOWANCE FOR RE-POSITIONING, RE-STRIKING, AND ACCURATE TRIMMING).

> Part Number: SE121-001P-2 PANEL 5 Part Description: DIE FORMED PANEL

> > IDC Count: 1 Dwg Count: 1 Pgm Count: 0 OAP Count: 2 NDT Count: 0 WPS Count: 0

> > > QAP Count: 0

NDT Count: 0

Sub: 18 / Seq: 25 1.00 1.00 1.00 SE121-001P / A 260-SANDBLAST (F) SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE FROM THE FORMING PROCESS.

StartOtv

OtvPer

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

EndQt Drawing ID / Rev

Pgm Count: 0

Operation Resource QtyPer StartQty EndQt Drawing ID / Rev Sub: 18 / Seq: 27 230-FABRICATION - WEIDNER 1.00 1.00 1.00 SE121-001P / A (F) INSTALL AND WELD ANNEAL BRACING IN PLACE PER ENGINEERING SKETCH

ENSURE PART IS CLEAN AND READY FOR SOLUTION ANNEAL CYCLE

Dwg Count: 1

Operation QtyPer StartQty EndQt Drawing ID / Rev Service ID Resource Sub: 18 / Seq: 30 520-SUBLET, EXOTIC HEAT TREAT 1.00 1.00 1.00 SE121-001P / A THRML TR/NA SA

(F) SOLUTION ANNEAL FORMED PANEL PER THE FOLLOWING:

HOLD AT 1900 DEGREES F. (+/- 15 DEGREES) HOLD FOR 45 MINUTES (+/ 5 MINUTES)

IDC Count: 0

Specification: AMS2774 Rev: JUL95 Certification: H/T CERTIFICATE Part Number: SE121-001P-2 PANEL 5 Part Description: DIE FORMED PANEL

Customer: PPPL

Resource

Furnace charts: FURNACE CHART

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

Operation QtyPer StartQty EndQt Drawing ID / Rev Resource Sub: 18 / Seq: 32 230-FABRICATION - WEIDNER 1.00 1.00 1.00 SE121-001P / A

REMOVE ANNEAL BRACING AND PREPARE PANEL FOR RE-STRIKE / FINAL FORMIMG. ENSURE ALL WELDS ARE COMLPETELY REMOVED AND BLENDED FLUSH (U)

AND SMOOTH TO THE BASE MATERIAL. USE CAUTION TO AVOID GOUGES and/or HEAVY SCRATCHES ON THE PANEL SURFACES.

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

Operation QtyPer StartQty EndQt Drawing ID / Rev Resource Sub: 18 / Seq: 35 1.00 805-INPROCESS INSPECTION - PLA 1.00 1.00 SE121-001P / A

(F) VISUAL INSPECT SURFACE FOR DAMAGE, PITTING, GOUGES, SCRAPES ETC.....

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

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

W:64880/1-0/Inc Matl/Inc Legs MTTRAVLR.qrp



Operation

Resource

Workorder Part ID Qty Drawing ID / Rev Engineer 64880/1 SE121 / A BLUE/DOUG MCCORKLE QtyPer StartQty EndQt Drawing ID / Rev Operation Resource Sub: 18 / Seq: 40 341-PACIFIC 750 1.00 1.00 1.00 SE121-001P / A INTO THE 750 TON HYDRAULIC PRESS. (F) LOAD, ALIGN, AND BOLT DIE SET # __ ENSURE THE DIE SET FACES ARE CLEAN AND FREE OF DIRT, OIL, GRIME, FOREIGN MATTER, RAISED OR EMBEDDED MATERIAL, ETC.... LOAD THE PREFORMED PANEL INTO THE DIE SET. "RE-STRIKE" HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE #_____ PANEL TO GAGE GAP TOLERANCE: .08" MAX. VERIFY PROFILE TO INSPECTION GAGE #_____. GAP TOLERANCE: .08" MAX. NOTIFY INSPECTOR FOR Q/A IDC VERIFICATION LAYOUT AND PRICK-PUNCH TRIM-LINES ON THE PANEL ESTABLISHED FROM THE MACHINED PERIMETER OF THE INSPECTION GAGE. Part Number: SE121-001P-2 PANEL 5 Part Description: DIE FORMED PANEL Dwg Count: 1 WPS Count: 0 IDC Count: 1 Pgm Count: 0 QAP Count: 2 NDT Count: 0 StartQty EndQt Drawing ID / Rev Operation Resource **QtyPer** Sub: 18 / Seq: 50 260-SANDBLAST 1.00 1.00 1.00 SE121-001P / A (F) SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE FROM THE FORMING PROCESS. IDC Count: 0 Dwg Count: 1 Pgm Count: 0 NDT Count: 0 WPS Count: 0 QAP Count: 0 Operation Resource QtyPer StartQty EndQt Drawing ID / Rev Sub: 18 / Seq: 60 1.00 SE121-001P / A 230-FABRICATION - WEIDNER 1.00 1.00 TRIM PERIMETER TO PROVIDED TRIM-LINES. NOTE THAT INSTALLING THE WELD PREP IS NOT REQUIRED AT THIS STAGE (ADDITIONAL FITTING / TRIMMING (F) MAY BE REQUIRED AT INSTALLATION) 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 CLEANING PROCDURE 64880NSCX-CSPEC-120-01-00-3.3.2.4. (PRE-PRODUCTION NOTE: DOCUMENT IS PRELIMINARY AND WILL BE REVISED / RE-NAMED PRIOR TO USE) IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0 Operation Resource QtyPer StartQty EndQt Drawing ID / Rev Sub: 18 / Seq: 70 1.00 1.00 1.00 SE121-001P / A 805-INPROCESS INSPECTION - PLA VERIFY PROFILE TO INSPECTION GAGE #_____. GAP TOLERANCE: .08" MAX. PERIMETER SHOULD FALL WITHIN .03" OF GAGE PERIMETER. (F) INSPECT AND RECORD INTERIOR SIDE SURFACE FINISH. INSPECT AND RECORD MAGNETIC PERMEABILY. Test Certification: DIMENSIONAL INSPECTION MAP Rev: Part Number: SE121-001P-2 PANEL 5 Part Description: DIE FORMED PANEL 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 24 SURFACE FINISH TESTING TEST P Parent Sub:1 Op:10

MTTRAVLR.qrp W:64880/1-0 /Inc Matl /Inc Legs

QtyPer StartQty EndQt Drawing ID / Rev



Workorder 64880/1	Part ID			Qty 1	Drawing ID / Rev SE121 / A			ngineer LUE/DOUG MCCORKLE
Sub: 24 / Seq: 10 (C)	410-BURNOUT TABLE BURNOUT TEST PLATES PER MATERIAL CAR DEBURR AND SAND EDGES SMOOTH (WITH U FORWARD ONE PLATE TO ENGINEERING (DC IDC Co)	JNCONTAMI UG McCORI		ROCESS	· · · · · · · · · · · · · · · · · · ·	OLLOWING ROUT QAP Count: 1	ING STEPS. NDT Count: 0	WPS Count: 0
Piece # 10 (C)	Part ID INCONEL 625_670-SHEET,NICKEL ALLOY .25 INCONEL 625 SHEET, .25" THICK PER AMS 5599. CERT AND MILL TEST REPORT REQ'D WITH	" ТНК		Qty 480.0	Drawing ID / Rev	Vendor	Dimensions 480	WIB Count.
	Material Certification: NONE REQ'D TEST SAMP	LE						
Operation Sub: 24 / Seq: 20 (F)	Resource 230-FABRICATION - WEIDNER SAND AND POLISH THE TEST PIECE (ONE SID	QtyPer 1.00 E) TO A 32 F	StartQty 1.00 RA MICRO S	1.00	Drawing ID / Rev SE121 / A			
(1)	IDC Con	<i>*</i>	Dwg Cou		Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation Sub: 24 / Seq: 25 (F)	Resource 260-SANDBLAST MASK THE POLISHED SIDE AND BLAST THE	QtyPer 1.00 OTHER SIDE	StartQty 1.00 E WITH 180-	1.00	Drawing ID / Rev SE121 / A T VIRGIN ALUMINUM O	XIDE.		
,	Drw N/A IDC Cor		Dwg Cou		Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation Sub: 24 / Seq: 28 (F)	Resource 230-FABRICATION - WEIDNER CLEAN SAMPLE MATERIAL SURFACES PER T WRAP THE PART IN PLASTIC FOAM.	QtyPer 1.00 HE FOLLOW	StartQty 1.00 'ING(clea	1.00	Drawing ID / Rev SE121 / A Diffication being developed)			
	Drw N/A IDC Con	unt : 0	Dwg Cou	int: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation Sub: 24 / Seq: 30 (F)	Resource 805-INPROCESS INSPECTION - PLA VERIFY THE FOLLOWING TEST SAMPLE ATT CLEANLINESS (PER PROCEDURE ???? BEING I MAGNETIC PERMEABILITY (1.01 MAX) REPORT RESULTS TO ENGINEERING (DOUG M	DEVELOPED		1.00	Drawing ID / Rev SE121 / A ASME B46.1-1995)			
	IDC Con	unt:0	Dwg Cou	int: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Sub ID 26	Part ID SE121-001P-2 PANEL # 1			Qty 1	Drawing ID / Rev / Parent Sub:1 Op:10			
Operation Sub: 26 / Seq: 10	Resource 410-BURNOUT TABLE	QtyPer 1.00	StartQty 1.00		Drawing ID / Rev SE121-001P / A			



Workorder 64880/1	Part ID			Qty 1	Drawing ID / Rev SE121 / A			ineer E/DOUG MCCORKLE
(U)	 PRIOR TO BEGINNING WORK, CON MATEIRAL (PRIOR TO MATERIAL PRO NEST AND PROGRAM PER PROVIDI BURNOUT AND CLEANUP PANEL P CLEANUP EDGES / RADIUS CORNER NOTIFY Q/A FOR VERIFICATION PI Specification: ASTM A800 Rev: 91 Part Number: SE121-001P-2 TEST PANE Part Description: DIE FORMED PANEL Customer: PPPL Specification: ASTM B443 Rev: 93 	CESSING AND HAN ED GEOMETRY. ER NESTING / PROG IS (.03" MIN. RAD). E RIOR TO MOVING TO	DLING BY M RAM. ENSURE ALL	MTM).	S AND RE-CAST LAYEI			
D *#		IDC Count: 1	Dwg Coun		Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Piece # 10	Part ID INCONEL 625_5-PLATE,NICKEL ALLO Vendor Part ID: INCONEL 625_5	Y .375" THK		Qty 1.0	Drawing ID / Rev	Vendor 1810	Dimensions	
(U)	INCONEL 625 (UNS N06625) PER ASTM ANNEALED	I B 443-00						
	MAGNETIC PERMEABILITY SHALL NO SURFACE MUST BE PROTECTED FROM	,		,	LOY MATERIALS			
	CERTS & MILL TEST REPORTS REQ'D	WITH SHIPMENT.						
	Material Certification: Part Number: SE121-2A Part Description: DIE FORMED PANEL #	: 1						
Operation	Resource	QtyPer	StartOty	EndO	t Drawing ID / Rev			
Sub: 26 / Seq: 15	805-INPROCESS INSPECTION - PLA	1.00	1.00		SE121-001P / A			
(U)	INSPECT BLANK SIZE PER DRAWING VERIFY EDGES ARE SMOOTH AND CO INSPECT MATERIAL THICKNESS PER		APPLIED PE	R PREV	VIOUS SEQUENCE.			
	VISUAL INSPECT SURFACE FINISH PEI INSPECT MAGNETIC PERMEABILITY							
	RECORD IDC DATA APPLY PROTECTIVE PLASTIC TO BOT	H SIDES OF PANEL						
	(AVAILABLE IN WIP STORAGE) Specification: ASTM A800 Rev: 91							
	Part Number: SE121-001P-2 TEST PANE	L						
	Part Description: DIE FORMED PANEL							
	Customer: PPPL							
	Specification: ASTM B443 Rev: 93							
	1	IDC Count : 1	Dwg Coun	it: 1	Pgm Count: 0	QAP Count: 5	NDT Count: 0	WPS Count: 0



Workorder 64880/1	Part ID		Qty 1	Drawing ID / Rev SE121 / A			ineer E/DOUG MCCORKLE
Sub: 26 / Seq: 18 (U)	415-ROLLING/SHEAR/BRAKE PRESS ROLL PANEL BLANK INTO A CONE F ENSURE PLATE ROLLS ARE COMPLI ENSURE THE PANEL BLANKS ARE P NOTIFY ENGINEERING (DOUG McCC	ETELY CLEAN AND FRE PROTECTED WITH PLAS	S. EE OF DIRT, GRII TIC SHEET DUR			L PRIOR TO ROLLING	
		IDC Count: 0	Dwg Count: 1	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation Sub: 26 / Seq: 20 (U)	Resource 341-PACIFIC 750 LOAD, ALIGN, AND BOLT DIE SET # ENSURE THE DIE SET FACES ARE CI LOAD THE PANEL BLANK (OR CON HYDRAULIC FORM THE PANEL TO A PANEL TO GAGE GAP TOLERANCE: NOTIFY Q/A FOR PROFILE IDC VERI ENSURE THE PANEL MATERIAL EX ALLOWANCE FOR RE-POSITIONING, Part Number: SE121-001P-2 TEST PAN Port Description: DIE FORMED PANEL	1.00 LEAN AND FREE OF DIR E) INTO THE DIE SET. ACHIEVE THE GEOMETI .08" MAX. FICATION TENDS BEYOND THE PE , RE-STRIKING, AND ACHEE	1.00 1.00 750 TON HYDR T, OIL, GRIME, RICAL SHAPE C	FOREIGN MATTER, RA ONFORMING TO INSPE HE TRIM-LINES OF TH	CTION GAGE #	·	PEQUATE STOCK
	Part Description: DIE FORMED PANEL	IDC Count : 1	Dwg Count: 1	Pgm Count: 0	QAP Count: 2	NDT Count: 0	WPS Count: 0
Operation Sub: 26 / Seq: 25 (U)	Resource 260-SANDBLAST SHOT BLAST THE ENTIRE PANEL 100	1.00	1.00 1.00	Ot Drawing ID / Rev SE121-001P / A NUM OXIDE MEDIA TO Pgm Count: 0	REMOVE ANY RESID QAP Count: 0	OUE FROM THE FORM NDT Count: 0	ING PROCESS. WPS Count: 0
Operation Sub: 26 / Seq: 27 (U)	Resource 230-FABRICATION - WEIDNER INSTALL AND WELD ANNEAL BRAC ENSURE PART IS CLEAN AND READ	1.00 CING IN PLACE PER ENG	1.00 1.00 INEERING SKET	Ot Drawing ID / Rev SE121-001P / A CCH Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 1
Operation Sub: 26 / Seq: 30 (U)	Resource 520-SUBLET, EXOTIC HEAT TREAT SOLUTION ANNEAL FORMED PANEL HOLD AT 1900 DEGREES F. (+/- 15 D. Specification: AMS2774 Rev: JUL95 Certification: H/T CERTIFICATE Part Number: SE121-001P-2 TEST PAN Part Description: DIE FORMED PANEL Customer: PPPL Furnace charts: FURNACE CHART	1.00 L PER THE FOLLOWING EGREES) HOLD FOR 45 I	1.00 1.00	Pt Drawing ID / Rev SE121-001P / A MINUTES)			ice ID ML TR/NA SA

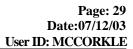


RE-NAMED PRIOR TO USE)

SPLIT THE PANEL TO SIMULATE PRODUCTION WELD JOINT(S).

WorkorderPart IDQtyDrawing ID / RevEngineer64880/11SE121 / ABLUE/DOUG MCCORKLE

Operation Resource OtvPer StartOty EndQt Drawing ID / Rev Sub: 26 / Seq: 32 230-FABRICATION - WEIDNER 1.00 SE121-001P / A 1.00 1.00 REMOVE ANNEAL BRACING AND PREPARE PANEL FOR RE-STRIKE / FINAL FORMIMG. ENSURE ALL WELDS ARE COMLPETELY REMOVED AND BLENDED FLUSH (U) AND SMOOTH TO THE BASE MATERIAL. USE CAUTION TO AVOID GOUGES and/or HEAVY SCRATCHES ON THE PANEL SURFACES. IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 0 Operation Resource OtvPer StartQty EndQt Drawing ID / Rev Sub: 26 / Seq: 35 805-INPROCESS INSPECTION - PLA 1.00 1.00 SE121-001P / A (U) VISUAL INSPECT SURFACE FOR DAMAGE, PITTING, GOUGES, SCRAPES ETC..... NOTIFY ENGINEERING (DOUG McCORKLE) FOR CONCURRENCE VERIFY MAGNETIC PERMEABILITY AND RECORD I.D.C. DATA Part Number: SE121-001P-2 TEST PANEL Part Description: DIE FORMED PANEL IDC Count: 1 Dwg Count: 1 Pgm Count: 0 OAP Count: 2 NDT Count: 0 WPS Count: 0 Operation Resource OtvPer StartQty EndQt Drawing ID / Rev Sub: 26 / Seq: 40 341-PACIFIC 750 1.00 1.00 1.00 SE121-001P / A (U) LOAD, ALIGN, AND BOLT DIE SET # __ 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.... LOAD THE PREFORMED PANEL INTO THE DIE SET. "RE-STRIKE" HYDRAULIC FORM THE PANEL TO ACHIEVE THE GEOMETRICAL SHAPE CONFORMING TO INSPECTION GAGE #_ PANEL TO GAGE GAP TOLERANCE: .08" MAX. VERIFY PROFILE TO INSPECTION GAGE #__ ____. GAP TOLERANCE: .08" MAX. NOTIFY INSPECTOR FOR Q/A IDC VERIFICATION LAYOUT AND PRICK-PUNCH TRIM-LINES ON THE PANEL ESTABLISHED FROM THE MACHINED PERIMETER OF THE INSPECTION GAGE. Part Number: SE121-001P-2 TEST PANEL Part Description: DIE FORMED PANEL IDC Count: 1 Dwg Count: 1 Pgm Count: 0 QAP Count: 2 NDT Count: 0 WPS Count: 0 Operation Resource OtvPer StartOtv EndQt Drawing ID / Rev Sub: 26 / Seq: 50 1.00 1.00 1.00 SE121-001P / A 260-SANDBLAST (U) SHOT BLAST THE ENTIRE PANEL 100% USING 180-220 GRIT VIRGIN ALUMINUM OXIDE MEDIA TO REMOVE ANY RESIDUE FROM THE FORMING PROCESS. IDC Count: 0 Dwg Count: 1 Pgm Count: 0 NDT Count: 0 WPS Count: 0 OAP Count: 0 Operation OtvPer StartOtv EndQt Drawing ID / Rev Resource Sub: 26 / Seq: 60 SE121-001P / A 230-FABRICATION - WEIDNER 1.00 1.00 1.00 (U) TRIM PERIMETER TO PROVIDED TRIM-LINES. NOTE THAT INSTALLING THE WELD PREP IS NOT REQUIRED AT THIS STAGE (ADDITIONAL FITTING / TRIMMING MAY BE REQUIRED AT INSTALLATION) 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 CLEANING PROCDURE 64880NSCX-CSPEC-120-01-00-3.3.2.4. (PRE-PRODUCTION NOTE: DOCUMENT IS PRELIMINARY AND WILL BE REVISED /





Workorder Part ID Qty Drawing ID / Rev Engineer SE121 / A BLUE/DOUG MCCORKLE 64880/1

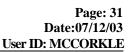
PREP, FIT AND WELD JOINTS TO DEVELOP WELDING SEQUENCES AND MINIMIZE WELDING DISTORTION. ENSURE THE PART IS RESTRAINED IN A MANNER SIMULATING PRODUCTION THROUGHOUT THE WELDING PROCESS.

CWI VISUAL INSPECT WELDS 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 ENGINEERI	NG (DOUG McCORKL	E)					
		IDC Count: 0	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation Sub: 26 / Seq: 70 (U)	Resource 805-INPROCESS INSPECTION - PLA VERIFY PROFILE TO INSPECTION G INSPECT AND RECORD INTERIOR SI INSPECT AND RECORD MAGNETIC Test Certification: DIMENSIONAL INS Part Number: SE121-001P-2 TEST PAN Part Description: DIE FORMED PANEI	DE SURFACE FINISH. PERMEABILY. PECTION MAP Rev: NEL	1.00 AP TOLERAN	1.00 NCE: .08	Drawing ID / Rev SE121-001P / A " MAX. PERIMETER			
		IDC Count : 3	Dwg Cou	nt: 1	Pgm Count: 0	QAP Count: 3	NDT Count: 0	WPS Count: 0
Sub ID 19	Part ID SE121 PORT SUB-ASSEMBLY			Qty 1	Drawing ID / Rev / Parent Sub:1 Op:70			
Operation Sub: 19 / Seq: 10 (F)	Resource 230-FABRICATION - WEIDNER INSTALL AND WELD CONFLAT FLA FIT AND TRIM THE LENGTH FOR IN GRIND / BLEND THE INTERIOR WEI POLISH THE ENTIRE INSIDE SURFACE	STALLATION (USE RELD SMOOTH.	1.00 RAWING AN EFERENCE S	1.00 ND WPS. SCRIBE I	LINES ON BUILD FIXT			WPS Count: 1
Operation Sub: 19 / Seq: 20 (F)	Resource 805-INPROCESS INSPECTION - PLA INSPECT INTERIOR SURFACE FINISI INSPECT THE MAGNETIC PERMEAB		1.00 ASSEMBLY.	1.00 RECOR WELD A			JAL RANGE ON I.D.C. NDT Count: 0	WPS Count: 0
Sub ID 20	Part ID CONFLAT FLANGE			Qty 1	Drawing ID / Rev / Parent Sub:19 Op:10			
Operation Sub: 20 / Seq: 10 (R)	Resource 820-RECEIVING INSPECTION RECEIVING INSPECTION RECEIVE AND INSPECT THE FOLLO	QtyPer 1.00	StartQty 1.00	EndQt 1.00	Drawing ID / Rev SE121 / A			



Workorder 64880/1	Part ID	Qty 1	Drawing ID / Rev SE121 / A			ngineer LUE/DOUG MCCORKLE
Piece # 10 (R)	(THEY SHOULD ALL ARRIVE TOGETHER) F1000000NC4 FG1000CI FG1000VU FB1000C12S GC0275S CONTACT ENGINEERING (DOUG McCORKLE) WHEN PARTS ARRIVE. IDC N/A IDC Count: 0 Dwg Count Part ID F10000000NC4-FLANGE, CONFLAT, NON-ROTATE, 10.00" FLANGE, CONFLAT, NON-ROTATABLE 10.00 X BLANK X 0.97", CLEAR BOLT HOLES, 304L Material Certification: Part Number: F10000000NC4	t: 0 Qty 1.0	Pgm Count: 0 Drawing ID / Rev	QAP Count: 2 Vendor	NDT Count: 0 Dimensions	WPS Count: 0
Piece # 20 (R)	Part ID FG1000CI-GASKET KIT (10/PK), COPPER, FOR 10" CFF GASKET KIT (10/PACK), COPPER, INDIVIDUAL SEAL, FOR 10" CONFLA VARIAN VACUUM TECHNOLOGIES	Qty 1.0 T FLA	Drawing ID / Rev NGE	Vendor	Dimensions	
	Material Certification: Part Number: FG1000CI					
Piece # 30 (R)	Part ID FG1000VU-GASKET, VITON, FOR 10" CFF GASKET, VITON, FOR 10" CONFLAT FLANGE VARIAN VACUUM TECHNOLOGIES	Qty 1.0	Drawing ID / Rev	Vendor	Dimensions	
	Material Certification: Part Number: FG1000VU					
Piece # 40 (R)	Part ID FB1000C12S-BOLT AND NUT KIT, 12 PT, SILVER PLATED BOLT AND NUT KIT (25/PACK), 12 POINT, ASTM A193 GR. B8 SILVER I VARIAN VACUUM TECHNOLOGIES	Qty 1.0 PLATE	Drawing ID / Rev D, FOR 10" CONFLAT FLAN	Vendor NGE	Dimensions	
	Material Certification: Part Number: FB1000C12S					
Piece # 50 (R)	Part ID GC0275S-GASKET CLIP KIT (10/PK), FOR 10" CFF GASKET CLIP KIT (10/PACK) FOR 10" CONFLAT FLANGE VARIAN VACUUM TECHNOLOGIES	Qty 1.0	Drawing ID / Rev	Vendor	Dimensions	





Sub ID

29

Part ID

PORT EXTENSION TUBE (TAKE 2)

WorkorderPart IDQtyDrawing ID / RevEngineer64880/11SE121 / ABLUE/DOUG MCCORKLE

Material Certification: Part Number: GC0275S

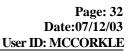
Operation StartQty EndQt Drawing ID / Rev Resource QtyPer Sub: 20 / Seq: 20 1.00 1.00 1.00 108-TOOL ROOM - PLANT 1 (R) DRILL / TAP 1/2" NPT THREAD FOR VACUUM TESTING. SPOTFACE, DRILL / REAM FOR 1/2" TOOLING BALL IN THE CENTER OF THE FLANGE. (PROCESS DRAWING NEEDED) IDC Count: 0 Dwg Count: 0 Pgm Count: 0 OAP Count: 0 NDT Count: 0 WPS Count: 0 Sub ID Part ID Qty Drawing ID / Rev 21 PORT EXTENSION TUBE Parent Sub:19 Op:10 Operation **QtyPer** StartQty EndQt Drawing ID / Rev Resource Sub: 21 / Seq: 10 1.00 SE121 / A 230-FABRICATION - WEIDNER 1.00 1.00 (C) INSPECT DIAMETERS AND LENGTH RECORD IDC INFORMATION NOTIFY ENGINEERING (DOUG McCORKLE) OF RESULTS WELD / BLEND MIS-ALIGNMENT OF MANUFACTURERS WELDS POLISH THE ENTIRE INSIDE SURFACE TO A 32 MICRO-INCH SURFACE FINISH. LAYOUT ONE AND CUT ONE END SQUARE FOR FLANGE INSTALLATION (REMOVE MINIMAL MATERIAL FOR LATER INSTALLATION 16" MINIMUM LENGTH) IDC Count: 0 Dwg Count: 0 Pgm Count: 0 OAP Count: 3 NDT Count: 0 WPS Count: 1 Piece # Part ID Drawing ID / Rev Vendor **Dimensions** Qty 10 SE121-001P-5-INCO 625 TUBE 8.0" OD X .12" WA. X 18.0" 1.0 5647 Vendor Part ID: SE121-001P-5 (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 ACCOMDDATE / 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.

MTTRAVLR.qrp W:64880/1-0 /Inc Matl /Inc Legs

Qty

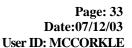
Drawing ID / Rev

Parent Sub:19 Op:10



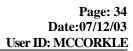


Workorder Part ID Drawing ID / Rev Engineer SE121 / A 64880/1 BLUE/DOUG MCCORKLE QtyPer StartQty EndQt Drawing ID / Rev Operation Resource Sub: 29 / Seq: 10 805-INPROCESS INSPECTION - PLA 1.00 1.00 1.00 SE121 / --(F) PRIOR TO CUTTING / FORMING, INSPECT AND RECORD THE MAGNETIC PERMEABILITY OF THE SHEET (COORDINATE WITH MATERIALS DEPT. AND INSPECT THE APPROXIMATE PART ENVELOPE WITHIN THE STOCK SHEET) Part Number: SE121-001P-3 Part Description: PVVS PORT EXTENSION TUBE IDC Count: 1 Dwg Count: 0 Pgm Count: 0 OAP Count: 2 NDT Count: 0 WPS Count: 0 Operation Resource OtvPer StartQty EndQt Drawing ID / Rev Sub: 29 / Seq: 20 415-ROLLING/SHEAR/BRAKE PRESS 1.00 1.00 1.00 (F) 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. IDC Count: 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 3 NDT Count: 0 WPS Count: 0 Piece # Part ID Drawing ID / Rev Qty Vendor **Dimensions** 10 INCONEL 625_660-SHEET, NICKEL ALLOY .125" THK 760.0 20*38 INCONEL 625 SHEET, .125" THICK PER (F) 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 Operation Resource OtvPer StartQty EndQt Drawing ID / Rev Sub: 29 / Seq: 30 1.00 1.00 1.00 SE121 / --805-INPROCESS INSPECTION - PLA (F) INSPECT AND RECORD MAGNETIC PERMEABILITY (AFTER ROLLING) Part Number: SE121-001P-3 Part Description: PVVS PORT EXTENSION TUBE Dwg Count: 0 Pgm Count: 0 WPS Count: 0 IDC Count: 1 QAP Count: 2 NDT Count: 0 Operation Resource EndQt Drawing ID / Rev **QtyPer** StartQty Sub: 29 / Seq: 40 230-FABRICATION - WEIDNER 1.00 1.00 1.00 SE11 / --TRIM, FIT, (PURGE WELD JOINT WITH 100% ARGON. PURGE DAM MATERIAL MUST BE MADE FROM EITHER 625 INCONEL OR 300 SERIES STAINLESS STEEL) AND (F) TACK WELD INTO 8" O.D. TUBE. PREPARE FOR PLASMA ARC WELDING IDC Count: 0 Dwg Count: 0 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 1 Operation EndQt Drawing ID / Rev Resource **QtyPer** StartQty Sub: 29 / Seq: 50 SE121 / --205-PLASMA WORKCENTER 1.00 1.00 1.00 (F) 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 PER DRAWING.





Workorder Part ID Drawing ID / Rev Engineer SE121 / A 64880/1 BLUE/DOUG MCCORKLE IDC Count: 0 QAP Count: 0 WPS Count: 1 Dwg Count: 0 Pgm Count: 0 NDT Count: 0 Operation StartQty EndQt Drawing ID / Rev Resource QtyPer Sub: 29 / Seq: 60 1.00 1.00 1.00 SE121 / --230-FABRICATION - WEIDNER (F) BLEND THE INTERIOR WELD SURFACE FLUSH TO THE BASE MATERIAL. POLISH THE ENTIRE INTERIOR OF THE TUBE TO ACHIEVE A 32 MICRO-INCH RA SURFACE FINISH. Dwg Count: 0 NDT Count: 0 WPS Count: 1 IDC Count: 0 Pgm Count: 0 QAP Count: 0 Operation QtyPer StartQty EndQt Drawing ID / Rev Resource Sub: 29 / Seq: 70 805-INPROCESS INSPECTION - PLA 1.00 1.00 1.00 SE121 / --(F) INSPECT DIAMETER, ROUNDNESS, WELDING DISTORTION, MAGNETIC PERMEABILITY, AND INTERIOR SURFACE FINISH. RECORD IDC DATA Part Number: SE121-001P-3 Part Description: PVVS PORT EXTENSION TUBE Dwg Count: 0 Pgm Count: 0 QAP Count: 2 NDT Count: 0 WPS Count: 0 IDC Count: 1 Sub ID Part ID Drawing ID / Rev Qty PORT EXTENSION WELD BACKING RI 25 1 Parent Sub:1 Op:90 Operation Resource QtyPer StartQty EndQt Drawing ID / Rev Sub: 25 / Seq: 10 1.00 1.00 1.00 SE121-003P / 0 415-ROLLING/SHEAR/BRAKE PRESS (F) 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). IDC Count: 0 Dwg Count: 1 Pgm Count: 0 OAP Count: 3 NDT Count: 0 WPS Count: 0 Piece # Part ID Drawing ID / Rev Vendor **Dimensions** 10 INCONEL 625_660-SHEET, NICKEL ALLOY .125" THK 162.0 4.5*36 (F) 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 Operation StartQty EndQt Drawing ID / Rev Resource QtyPer Sub: 25 / Seq: 20 230-FABRICATION - WEIDNER 1.00 1.00 SE121-003P / 0 (F) 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 IDC Count: 0 Dwg Count: 1 Pgm Count: 0 QAP Count: 0 NDT Count: 0 WPS Count: 1 Operation StartQty EndQt Drawing ID / Rev Resource QtyPer





Workorder 64880/1	Part ID			Qty 1	Drawing ID / Rev SE121 / A		Engi BLUI	neer E/DOUG MCCORKLE
Sub: 25 / Seq: 30 (F)	415-ROLLING/SHEAR/BRAKE PRESS RE-ROLL / ROUND UP BAND (IF NECE	1.00 ESSARY)	1.00	1.00	SE121 / A			
(1)	RE ROLL / ROUND OF British (II NEOL	IDC Count : 0	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0
Operation	Resource 805-INPROCESS INSPECTION - PLA	QtyPer	StartQty	-	Drawing ID / Rev			
Sub: 25 / Seq: 40 (F)	VERIFY MAGNETIC PERMEABILITY. Part Number: PVVS PORT EXTENSION		1.00 A	1.00	SE121 / A			
		IDC Count: 0	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 1	NDT Count: 0	WPS Count: 0
Sub ID 28	Part ID STORAGE / SHIPPING CRATE			Qty 1	Drawing ID / Rev / Parent Sub:1 Op:115			
Operation Sub: 28 / Seq: 10 (F)	Resource 425-SHIPPING - PLANTS 1 & 2 BUILD STORAGE / SHIPPING CRATE	QtyPer 1.00 PER ENGINEERING DI	StartQty 1.00 RAWING	EndQ (Drawing ID / Rev SE121 / A			
(- /		IDC Count: 0	Dwg Cou	nt: 0	Pgm Count: 0	QAP Count: 0	NDT Count: 0	WPS Count: 0