

Energy Industries of Ohio

Contract # S005242-F

Modular Coil Winding Form

B-2 Documentation Package

11/28/06

This B-2 Documentation consists of:

Part 1

Final documentation package Metal Tek Intl. – Pages 3 - 60
Latest revision 11/27/2006
Foundry documentation

Part 2

Final documentation package Major Tool - Pages 61 - 123
Latest revision 11/28/06
Machine shop documentation

NOTE - MTM – new EIO TOC is on page 62. Use this as a reference for finding files in MTM portion of Doc package.

Part 3

Metal Tek radiographic films from part 1 (shipped to PPPL)

Major Tool radiographic films from part 2 (shipped to PPPL)

Energy Industries of Ohio

Contract # S005242-F

Modular Coil Winding Forms

B-2 Documentation Package

**Part 1 – Metal Tek International
Casting Data Package**

Revised 11/27/2006

**Note – Document #'s listed in the TOC (page 4) are not necessarily the same as the number hand written on the top of the document. Please use page # to find relevant document.



Carondelet Division

8600 Commercial Blvd. - Pevely, MO 63070 USA
Phone: 636-479-4499 - Fax: 636-479-3399

Material Test Report

ENERGY INDUSTRIES OF OHIO

Purchase Order Number PPPL-FP-LTS-2
Pattern Number MCWF-B2 Coil
CAF Metal Designation CF8MNMnMod
Material Spec CF8MNMnMOD

Cert Number S81340-1
Pour Date 2/24/2006

Weighted average of 3 heats – Ladle 1 #32486 (40%), Ladle 2 #32487 (22%),Ladle 3 #32488 (38%) Total Weight 33544 lbs.

Element	Min	Actual	Max
C	0.04	0.04	0.07
MN	2.3	2.8	2.8
SI	0.0	0.3	0.7
CR	18.0	18.2	18.5
NI	13.0	13.1	13.5
MO	2.1	2.3	2.5
P	0.0	0.029	0.035
S	0.0	0.014	0.025
N	0.24	0.26	0.28

*Over specification, see CA 1536.

Comparison to WC Analysis

All analysis at CAF was performed after the preventive maintenance.

Lab	I.D.	Sample	C	Si	Mn	Cr	Ni	Mo	N	P	S
Ladle #1											
CAF	32486	Button #1	0.04	0.2	2.7	18.3	13.1	2.3	0.26	0.028	0.014
CAF	32486	Button #2	**	0.2	2.7	18.3	13.1	2.3	**	0.028	0.014
WC	32486	Button #2	**	0.2	2.7	18.1	13.2	2.2	**	0.026	0.030
Ladle #2											
CAF	32487	Button #1	0.04	0.3	2.8	18.3	13.1	2.3	0.25	0.030	0.014
CAF	32487	Button #2	**	0.3	2.8	18.3	13.1	2.3	**	0.030	0.014
WC	32487	Button #2	**	0.3	2.7	18.1	13.2	2.3	**	0.027	0.026
Ladle #3											
CAF	32488	Button #1	0.04	0.3	2.9	18.1	13.0	2.4	0.26	0.030	0.014
CAF	32488	Button #2	**	0.3	2.9	18.1	13.0	2.4	**	0.030	0.014
WC	32488	Button #2	**	0.3	2.6	18.0	13.2	2.4	**	0.027	0.026

Respectfully Submitted,
Charles A. Ruud
Quality Assurance Manager

Superior Quality Engineered Metal Products



Carondelet Division

8600 Commercial Blvd. - Pevely, MO 63070 USA
Phone: 636-479-4499 - Fax: 636-479-3399

Material Test Report

ENERGY INDUSTRIES OF OHIO

Purchase Order Number PPPL-FP-LTS-2 Heat Number 31455 Pour Date 11/2/2005
Pattern Number SE-141-058 COIL B SHIM Cert Number 177360-1
CAF Metal Designation CF8MNMnMod S/N 2
Material Spec CF8MNMN MOD

Element	Min	Actual	Max
C	0.04	0.04	0.07
MN	2.3	2.8	2.8
SI	0.0	0.3	0.7
CR	18.0	18.3	18.5
NI	13.0	13.4	13.5
MO	2.1	2.2	2.5
P	0.0	0.030	0.035
S	0.0	0.010	0.025
N	0.24	0.24	0.28

The certificate is produced with EDP and valid without signature.

Respectfully Submitted,
Charles A. Ruud
Quality Assurance Manager

Superior Quality Engineered Metal Products

www.MetalTekInt.Com

PRODUCT CONFORMANCE REPORT



Product
Class.

ENM 4455
EN 12072-99 G 20 16 3 Min L

Size(s) mm
Lot/Batch
Item No.

1,2
3018513/78308
692129

Customer

EUROWELD
MOORESVILLE N.C. 28117
UNITED STATES

Quantity
Customer ref.
LSW Order No.

105,0 KG
P.O. 05-46
SD427896

Chemical analysis (%)

EN10204 2.2

C	Si	Mn	P	S	Cr	Ni	Mo	Cu	N
0,01	0,5	7,3	0,015	0,001	20,3	15,4	2,9	0,1	0,19



Mechanical tests, all weld metal

EN10204 2.2

Tensile testing

Impact testing

Cond.	Temp.	Rp0.2	Rm	A5	Cond.	Temp.1	Av1
	°C	N/mm2	N/mm2	%		°C	J
AW	RT	407	623	41	AW	-196	67

Additional information

EN10204 2.2

Other tests



Remarks

Impact testing (individual values): 70J - 65J - 67J.

The product identified above has been manufactured, tested and supplied in compliance with a Quality Assurance Programme that fulfils the requirements of EN 29000/ ISO 9000/BS 5750 or similar standard.

We herewith certify that the product complies with the above mentioned standards. Certified ISO 9001:2000.

Company

Lincoln Smitweld B.V.

Registered Office

Nieuwe Dukenburgseweg 20
6534 AD NIJMEGEN

Post address

P.O. Box 253
6500 AG Nijmegen

Issued by

P. Nagels

Telephone

31.24 3522911

Function

QA Administrator

Fax:

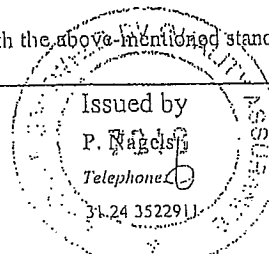
31.24 3522200

Date

22/03/2005

Cert.No.

3018513/7830



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 Pevely, MO 63070

August 16, 2005
 Lab No. 05P-2532
 P.O. No. 21324
 Page 1 of 2

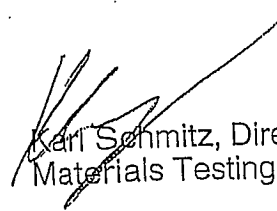
Attention: Chuck Ruud

REPORT OF CHARPY IMPACT TEST

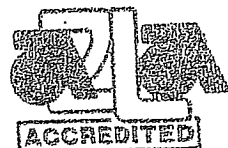
MATERIAL (SAMPLE ID): LNM 4455, LINCOLN LOT 3018513/78308
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: 293°K

BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
LNM4455-7	104	0.085	100
LNM4455-8	106	0.093	100
LNM4455-9	99	0.084	100
Average	103	0.087	100

Identification of tested specimen provided by client.


 Karl Schmitz, Director
 Materials Testing

KS/tlv



Certificate No. 0397-01
 Certificate No. 0397-02

AN OFFICIAL COPY OF TEST REPORT WILL BE PROVIDED BY THIS LABORATORY ON REQUEST.
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August 16, 2005
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 Page 2 of 2

Attention: **CHUCK RUUD**

REPORT OF MECHANICAL TESTS

SAMPLE ID: LNM 4455, LINCOLN LOT 3018513/78308

Sample ID	Original Area Sq. Inches	Reduced Area Sq. Inches	Reduction in Area %	Yield Strength PSI	Tensile Strength PSI	Elongation (2.0" Gage Length)		Modules of Elasticity
						in.	%	
LNM4455	0.1932	0.0866	55.2	65200	95200	0.76	38.0	23.4

Round, reduced section tensiles

Yield taken at .2% offset

Tested in accordance with ASTM A 370-03a

Identification of tested specimens provided by the client.


 Karl Schmitz, Director
 Materials Testing

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October 5, 2005
 Lab No. 05P-3096
 P.O. No. 21324
 Page 1 of 1

Attention: Chuck Ruud

REPORT OF CHARPY IMPACT TEST

MATERIAL (SAMPLE ID): WELD PLATE- 3018513 / 78308
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: -320°F
REQUIREMENTS: minimum 35 ft / lbs.

BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
3018513/78308-1	48	0.033	50
3018513/78308-2	65	0.045	50
3018513/78308-3	48	0.033	50
Average	54	0.037	50

Identification of tested specimen provided by client.

KS/tlv

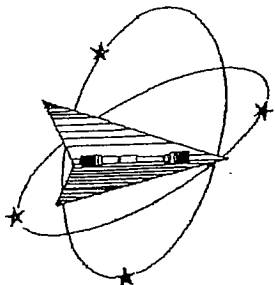

 Karl Schmitz, Director
 Materials Testing



Certificate No. 0397-01
 Certificate No. 0397-02

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Westmoreland Mechanical Testing & Research, Inc.

P.O. Box 388
Westmoreland Drive
Youngstown, Pa. 15696-0388 U.S.A.
Telephone: 724-537-3131 Fax: 724-537-3151

Website: www.wmtr.com
WMT&R is a technical leader in the material testing industry.



621-01 & 621-02



Section 1 of 1

WMT&R Report No. 5-35979
Requisition No. 4972

October 18, 2005

CERTIFICATION

MetalTek International
The Carondelet Division
8600 Commercial Blvd.
I-55 Industrial Park
Pevely, MO 63070-1528

Attention: Jim Galaske

Subject: All processes, performed upon the material as received, were conducted at WMT&R, Inc. in accordance with the WMT&R Quality Assurance Manual, Rev. 9, dated 4/1/2000.
The following tests were performed on this order: TENSILE

TENSILE RESULTS: ASTM E21-03a

SOAK TIME: 5 Minutes

SPEED OF TESTING: 0.0030 in./in./min., 0.0500 in./min./in.

MATERIAL: METALTEK CF8MNMNMOD

DISPOSITION: Report

Specimen ID	TestLog Number	Temp. °F	UTS ksi	0.2% YS ksi	Elong %	RA %	Modulus Msi	Ult. Load lbf	0.2% YLD. lbf.	Orig. Dia. (in.)	Final Dia. (in.)	4D Orig GL (in.)	4D Final GL (in.)	Orig. Area (sq. in.)	Machine Number	AIUR
3018513/78308	C54936	-320	184.9	123.7	33	33	32.8	18470	12350	0.3566	0.2926	1.40	1.86	0.09987403	M9	R

AIUR: A=ACCEPTABLE, U=UNACCEPTABLE, R=REPORT

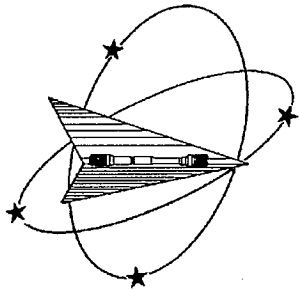
Roy E. StarMat Wojton
Technical Services Manager Tensile Supervisor

10-18-05
October 18, 2005

KNOWINGLY OR WILLFULLY FALSIFYING OR CONCEALING A MATERIAL FACT ON THIS FORM OR MAKING FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR REPRESENTATIONS HEREIN COULD CONSTITUTE A FELONY PUNISHABLE UNDER FEDERAL STATUTES. THIS CERTIFICATE OR REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF WMT&R, INC.

Testing Specialists for Aerospace, Automotive, and Material Testing Fields
Locations in Youngstown, PA U.S.A. - Tel. (724) 537-3131 and
Baltimore, U.S. - Tel. +44 (0) 1295 261211

14:29 OCT 18, 2005 FAX INU: 5373081



Westmoreland Mechanical Testing & Research, Inc.

P.O. Box 388

Westmoreland Drive

Youngstown, Pa. 15696-0388 U.S.A.

Telephone: 724-537-3131 Fax: 724-537-3151

Website: www.wmtr.com

WMT&R is a technical leader in the material testing industry.



621-01 & 621-02



7

March 28, 2006

CERTIFICATION

Section 1 of 1

MetalTek International
The Carondelet Division
8600 Commercial Blvd.
I-55 Industrial Park
Pevely, MO 63070-1528

WMT&R Report No. 6-25514

P.O. No. 19386

Requisition No. 7590

Attention: Jim Galaske

Subject: All processes, performed upon the material as received, were conducted at WMT&R, Inc. in accordance with the WMT&R Quality Assurance Manual, Rev. 9, dated 4/1/2000.

The following tests were performed on this order: TENSILE

TENSILE RESULTS: ASTM E21-05

Requirements: UTS ksi (Min 95\Max ---) 0.2% YS ksi (Min 72\Max ---) 4D Elong. % (Min 32\Max ---) Modulus Msi (Min 21\Max ---)

SOAK TIME: 5 Minutes

SPEED OF TESTING: 0.003 in./in./min., 0.05 in./min./in.

MATERIAL: Metaltek CF8MNMnMOD

DISPOSITION: Acceptable

Coil No.	Specimen	TestLog Number	Temp. °F	UTS ksi	0.2% YS ksi	Elong %	RA %	Modulus Msi	Ult. Load lbf	0.2% YLD. lbf	Orig. Dia. (in.)	Final Dia. (in.)	4D Orig GL (in.)	4D Final GL (in.)	Orig. Area (sq. in.)	Machine Number	AU/R
B2	Z1	D29755	-320	168.9	102.0	48	36	24.7	16730	10100	0.3551	0.2840	1.40	2.07	0.09903557	M9	A
B2	Z2	D29756	-320	173.5	105.9	56	46	31.0	17160	10480	0.3549	0.2609	1.40	2.18	0.09892405	M9	A
B2	Z3	D29757	-320	175.1	103.8	47	45	26.4	17320	10273	0.3549	0.2638	1.40	2.06	0.09892405	M9	A

AU/R: A=ACCEPTABLE, U=UNACCEPTABLE, R=REPORT

Requirements provided by MetalTek International

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Banbury U.K. ~ Tel. +44 (0) 1295 261211


Roy E. Starr
Technical Services Manager


Matt Wojcik
Tensile Supervisor

3-28-06
March 28, 2006

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 8600 Commercial Blvd.
 Pevely, MO 63070

March 16, 2006
 Lab No. 06P-0930
 P.O. No. 21324
 Page 1 of 7

Attention: Chuck Ruud

REPORT OF CHARPY IMPACT TEST

MATERIAL (SAMPLE ID): B2, Z1
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: 293°K (+°70F)


BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z1-1	138	0.079	100
Z1-2	146	0.125	100
Z1-3	144	0.065	90
Average	143	0.090	97

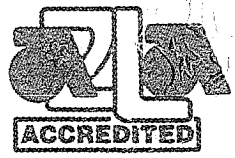


3/16/06

Identification of tested specimen provided by client.

KS/clm


 Karl Schmitz, Director
 Materials Testing



Certificate No. 0397-01
 Certificate No. 0397-02

AN OFFICIAL COPY OF TEST REPORT WILL BE PROVIDED BY THIS LABORATORY ON REQUEST.
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March 16, 2006
 Lab No. 06P-0930
 P.O. No. 21324
 Page 2 of 7

Attention: Chuck Ruud

REPORT OF CHARPY IMPACT TEST

MATERIAL (SAMPLE ID): B2, Z1
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: 77°K (-320°F)

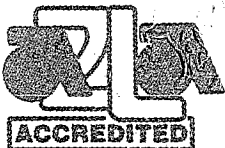
BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z1-4	70	0.040	80
Z1-5	62	0.038	80
Z1-6	55	0.036	70
Average	62	0.038	77



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 Karl Schmitz, Director
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March 16, 2006
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 P.O. No. 21324
 Page 3 of 7

Attention: Chuck Ruud

REPORT OF CHARPY IMPACT TEST


MATERIAL (SAMPLE ID): B2, Z2
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: 293°K (+°70F)

BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z2-1	126	0.087	100
Z2-2	124	0.069	100
Z2-3	146	0.092	100
Average	132	0.083	100


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March 16, 2006
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 Page 4 of 7

Attention: **Chuck Ruud**

REPORT OF CHARPY IMPACT TEST

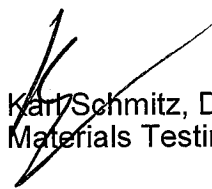
MATERIAL (SAMPLE ID): B2, Z2
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: 77°K (-320°F)

BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z2-4	78	0.054	90
Z2-5	60	0.049	90
Z2-6	60	0.032	50
Average	66	0.045	77

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March 16, 2006
 Lab No. 06P-0930
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 Page 5 of 7

Attention: Chuck Ruud

REPORT OF CHARPY IMPACT TEST

MATERIAL (SAMPLE ID): B2, Z3
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: 293°K (+°70F)

BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z3-1	142	0.123	100
Z3-2	134	0.125	100
Z3-3	120	0.096	100
Average	132	0.115	100

Identification of tested specimen provided by client.



3/16/06

KS/clm

[Signature]
 Karl Schmitz, Director
 Materials Testing



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March 16, 2006
 Lab No. 06P-0930
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 Page 6 of 7

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REPORT OF CHARPY IMPACT TEST

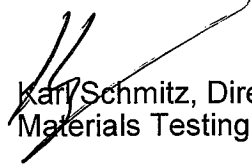
MATERIAL (SAMPLE ID): B2, Z3
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: 77°K (-320°F)

BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z3-4	60	0.045	60
Z3-5	65	0.030	50
Z3-6	64	0.038	60
Average	63	0.038	57

Identification of tested specimen provided by client.



File/06


 Gary Schmitz, Director
 Materials Testing

KS/clm



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 Lab No. 06P-0930
 P.O. No. 21324
 Page 7 of 7

Attention: Chuck Ruud

REPORT OF MECHANICAL TESTS

SAMPLE ID: B2, Z1; B2, Z2; B2, Z3

Sample ID	Original Area Sq. Inches	Reduced Area Sq. Inches	Elastic Modulus	Reduction in Area %	Yield Strength PSI	Tensile Strength PSI	Elongation (2.0" Gage Length)	
							in.	%
B2, Z1	.1886	.1052	21.9	44.2	52,700	82,200	1.00	50.0
B2, Z2	.1987	.0962	22.0	51.6	56,300	84,000	1.03	51.5
B2, Z3	.2003	.0951	23.7	52.5	67,800	93,600	1.03	51.5

Round, reduced section tensiles

Yield taken at .2% offset

Tested in accordance with ASTM A 370-03a

Identification of tested specimens provided by the client.

KS/clm


 Karl Schmitz, Director
 Materials Testing



Certificate No. 0397-01
 Certificate No. 0397-02

AN OFFICIAL COPY OF TEST REPORT WILL BE PROVIDED BY THIS LABORATORY ON REQUEST.
 NOT OFFICIAL WITHOUT THE RAISED SEAL OF ST. LOUIS TESTING LABORATORIES, INC.
 SEE REVERSE FOR CONDITIONS.

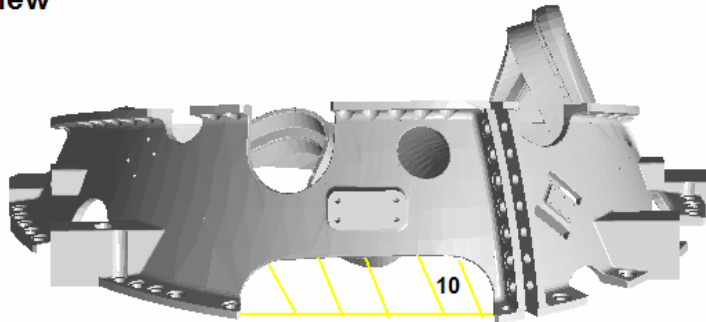


B-2 Coil Weld Map – Metal Tek

Map of all major welds exceeding 20% of wall, over 1 inch or over 10² inches

Defect Number	Drawing View	Length (inches)	Width (inches)	Depth (inches)
1	Left	4 ½	1 ¾	1 ½
2	Left	9 ¼	5 ¾	½
3	Left	6 ¼	1 ¾	2 ½
4	Left	9	2 ¾	2
5	Left	6	2 ½	Thru
6	Left	10	1 ½	¾
7	Top	6 ¼	2	Thru
8	Bottom	7	2 ¼	Thru
9	Right	7	2	1 ½
10	Back	2	2	Thru
11	Left	6 ¼	4 ¼	Thru

Back View



B-2 Coil Weld Map – Metal Tek

Map of all major welds exceeding 20% of wall, over 1 inch or over 10² inches

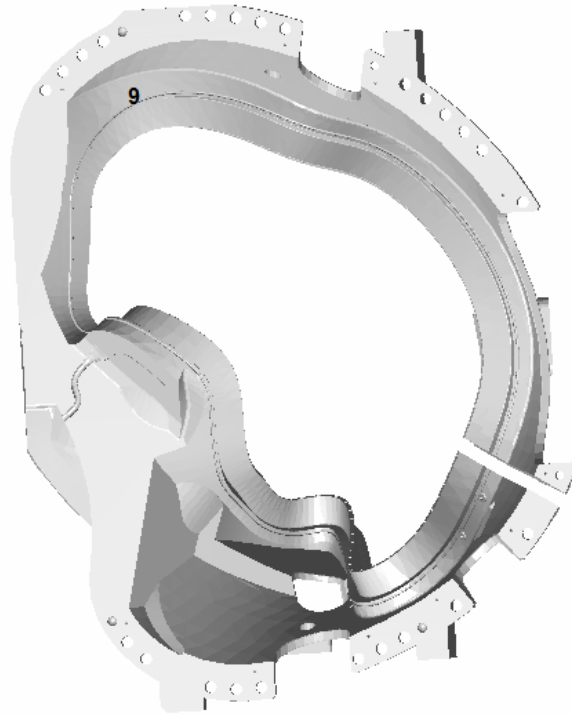
Left View



B-2 Coil Weld Map – Metal Tek

Map of all major welds exceeding 20% of wall, over 1 inch or over 10² inches

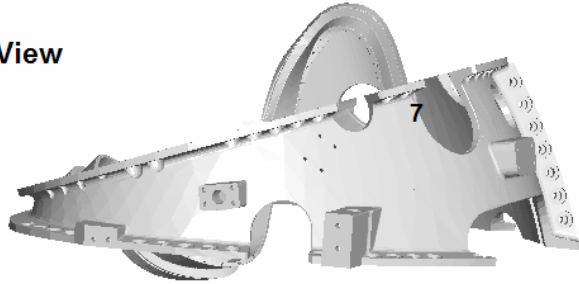
Right View



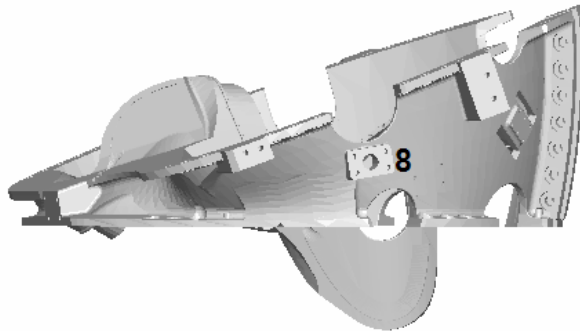
B-2 Coil Weld Map – Metal Tek

Map of all major welds exceeding 20% of wall, over 1 inch or over 10² inches

Top View



Bottom View



TEAM COOPERHEAT-MQS, INC.

CERTIFIED RADIOGRAPHIC INSPECTION REPORT

FORM 6061-RT- 002 Rev.2

5512 W. State St. Milwaukee, WI 53208 Tel:(414)771-3060 Fax:(414)771-9481 (800)818-6403 www.cooperheat-mqs.com

CUSTOMER		DATE	WORK ORDER NO.
NAME METAL TEK INTERNATIONAL		3/21/2006	361-03040
ADDRESS 8600 COMMERCIAL BLVD		P.O. NUMBER	XRAY X
CITY PEVELY STATE MO ZIP 63070		Chuck Rudd	GAMMA
PROCEDURE SPECIFICATION	ACCEPTANCE CRITERIA	SHEET ____ OF ____	
ASTM E94-93	MSS-SP-54-1999		

PART NUMBER	Serial No	View	No Apparent Indications		Dross		Incomplete Penetration		Shrinkage		Film Artifacts		REMARKS
			Acceptable	Rejected	Inclusion	Porosity	Lack of Fusion	Gas Cracks	Hot Tears	Under cut	Surface		
MCWF-B2	1-2	✓											
	2-3			R							R		
E.I.O. C040851	3-4			R							R		
	4-5	✓											
M581340	5-6	✓											
	6-7	✓							2				
Z103989	7-8	✓										✓	
	8-9	✓							2-3			✓	
	9-10	✓										✓	
	10-11	✓										✓	
	11-12	✓										✓	
	12-13	✓										✓	
	13-14			R							R		
	14-15	✓											
	15-16	✓											
	16-17	✓										✓	
	17-18	✓							2				
	18-19	✓											
	19-20	✓											
	20-21	✓										✓	✓
	21-22	✓											
	22-23	✓											
	23-24	✓								1			
	24-25	✓											✓
	25-26	✓											

NO. ACCEPTED	NO. REJECTED	MQS TECH. NO.	SHT.	REV. 1
0	1	13205		
COMMENTS		CUST. RSS NO.	SHT.	REV.
		REVIEWER		
		CERTIFIED NDT LEVEL (RT)		
		John Petroske		
		John Petroske RT II Exp. 01/08		

TEAM COOPERHEAT-MQS, INC.

CERTIFIED RADIOGRAPHIC INSPECTION REPORT

FORM 6061-RT- 002 Rev.2

5512 W. State St. Milwaukee, WI 53208 Tel:(414)771-3060 Fax:(414)771-9481 (800)818-6403 www.cooperheat-mqs.com

CUSTOMER		DATE	WORK ORDER NO.
NAME METAL TEK INTERNATIONAL		3/21/2006	361-03040
ADDRESS 8600 COMMERCIAL BLVD		P.O. NUMBER Chuck Rudd	XRAY X
CITY PEVELY STATE MO ZIP 63070			GAMMA
PROCEDURE SPECIFICATION ASTM E94-93	ACCEPTANCE CRITERIA MSS-SP-54-1999	SHEET _____ OF _____	

PART NUMBER	Serial No	View	No Apparent Indications		Dross		Incomplete Penetration		Shrinkage		Film Artifacts		REMARKS
			Acceptable	Rejected	Inclusion	Porosity	Lack of Fusion	Gas Cracks	Hot Tears	Under cut	Surface		
MCWF-B2	26-27		✓										
	27-28		✓										
E.I.O. C040851	28-29		✓										
	29-1		✓										
MS81340	30-31			R						R			
	31-32		✓										
Z103989	V33		✓										
	34-35		✓										
	36-37		✓									✓	
	V38		✓										
	39-40		✓						1				
	40-41		✓		2								
	42-43		✓										
	43-44		✓										
	V45		✓										
	46-47		✓										
	48-49		✓		1								
	49-50		✓										
	V51		✓										
	V51A		✓										
	52-53		✓										
	53-54		✓										
	54-55		✓										
	55-56		✓										
	56-57		✓										

NO. ACCEPTED	φ	NO. REJECTED	1	MQS TECH. NO.	13205	SHT.	REV. 1
COMMENTS				CUST. RSS NO.		SHT.	REV.
				REVIEWER	<i>John Petroske</i>		
				CERTIFIED NDT LEVEL (RT)	John Petroske RT II Exp. 01/08		

TEAM COOPERHEAT-MQS, INC.

CERTIFIED RADIOGRAPHIC INSPECTION REPORT

FORM 6061-RT- 002 Rev.2

5512 W. State St. Milwaukee, WI 53208 Tel:(414)771-3060 Fax:(414)771-9481 (800)818-6403 www.cooperheat-mqs.com

CUSTOMER		DATE	WORK ORDER NO.
NAME	METAL TEK INTERNATIONAL	3/21/2006	361-03040
ADDRESS	8600 COMMERCIAL BLVD	P.O. NUMBER	XRAY X
CITY	PEVELY STATE MO ZIP 63070	Chuck Rudd	GAMMA
PROCEDURE SPECIFICATION	ACCEPTANCE CRITERIA	SHEET ____ OF ____	
ASTM E94-93	MSS-SP-54-1999		

PART NUMBER	Serial No	View	No Apparent Indications		Dross		Incomplete Penetration		Shrinkage		Film Artifacts		REMARKS
			Acceptable	Rejected	Inclusion	Porosity	Lack of Fusion	Gas Cracks	Hot Tears	Under cut	Surface		
MCWF-B2	58-59	✓											
	59-60	✓							2				
E.I.O. C040851	60-61			R							R		
	61-62	✓							2				
M581340	62-63	✓							2				
	64	✓											
Z103989	63-65	✓							2				
	65-66	✓											
	66-67	✓							2				
	67-68	✓							2-3				
	69			R						R		✓	
	70-71	✓											
	71-72	✓											
	73-74	✓										✓	
	74-75	✓											
	75-76	✓										✓	✓
	77-78	✓											
	78-79	✓											
	80-81	✓							2				
	81-82	✓											
	82-83			R						4			
	84-85			R						4			
	85-86			R						4			
	86-87	✓								1			
	87-88			R						3-4			

NO. ACCEPTED	Φ	NO. REJECTED	1	MQS TECH. NO.	13205	SHT.	REV. 1
COMMENTS				CUST. RSS NO.		SHT.	REV.
				REVIEWER	<i>John Petroske</i>		
				CERTIFIED NDT LEVEL (RT)	John Petroske RT II Exp. 01/08		

TEAM COOPERHEAT-MQS, INC.

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CUSTOMER		DATE	WORK ORDER NO.
NAME METAL TEK INTERNATIONAL		3/21/2006	361-03040
ADDRESS 8600 COMMERCIAL BLVD		P.O. NUMBER	XRAY X
CITY PEVELY STATE MO ZIP 63070		Chuck Rudd	GAMMA
PROCEDURE SPECIFICATION	ACCEPTANCE CRITERIA	SHEET ____ OF ____	
ASTM E94-93	MSS-SP-54-1999		

PART NUMBER	Serial No	View	No Apparent Indications		Dross		Incomplete Penetration		Shrinkage		Film Artifacts		REMARKS
			Acceptable	Rejected	Inclusion	or Porosity	Lack of Fusion	Gas Cracks	Hot Tears	Under cut	Surface		
MCWF-B2	88-89			R					4				
	89-90			R							R		
E.I.O. C040851	90-91	✓						2-3					
	91-92	✓											
M581340	93-94	✓											
	94-95			R	4			4					
Z103989	96-97	✓											
	97-98	✓											
	98-99	✓											
	99-100	✓			2								
	101-102	✓											
	102-103	✓											
	103-104			R					3-4				
	104-105			R					3-4				
	106-107	✓											
	107-108	✓											
	108-109	✓											
	109-110	✓											
	110-111	✓											
	111-112			R							R		
	112-113			R							R		
	113A-114			R							R		
	115-116			R							R		
	117-118	✓											
	118-119	✓											

NO. ACCEPTED	Φ	NO. REJECTED	1	MQS TECH. NO.	13205	SHT.	REV. 1
COMMENTS				CUST. RSS NO.		SHT.	REV.
				REVIEWER	<i>John Petroske</i>		
				CERTIFIED	NOT LEVEL (RT)		
				John Petroske RT II Exp. 01/08			

TEAM COOPERHEAT-MQS, INC.

CERTIFIED RADIOGRAPHIC INSPECTION REPORT

FORM 6061-RT- 002 Rev.2

5512 W. State St. Milwaukee, WI 53208 Tel:(414)771-3060 Fax:(414)771-9481 (800)818-6403 www.cooperheat-mqs.com

CUSTOMER		DATE	WORK ORDER NO.
NAME METAL TEK INTERNATIONAL		3/21/2006	361-03040
ADDRESS 8600 COMMERCIAL BLVD		P.O. NUMBER Chuck Rudd	XRAY X
CITY PEVELY STATE MO ZIP 63070			GAMMA
PROCEDURE SPECIFICATION ASTM E94-93	ACCEPTANCE CRITERIA MSS-SP-54-1999	SHEET _____ OF _____	

PART NUMBER	Serial No	View	No Apparent Indications		Dross		Incomplete Penetration		Shrinkage		Film Artifacts		REMARKS
			Acceptable	Rejected	Inclusion	or Porosity	Lack of Fusion	Gas Cracks	Hot Tears	Under cut	Surface		
MCWF-B2	119-120		✓										
	120-121		✓										
E.I.O. C040851	121-122		✓										
	123-124		✓										
M581340	124-125		✓										
	126-127		✓										
Z103989	127-128		✓										
	35-36		✓									✓	
	47-48		✓										

NO. ACCEPTED	0	NO. REJECTED	1	MQS TECH. NO.	13205	SHT.	REV. 1
COMMENTS				CUST. RSS NO.		SHT.	REV.
				REVIEWER	<i>John Petroske</i>		
				CERTIFIED NDT LEVEL (RT)	John Petroske RT II Exp. 01/08		

TEAM COOPERHEAT-MQS, INC.

CERTIFIED RADIOGRAPHIC INSPECTION REPORT

FORM 6061-RT- 002 Rev.2

5512 W. State St. Milwaukee, WI 53208 Tel:(414)771-3060 Fax:(414)771-9481 (800)818-6403 www.cooperheat-mqs.com

CUSTOMER

NAME METAL TEK INTERNATIONAL
 ADDRESS 8600 COMMERCIAL BLVD
 CITY PEVELY STATE MO ZIP 63070

DATE 4/07/2006 WORK ORDER NO. 361-03104
 P.O. NUMBER Chuck Rudd XRAY X
 GAMMA

PROCEDURE SPECIFICATION
 ASTM E94-93

ACCEPTANCE CRITERIA
 MSS-SP-54-1999

SHEET _____ OF _____

PART NUMBER	Serial No	View	No Apparent Indications		Dross		Incomplete Penetration		Shrinkage		Film Artifacts		REMARKS
			Acceptable	Rejection	Inclusion	Porosity	Lack of Fusion	Gas Cracks	Hot Tears	Under cut	Surface		
MCWF-B2	RI	2-3	✓										
		3-4	✓										
E.I.O. C040851		13-14	✓									✓	
		30-31	✓										
M581340		60-61		R				R	2			✓	
		66-69	✓										
Z103989		82-83	✓									✓	
		84-85	✓										
		85-86	✓										✓
		87-88	✓										
		88-89	✓										
		89-90		R									
		94-95		R				4		R			
		103-104	✓										
		104-105	✓										
		111-112	✓										
		112-113	✓										
		113A-114	✓										
		115-116		R						R		✓	

NO. ACCEPTED 0 NO. REJECTED 1 MQS TECH. NO. 13205 SHT. 1 REV. 1
 COMMENTS _____ CUST. RSS NO. _____ SHT. _____ REV. _____
 REVIEWER John Petroske
 CERTIFIED NDT LEVEL (RT)
 John Petroske RT II Exp. 01/08

MetalTek

INTERNATIONAL

RADIOGRAPHIC INTERPRETATION REPORT

CUSTOMER <i>Energy Ind. of Ohio</i>		PURCHASE ORDER NUMBER <i>PPPL-FP-LTS-2</i>				DATE <i>4-18-06</i>		CONTROL NO. <i>40851</i>		PAGE <i>1 of 1</i>		
PART NO. <i>MCWFB-2</i>		SPECIFICATION <i>E446/E280</i>		CLASS <i>see spec</i>		TOTAL PIECES <i>1</i>		PIECES ACCEPTED <i>1</i>				
RADIOGRAPHED BY: <i>Midgett / Kelley</i>				INTERPRETED BY: <i>Midgett / Kelley</i>				ASNT LEVEL <i>II</i>				
FILM TYPE <i>29/59/80</i>		MATERIAL <i>CF8MNMN mod</i>		ISOTOPE <i>IRIDIUM 192 COBALT 60 ✓</i>				CODE <i>ASTM E94 ✓ ASME MIL-STD-453</i>				
		V I E W	P E N E	A C C E P T	R E J E C T	S H R I N K	I N C L U S I O N	P O R O S I T Y	L I N E A R	S U R F A C E	L O F / L O P	COMMENTS
<i>M581340</i>												
<i>R2</i>		<i>60-61</i>	<i>30/100</i>	<i>/</i>		<i>2</i>		<i>1</i>	<i>/</i>			
		<i>89-90</i>	<i>50</i>		<i>X</i>					<i>X</i>		
		<i>115-116</i>	<i>30</i>	<i>/</i>		<i>2</i>						
		<i>94-95</i>	<i>50</i>		<i>X</i>			<i>X</i>		<i>DM</i>	<i>X</i>	
<i>R3</i>		<i>89-90</i>	<i>50</i>	<i>/</i>				<i>1</i>				
		<i>94-95</i>	<i>6</i>	<i>/</i>				<i>2</i>	<i>/</i>			

Metaltek INTERNATIONAL

RADIOGRAPHIC STANDARD SHOOTING SKETCH

Customer <i>Energy Ind. of OHIO</i>	Pattern Number <i>MCWFB-2</i>
Material <i>CF8MNMV mod</i>	Traceability Number
Film Manufacturer <i>Fuji</i>	Source Number <i>21.5 ci c060</i>
IQI LEVEL <u>2-2T</u> From CQP 401 <input checked="" type="checkbox"/> Other (Specify, E.G. 2-4T, 2-1T) <u>N/A</u>	

Exposures (views)	<i>60-61</i>	<i>89-90</i>	<i>94-95</i>	<i>115-116</i>											
Thickness (IN.)	<i>1 3/4"</i>	<i>2 1/4"</i>	→		<i>1 3/4"</i>										
S/F Distance (IN.)	<i>20"</i>	→													
Penetrator	<i>30/100</i>	<i>50X2</i>	→		<i>30X2</i>										
Time (MIN.)	<i>17m</i> <i>18 55m</i>	<i>9m</i>	→		<i>17m</i>										
Focal Spot (IN.)	<i>.1</i>	→													
Film Size (IN.)	<i>14X17</i>	→													
Screen Size (Pb) Front/Back	<i>.01</i>	→													
S.W.E./D.W.E.	<i>SWE</i>	→													
S.W.V/D.W.V.	<i>SWV</i>	→													
Film Type	<i>29/80</i>	<i>80X2</i>	→		<i>29/59</i>										
Acceptance Standard	<i>E446</i> <i>E280</i>	<i>E186</i>	→		<i>E446</i>										
Severity Level	<i>see spec</i>														

Shooting Sketch (Use Additional Pages as Needed)

*view 60-61 is shot with 29 film for 30pene
Then shoot a separate shot with 80 film for 100pene.*

Technique Prepared By: *Doug Midgett* Level: *JH*
 Technique Approved By: _____ Level: _____

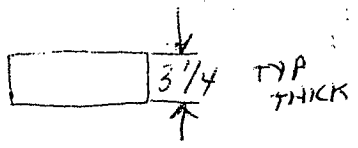
Date: *4-18-06*
 Date: _____

MetalTek

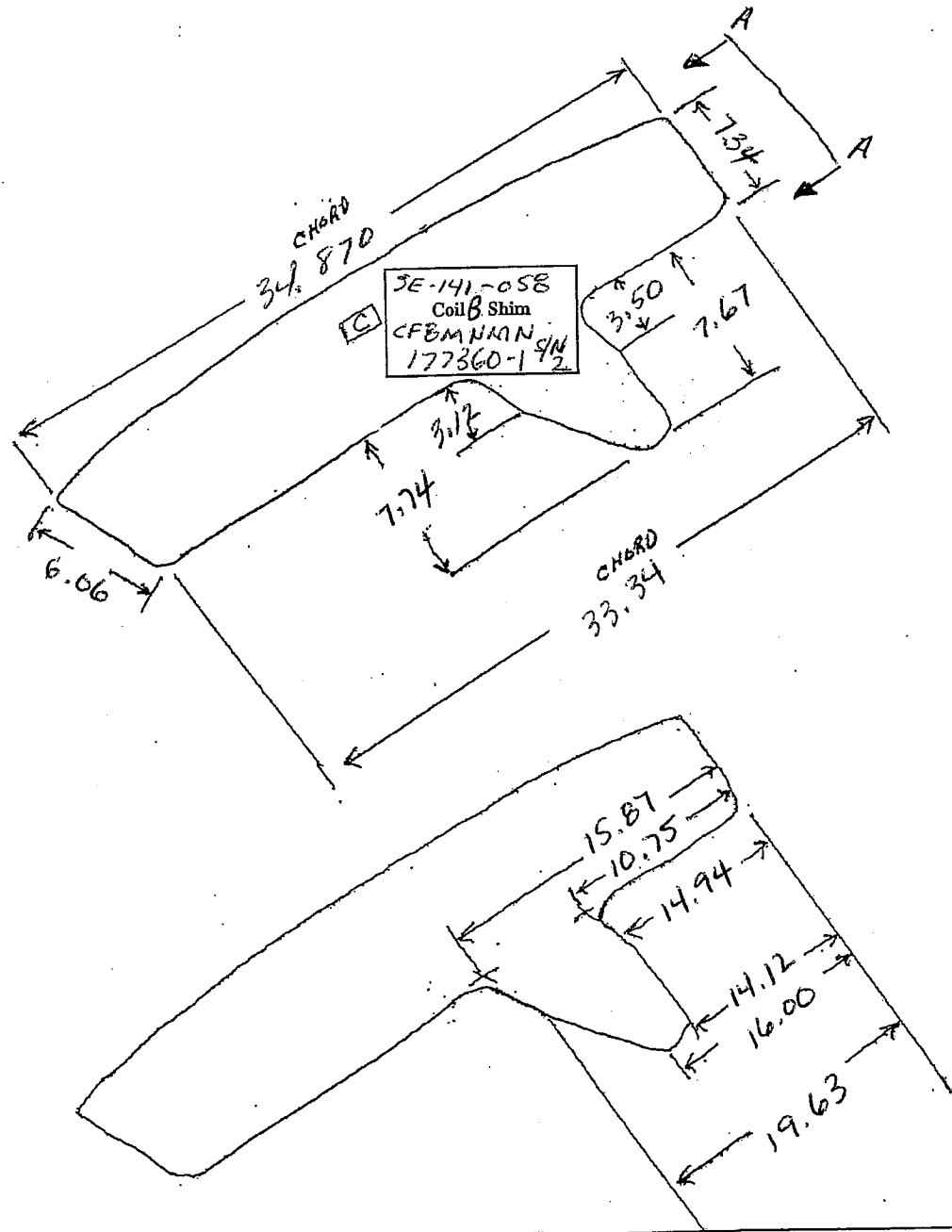
INTERNATIONAL

RADIOGRAPHIC INTERPRETATION REPORT

CUSTOMER FIO		PURCHASE ORDER NUMBER PPPL-FP-LTS-2			DATE 4-24-06		CONTROL NO. 40851		PAGE 1 of 1			
PART NO. SE141-058 B Shim		SPECIFICATION E186		CLASS III		TOTAL PIECES 1		PIECES ACCEPTED 1				
RADIOGRAPHED BY: <i>M. J. [Signature]</i>				INTERPRETED BY: <i>M. J. [Signature]</i>			ASNT LEVEL II					
FILM TYPE 80		MATERIAL CF8MVMN-MON		ISOTOPE IRIDIUM 192 COBALT 60 ✓				CODE ASTM E94 ✓ ASME MIL-STD-453				
		V I E W	P E N E	A C C E P T	R E J E C T	S H R I N K	I N C L U S I O N	P O R O S I T Y	L I N E A R	S U R F A C E	L O F / L O P	COMMENTS
M177360-1												
RT.2		A	50	/								
		B		/		3						
		C		/			2	2				
		D	6	/								



SEC A-A



Inspected By: *[Signature]* Date Inspected: 4.26.06

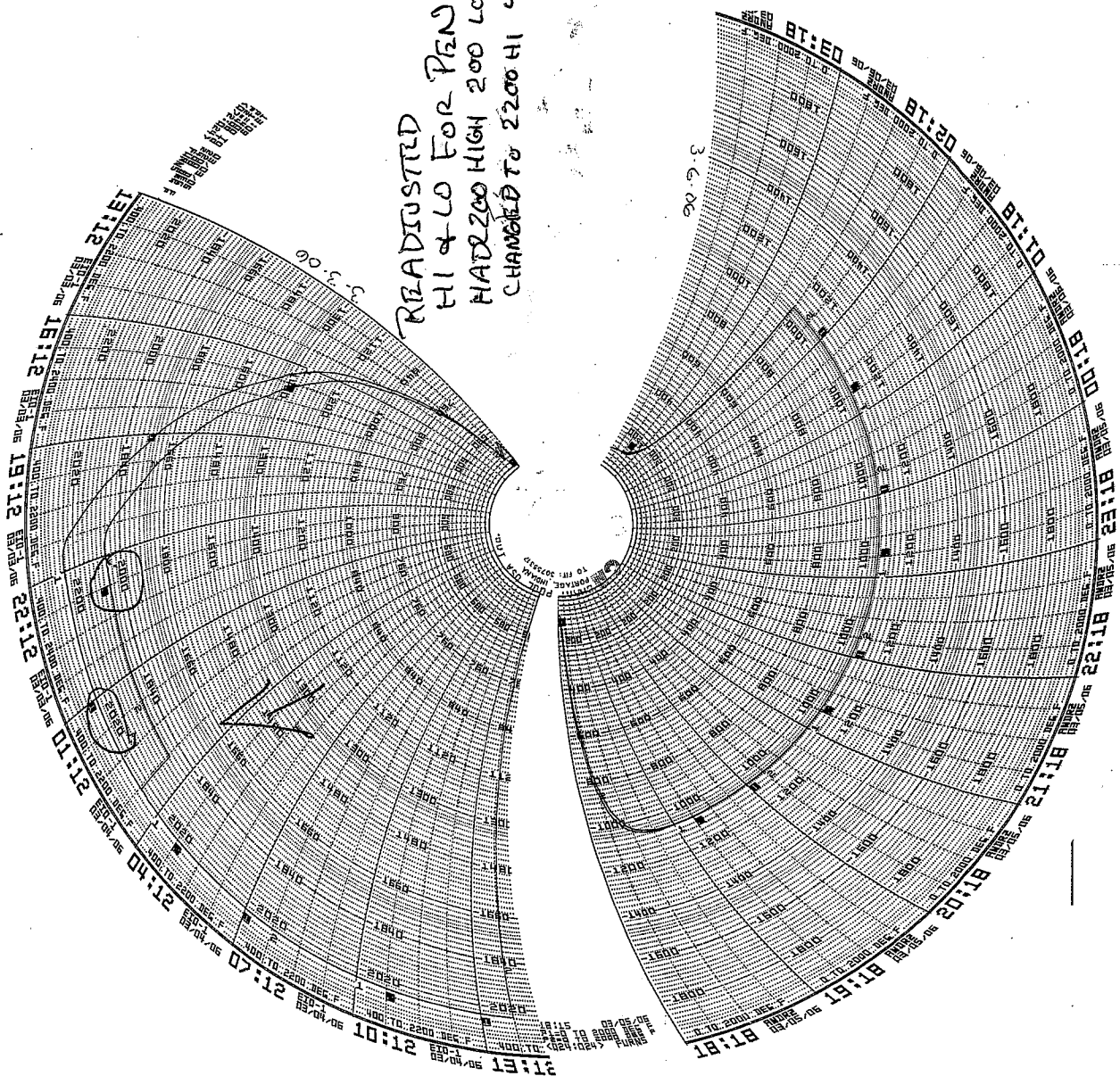
E10 3-3-06

B2

MS 81340-1

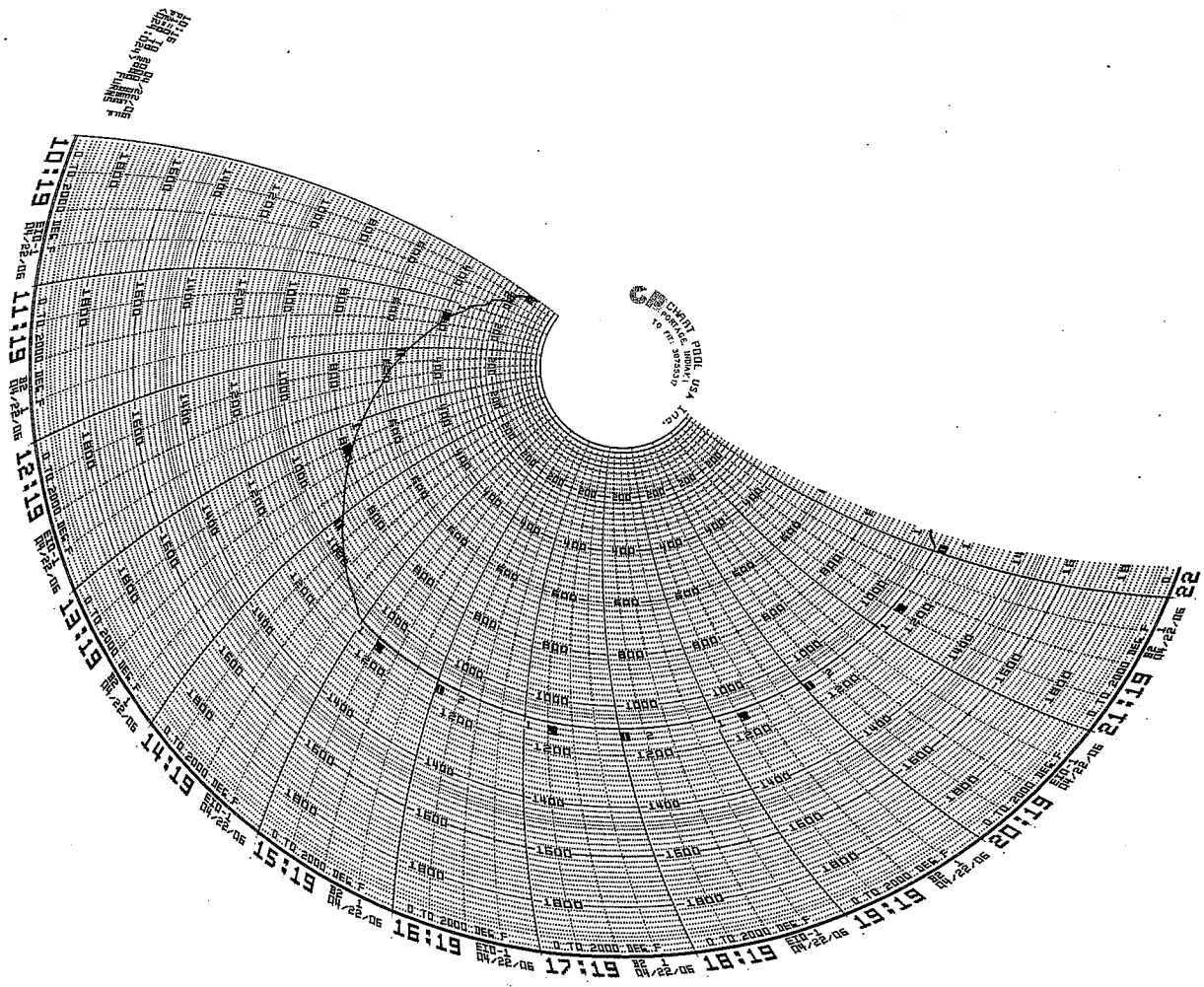
1 Pc

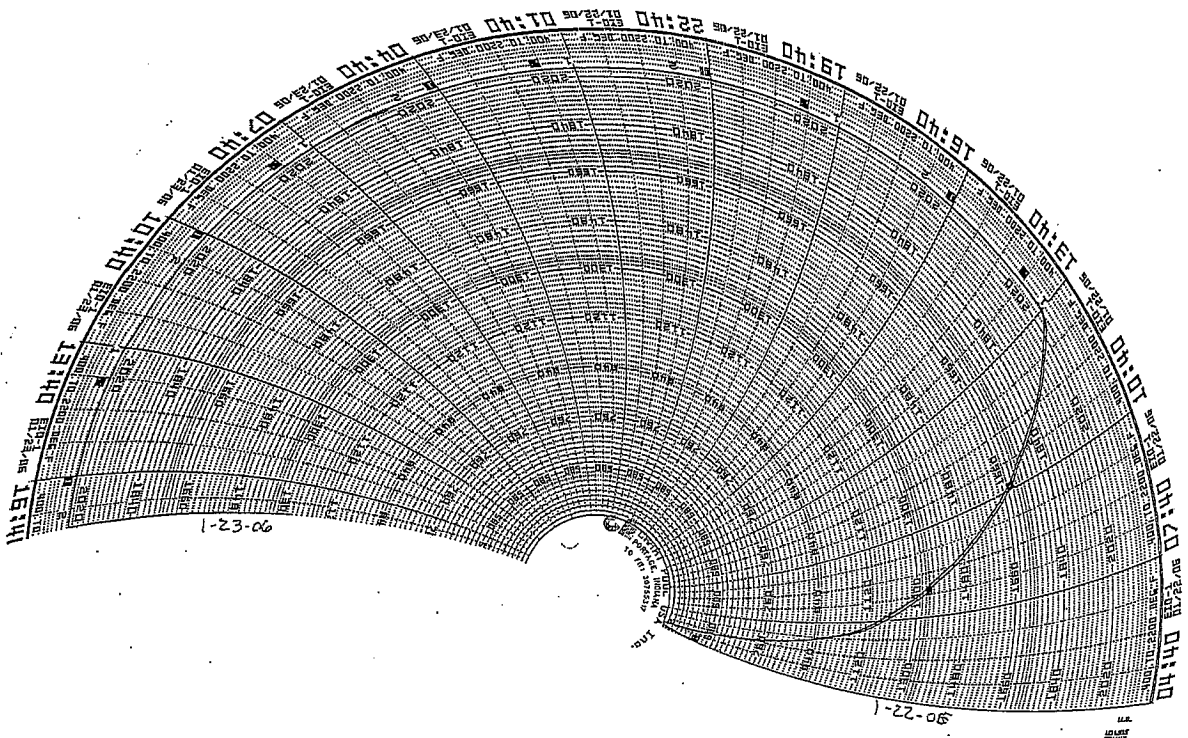
READJUSTED
HI & LO FOR PEN #2
HAD 200 HIGH 200 LO
CHANGED TO 2200 HI 400 LO



Manufacturing Order # M173700
 Cert # as Scheduled 173700-3
 Alloy HPNBM2
 # of Pieces to be Changed 2
 Revised Cert # to be Stamped _____

EIO 4-22-06
B2 C014
MS 81340-1
1 PC





1-23-06

90-22-1

F5

NO
 100
 200
 300
 400
 500
 600
 700
 800
 900
 1000
 1100
 1200
 1300
 1400
 1500
 1600
 1700
 1800
 1900
 2000
 2100
 2200
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 8500
 8600
 8700
 8800
 8900
 9000
 9100
 9200
 9300
 9400
 9500
 9600
 9700
 9800
 9900
 10000

B SHIMS
 177360-1 6Pcs.
 SERIAL #'S 1 THRU 6

E10 1-22-06

Energy Industries of Ohio
 Manufacturing and Test Sequence (MTS) ALL Coils B 2 COIL
 1 OF 11 CO# 40851 Dated 3-9-05 Revision: Rev10 Dated Issued: 2-2-06

OPER. #	STATION	DESCRIPTION OF PROCESS	Name	Date
10	QUALITY RELEASE	REVIEW AND APPROVE MTS. RECEIVED APPROVAL FROM EIO ON xxxxx FROM <u>Pete D.</u> SIGNED QUALITY MANAGER	<i>PA</i>	2/2/06
15	PATTERN NPAT SOP 0100REV2	APPLY APPROPRIATE PART NUMBER, SERIAL NUMBER, AND FOUNDRY MARK, TO THE PATTERN. CAST ON TEST BARS AND CAST ON BLOCKS (extra 3"x3"x1" specimens) REQUIRED, ID AS TO COIL NUMBER AND ZONE LOCATION.	<i>RB</i>	2/5
20	COREMAKE CORE SOP 0100 REV 6 CALIBRATION PER CORE SOP 0200R4/0300R6	MAKE CORES IN SAND MIXTURES AS DESCRIBED BY METALTEK ENGINEERING AND VERIFIED IN MODELING TRIALS. METALTEK CORE SOP 0100 REV 6) CORE WASH WITH ZIRCONIUM CORE WASH. (CALIBRATION OF EQUIPMENT REQUIRED PER CORE SOP 0200,R4 / 0300,R6) VERIFY COUNT AND INSPECT.	<i>RB</i>	2/7/06
30	MOLD MOLD SOP 0400 REV 8 CALIBRATION PER MOLD SOP 0900 REV 5 PREPARATION PER MOLD SOP 1100R2/1200R2/1300R1 SAND TESTING PER MOLD SOP 1400R2/1500R3/1600R2	MOLD PER WORK INSTRUCTIONS IN MAPICS ROUTING AND SOPS REFERENCED. ENGINEER OF RECORD - ROGER BROMAN, CONSULT ON MOLD-RELATED CONCERNS. MOLD MATERIALS REQUIRED PER MAPICS BOM. NOTIFY ENGINEER OF ANY SUBSTITUTIONS.	<i>JB</i>	2/24/06
40	POUR MELT SOP 0100R5 MELT SOP 0700R2 MELT SOP 0600R2	METAL MUST BE AOD REFINED OR AOD INGOT. VIRGIN METAL ADDITIONS ALLOWED. RECORD POURING TEMPERATURE: <u>2750</u> CASTING POURED AT: <u>2750</u> DATE: <u>2/25/06</u> HEAT #'s: <u>32486, 87, 88, 89, 90</u> ELAPSED POUR TIME <u>64 sec</u> KEEL BLOCKS POURED: <u>NA</u> <u>yes</u> Sample from ladle to be analyzed for final chemical analysis and reported on material certifications. Sample Taken by: <u>SR</u> Analyzed: <u>ALT</u> Date: <u>2/25</u>	<i>SR</i>	2/25/06
50	MELT SOP 0800R2	SHAKEOUT	<i>CA</i>	2/28/06
60	ARC RISE SOP 0100R1	REMOVE RISERS AS DIRECTED BY SUPERVISOR.	<i>DL</i>	2-8-06

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70	HEAT TREAT HEAT SOP 0103R5	SOLUTION ANNEAL. MAKE SURE TO BLOCK ALL FLANGES OF FORM AND RACETRACK TO MINIMIZE CREEP DISTORTION. Soak Temp: 2050F, Soak Time: At least 7 hours, Quench Type: Air Cool MAKE SURE TEST MATERIAL IS PLACED IN THE CORRECT ZONE.	F5.2 3/3/06	KMR
80	PHYSICAL TESTING	OBTAIN TEST SPECIMENS AND SUBMIT FOR PHYSICAL TESTING. REPORT RESULTS AS PART OF STEP 530. DCMA IS TO WITNESS CHARPY TESTING AT LAB.	WH	3/4
NOTE		THE ORDER OF CLEANING PROCESSES MAY BE ALTERED DUE TO CAPACITY CONSTRAINTS. HOLD POINTS AND COMPLIANCE WILL NOT BE COMPROMISED. EIO WILL BE ADVISED OF ALL CHANGES THAT MAY RESULT IN A REQUEST FOR DEVIATION FROM REQUIREMENTS.		
90	GRIND GSAW SOP 0100R3	SWING GRIND TO REMOVE RISER REMAINS AND FLASH IF REQUIRED.	TJ	3/6/06
100	GRIND GCHI SOP 0100R2	CHIP AND HAND GRIND SURFACE OF PART AS REQUIRED FOR CONTOUR.	M.B.G 3-09-06	
110	SAND BLAST BLAS SOP 0100R6	SANDBLAST (REMOVE ALL BLAST MATERIAL FROM CASTING) SANDBLASTING WILL BE DONE USING RECYCLED SHARP ANGULAR AGGREGATE.	3/9/06	CS
NOTICE	WITNESS NOTIFICATION	PROVIDE NOTICE TO EIO AND DCMA AT LEAST FIVE DAYS IN ADVANCE OF X-RAY. EIO NOTIFIED ON _____ DCMA NOTIFIED ON _____	Q ENG OR QA MGR	
120	X-RAY AT MQS MQS PROCEDURE 20.H.010 REV 0	X-RAY PER TECHNIQUE # 12726 USE CALIBRATED DENSITOMETER FOR DENSITY VERIFICATION. WHEN MARKING USE BLACK MARKERS. ATTACH TECHNIQUE, READER SHEET FOR ALL RADIOGRAPHS. MUST INDICATE RADIOGRAPHER AND ASNT CERTIFICATION LEVEL ON READER SHEET.	RT - LEVEL II ABK	3-29-06
130	X-RAY CQP 401 REV 5	X-RAY INTERPRETATION. ACCEPTANCE MSS SP 54. ATTACH TECHNIQUE, READER SHEET FOR ALL RADIOGRAPHS. MUST INDICATE RADIOGRAPHER AND ASNT CERTIFICATION LEVEL ON READER SHEET. IF OK CHECK HERE _____ AND SEND TO STEP 160. REJECTED CHECK HERE <input checked="" type="checkbox"/> MARK UP DEFECTS AND SEND THE CASTING TO STEP 140.	RT - LEVEL II ABK	3-29-06
140	WELD SOP 0100 REV 7	EXCAVATE ANY DEFECTS FOUND DURING 100% RT INSPECTION.	TAD	3/30/06
150	GRIND GCHI SOP 0100R2	CHIP AND HAND GRIND EXCAVATION AS REQUIRED.	TU	3/31/06

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160	INTERIM VISUAL INSPECTION CQP-500 REV 4	VISUALLY INSPECT 100% of COMPONENT ACCORDING TO ASTM A802 LEVEL 3 IN NON MACHINED AREAS AND LEVEL 2 IN MACHINED AREAS. IF OK CHECK HERE _____ IF REJECTED CHECK HERE <u>✓</u> . MARK AND REPAIR AT STEP 190.	VT - LEVEL II TRC	3/31
170	INTERIM 100% L.P. CQP 0300 REV 10	L.P. 100% OF COMPONENT. ACCEPTANCE PER ASTM A903. ACCEPTANCE CRITERIA- LEVEL 1 FOR HIGH STRESSED AREAS, LEVEL 2 FOR ALL OTHER AREAS. SEE LP DRAWING. IF OK CHECK HERE _____ GO TO 190. IF REJECTED CHECK HERE <u>✓</u>	LP - LEVEL II TRC	3/31
180	WELD SOP 0100 REV 7	EXCAVATE ANY DEFECTS FOUND DURING 100% VISUAL AND LP INSPECTION.	TAD	4/1/06
190	GRIND GCHI SOP 0100R2	CHIP AND HAND GRIND EXCAVATION OR VISUAL DEFECTS AS REQUIRED.	TU	4/2/06
200	L.P. EXCAVATION CQP-300 REV 10	L.P. ALL EXCAVATIONS PRIOR TO WELDING TO ENSURE REMOVAL OF DEFECT. ACCEPTANCE PER A903. ACCEPTANCE CRITERIA-LEVEL 1 FOR HIGH STRESSED AREAS, LEVEL 2 FOR ALL OTHER AREAS. SEE LP DRAWING. IF OK CHECK HERE _____ IF REJECTED SEND BACK TO STEP 190	LP - LEVEL II TRC	4/2/06
210	SAND BLAST BLAS SOP 0100R6	SANDBLAST (REMOVE ALL BLAST MATERIAL FROM CASTING) SANDBLASTING WILL BE DONE USING RECYCLED SHARP ANGULAR AGGREGATE.	ct/rs	
220	WELD MAP	MAP ALL MAJOR WELDS WITH DIGITAL PHOTO/MAPS INDICATING LOCATION. SERIALIZE DEFECTS ON CASTING, USE SCALE IN PHOTOS AND DOCUMENT SIZE. THIS IS TO BE PERFORMED BY SUPERVISOR, INSPECTION LEAD MAN OR THEIR DESIGNEE, FILE WITH QA. USE YELLOW MARKER. SUBMIT MAP WITHIN 24 HOURS OF START OF WELDING. MUST INDICATE ON MAP ALL MAJOR WELDS, DEFINED AS GREATER THAN 20% OF THE WALL OR 1 INCH WHICHEVER IS LESS OR 10 SQUARE INCHES APPROXIMATLY 3.3"X3.3".	DB	3/31
NOTICE	WITNESS NOTIFICATION	PROVIDE NOTICE TO EIO AND DCMA AT LEAST FIVE DAYS IN ADVANCE OF WELD STEP. EIO NOTIFIED ON <u>3/27</u> DCMA NOTIFIED ON <u>3/27</u>	Q ENG OR QA MGR	<i>[Signature]</i>
230	QA APPROVAL HOLD POINT	QA TO APPROVE ELECTRODE PRIOR TO USE. PROCEDURE USED: _____ LIST ALL MATERIAL/LOTS USED: <u>78308</u> QUALITY ENG. Name: <u>BC</u> Date: <u>4/3/06</u>		
240	WELD SOP 0100 REV 7	WELD REPAIR DEFECTS AS MARKED. FOR WELDS <2" - WPS 10-SMAW-CF8MNMN MOD REV 1(Flat) or 25 SMAW-CF8MNMN MOD	TAD	4/3/06

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		REV 0 (Vertical) FOR WELDS <8" - WPS 15-GMAW-CF8MNMN MOD REV 2	JAD	4/3/06
250	GRIND GCHI SOP 0100R2	HAND GRIND WELDS.	TU	4/4/06
260	L.P. WELD CQP 0300 REV 10	L.P. WELD REPAIRS ACCEPTANCE PER ASTM A903. ACCEPTANCE CRITERIA-LEVEL 1 FOR HIGH STRESSED AREAS, LEVEL 2 FOR ALL OTHER AREAS. SEE LP DRAWING. IF OK CHECK HERE <input checked="" type="checkbox"/> WASH AND SEND TO STEP 280. IF REJECTED CHECK HERE _____	LP - LEVEL II CC	4-6-06
270	REPEAT	REPEAT STEPS S180 TO S250AS REQUIRED TILL CLEAR THROUGH VISUAL INSPECTION & PENETRANT INSPECTION. IF OK CHECK HERE _____ AND PROCEED TO STEP 280.		NA
280	REPEAT STEPS	SUPPLEMENTAL REPAIR STEPS		
S180	WELD SOP 0100 REV 7	EXCAVATE ANY DEFECTS FOUND DURING RADIOGRAPHY.		
S190	GRIND GCHI SOP 0100R2	CHIP AND HAND GRIND EXCAVATION OR VISUAL DEFECTS AS REQUIRED.		
S200	L.P. EXCAVATION CQP-300 REV 10	L.P. ALL EXCAVATIONS PRIOR TO WELDING TO ENSURE REMOVAL OF DEFECT. ACCEPTANCE PER A903. ACCEPTANCE CRITERIA-LEVEL 1 FOR HIGH STRESSED AREAS, LEVEL 2 FOR ALL OTHER AREAS. SEE LP DRAWING.	LP - LEVEL II	
S210	WELD MAP	MAP ALL MAJOR WELDS WITH DIGITAL PHOTO/MAPS INDICATING LOCATION. SERIALIZE DEFECTS ON CASTING, USE SCALE IN PHOTOS AND DOCUMENT SIZE. THIS IS TO BE PERFORMED BY SUPERVISOR, INSPECTION LEAD MAN OR THEIR DESIGNEE, FILE WITH QA. USE YELLOW MARKER. MUST INDICATE ON MAP ALL MAJOR WELDS, DEFINED AS GREATER THAN 20% OF THE WALL OR 1 INCH WHICHEVER IS LESS OR 10 SQUARE INCHES APPROXIMATLY 3.3"X3.3". SUBMIT MAP WITHIN 24 HOURS OF START OF WELDING.		
NOTICE	WITNESS NOTIFICATION	PROVIDE NOTICE TO EIO AND DCMA AT LEAST FIVE DAYS IN ADVANCE OF WELD STEP. EIO NOTIFIED ON _____ DCMA NOTIFIED ON _____	Q ENG OR QA MGR	
S220	QA APPROVAL HOLD POINT	QA TO APPROVE ELECTRODE PRIOR TO USE. PROCEDURE USED: _____, _____, _____ MATERIAL /LOT USED : _____, _____, _____ QUALITY ENG. Name: _____ Date: _____		
S230	WELD SOP 0100 REV 7	WELD REPAIR DEFECTS AS MARKED. FOR WELDS <2" - WPS 10-SMAW-CF8MNMN MOD REV 1(Flat) or 25 SMAW-CF8MNMN MOD REV 0 (Vertical)		

~~1ST 2ND 3RD 4TH 5TH~~
 TAD 4/2/06
 Rec'd
 WA
 5325
 NA
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S321	WELD SOP 0100 REV 7	EXCAVATE ANY DEFECTS FOUND DURING RADIOGRAPHY.	TRP	CA			
S322	L.P. EXCAVATION CQP-300 REV 10	L.P. ALL EXCAVATIONS PRIOR TO WELDING TO ENSURE REMOVAL OF DEFECT. ACCEPTANCE PER A903. ACCEPTANCE CRITERIA-LEVEL 1 FOR HIGH STRESSED AREAS, LEVEL 2 FOR ALL OTHER AREAS. SEE LP DRAWING.	LP - LEVEL II CC	CC			
S323	WELD MAP	MAP ALL MAJOR WELDS WITH DIGITAL PHOTO/MAPS INDICATING LOCATION. SERIALIZE DEFECTS ON CASTING, USE SCALE IN PHOTOS AND DOCUMENT SIZE. THIS IS TO BE PERFORMED BY SUPERVISOR, INSPECTION LEAD MAN OR THEIR DESIGNEE, FILE WITH QA. USE YELLOW MARKER. MUST INDICATE ON MAP ALL MAJOR WELDS, DEFINED AS GREATER THAN 20% OF THE WALL OR 1 INCH WHICHEVER IS LESS OR 10 SQUARE INCHES APPROXIMATELY 3.3"X3.3". SUBMIT MAP WITHIN 24 HOURS OF START OF WELDING. SUBMIT MAP WITHIN 24 HOURS OF START OF WELDING.	J B 4/13	5B 4-19			
NOTICE	WITNESS NOTIFICATION	PROVIDE NOTICE TO EIO AND DCMA AT LEAST FIVE DAYS IN ADVANCE OF WELD STEP. EIO NOTIFIED ON <u>4/7</u> DCMA NOTIFIED ON <u>4/7</u>	Q ENG OR QA MGR	BC			
S324	QA APPROVAL HOLD POINT	QA TO APPROVE ELECTRODE PRIOR TO USE. PROCEDURE USED: _____ MATERIAL /LOT USED : <u>78308</u> QUALITY ENG. Name: <u>BC</u> Date: <u>4/13</u>					
S325	WELD SOP 0100 REV 7	WELD REPAIR DEFECTS AS MARKED. FOR WELDS <2" - WPS 10-SMAW-CF8MNMN MOD REV 1(Flat) or 25 SMAW-CF8MNMN MOD REV 0 (Vertical) FOR WELDS <8" - WPS 15-GMAW-CF8MNMN MOD REV 2	WP	TED 4/24			
S326	GRIND GCHI SOP 0100R2	HAND GRIND WELDS.					
S327	L.P. WELD CQP 0300 REV 10	L.P. WELD REPAIRS ACCEPTANCE PER ASTM A903. ACCEPTANCE CRITERIA-LEVEL 1 FOR HIGH STRESSED AREAS, LEVEL 2 FOR ALL OTHER AREAS. SEE LP DRAWING. IF OK CHECK HERE _____ WASH AND SEND TO STEP S328. IF REJECTED CHECK HERE _____ AND RETURN TO STEP S321.	LP - LEVEL II CC	OK OK REJ REJ	OK OK REJ REJ	OK OK REJ REJ	
S 328 A	MQS X-RAY DEFECTS REPAIRED BY WELDING	X-RAY PER TECHNIQUE # 12726 USE CALIBRATED DENSITOMETER FOR DENSITY VERIFICATION. ALL RT REJECTS, INCLUDING SURFACE DEFECTS WILL BE VERIFIED BY RT. ATTACH TECHNIQUE, READER SHEET FOR ALL RADIOGRAPHS. MUST INDICATE RADIOGRAPHER AND ASNT CERTIFICATION LEVEL ON READER SHEET.	RT- LEVE L II PWH 4-18 Reg	Acc 20K 4-22			

see pages 5 should be on S 328B

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S 328 B	CAF X-RAY DEFECTS REPAIRED BY WELDING CQP 401 REV 5	X-RAY PER TECHNIQUE # 12726 USE CALIBRATED DENSITOMETER FOR DENSITY VERIFICATION. ALL RT REJECTS, INCLUDING SURFACE DEFECTS WILL BE VERIFIED BY RT. ATTACH TECHNIQUE, READER SHEET FOR ALL RADIOGRAPHS. MUST INDICATE RADIOGRAPHER AND ASNT CERTIFICATION LEVEL ON READER SHEET.	RT - LEVE L II						
S 329	X-RAY CQP 401 REV 5	X-RAY INTERPRETATION. ACCEPTANCE MSS SP 54. ATTACH TECHNIQUE, READER SHEET FOR ALL RADIOGRAPHS. MUST INDICATE RADIOGRAPHER AND ASNT CERTIFICATION LEVEL ON READER SHEET. IF OK CHECK HERE <input checked="" type="checkbox"/> AND SEND TO STEP 340. REJECTED CHECK HERE <input type="checkbox"/> MARK UP DEFECTS AND SEND THE CASTING TO STEP S321.	RT - LEVE L II						
	REPEAT	REPEAT STEPS S321 TO S329 AS REQUIRED TILL CLEAR THROUGH VISUAL, PENETRANT AND RT INSPECTION.	QA ENG.	NA					
340	SAND BLAST BLAS SOP 0100R6	SANDBLAST (REMOVE ALL BLAST MATERIAL FROM CASTING) SANDBLASTING WILL BE DONE USING RECYCLED SHARP ANGULAR AGGREGATE.		CA					to 455
NOTICE	WITNESS NOTIFICATION	PROVIDE NOTICE TO EIO AND DCMA AT LEAST FIVE DAYS IN ADVANCE OF VISUAL AND LP STEPS. EIO NOTIFIED ON <u>4/17</u> DCMA NOTIFIED ON <u>4/17</u>	Q ENG OR QA MGR						CA
350	FINAL VISUAL INSPECTION CQP-500 REV 4	VISUALLY INSPECT 100% of COMPONENT ACCORDING TO ASTM A802 LEVEL 3 IN NON MACHINED AREAS AND LEVEL 2 IN MACHINED AREAS. IF OK CHECK HERE <input type="checkbox"/> SEND TO STEP 453. IF REJECTED CHECK HERE <input type="checkbox"/> MARK AND REPAIR. INITIAL WHEN COMPLETE. MUST BE PERFORMED BY LEVEL II in VT.	VT - LEVEL II						NA
360	FINAL L.P. CQP 0300 REV 10	FINAL L.P. 100% OF COMPONENT. ACCEPTANCE PER ASTM A903. ACCEPTANCE CRITERIA-LEVEL 1 FOR HIGH STRESSED AREAS, LEVEL 2 FOR ALL OTHER AREAS. SEE LP DRAWING. IF OK CHECK HERE <input type="checkbox"/> WASH AND SEND TO STEP 453. IF REJECTED CHECK HERE <input type="checkbox"/>	LP - LEVEL II						
380	WELD SOP 0100 REV 7	EXCAVATE ANY DEFECTS FOUND DURING FINAL PENETRANT INSPECTION.							
385	GRIND GCHI SOP 0100R2	CHIP AND HAD GRIND EXCAVATION AS REQUIRED.							

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390	L.P. EXCAVATION CQP-300 REV 10	L.P. ALL EXCAVATIONS PRIOR TO WELDING TO ENSURE REMOVAL OF DEFECT. ACCEPTANCE PER A903. IF OK CHECK HERE _____ IF REJECTED SEND BACK TO STEP 385.	LP - LEVEL III	
400	WELD MAP	MAP ALL MAJOR WELDS WITH DIGITAL PHOTO/MAPS INDICATING LOCATION. SERIALIZE DEFECTS ON CASTING, USE SCALE IN PHOTOS AND DOCUMENT SIZE. THIS IS TO BE PERFORMED BY SUPERVISOR, INSPECTION LEAD MAN OR THEIR DESIGNEE, FILE WITH QA. USE YELLOW MARKER. SEND MAPS WITHIN 24 HOURS OF WELDING. MUST INDICATE ON MAP ALL MAJOR WELDS, DEFINED AS GREATER THAN 20% OF THE WALL OR 1 INCH WHICHEVER IS LESS OR 10 SQUARE INCHES APPROXIMATLY 3.3"X3.3".		
420	QA APPROVAL HOLD POINT	QA TO APPROVE ELECTRODE PRIOR TO USE. PROCEDURE USED: _____ MATERIAL/LOT USED: _____ QUALITY ENG. Name: _____ Date: _____		
430	WELD SOP 0100 REV 7	WELD REPAIR DEFECTS AS MARKED. FOR WELDS <2" - WPS 10-SMAW-CF8MNMN MOD REV 1(Flat) or 25 SMAW-CF8MNMN MOD REV 0 (Vertical) FOR WELDS <8" - WPS 15-GMAW-CF8MNMN MOD REV 2		
440	GRIND GCHI SOP 0100 REV 2	HAND GRIND WELDS.		
450	L.P. WELDS CQP 0300 REV 10	L.P. WELD REPAIRS ACCEPTANCE PER ASTM A903. IF OK CHECK HERE _____ WASH AND SEND TO STEP 453. IF REJECTED CHECK HERE _____ AND RETURN TO STEP 440.	LP - LEVEL II	
	REPEAT	REPEAT STEPS 350 TO 450 AS REQUIRED TILL WELDS CLEAR FINAL LIQUID PENETRANT INSPECTION. DOCUMENT REWORK ON A SUPPLEMENTAL MTS	QA ENG.	
451	TEST MAG PERM SOP MAG PERM 100, REV 1	TEST MAG PERMEABILITY REPAIR AREAS. RECORD ON WELD MAP LIST. TEST AT LEAST EVERY 2" SQUARE OF WELD. ACCEPTANCE 1.02. IF OK CHECK HERE _____ AND GO TO STEP 430. IF REJECTED CHECK HERE _____.		
452	GRIND GCHI SOP 0100R2	GRIND AREAS OF NON COMPLIANCE AND RETURN TO STEP 451. REPEAT UNTIL COMPLIANCE IS ACHIEVED.		
NOTICE	WITNESS NOTIFICATION	PROVIDE NOTICE TO EIO AND DCMA AT LEAST FIVE DAYS IN ADVANCE OF LAYOUT. EIO NOTIFIED ON _____ DCMA NOTIFIED ON _____ APPROVAL RECEIVED ON _____	Q ENG OR QA MGR	

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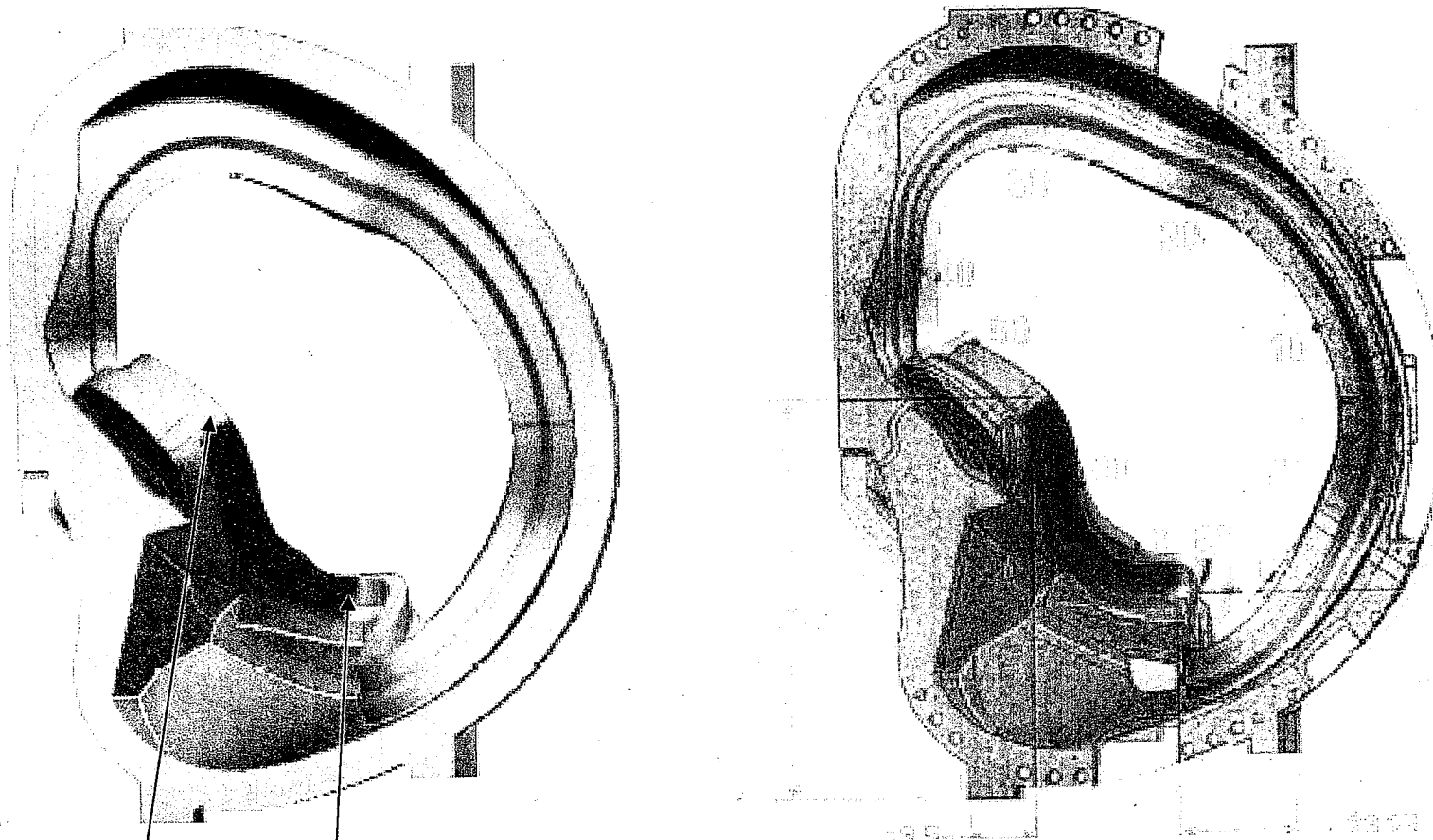
453	INTERIM LAYOUT SOP LAYOUT 0100	INSPECT CASTING TO VERIFY DIMENSIONS. THIS STEP MAY BE MOVED. NOTE: THE FIRST PART PRODUCED OF EACH TYPE A, B AND C WILL BE DIMENSIONED BY LAWTON PATTERN. IF DIMENSIONED BY LAWTON IT WILL BE DOCUMENTED HERE. Subsequent casting done internally per Romer Arm.	JL complete	
455	HEAT TREAT	STRESS RELIEF. Load casting into cold furnace. Ramp up to 1100 F at rate of 200 F per hour. Hold at temp 4 hours. Furnace cool to 500 F at 50 F per hour. Air cool. Submit furnace charts to QA.	DLS	4-22-06 F5-1
NOTICE	WITNESS NOTIFICATION	PROVIDE NOTICE TO EIO AND DCMA AT LEAST FIVE DAYS IN ADVANCE OF VISUAL AND LP STEPS. EIO NOTIFIED ON _____ DCMA NOTIFIED ON _____	Q ENG OR QA MGR	
460	FINAL VISUAL INSPECTION CQP-500 REV 4	VISUALLY INSPECT 100% of COMPONENT ACCORDING TO ASTM A802 LEVEL 3 ALL CONDITIONS. THIS STEP MAY BE UNNECESSARY IF OK AT STEP 350. IF OK CHECK HERE <input checked="" type="checkbox"/> . IF REJECTED CHECK HERE _____. MARK AND REPAIR AT STEP 510. MUST BE PERFORMED BY LEVEL II in VT.	VT - LEVEL II BC	f-24
470	FINAL L.P. CQP 0300 REV 10	FINAL L.P. 100% OF COMPONENT. ACCEPTANCE PER ASTM A903. ACCEPTANCE CRITERIA-LEVEL 1 FOR HIGH STRESSED AREAS, LEVEL 2 FOR ALL OTHER AREAS. SEE LP DRAWING. THIS STEP MAY BE UNNECESSARY IF OK AT STEP 360. IF OK CHECK HERE <input checked="" type="checkbox"/> WASH AND SEND TO STEP 500. IF REJECTED CHECK HERE _____. DOCUMENT REPAIRS USING A SUPPLEMENTAL MTS.	LP - LEVEL II	JPS 4/24/06
NOTICE	WITNESS NOTIFICATION	PROVIDE NOTICE TO EIO AND DCMA AT LEAST FIVE DAYS IN ADVANCE OF MAG PERM STEPS. EIO NOTIFIED ON _____ DCMA NOTIFIED ON _____	Q ENG OR QA MGR	
500	FINAL MAG PERM INSPECTION SOP MAG PERM 100, REV 1	PERFORM MAG PERM TESTING WITH SEVRIN GAUGE. ACCEPTANCE 1.02. CHECK THE ENTIRE SURFACE ON A 6" BY 6" GRID. REPORT RESULTS. USE A 6" SQUARE BLOCK TO INDICATE TEST LOCATIONS AND RECORD RESULTS. COMPLIANT AREAS WILL NOT BE MARKED. MARK NONCOMPLIANT AREAS WITH AN "X" FOR REPAIR. OK CHECK HERE <input checked="" type="checkbox"/> AND GO TO STEP 530. IF REJECTED CHECK HERE <input checked="" type="checkbox"/>	CJA	4/26/06
510	GRIND GCHI SOP 0100 REV 2	HAND GRIND WITH SUITABLE CONE OR OTHER SIMILAR GRINDER AS REQUIRED TO ENSURE REMOVAL OF MATERIAL TO ACHIEVE MAG PERM REQUIREMENT. CIRCLE AREA REMEDIATE FOR RETEST.	CJA	4/26/06
520	RETEST MAG PERM SOP MAG PERM 100, REV 1	RETEST MAG PERMEABILITY AT FAILED TEST POINTS. MARK NONCOMPLIANT AREAS WITH AN "X" FOR REPAIR. ACCEPTANCE 1.02. IF OK CHECK HERE <input checked="" type="checkbox"/> IF REJECTED CHECK HERE _____ RETURN TO STEP 510.	CJA	4/26/06
530	DOC. REVIEW	REVIEW DOCUMENTS AS REQUIRED IN CAF CHECKLIST, ALL DOCUMENTS NOTED TO BE ACCESSIBLE FOR AUDITING. (SHIPPER, C OF C, M.T.R., M.T.S., INSPECTION REPORT, X-RAY READER SHEETS AND HEAT TREAT CHARTS)	Ch	

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NOTICE	RELEASE FROM EIO	PROVIDE DOCUMENTS TO EIO. SENT ON <u>4/24</u> BY <u>[Signature]</u> RECEIVED RELEASE FROM EIO ON <u>4/24</u>	Q ENG OR QA MGR <u>[Signature]</u>	
540	PACK AND SHIP	PACKAGE AND SHIP TO MAJOR TOOL. MARK ON CASTING THE COIL NUMBER e.g. "A-1"	<u>[Signature]</u>	<u>[Signature]</u>
1000	REVISION HISTORY	ORIGINAL 12-14-04. Approved 12-14-04. Revision level 1- Revised 1-26-05 new page 8, correct High stress areas, Revision level 2 3-16-05, delete LO step 455. Revision 3 3-28-05 Added note regarding hold point at weld step 400. Revision level 4 written for C-2 casting 4-18-05. Rev 5 added Layout SOP# and note regarding first casting layout responsibility. 5-10-05. Rev 6 added word LOT to weld material steps. 5-29-05. Rev 7 6-14-05 added "LOT" to weld step on supplement page. Rev. 8 7-29-05 added stress relief, deleted weld hold points, added vertical weld procedure, and several editorial changes. REV 9 8-28-05 – MODIFIED RT STEPS AND ADDED REQUIREMENT TO RT ALL RT DEFECTS INCLUDING SURFACE. 1-9-06 Rev 10 – added note to mark casting in step 540.	CARUUD	



High Stressed Area as seen from the drag side.

MetalTek International – Carondelet Division

Manufacturing and Test Sequence (MTS) B Coil Shim SN -2

Dated 12-14-04 Revision:1

Dated Issued:10-25-05

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OPER. #	STATION	DESCRIPTION OF PROCESS	Name	Date
10	QUALITY RELEASE	REVIEW AND APPROVE MTS. RECEIVED APPROVAL FROM EIO ON 11-1-05 FROM Pete D. SIGNED QUALITY MANAGER. SHADED BOXES NEED NOT BE SIGNED.	CAR	11-1-05
20	PATTERN NPAT SOP 0100REV2	APPLY APPROPRIATE PART NUMBER, SERIAL NUMBER, FOUNDRY MARK, TO THE PATTERN.		
30	MOLD	MOLD PER WORK INSTRUCTIONS IN MAPICS ROUTING AND SOPS REFERENCED. MOLD MATERIALS REQUIRED PER MAPICS BOM. NOTIFY ENGINEER OF ANY SUBSTITUTIONS. MOLD SOP 0400 REV 8 CALIBRATION PER MOLD SOP 0900 REV 5 PREPARATION PER MOLD SOP 1100R2/1200R2/1300R1 SAND TESTING PER MOLD SOP 1400R2/1500R3/1600R2		
40	POUR MELT SOP 0100R5 MELT SOP 0700R2 MELT SOP 0600R2	METAL MUST BE AOD REFINED OR AOD INGOT. VIRGIN METAL ADDITIONS ALLOWED. HEAT #: <u>31455</u> Sample from ladle to be analyzed for final chemical analysis and reported on material certifications. Sample Taken by: <u>I. Winston</u> Analyzed: <u>G. Hurt</u>	<i>J. Galante</i>	<i>11-3-05</i>
50	MELT SOP 0800R2	SHAKEOUT		
60	ARC RISE SOP 0100R1	REMOVE RISERS AS DIRECTED BY SUPERVISOR.		
70	HEAT TREAT HEAT SOP 0103R5	SOLUTION ANNEAL. MINIMUM 4 HOURS AT 2050 F. AIR COOL.	<i>F5-1</i>	<i>DLS 1-22-06</i>
80	GRIND GSWA SOP 0100R3 GCHI SOP 0100R2	SWING GRIND TO REMOVE RISER REMAINS AND FLASH IF REQUIRED. CHIP AND HAND GRIND SURFACE OF PART AS REQUIRED.	<i>Jg</i>	<i>4-24-06</i>
90	SAND BLAST BLAS SOP 0100R6	SANDBLAST (REMOVE ALL BLAST MATERIAL FROM CASTING) SANDBLASTING WILL BE DONE USING RECYCLED SHARP ANGULAR AGGREGATE.	<i>EGS</i>	<i>4-25-06</i>
100	VISUAL INSPECTION CQP-500 REV 4	VISUALLY INSPECT 100% of COMPONENT ACCORDING TO ASTM A802 LEVEL 3 ALL CONDITIONS. IF OK CHECK HERE _____ IF REJECTED CHECK HERE _____. MARK AND REPAIR AT STEP 130OR 140 IF WELDING IS REQUIRED. MAY PERFORM STEPS 110 AND 120 TOGETHER.	VT - LEVEL II <i>Performed at 190</i>	

MetalTek International – Carondelet Division
Manufacturing and Test Sequence (MTS) B Coil Shim SN -2

Dated 12/14/045 Revision: 1 Dated Issued:10-26-05 Page 2of 3

120	100% L.P. CQP 0300 REV 10	L.P. 100% OF COMPONENT. ACCEPTANCE PER ASTM A903. ACCEPTANCE CRITERIA- LEVEL 2. IF OK CHECK HERE _____ GO TO 150. IF REJECTED CHECK HERE _____ MARK AND REPAIR AT STEP 130 OR 140 IF WELDING IS REQUIRED.	LP - LEVEL II <i>su 200</i>	
130	GRIND GCHI SOP 0100R2	HAND GRIND DEFECTS. CONFIRM REPAIRS VISUALL AND BY LP. ACCEPTANCE AS NOTED ABOVE. IF OK, CHECK HERE _____ AND GO TO STEP 170. IF WELDING IS NEEDED GO TO STEP 130.		<i>u*</i>
140 IF NEEDED		IF REPAIRS BY WELDING ARE REQUIRED DOCUMENT ON SUPPLEMENTAL MTS ON LAST PAGE.		
150	CAF X-RAY DEFECTS REPAIRED BY WELDING CQP 401 REV 5	X-RAY PER TECHNIQUE: SE-141-073-C SHIM. USE CALIBRATED DENSITOMETER FOR DENSITY VERIFICATION. ATTACH TECHNIQUE, READER SHEET FOR ALL RADIOGRAPHS. MUST INDICATE RADIOGRAPHER AND ASNT CERTIFICATION LEVEL ON READER SHEET.	RT - LEVEL II <i>ZBK</i>	<i>4/26/06</i>
160	X-RAY CQP 401 REV 5	X-RAY INTERPRETATION. ACCEPTANCE MSS SP 54. ATTACH TECHNIQUE, READER SHEET FOR ALL RADIOGRAPHS. MUST INDICATE RADIOGRAPHER AND ASNT CERTIFICATION LEVEL ON READER SHEET. IF OK CHECK HERE _____ AND SEND TO STEP 200. REJECTED CHECK HERE _____ MARK UP DEFECTS. DOCUMENT REPAIRS ON S10 TO S70.	RT - LEVEL II <i>ZBK</i>	<i>4/26/06</i>
	REPEAT	REPEAT STEPS S10 TO S70 AS REQUIRED TILL WELDS CLEAR X-RAY.	QA ENG.	
170	SAND BLAST BLAS SOP 0100R6	SANDBLAST (REMOVE ALL BLAST MATERIAL FROM CASTING) SANDBLASTING WILL BE DONE USING RECYCLED SHARP ANGULAR AGGREGATE.		
180	LAYOUT SOP 0100 ORIGINAL	INSPECT CASTING TO VERIFY DIMENSIONS. THIS MAY BE PERFORMED EARLIER IF DESIRED. SUBMIT RPORT TO QA.	<i>JA</i>	<i>4/26</i>
190	FINAL VISUAL INSPECTION CQP-500 REV 4	VISUALLY INSPECT 100% of COMPONENT ACCORDING TO ASTM A802 LEVEL 2 ALL CONDITIONS. IF OK CHECK HERE <input checked="" type="checkbox"/> IF REJECTED CHECK HERE _____ . MARK AND REPAIR DOCUMENT REWORK ON A SUPPLEMENTAL MTS	VT - LEVEL II <i>BC</i>	<i>4-26</i>
200	FINAL L.P. CQP 0300 REV 10	FINAL L.P. 100% OF COMPONENT. ACCEPTANCE PER ASTM A903. ACCEPTANCE CRITERIA- LEVEL 2 ALL AREAS. IF OK CHECK HERE <input checked="" type="checkbox"/> WASH AND SEND TO NEXT STEP. IF REJECTED CHECK HERE _____ MAKE REPAIRS AND DOCUMENT ON SUPPLEMENTL MTS.	LP - LEVEL II <i>JS</i>	<i>4-26</i>
210	FINAL MAG PERM INSPECTION SOP MAG PERM 100, REV 1 GRIND GCHI SOP 0100 REV 2	PERFORM MAG PERM TESTING WITH SEVRIN GAUGE. ACCEPTANCE 1.02. CHECK THE ENTIRE SURFACE ON A 6"BY6" GRID. REPORT RESULTS. HAND GRIND WITH SUITABLE CONE OR OTHER SIMILAR GRINDER AS REQUIRED TO ENSURE REMOVAL OF MATERIAL TO ACHIEVE MAG PERM REQUIREMENT.	<i>CA</i>	<i>4-26</i>
220	DOC. REVIEW	REVIEW DOCUMENTS ALL DOCUMENTS NOTED TO BE ACCESSIBLE FOR AUDITING. (C OF C, M.T.R., SIGNED M.T.S., LAYOUT INSPECTION REPORT, X-RAY READER SHEETS AND HEAT TREAT CHARTS)	<i>CA</i>	

MetalTek International – Carondelet Division

Manufacturing and Test Sequence (MTS) B Coil Shim SN -2

Dated 12-14-04 Revision:1

Dated Issued:10-25-05

Page 3 of 3

NOTICE	RELEASE FROM EIO	PROVIDE DOCUMENTS TO EIO. SENT ON <u>4/20</u> BY <u>[Signature]</u> . RECEIVED RELEASE FROM EIO ON <u>4/26</u> .	Q ENG OR QA MGR	<u>[Signature]</u>
	PACK AND SHIP	PACKAGE AND SHIP TO MAJOR TOOL.		
1000	REVISION HISTORY	ORIGINAL 12-14-04. Rev1 complete rewrite due to specification changes.	CARUUD	

SUPPLEMENTAL MTS FOR WELD REPAIRS.

FOR VT&LP/ FOR RT

S10	WELD SOP 0100 REV 7	EXCAVATE ANY DEFECTS.		
S20	L.P. EXCAVATION CQP-300 REV 10	L.P. ALL EXCAVATIONS PRIOR TO WELDING TO ENSURE REMOVAL OF DEFECT. ACCEPTANCE PER A903. ACCEPTANCE CRITERIA- LEVEL 2.	LP - LEVEL II	LP - LEVEL II
S30	WELD MAP	MAP ALL WELDS WITH DIGITAL PHOTO/MAPS. SERIALIZE DEFECTS ON CASTING, USE SCALE IN PHOTOS AND DOCUMENT SIZE. THIS IS TO BE PERFORMED BY SUPERVISOR, INSPECTION LEAD MAN OR THEIR DESIGNEE, FILE WITH QA.. USE YELLOW MARKER. MUST SEND REPORT ON ALL AJOR WELDS, DEFINED AS OVER 20% OF WALL THICKNESS OR 1 INCH WHICHEVER IS LESS OR 10 SQUARE INCHES TO CUSTOMER. MAJOR WELDS YES _____, REPORT SENT BY _____ DATE _____ NO MAJOR WELDS CHECK HERE _____ AND GO TO STEP 170.		
S40	QA APPROVAL HOLD POINT	QA TO APPROVE ELECTRODE PRIOR TO USE. PROCEDURE USED: _____ MATERIAL USED: _____ QUALITY ENG. Name: _____ Date: _____		
S50	WELD SOP 0100 REV 7	WELD REPAIR DEFECTS AS MARKED. FOR WELDS <2" - WPS 10-SMAW-CF8MNMN MOD REV 1 FOR WELDS <8" - WPS 15-GMAW-CF8MNMN MOD REV 2		
S60	GRIND GCHI SOP 0100R2	HAND GRIND WELDS.		
S70	L.P. WELD CQP 0300 REV 10	L.P. WELD REPAIRS ACCEPTANCE PER ASTM A903. ACCEPTANCE CRITERIA-LEVEL 2. IF OK CHECK HERE _____ WASH AND SEND TO STEP 300. IF REJECTED CHECK HERE _____ AND RETURN TO STEP 220.	LP - LEVEL II	LP - LEVEL II
	REPEAT	REPEAT STEPS S10 TO S70 AS REQUIRED TILL CLEAR THROUGH VISUAL INSPECTION & PENETRANT INSPECTION.	QA ENG.	QA ENG.
S80	TEST MAG PERM SOP MAG PERM 100, REV 1	TEST MAG PERMEABILITY REPAIR AREAS RECORD ON WELD MAP LIST. TEST AT LEAST 5 POINTS PER WELD. ACCEPTANCE 1.02. IF OK CHECK HERE _____ AND GO TO STEP 170. GRIND AS NEEDED TO REMEDIATE.		

EIO RFD

**Number: RFD-14-026
(EIO RFD #110806-1P
dated November 8th,
2006)**

**RFD Description: Remaining B Castings (B2
thru B6) Thin Wall Condition**

Initiator: Peter Djordjevich

Organization: Energy Industries of Ohio

List of Impacted Documents:

Drawing wall thickness dimensions shown on NCSX drawing: SE141-115 (Type-B Modular Coil Winding Form)

Quality Impact: *None per PPPL evaluation of stress regions. Per previous agreement on 1.21" minimum wall for B-1 casting (see CAR 1538 approved by NCSX Project on 2/7/2006)*

State Requirement Deviation is Requested For: *Drawing wall thickness specifications shown on NCSX drawing SE141-115 (Type-B Modular Coil Winding Form)*

Full Description of the Deviation Requested

Allow thin wall condition on B castings, which was discovered on casting B1.

Actual drawing specification wall thickness = 1.5" + .25" - 0

Requested dimensional deviation 1.5" +0 .25"/-0 .29" max

Lowest dimension observed 1.21" wall B1, balance of B castings range 1.3"-1.4" wall after Evaluation.

Attachments:

(1) CAR 1538 for B-1 casting.

Initiator Signature: Peter A Djordjevich

EIO QA

Date: 11/08/06

RLM(s):
Design: Brad Nelson
Manufacturing: Larry Dudek

Organization:
Design: ORNL
Manufacturing: PPPL

Impact on Interfaces with Other WBS Elements/Items: *(If none, so state)*

Design RLM Recommendations:

Manufacturing RLM Recommendations:

Approve Do Not Approve

Approve Do Not Approve

Additional remarks: *Deviation Request is modified to state dimensions as 1.5" +0.25"/-0.20" max (vs. -0.29" max since only B-1 casting (addressed by CAR 1538) has the 1.21" dimension.*

Should the impacted drawings be formally revised or should the "stamp" process outlined in NCSX Procedure PROC-007 be utilized and should the specification (or other documents) be updated?

No, a formal revision required to the drawing or specification is required – ***THIS CHANGE WILL BE INCORPORATED WITH CHANGES BEING PROCESSED FOR ECN-5185.***

"Stamp" process outlined in PROC-007 is authorized.

If the change is substantial, a revision to the impacted drawings will be required after the third RFD stamp marking a substantial revision is placed on the drawing.

This change is NOT substantial and no update to the drawing will ever be required => in this case the "3" RFD stamp process does NOT apply.

Does this Change Impact Material Already Procured or Parts/Assemblies Already Assembled/Manufactured using this Material: Yes No

If "Yes", what is the recommended disposition of this material/part/assembly and what is the impact? ***B2 through B6 castings will be accepted if within the stated dimensional tolerance band of 1.5" +0.25"/-0.20"***

Design RLM Signature: Brad Nelson
Digitally signed by Brad Nelson
DN: cn=Brad Nelson, c=US, o=ORNL,
ou=FED, email=nelsonbe@ornl.gov
Date: 2006.11.20 09:42:02 -05'00'

Manufacturing RLM Signature: Larry Dudek
Digitally signed by Larry Dudek
DN: cn=Larry Dudek, c=US
Date: 2006.11.20 11:03:03 -05'00'

Project Disposition:
 Approved. No ECP required. Bob Simmons
Reason: I have reviewed this document
Date: 2006.11.14 15:25:21 -05'00'

Approved. ECP - assigned and processed.

Not Approved. Reason(s) for disapproval:

NCSX Systems Engineering Support Manager

NCSX Corrective Action Resolution Response

CA # 1538

Date: Feb. 6, 2006

NCSX Response: This CA addresses 7 areas on B1 which deviates from the model dimensions as detailed in the attached. NCSX agrees with EIO's planned action plan, as summarized below. Other than area 1, NCSX leaves the decision about the necessity of pattern changes up to EIO.

Area 1: Areas of the flange are outside of tolerance range. EIO proposes to add stock in low areas and grind high areas to bring into tolerance, as well as to add stock to cre box to prevent recurrence. NCSX concurs- the casting stock addition should be handled as a weld repair.

Area 2: Opposite of area 1 but not related has excess stock. EIO will remove excess during processing. NCSX concurs.

Area 3: loss of machine stock ranging from 3/8-9/16". EIO feels that since 1" of machine stock was planned, sufficient remains. This is an EIO decision, but it appears reasonable to NCSX.

Area 4 is a thin shell wall condition similar to A1. NCSX reviewed the details and concurs with EIO's recommendation to use as is. This will be acceptable for future B's and NCSX will submit a RFD.

Area 5: Parts of the wing area interface may be high and it is not certain if other areas are out of tolerance. EIO will get better data during layout scans and may need to bring some areas into tolerances. NCR's may be needed if all areas are not brought into compliance.

Area 6: wing interface appears to be high, EIO plans to remove metal as required. NCSX concurs with this plan.

Area 7: wing interface appears to be high, but details need to be clarified in subsequent scans; EIO plans to remove metal as required. NCSX concurs with this plan.

Approved by:

Phil
Heitzenroeder

Digitally signed by Phil Heitzenroeder
DN: cn = Phil Heitzenroeder, c = us,
o = GE, ou = West Eng. District
Reason: I agree to the terms defined
by the document I am signing on
the date above.
Date: 2006.02.06 14:36:46 -0500

Tech. Rep.

Brad
Nelson

Digitally signed by Brad Nelson
DN: cn = Brad Nelson, c = us,
o = GE, ou = EIO
email = Brad.Nelson@ge.com
Date: 2006.02.07 10:12:17 -0500

Responsible Line Manager



Carondelet Division

8600 Commercial Blvd. • Pevely, MO 63070 USA
Phone: 636-479-4499 • Fax: 636-479-1399
E-Mail: Charles.Ruud@MetalTekInt.com

Corrective Action 1538
Carondelet Division
Corrective Action Type NCR
Date 1-13-06 Revised 1-26-06
CA Originator C. Ruud
Applies to: B-1 Coil

Description of Defect / Non-Conformance

Scan performed by 3D Scanco indicated that the coil deviates from the model in some areas.

Root Cause

Detailed analysis has been performed. See report below.

Corrective Action

Addressed in each area below.

Verification of Corrective Action

A scan will be performed with our equipment to verify dimensions.

Preventive Action

Pending.

Verification Of Preventative Action

Pending

Estimated Completion Date

Prior to shipment of B-1.

Actual Completion Date

Signed: C. Ruud

CC: B. Craig, J. Edwards, E.J. Kubick, J. Markham, R. Broman



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Carondelet Division

8600 Commercial Blvd. - Pevely, MO 63070 USA
Phone: 636-479-4499 - Fax: 636-479-3399

Final Inspection Report

Customer ENERGY INDUSTRIES OF OHIO
Pattern: MCWF-B2 COIL

Order PPPL-FP-LTS-2

ASTM Metal CF8MNMN MOD

Date 4/26/2006

Type Description	Cert Number	Procedure	Acceptance Criteria	Actual
Liquid Penetrant	S81340-1	CQP - 300 Rev 9	SEE NOTE	Acceptable
Notes Acceptance per ASTM A903. Acceptance criteria - level 1 for high stressed areas, level 2 for all other areas.				
Mag Perm	S81340-1	SOP Mag Perm 100 Rev 1	<1.02	Acceptable
Radiographic	S81340-1	Technique # 12726	MSS SP 54	Acceptable
Visual	S81340-1	CQP - 500 REV 4	ASTM A802 LEVEL 2	Acceptable

Liquid Penetrant

Technician: Jim Shanahan
ASNT Level II

Visual

Technician: Bob Carlton
ASNT Level II

Respectfully Submitted,
Charles A. Ruud
Quality Assurance Manager

Superior Quality Engineered Metal Products

www.MetalTekInt.Com



Carondelet Division

8600 Commercial Blvd. - Pevely, MO 63070 USA
Phone: 636-479-4499 - Fax: 636-479-3399

Certificate of Conformance

ENERGY INDUSTRIES OF OHIO

Order Number PPPL-FP-LTS-2

Pattern MCWF-B2 COIL

ASTM CF8MNMN MOD

Date 4/26/2006

Cert Number

S81340-1

A handwritten signature in black ink, appearing to read "CAR", is located in the lower right quadrant of the page.

We certify that we have complied in accordance with the drawings(s) and specifications(s) listed on the above purchase order. The articles furnished were made and/or processed from parts and/or materials in accordance with all applicable drawings(s) and specifications(s) pursuant to the afore mention purchase order.

Respectfully Submitted,
Charles A. Ruud
Quality Assurance Manager

Superior Quality Engineered Metal Products

www.MetalTekInt.Com



Carondelet Division

8600 Commercial Blvd. - Pevely, MO 63070 USA
Phone: 636-479-4499 - Fax: 636-479-3399

Final Inspection Report

Customer ENERGY INDUSTRIES OF OHIO
Pattern: SE-141-058 COIL B SHIM
S/N 2

Order PPPL-FP-LTS-2

ASTM Metal CF8MNMN MOD

Date 4/26/2006

Type Description	Cert Number	Procedure	Acceptance Criteria	Actual
Liquid Penetrant	177360-1	CQP - 300 Rev 9	ASTM A903 Level II	Acceptable
Mag Perm	177360-1	SOP Mag Perm 100 Rev 1	<1.02	Acceptable
Radiographic	177360-1	Technique # 12726	MSS SP 54	Acceptable
Visual	177360-1	CQP - 500 REV 4	ASTM A802 LEVEL 2	Acceptable

Liquid Penetrant

Technician: Jim Shanahan
ASNT Level II

Visual

Technician: Bob Carlton
ASNT Level II

Respectfully Submitted,
Charles A. Ruud
Quality Assurance Manager

Superior Quality Engineered Metal Products

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Carondelet Division

8600 Commercial Blvd. - Pevely, MO 63070 USA
Phone: 636-479-4499 - Fax: 636-479-3399

Certificate of Conformance

ENERGY INDUSTRIES OF OHIO

Order Number PPPL-FP-LTS-2

Pattern SE-141-058 COIL B SHIM S/N 2

ASTM CF8MNMN MOD

Date 4/26/2006

Cert Number

177360-1

A shim for B-2 coil was poured from heat number 31455. No weld repairs were necessary.

A handwritten signature in black ink, appearing to read "Charles A. Ruud", is written over a white background.

We certify that we have complied in accordance with the drawings(s) and specifications(s) listed on the above purchase order. The articles furnished were made and/or processed from parts and/or materials in accordance with all applicable drawings(s) and specifications(s) pursuant to the afore mention purchase order.

Respectfully Submitted,
Charles A. Ruud
Quality Assurance Manager

Superior Quality Engineered Metal Products

www.MetalTekInt.Com

EIO
Energy Industries of Ohio
SUPPLIER QUALITY RELEASE

		Date: 4-26-06
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I. General Information:		
Project Name:	Modular Coil Winding Form B2	
PO No:	NCSX-SOW-141-02-01	Rev.: 10
Supplier:	MetalTek	
Procurement Agent:	EIO	
Shipment:	<input checked="" type="checkbox"/> Partial <input type="checkbox"/> Final	

II. Material Description
Casting B2 coil and shim

III. Release Checklist	
Plan Requirements Complete?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A (If identified "No" provide explanation in comments section below)
Variances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A (If identified "No" provide explanation in comments section below)
Princeton Notified of Shipment?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A (If identified "No" provide explanation in comments section below)
DCMA Notified of Shipment?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A (If identified "No" provide explanation in comments section below)
<input checked="" type="checkbox"/> Conditional <input type="checkbox"/> Unconditional	Explain conditional releases in comments section.

IV. Comments
Variances – See attached package for CA's and deviations

By signing below you acknowledge that the casting has met all applicable standards and contractual requirements

V. Supplier Quality Representative Sign Off		
	X	4-26-06
Supplier Quality Representative (SQR) Print/Type Name	Supplier Quality Representative (SQR) Signature	Date

VI. Supplier Approval For Shipment		
Procurement Agent Notified of Shipment	Date: 11-23-05	
Required Vendor Data Ready for Shipment	Date: 11-23-05	
Peter A Djordjevich	 X	4-26-06

EIO
Energy Industries of Ohio
SUPPLIER QUALITY RELEASE

		Date: 4-26-06
--	--	---------------

I. General Information:		
Project Name:	Modular Coil Winding Form B2	
PO No:	NCSX-SOW-141-02-01	Rev.: 10
Supplier:	MetalTek	
Procurement Agent:	EIO	
Shipment:	<input checked="" type="checkbox"/> Partial <input type="checkbox"/> Final	
Supplier's Representative Print/Type Name	Supplier's Signature	Date

1. Enter:
Project Name
PO Number
Supplier
Procurement Agent

2. Enter a brief description of items being released, including applicable drawing number(s), dash or item number(s), drawing revision letter, specification(s), and serial number(s).

3. Self-Explanatory

4. Record any unusual circumstance, such as a conditional release.

5. The Supplier's representative shall sign and date.

7. Signature and date of the Supplier's authorized representative indicating shipping date.

8. In case of partial release, the supplier shall maintain copies of each sequential "Supplier Quality Release" and establish complete accountability of material release on final shipment.

9. Supplier shall include a copy of the completed form with each shipment.

Energy Industries of Ohio

Contract # S005242-F

Modular Coil Winding Form

B-2 Documentation Package

Part 2

Major Tool & Machine

11/28/2006

****Note – The table of contents that follows a supplemental EIO TOC as an aide to locating documents. Documents may be duplicated in this package; 1st as an attachment to a NC (not listed) & the 2nd time in the order noted in the MTM TOC.**

B-2 Documentation Package

List of Documents 11-28-2006

Doc #	Description	Page #
-	MTM – Original TOC & document list	64
1	Certificate of Conformance	66
2	Completed shop travelers – 65708/2.0	67
3	NC 20449 – Threaded hole repair	77
4	NC 20475 – Lead block repair	80
5	NC 20632 – PT Rejections	81
6	NC 20670 – Visual review – surface defects	86
7	NC 20676 – Dimensional rejects	92
8	Material certificate – South Texas Bolt - stud	94
9	Material certificate – South Texas Bolt - nuts	95
10	C of C Loctite 411 – from McMaster Carr	96
11	Material certification G-11 round bar	97
12	IDC – Electrical Resistance Check	99
13	Material certification – weld wire – Metrode lot # W020132 Test certificate # 193695 & 194227	100
14	Westmoreland test results Metrode weld lot # W020132	102
15	Material certification – GE G11-CR flat sheet insulating material	106
16	Material certification G-11 round bar (Same as document 11)	97
17	LP inspection certificate – per NC 20632	107
18	IDC – Poloidal break	108
19	IDC – Final dimensional	109
20	Industrial Services, Inc. – RT map & reader sheet	117
21	IDC – Mag perm – Final inspection	119
22	LP inspection certificate – per NC 20449	120
23	IDC – Mag Permeability of weld repair per NC 20449	121
24	IDC – Mag Permeability of bearing plates - short	122
25	IDC – Mag Permeability of bearing plates - long	123
**	PPPL shipping release for B-2 Did not appear in original MTM Doc package – Not reflected in MTM TOC which follows (page 64)	124



ENERGY INDUSTRIES OF OHIO

Purchase Order Number:

S005242-F

Part Number:

SE141-115

Part Name:

MCWF B-2

MTM Work Order Number:

65708/2.0



Major

Tool & Machine, Inc.



Customer: 8909 - ENERGY INDUSTRIES OF OHIO
Customer P.O.: S005242-F
Customer Part ID: SE141-115 - MCWF B-2

Item#	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
1	CERTIFICATE OF CONFORMANCE
2	COMPLETED SHOP TRAVELERS: [65708-2 completed shop travelers.pdf]
3	NC20449 - THREADED HOLE REPAIR: [nc20449-s5242.pdf]
4	NC20475 - LEAD BLOCK REPAIR: [nc20475_b1b2leadarea_s5242 .pdf]
5	NC20632 - PT REJECTIONS: [nc20632_b2pti.pdf]
6	NC20670 - VISUAL REVIEW: [nc20670_b2visuals.pdf]
7	NC20676 - FINAL DIMENSIONAL: [nc20676idcsigned_103106.pdf]

DS141-036 - STUD

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
8	10	10	10	Material Certification: / DS141-036 - STUD [mc118664.tif] (XFR/E3930)

DS141-060 - NUT

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
9	10	10	20	Material Certification: / DS141-060 - NUT [mc119127.tif] (XFQ/5407813)

SE141-058 - POLOIDAL BREAK SHIM ASSEMBLY

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
10	2	30	20	Certificate of Conformance: / LOCTITE 411 - LOCKING COMPOUND [mc106270.tif] (CERTIFIED)

SE141-058-03 - INSULATING SLEEVE

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
11	3	10	10	Certificate of Conformance: / G11CR_1 - ROUND, BAR, 1.75 DIA [mc108545.tif] (CERTIFIED)

SE141-102

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
12	1	140		Inspection Data Checklist: 2 steps

SE141-102-1 - MOD COIL WINDING FORM ASSEMBLY TYPE-B

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
13	0	10	10	Material Certification: Trace ID: 113688 / ER316MNNF_093_GTAW - WELD WIRE,GTAW .093 DIA [mc106164.pdf] (W020132 / WO20132)
14	0	10	10	Material Certification: Trace ID: 116253 / ER316MNNF_093_GTAW - WELD WIRE,GTAW .093 DIA [mc106579.tif] (W020132 / WO20132)

SE141-102-4 - INSULATING SHEET

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
15	7	10	10	Certificate of Conformance: G11CR / G11CR_3 - SHEET, FLAT [mc107081.tif] (CERTIFIED)

SE141-102-5 - INSULATING SLEEVE

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
16	5	10	10	Certificate of Conformance: / G11CR_1 - ROUND, BAR, 1.75 DIA [See Item #11] (CERTIFIED)

Customer: 8909 - ENERGY INDUSTRIES OF OHIO
 Customer P.O.: S005242-F
 Customer Part ID: SE141-115 - MCWF B-2

SE141-115 - MODULAR COIL, TYPE B

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
17	1	100		Nondestructive Liquid Penetrant Test Certification #18201 - LPI CERTIFICATION
18	1	130		Inspection Data Checklist: 5 steps
19	1	132		Inspection Data Checklist: 98 steps
20	1	134		Map(s): RT MAP AND READER SHEET [mc122927.tif]
21	1	136		Inspection Data Checklist: 2 steps
22	15	30		Nondestructive Liquid Penetrant Test Certification #18058 - LPI CERTIFICATION
23	15	40		Inspection Data Checklist: 1 steps

SE141-139 - SHORT BEARING PLATE TYPE "B"

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
24	11	30		Inspection Data Checklist: 1 steps

SE141-140 - LONG BEARING PLATE TYPE "B"

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
25	12	30		Inspection Data Checklist: 1 steps



TO: ENERGY INDUSTRIES OF
OHIO

DATE: 11/08/2006

ATTENTION: Receiving Department

Seller certifies that:

Part Number: SE141-115

Purchase Order: S005242-F

Part Name: MCWF B-2

Workorder: 65708/2.0

Part Serial Number:

Quantity: 1

1. These materials and/or parts were produced in conformance with all contractually applicable Government and/or Customer specifications referred in, or furnished with, the above Purchase Order.
2. The materials and/or parts furnished under the above Purchase Order were produced:
 - From materials furnished by Customer for the production of such parts.
 - From materials for which the seller has available for examination chemical and/or physical test reports or other evidence of conformance to applicable specifications.
3. All processes required in the production of these part and/or materials are listed below and were performed by a facility or personnel approved or certified by the Seller and the customer when such approval or certification is required by contract.

Certifications are on file at this plant.

Other Requirements:

Signature: 

Title: Q.C. MANAGER

Date: 11/1/06



Activity	Visual Mfg Ref.	Op Status	Close Date	Emp ID
Manufacturing Planning- QA planning- Production Support	65708/2.0 -Sub:0 Op#:10	Closed	10/25/2006	840-G.Masood
PREPARE DOCUMENTATION TO PRESENT TO GOVERNMENT SOURCE INSPECTOR.	65708/2.0 -Sub:0 Op#:20	Closed	10/25/2006	840-G.Masood
REVIEW RESULTS FROM THE FOLLOWING INSEPCIONS:-- PENETRANT INSPECTION (PT)--RADIOGRAPHIC INSPECTION (RT)-- FINAL DIMENSIONAL INSPECTION--MAG PERMEABILITY-- ELECTRICAL RESISTANCE--	65708/2.0 -Sub:0 Op#:30	Closed	10/25/2006	840-G.Masood
ENUSURE PART SURFACES ARE CLEAN AND FREE OF GRIT AND DEBRIS. THE PART IS NOT TO BE OILED.--THE ENTIRE PART IS TO BE WRAPPED IN PLASTIC.--PLACE FOAM ON THE 4X6 BEAMS THAT THE FLANGE WILL BE SITTING ON. LOWER THE PART ONTO THE SKID. SECURE THE CASTING BY LAGGING THROUGH THE FLANGE HOLES INTO THE 4X6 BEAM. PROTECT THE HOLES FROM ANY POSSIBLE DAMAGE FROM THE BOLTS.----SEAL THE PART IN THE PLASTIC.----INSTALL BOX WALLS AND LID USING SCREWS FOR EASY DISASSEMBLY.----MARK THE FOLLOWING ON THE OUTSIDE OF THE CRATE:--MAJOR TOOL--(NAME OF SHIPPER)--P.O. S005242-F--MCWF TYPE B--GROSS WT. (XXXX) LBS.----	65708/2.0 -Sub:0 Op#:40	Closed	10/28/2006	390-J.Spencer
--Part Number: SE141-115 Rev: 7--Part Description: PRODUCTION WINDING FORM TYPE-B	65708/2.0 -Sub:1 Op#:10	Closed	5/1/2006	437-J.Hiatt
SETUP AND MACHINE THE FLANGE FACES AND FLANGE PERIPHERY TO WITHIN .100- STOCK. USE SCRIBING PROGRAM TO LAY OUT AREAS OF CASTING TO BE BURN OUT.	65708/2.0 -Sub:1 Op#:18	Closed	7/24/2006	313-R.Bachek
BURN OUT SECTIONS OF CASTING ALONG PROVIDED SCRIBE LINES.	65708/2.0 -Sub:1 Op#:19	Closed	7/25/2006	516-P.Manning



Activity	Visual Mfg Ref.	Op. Status	Close Date	Emp ID
SET CASTING ON RISERS WITH DATUM -E- FLANGE DOWN. TAB DATUM -E- FLANGE TO THE RISER ON EITHER SIDE OF THE BREAK TO PREVENT MOVEMENT AFTER MACHINING THE BREAK THROUGH. WELD CHANNEL BRACE ACROSS THE LARGE CUTOUT ADJACENT TO THE BREAK.--FINISH MACHINE THE POLOIDAL BREAK FLANGE FACES.--ROUGH MACHINE THE OUTSIDE BREAK PROFILE AND DRILL THE FOUR 1- HOLES THRU (2 HOLES ON EITHER SIDE OF BREAK).--FINISH MACHINE INSIDE BREAK TO 2.25- +/- .010. ENSURE THAT FINISHED BREAK SURFACES ARE PARALLEL TO SURFACES FINISHED IN PREVIOUS OPERATION.--INSTALL PLATE ACROSS BREAK ON THE DATUM -E- FLANGE.--INSTALL BREAK SHIM SO THAT OUTER PROFILE AND FLANGE FACES ARE BEST CONDITIONED FOR FINISH MACHINING. --REMOVE THE U-SHAPED BRACE AND TWO DATUM -E- TABS.--CLAMP ACROSS THE THE BREAK FLANGES TO HOLD THE SHIM IN PLACE FOR WELDING.--STITCH WELD SHIM ALONG THE INNER PROFILE OF THE CASTING (6 PLACES ABOVE THE T AND 4 PLACES BELOW).--FINISH MACHINE THE OUTER PROFILE OF SHIM AND BREAK FLANGES.--INSTALL DRILL FIXTURE AND DRILL THRU 7 PLACES 1.625 DIAMETER HOLES.--INSTALL 4 STUDS WITH NUTS AND WASHERS USING SUPPLIED BUSHINGS. THE	65708/2.0 -Sub:1 Op#:20	Closed	8/10/2006	182-J.Lewis
SET UP FIXTURE PLATE MTMFX-3099 AND MACHINE LOCATING PADS AS NECESSARY.--SET UP CASTING WITH DATUM -E- AGAINST THE FIXTURE.--- MACHINE THE REMAINING PORTION OF THE POLOIDAL BREAK TO 2.050-.--- FINISH MACHINE DATUM -D- WING SURFACES AND ALL AREAS BELOW THE T SECTION.--- MACHINE T SECTION TO WITHIN .030-.--- FINISH MACHINE DATUM -D- FLANGE.--	65708/2.0 -Sub:1 Op#:30	Closed	9/5/2006	713-M.Smith
SET UP FIXTURE PLATE MTMFX-3100 AND MACHINE LOCATING PADS AS NECESSARY.--SET UP CASTING WITH DATUM -D- AGAINST THE FIXTURE.--- FINISH MACHINE DATUM -E- WING SURFACES AND ALL AREAS BELOW THE T SECTION.--- MACHINE T SECTION TO WITHIN .030-.--- FINISH MACHINE DATUM -E- FLANGE.--	65708/2.0 -Sub:1 Op#:35	Closed	9/21/2006	744-P.Schumacher
U5 FINAL MACHINING OPERATIONS	65708/2.0 -Sub:1 Op#:50	Closed	10/4/2006	313-R.Bachek



Activity	Visual Mfg Ref	Op Status	Close Date	Emp ID
SETUP PART WITH DATUM E SIDE UP.--ALL GRINDING WHEELS AND DISKS MUST BE VIRGIN MATERIAL NOT PREVIOUSLY USED ON ANY OTHER MATERIAL TO AVOID MATERIAL CONTAMINATION.----- BLEND ACCESSIBLE AREAS OF THE T SECTION.--- DEBURR WING AREAS TO REMOVE ANY SHARPNESS FROM MACHINING (SCALLOPS DO NOT NEED TO BE REMOVED).--- CHECK ALL ACCESSIBLE T CLEARANCES USING MTMFX-3473 CHECKING FIXTURE--- VERIFY COUNTERBORE CLEARANCES USING MTMFX-3564.----- FLIP PART SO THAT DATUM D IS UP.--	65708/2.0 -Sub:1 Op#:88	Closed	10/18/2006	771-B.Schultz
CAREFULLY REMOVE SHIM FROM PART. PRINT ROUTER FOR SUBID 13- OPERATION 10 AND MOVE TO THE PROCESSED WORK CENTER.	65708/2.0 -Sub:1 Op#:89	Closed	10/14/2006	825-B.Jarrett
DEBURR--ALL GRINDING WHEELS AND DISKS MUST BE VIRGIN MATERIAL NOT PREVIOUSLY USED ON ANY OTHER MATERIAL TO AVOID MATERIAL CONTAMINATION.----- TAP 3/8-16 HOLES USING TAP GUIDE. --- FINISH BLENDING T SECTION.--- HAND GRIND .06- -.09- CHAMFER ON ALL SPLIT LINE EDGES OF POLOIDAL BREAK AND ON ALL THRU HOLES AT POLOIDAL BREAK.--- DEBURR WING AREAS TO REMOVE ANY SHARPNESS FROM MACHINING (SCALLOPS DO NOT NEED TO BE REMOVED).----- USING 1/4- NUMBERS- STAMP NUMBERS ON FACE OF T PER DRAWING. USE DRAWING SE141-116- 2MTM REV 6A FOR STAMPING NUMBERS. STAMPING DRAWING IS FOR A -C- CASTING. HOLE NUMBER ONE IS THE HOLE AT THE CENTER OF THE LEAD BLOCKS SLOTS. STAMP EVERY 5TH HOLE (1- 5- 10-...THRU 95) STARTING AT LEAD BLOCK SLOT AND MOVING TOWARD POLOIDAL BREAK. DO NOT COUNT THE HOLE IN THE POLOIDAL BREAK SHIM (IF THE SHIM IS STILL INSTALLED AT THE TIME OF STAMPING).--- STAMP THE FOLLOWING USING 1/4- STAMPS IN THE LOCATION SHOWN ON SHEET 1- ZONE C3 OF DRAWING (IN BOX WITH DASHED LINES):--MAJOR TOOL--SE141-115 B2--(PART WEIGHT) LBS.--	65708/2.0 -Sub:1 Op#:90	Closed	10/17/2006	771-B.Schultz



Activity	Visual Mfg Ref.	Op. Status	Close Date	Emp ID
INSTALL BREAK SHIM AND TEMPORARY ALUMINUM SHIM PLATES. USE TAPERED PINS TO ALIGN HOLES AND INSTALL THE FOUR SLAVE BOLTS. USE ANTI-SIEZE ON THE BOLTS TO PREVENT GAULDING. TORQUE THE ASSEMBLY TO PREVENT MOVEMENT. THIS IS ONLY TEMPORARY AND ALIGNMENT IS NOT CRITICAL.	65708/2.0 -Sub:1 Op#:92	Closed	10/18/2006	771-B.Schultz
PROTECT PART FROM METAL CONTAMINATION DUE TO CONTACT WITH IRON- SPECIFICALLY WHEN RIGGING PART FOR MOVEMENT.-- MOVE PART INTO WASH BOOTH. --THOROUGHLY CLEAN AND DRY ALL SURFACES AND HOLES PER SECTION 9 OF PS583. --PARTS TO BE WASHED USING HEATED- DE-MINERALIZED WATER- AND IF NECESSARY- A MILD NON-CHLORINATED CLEANING SOLUTION (E.G. SIMPLE GREEN®- OR AUTHORIZED EQUIVALENT)- USING MTM'S HIGH PRESSURE WASHER. THE SPRAY PRESSURE AT THE NOZZLE WILL BE APPROXIMATELY 1-000 TO 1-500 PSI AND THE CLEANING SOLUTION TEMPERATURE WILL BE APPROXIMATELY 150°F.--HAVE INSPECTION VERIFY THE CLEANLINESS OF THE CASTING PRIOR TO REMOVING FROM THE WASH BOOTH.--	65708/2.0 -Sub:1 Op#:95	Closed	10/18/2006	771-B.Schultz
PT 100% OF FINISHED MACHINED SURFACES ONLY. SEE PS582 FOR PROCESSING INSTRUCTIONS. ----MTM CERTIFICATION TO INCLUDE THE INFORMATION PER SUPPLEMENTARY REQUIREMENTS S1 OF ASTM A903/A903M----MTM NDT Cert: LPI CERTIFICATION-- Specification: ASTM A903/A903M--Method: E165--Acceptance: ASTM A903/A903M LEVEL 1--Part Number: SE141-115 Rev: 9--Part Description: WINDING FORM TYPE-B	65708/2.0 -Sub:1 Op#:100	Closed	10/18/2006	674-S.Williams



Activity	Visual Mfg Ref.	Op. Status	Close Date	Emp ID
SET PART ON RISERS WITH DATUM -D- FLANGE DOWN. PLACE A RISER ON EITHER SIDE OF THE POLOIDAL BREAK TO ENABLE CLAMPING TO ENSURE THAT THE DATUMS ARE COPLANER. LAY A STRAIGHT EDGE ACROSS THE DATUM -D- FLANGE TO VERIFY ALIGNMENT. ENSURE RADIAL ALIGNMENT BY LAYING A STRAIGHT EDGE ACROSS THE QUALIFIERS CUT ON THE OD OF EACH FLANGE. USE CLAMPS AS NECESSARY TO FORCE THE CASTING INTO POSITION.--ONCE THE ALIGNMENT IS SET- INSTALL THE POLOIDAL BREAK SHIM ASSEMBLY AND ACCOMPANYING HARDWARE AND INSULATION PER THE ASSEMBLY DRAWING.--VERIFY CLEARANCE OF Ø.001- - Ø.002 BETWEEN BUSHING AND BOLT PER DRAWING NOTE 13. RECORD RESULTS IN IDC.--TORQUE THE ASSEMBLY TO 1500 FT-LBS.--VERIFY GAP AT POLOIDAL BREAK PER IDC.--Part Number: SE141-115 Rev: 9--Part Description: PRODUCTION WINDING FORM TYPE B	65708/2.0 -Sub:1 Op#:130	Closed	10/25/2006	771-B.Schultz
-CMM INSPECT DATUM E SIDE OF CASTING. ---PERFORM ALL HARD GAGING OF THE DATUM E SIDE. ---CONDUCT PERMEABILITY CHECK OF DATUM E SIDE PER OPERATION 136.---CONSULT ENGINEERING ON ANY OUT OF TOLERANCE CONDITIONS PRIOR TO FLIPPING THE PART AND STARTING INSPECT	65708/2.0 -Sub:1 Op#:132	Closed		533-B.Clevenger



Activity	Visual Mfg Ref	Op Status	Close Date	Emp ID
<p>THE -T- AREAS DEFINED AS -HIGH STRESS- ARE TO BE RT 100%. SEE PS581 FOR PROCESS INSTRUCTIONS. ---USE THE HOLE NUMBERS TO NUMBER THE FILM LOCATIONS AS SHOWN ON THE ATTACHED RT MAP.---ALL FILM IS TO BE DOUBLED UP IN ORDER TO SUPPLY THE CUSTOMER WITH A COMPLETE SET OF FILM.--- SPECIFICATIONS: ASTM A703/A703M SUPPLEMENTARY REQUIREMENT S5---PROCEDURE/METHOD: ASTM E94 AND ASTM E142 (USE OF A WIRE PENETRATOR MAY BE NECESSARY INSTEAD OF THE HOLE TYPE TO ENSURE OBJECTIVE 2% OF THICKNESS RESOLUTION/SENSITIVITY)---ACCEPTANCE CRITERIA: NO DEFECT LARGER THAN .080- MAJOR DIMENSION IS ALLOWED.--- SCAN RT CERTIFICATION- AND HAND SKETCHED MAP AND LINK IN QAP TO THIS OPERATION.---Map(s): RT MAP AND READER SHEET Rev: --Part Number: SE141-115 Rev: 9--Part Description: WINDING FORM TYPE-B--Material Type: 316 SST--Material Thickness: VARIES</p>	65708/2.0 -Sub:1 Op#:134	Closed	10/21/2006	010-R.Contractor
<p>PERFORM A MAG PERMEABILITY CHECK OF THE MACHINED SURFACES USING A SEVERN PERMEABILITY INDICATOR GAGE. PERMEABILITY SHOULD BE NO GREATER THAN 1.02μ.---CHECK THE PERMEABILITY IN 3 PLACES ON EACH SIDE OF THE T SECTION AT LOCATIONS ADJACENT TO EVERY 5TH HOLE STARTING WITH HOLE 5 AND ENDING WITH HOLE 95. INSPECT ONE POINT ON THE T SECTION- ANOTHER BELOW THE VPI GROOVE AND THE LAST POINT ON THE FLANGE. REPEAT THIS PROCESS ON BOTH SIDES OF THE PART. THERE WILL BE A TOTAL OF 57 POINTS INSPECTED PER SIDE. ---COMPLETE THE IDC INDICATING THE PERMEABILITY RANGE.--Part Number: SE141-115 Rev: 9--Part Description: PRODUCTION WINDING FORM TYPE-B</p>	65708/2.0 -Sub:1 Op#:136	Closed	10/20/2006	495-D.Coffman



Activity	Visual Mfg Ref.	Op. Status	Close Date	Emp ID
THE RESISTANCE OF THE MID-PLANE ELECTRICAL INSULATION SHALL BE GREATER THAN 500 KOHMS WHEN TESTED AT 100 VDC.--- -TEST 1:--THE INSULATION RESISTANCE BETWEEN THE MID-PLANE POLOIDAL BREAK SHIM AND WINDING FORM SHALL BE MEASURED. DURING THIS TEST- THE BOLTS SHOULD BE IN THEIR NORMAL STATE (I.E.- ELECTRICALLY -FLOATING-). THE MID-PLANE SHIM SHALL BE CONNECTED TO ONE SIDE OF THE MEGGER- AND THE CASTING SHALL BE CONNECTED TO THE OTHER. RECORD RESULTS IN IDC.----TEST 2:--ALL OF THE BOLTS SHALL BE ELECTRICALLY CONNECTED (JUMPERED) TOGETHER IN ONE GROUP. THE MID-PLANE CASTING (SHIM) AND THE WINDING FORM SHALL BE ELECTRICALLY CONNECTED TOGETHER IN A SECOND GROUP. THE INSULATION RESISTANCE BETWEEN THE JUMPERED BOLTS (GROUP 1) AND THE JUMPERED WINDING FORM AND MID-PLANE (GROUP 2) SHALL BE MEASURED FOR COMPLIANCE. RECORD RESULTS IN IDC.----Part Number: SE141-102--Part Description: MCWF ASSEMBLY TYPE-B	65708/2.0 -Sub:1 Op#:140	Closed	10/23/2006	503-B.Houk
PERFORM FINAL COSMETICS AS REQUIRED.--THOROUGHLY CLEAN CASTING WITH ISOPROPYL ALCOHOL. VERIFY THAT ALL HOLES ARE CLEAN AND FREE OF CHIPS. HAND WORK 1/8" RADIUS PER NC20676.	65708/2.0 -Sub:1 Op#:150	Closed	10/27/2006	219-T.Laird
MACHINE STELLALLOY INSERT TO THE FOLLOWING DIMENSIONS:-- 6- LONG X 1.25- WIDE X 1.4- THICK.--ALL TOLERANCES +/- .03-	65708/2.0 -Sub:14 Op#:20	Closed	9/8/2006	164-L.Freeland
MACHINE STEALLOY INSERTS FROM PROVIDED DROPS.	65708/2.0 -Sub:15 Op#:10	Closed	9/16/2006	236-M.Jennings
THREAD MILL THE EIGHT DISCREPANT HOLES FOR A 2.5-6 UN INSERT.--THREAD MILL THE 5 BLIND HOLES TO A DEPTH OF 1.6.-- INSTALL THE PROVIDED INSERTS INTO THE HOLES. BOTTOM THE INSERTS IN THE BLIND HOLES.--GRIND WELD PREPS AROUND THE INSERT A MINIMUM OF .100- DEEP AND TACK WELD IN 4 PLACES.-- TACK WELD THE INSERTS ON THE THRU HOLES ON THE BACK SIDE AS WELL AS ON THE FLANGE FACE.----THE INSERTS WILL BE MACHINED FLUSH WHEN THE FLANGE FACE IS FINISHED.	65708/2.0 -Sub:15 Op#:20	Closed	9/26/2006	713-M.Smith



Activity	Visual Mfg Ref.	Op Status	Close Date	Emp ID
PT INSPECT WELDED AREA.--REFERENCE NC 20449 ON PT CERT.---- MTM NDT Cert: LPI CERTIFICATION--Specification: ASTM A903/A903M-- Method: E165--Acceptance: ASTM A903/A903M LEVEL 1--Part Number: SE141-115 Rev: 9--Part Description: WINDING FORM TYPE-B	65708/2.0 -Sub:15 Op#:30	Closed	10/5/2006	674-S.Williams
VERIFY THAT MAG PERMEABILITY OF WELDED AREAS IS LESS THAN 1.02μ USING THE SEVERN PERMEABILITY GAGE.--COMPLETE IDC.	65708/2.0 -Sub:15 Op#:40	Closed	10/4/2006	854-R.Upchurch
MACHINE THICKNESS OF SHIM TO 2.125 +/- .001.--REMOVE AN EVEN AMOUNT OF STOCK FROM EACH FACE OF THE SHIM. THERE IS APPROXIMATELY 1/16- PER SIDE OF STOCK ON THE PART.	65708/2.0 -Sub:13 Op#:10	Closed	10/16/2006	506-R.Liston
HAND GRIND .06- - .09- CHAMFER ON PERIMETER OF SHIM AND BOTH ENDS OF HOLES.--HAVE TOOL ROOM VERIFY THE SIZE OF THE HOLES IN ORDER TO SIZE THE BUSHINGS.	65708/2.0 -Sub:13 Op#:20	Closed	10/18/2006	407-R.Thomas
RECEIVE CUSTOMER SUPPLIED CASTING	65708/2.0 -Sub:2 Op#:10	Closed	5/1/2006	437-J.Hiatt
MACHINE THE SHIM COMPLETE PER THE DRAWING AND CNC PROGRAMS.	65708/2.0 -Sub:2 Op#:20	Closed	5/18/2006	506-R.Liston
PRE FIT EACH BUSHING TO MAKE SURE THEY SLIP INTO THE POLOIDAL BREAK FLANGE HOLES.--APPLY LOCTITE 411 TO THE OD OF EACH BUSHING AND INSTALL FLUSH TO ONE SIDE OF THE BREAK SHIM. GRIND THE OPPOSITE SIDE OF THE BUSHINGS FLUSH TO THE SHIM.	65708/2.0 -Sub:2 Op#:30	Closed	10/18/2006	825-B.Jarrett
SAW 16- LENGTH BAR AND MOVE TO THE NEXT WORK CENTER.	65708/2.0 -Sub:3 Op#:10	Closed	6/4/2005	227-D.Bockover
MACHINE OD OF BUSHING .001- - .002- SMALLER THAN SIZE OF THE HOLES IN POLOIDAL BREAK SHIM. IF HOLE SIZES VARY- MARK THE SHIM AND BUSHINGS 1 THRU 7.--MACHINE THE ID OF THE BUSHING TO 1.380 +/- .001--MACHINE THE LENGTH TO 2.19-. BUSHINGS WILL BE GROUND FLUSH DURING INSTALLATION.	65708/2.0 -Sub:3 Op#:20	Closed	10/14/2006	821-J.Leggins
RECEIVE MATERIAL--NOTIFY CFT AND FORWARD MATERIAL STORES.	65708/2.0 -Sub:4 Op#:10	Closed	6/1/2005	131-W.Allen
SAW OFF 30- AND MOVE TO THE NEXT WORK CENTER.	65708/2.0 -Sub:5 Op#:10	Closed	6/4/2005	227-D.Bockover



Activity	Visual Mfg Ref.	Op Status	Close Date	Emp ID
MACHINE PER THE DRAWING FOR A .001- - .002- SLIP FIT WITH THE MATING DETAIL. --MEASURE THE HOLE SIZES IN THE TWO CASTING FLANGES AND SIZE THE BUSHINGS ACCORDINGLY. IF THE HOLE SIZES VARY- MARK EACH BUSHING 1 THRU 14 AND MAP OUT THE CORRESPONDING HOLE LOCATIONS ON THE PART.--MACHINE THE LENGTH OF EACH BUSHING TO 1.38- MINIMUM.	65708/2.0 -Sub:5 Op#:20	Closed	10/14/2006	821-J.Leggins
SAW OFF 13- AND MOVE TO THE NEXT WORK CENTER.	65708/2.0 -Sub:6 Op#:10	Closed	6/1/2005	227-D.Bockover
RECEIVE MATERIAL	65708/2.0 -Sub:7 Op#:10	Closed	4/5/2005	131-W.Allen
MACHINE THE G-11 SHIM PIECES:--THERE ARE TWO PROGRAMS- ONE FOR EACH SIDE OF THE BREAK SHIM.--EACH PROGRAM WILL GENERATE 3 SHIM PIECES FOR A TOTAL OF 6 PIECES FOR THIS OPERATION.	65708/2.0 -Sub:7 Op#:20	Closed	7/27/2006	296-D.Stallsworth
SAW PER MATERIAL CARD	65708/2.0 -Sub:8 Op#:10	Closed	2/6/2006	266-R.Keith
SAW PER MATERIAL CARD	65708/2.0 -Sub:9 Op#:10	Closed	1/24/2006	266-R.Keith
MACHINE COMPLETE PER PRINT AND COMPLETE IDCS.----Part Number: SE141-140--Part Description: BEARING PLATE LONG TYPE -B-	65708/2.0 -Sub:9 Op#:20	Closed	2/15/2006	565-S.Woods
PERFORM A MAGNETIC PERMEABILITY CHECK USING A SEVERN PERMEABILITY INDICATOR GAGE. PERMEABILITY SHOULD BE NO GREATER THAN 1.03μ.----Part Number: SE141-140--Part Description: BEARING PLATE LONG TYPE -B-	65708/2.0 -Sub:9 Op#:30	Closed	3/1/2006	667-J.Bannister
RECEIVE HARDWARE- SCAN CERTIFICATIONS AND COMPLETE IDC.-- MOVE TO STORES--	65708/2.0 -Sub:10 Op#:10	Closed	5/21/2006	854-R.Upchurch
PLACE THE FOLLOWING IN STORES:--7 PCS - DS141-036 STUD--14 PCS - DS141-060 NUT	65708/2.0 -Sub:10 Op#:20	Closed	5/23/2006	471-C.Lowell
NO CERTIFICATIONS REQUIRED.--VERIFY QUANTITY AND FORWARD PARTS TO NEXT WORK CENTER.	65708/2.0 -Sub:11 Op#:10	Closed	6/1/2006	437-J.Hiatt
MACHINE COMPLETE PER PRINT	65708/2.0 -Sub:11 Op#:20	Closed	7/5/2006	506-R.Liston
PERFORM A MAGNETIC PERMEABILITY CHECK USING A SEVERN PERMEABILITY INDICATOR GAGE. PERMEABILITY SHOULD BE NO GREATER THAN 1.02μ.--Part Number: SE141-139--Part Description: BEARING PLATE TYPE -B- SHORT	65708/2.0 -Sub:11 Op#:30	Closed	7/9/2006	854-R.Upchurch
NO CERTIFICATIONS REQUIRED.--VERIFY QUANTITY AND FORWARD PARTS TO NEXT WORK CENTER.	65708/2.0 -Sub:12 Op#:10	Closed	6/1/2006	437-J.Hiatt



Major
Tool & Machine, Inc.

COMPLETED SHOP TRAVELERS

SE141-115
MCWF B2

Activity	Visual Mfg Ref.	Op. Status	Close Date	Emp ID
MACHINE COMPLETE PER PRINT	65708/2.0 -Sub:12 Op#:20	Closed	7/13/2006	506-R.Liston
PERFORM A MAGNETIC PERMEABILITY CHECK USING A SEVERN PERMEABILITY INDICATOR GAGE. PERMEABILITY SHOULD BE NO GREATER THAN 1.02μ.--Part Number: SE141-140--Part Description: BEARING PLATE TYPE -B- LONG	65708/2.0 -Sub:12 Op#:30	Closed	7/16/2006	854-R.Upchurch

Major Tool & Machine, Inc.
1458 East 19th Street
Indianapolis, IN 46218-4289

MTM N/C: 20449

Page: 1
Date: 09/13/06
User ID: GRIFFITH

Customer: ENERGY INDUSTRIES OF OHIO

Contact: NANCY HORTON
E-Mail: NKHFHowen@aol.com

Telephone: 216-496-2314
Fax: 216-328-2001

Part: SE141-115 / MODULAR COIL, TYPE B

Drawing ID: SE141-115 Revision: 8

Customer P.O.: S005242-F/Ln:2
Serial No./Qty: B2

Reported By: MIKE GRIFFITH
E-Mail: mGriffith@MajorTool.com

Telephone: 317-636-6433
Fax: 317-634-9420

Problem: Sheet 5, zone D4.
8 of the 1.375 threaded holes on datum -E- are out of position by a 1/2 inch (holes 19 thru 26).

Proposed Disposition:

MTM RECOMMENDS REPAIRING HOLES PER ATTACHED REWORK PROPOSAL.

Number of additional pages: 2 Page Rework Proposal

Customer Disposition: Use As Is Rework Repair Scrap Replace

MTM's re-work proposal (attached) is accepted, with the understanding that the insert will be made of Stellanloy (to assure that magnetic permeability and strength requirements will be met). The strength of this repair is not an issue since the insert is threaded into the flange with 2.5-6 UNC threads and then tack welded in place.

Accepted by:

Phil
Heitzenroeder

Digitally signed by Phil
Heitzenroeder
DN: cn=Phil Heitzenroeder, c=US,
o=PPPL, ou=Mech. Eng. Division
Date: 2006.09.14 10:43:58 -04'00'

Tech. Rep.

RLM

Major Tool Implemented By:

Mike
Griffith

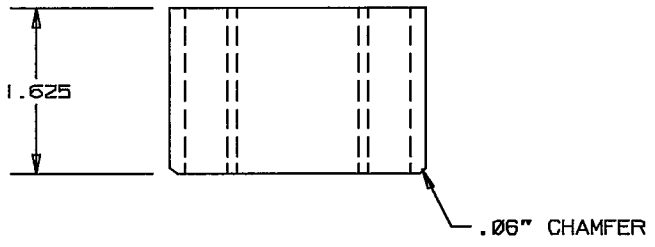
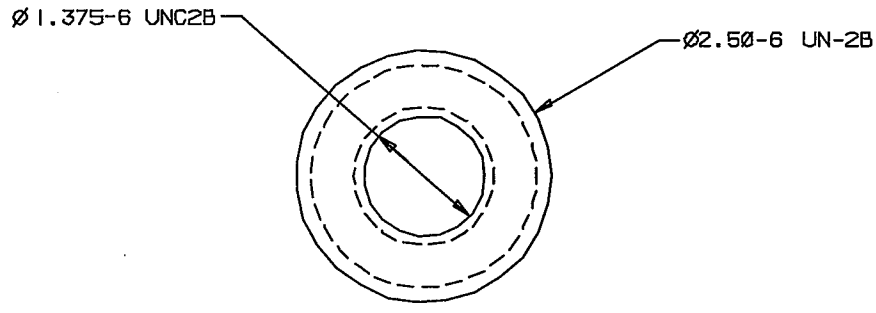
Digitally signed by Mike Griffith
DN: cn=Mike Griffith, c=US, o=Major Tool and
Machine, ou=DFT - White,
email=mgriffith@majortool.com
Reason: I agree to the terms defined by the
placement of my signature on this document
Date: 2006.09.21 14:27:53 -04'00'

Title: _____

Date: _____

5 | 4 | 3 | 2 | 1

MTM REVISIONS				
SYMBOL	ZONE	DESCRIPTION	DATE	BY
-		INITIAL RELEASE	0/13/08	MJB



QTY	PART NUMBER/MATERIAL	DESCRIPTION	ITEM
			8
			7
			6
			5
			4
			3
			2
			1

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES

.X 08	.XX 020	.XXX 010
FRACTIONS		ANGLES

MATERIAL
STELLALLOY

MCWF FLANGE INSERT

SIZE A NUMBER SE141-INSERT-MTM

SCALE: ANVIL: SHEET 1 OF 1

DRWN BY: MIKE GRIFFITH
CHKD BY: NATHAN HIRSCHY

This drawing and all information thereon is the property of MAJOR Tool and Machine, Inc. and is confidential and shall not be used, copied, or reproduced in any manner without the express written consent of MAJOR Tool and Machine, Inc. Document subject to return as issued.

D
C
B
A

D
C
B
A

5 | 4 | 3 | 2 | 1

Customer: ENERGY INDUSTRIES OF OHIO

Contact: NANCY HORTON
E-Mail: NKHF1owen@aol.com

Telephone: 216-496-2314
Fax: 216-328-2001

Part: SE141-115 / MODULAR COIL, TYPE B

Drawing ID: SE141-115 Revision: 8
W/O Links: 1-Type:W: 65708/1.0 Sub: 1

Customer P.O.: S005242-F/Ln:1
Serial No./Qty: B1 & B2

Reported By: MIKE GRIFITH
E-Mail: mGriffith@MajorTool.com

Telephone: 317-636-6433
Fax: 317-634-9420

Problem: B1

- Location of Lead Block slots are shifted in two axes as much as .200".
- 3/8-16 UNC holes are off the same amount and in the same direction as the slots.
- Height of pad between the lead blocks is plus stock as much as .5".

B2

- Location of Lead Block slots are shifted in two axes as much as .200".
- 3/8-16 UNC holes will fit within the bounds of the pad and will not require the proposed rework approved under NC 20338.

Proposed Disposition:

Proposed Remedial Action:

B1

- Machine Lead Block slots per drawing requirements. Slots will be oversized but accepted as is.
- Machine pad face to within .100" of finish dimension. Weld 3/8-16 tapped holes solid.
- Face pad to finish and drill/tap holes on location per drawing.

B2

- Machine Lead Block slots per drawing requirements. Slots will be oversized but accepted as is.
- Drill and tap 3/8-16 holes.

Number of additional pages: None

Customer Disposition: Use As Is Rework Repair Scrap Replace

EIO's proposed disposition described above is accepted. This was discussed and agreed to in a teleconference on 9/15/06 at 10:30 AM (attendees: D. Williamson; J. Chrzanowski; L. Sutton; P. Heitzenroeder; M. Griffith; N. Horton; R. Sheppard).

Accepted by:

Phil
Heitzenroeder

Digitally signed by Phil
Heitzenroeder
DN: cn=Phil Heitzenroeder, c=US,
o=PPPL, ou=Mech. Eng. Division
Date: 2006.09.15 14:01:04 -04'00'

Brad
Nelson

Digitally signed by Brad Nelson
DN: cn=Brad Nelson, c=US,
o=ORNL, ou=FED,
email=nelsonbe@ornl.gov
Date: 2006.09.20 14:09:52
-04'00'

Tech. Rep.

RLM

Mike Griffith

Digitally signed by Mike Griffith
DN: cn=Mike Griffith, c=US, o=Major Tool
and Machine, ou=CFT - While,
email=mgriffith@majortool.com
Reason: I agree to the terms defined by the
placement of my signature on this document
Date: 2006.09.27 07:14:29 -04'00'

Major Tool Implemented By: _____

Title: _____

Date: _____

Customer: ENERGY INDUSTRIES OF OHIO

Contact: NANCY HORTON
E-Mail: NKHFHowen@aol.com

Telephone: 216-496-2314
Fax: 216-328-2001

Part: SE141-115 / MODULAR COIL, TYPE B

Drawing ID: SE141-115 Revision: 9
W/O Links: 1-Type:W: 65708/2.0 Sub: 1

Customer P.O.: S005242-F/Ln:2
Serial No./Qty: B2

Reported By: MIKE GRIFFITH
E-Mail: mGriffith@MajorTool.com

Telephone: 317-636-6433
Fax: 317-634-9420

Problem: PART IS REJECTED PER ASTM A903/A903M LEVEL 1. THERE WERE TEN REJECTABLE DEFECTS FOUND AT TIME OF INSPECTION. SEE ATTACHED.

Proposed Disposition:

PROPOSE TO ACCEPT INDICATIONS AS IS.

Number of additional pages: 4 page summary

Customer Disposition: Use As Is Rework Repair Scrap Replace

The indications were reviewed during a conference call held on 10/26/06 attended by T. Brown, D. Williamson, L. Sutton, L. Dudek, F. Malinowski, J. Chrzanowski, P. Heitzenroeder and found to be acceptable as is.

Accepted by:

Phil
Heitzenroeder
Digitally signed by Phil Heitzenroeder
DN: cn=Phil Heitzenroeder, c=US, o=PPPL, ou=Mech. Eng. Division, Date: 2006.10.26 17:56:58 -04'00'

Tech. Rep.

Brad
Nelson
Digitally signed by Brad Nelson
DN: cn=Brad Nelson, c=US, o=ORNL, ou=FED, email=nelsonbe@ornl.gov, Date: 2006.10.27 10:21:02 -04'00'

RLM.

Mike Griffith

Digitally signed by Mike Griffith
DN: cn=Mike Griffith, c=US, o=Major Tool and Machine, ou=CFT - White, email=mgriffith@majortool.com, Reason: I agree to the terms defined by the placement of my signature on this document, Date: 2006.11.01 11:07:40 -05'00'

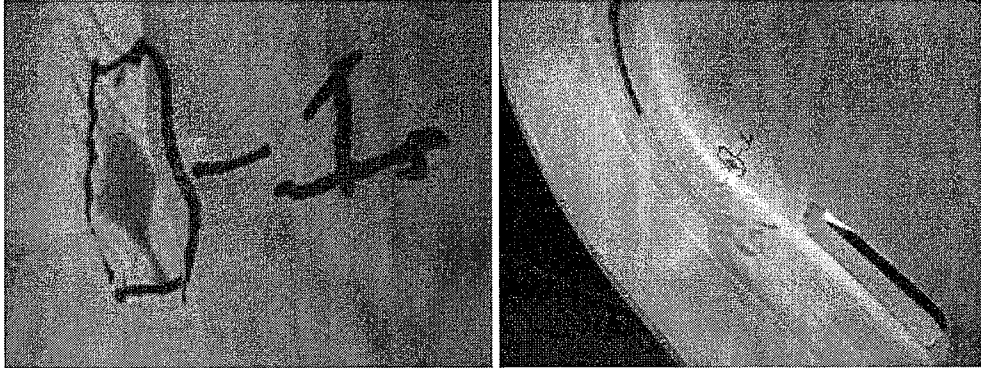
Major Tool Implemented By: _____

Title: _____

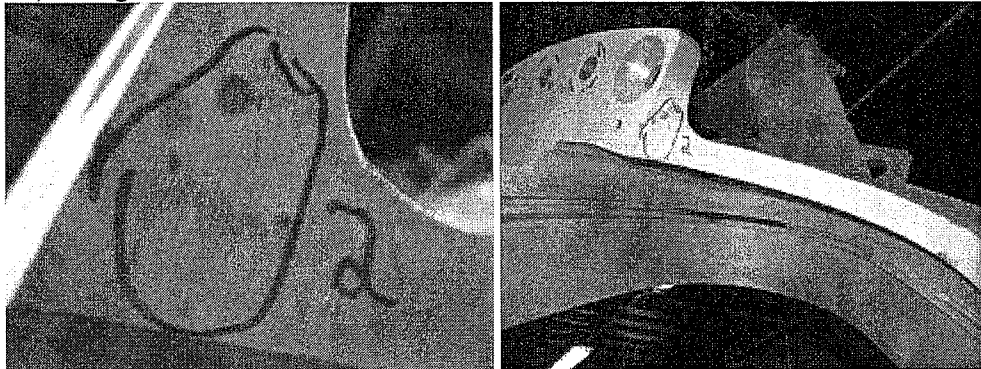
Date: _____

PT Inspection Results of B2 – NC20632

1. 1.5" linear located on E side of casting in the radius below the VPI groove near T hole 93.



2. Cluster of linear indications in large cutout adjacent to poloidal break (sheet 8, zone E7). Largest indication is a .400" linear.

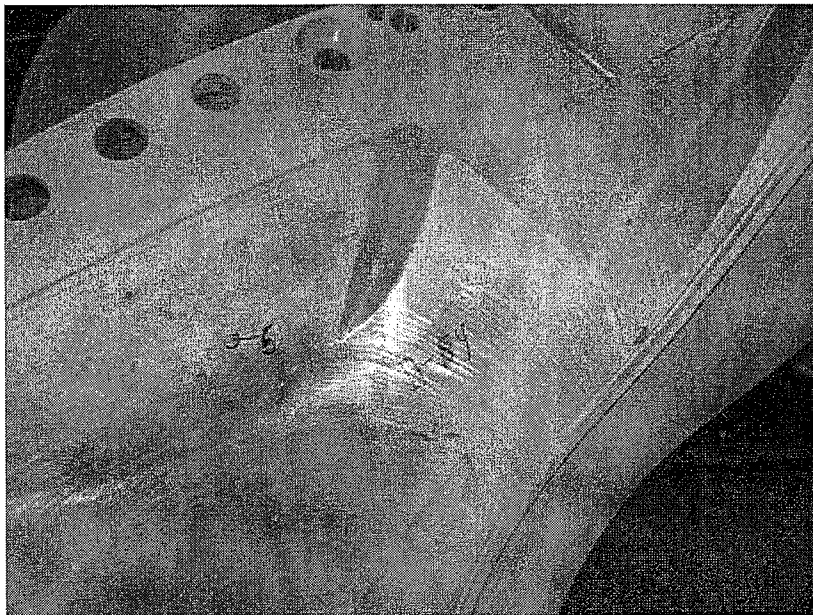
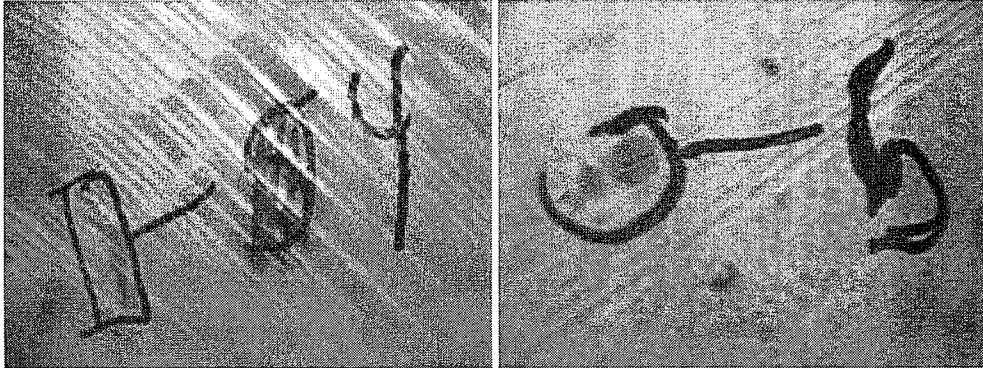


3. Cluster of indications on the inner poloidal break flange surface closest to the datum E flange. Largest indication is a .300" linear.

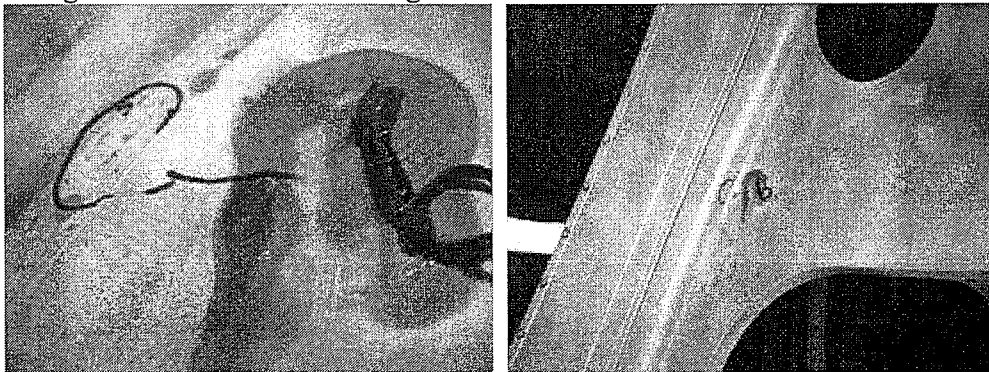


PT Inspection Results of B2 – NC20632

4. Linear indication 1.3" in length on E side inner wing surface.
5. Linear indication .200" in length on E side inner wing surface.

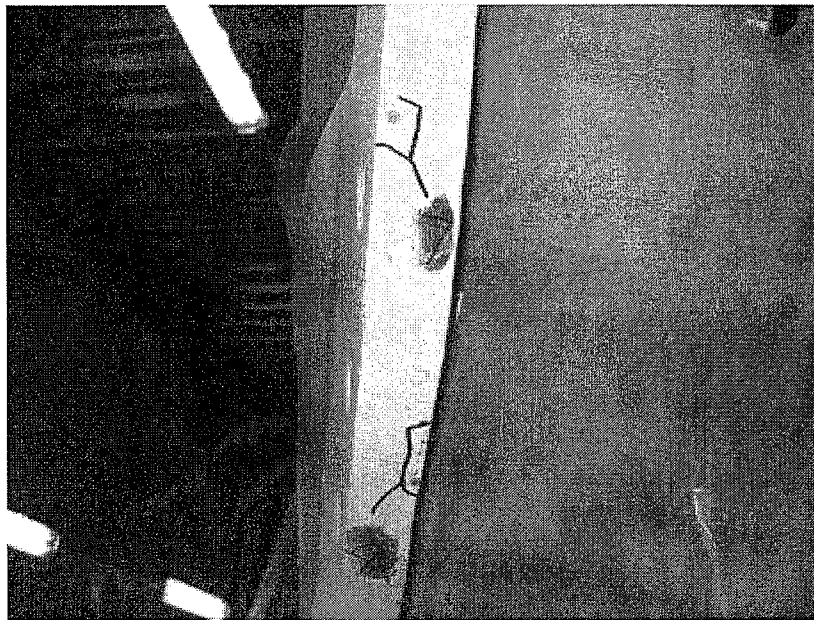
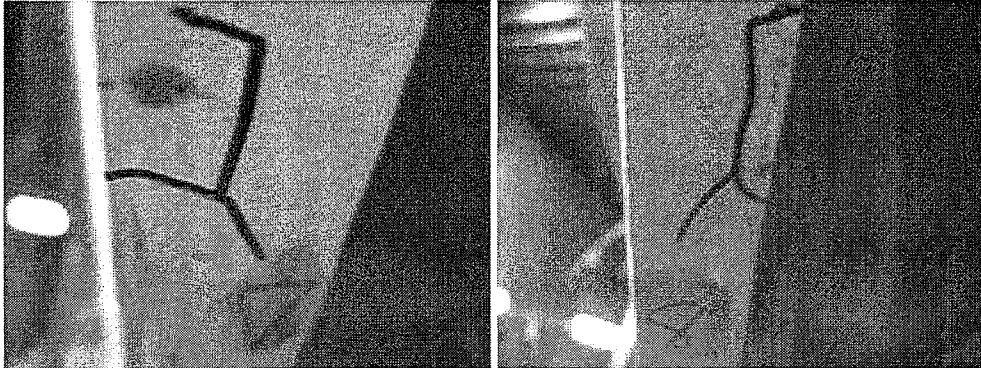


6. Cluster of linear indications located on E side of casting in the radius below the VPI groove near T hole 10. Longest is .200".

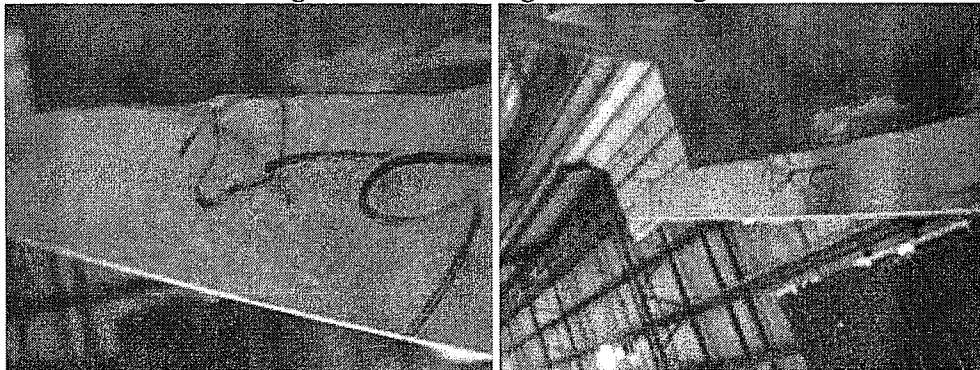


PT Inspection Results of B2 – NC20632

7. .500" linear on outer edge of datum E flange between E flange holes 8 and 9.
8. Linear indications on outer edge of E flange near E flange hole 7. Longest is .600".

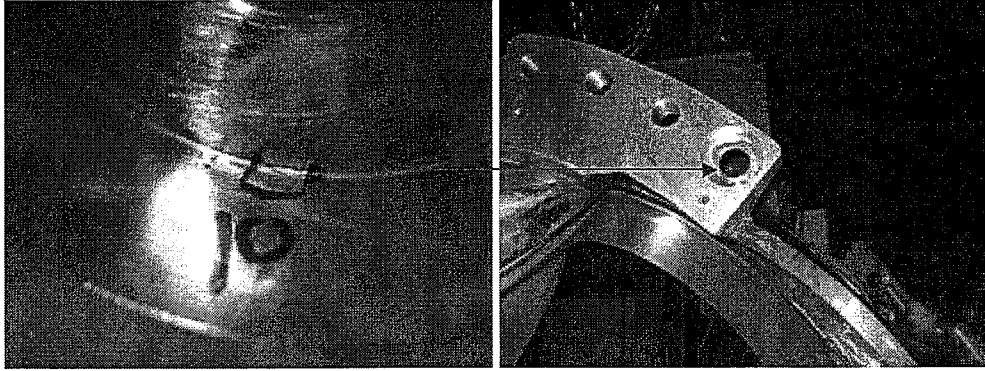


9. .500" linear on outer edge of datum E flange near E flange hole 5.



PT Inspection Results of B2 – NC20632

10. .200" linear in Ø3.0" hole located on E flange (sht. 5, zone C4).



Major Tool & Machine, Inc.
1458 East 19th Street
Indianapolis, IN 46218-4289

MTM N/C: 20670



Page: 1
Date: 10/25/06
User ID: GRIFFITH

Customer: ENERGY INDUSTRIES OF OHIO

Contact: NANCY HORTON
E-Mail: NKHFlowen@aol.com

Telephone: 216-496-2314
Fax: 216-328-2001

Part: SE141-115 / MODULAR COIL, TYPE B

Drawing ID: SE141-102 Revision: 3
W/O Links: 1-Type:W: 65708/2.0 Sub: 0

Customer P.O.: S005242-F/Ln:2
Serial No./Qty: B2

Reported By: MIKE GRIFFITH
E-Mail: mGriffith@MajorTool.com

Telephone: 317-636-6433
Fax: 317-634-9420

Problem: 10 SEPARATE ITEMS WERE IDENTIFIED DURING THE FINAL VISUAL REVIEW OF THE PART. SEE ATTACHMENT FOR DETAILS.

Proposed Disposition:

PROPOSE TO ACCEPT DEVIATIONS AS IS.

Number of additional pages: 5 PAGE ATTACHMENT

Customer Disposition: Use As Is Rework Repair Scrap Replace

The various defects listed on the attached document were reviewed during a conference call held on 10/25/06 by P. Heitzenroeder, T. Brown, F. Malinowski, J. Chrzanowski, L. Dudek, D. Williamson, and L. Sutton and were found to be acceptable as is.

Accepted by:

Phil
Heitzenroeder

Digitally signed by Phil
Heitzenroeder
DN: cn=Phil Heitzenroeder, c=US,
o=PPPL, ou=Mech. Eng. Division
Date: 2006.10.26 18:05:39 -04'00'

Brad
Nelson

Digitally signed by Brad Nelson
DN: cn=Brad Nelson, c=US,
o=ORNL, ou=FED,
email=nelsonbe@ornl.gov
Date: 2006.10.27 10:22:01 -04'00'

Tech. Rep.

RLM

Mike Griffith

Digitally signed by Mike Griffith
DN: cn=Mike Griffith, c=US, o=Major Tool and
Machine, ou=CFT - White,
email=mgriffith@majortool.com
Reason: I agree to the terms defined by the
placement of my signature on this document
Date: 2006.11.01 10:23:07 -05'00'

Major Tool Implemented By: _____

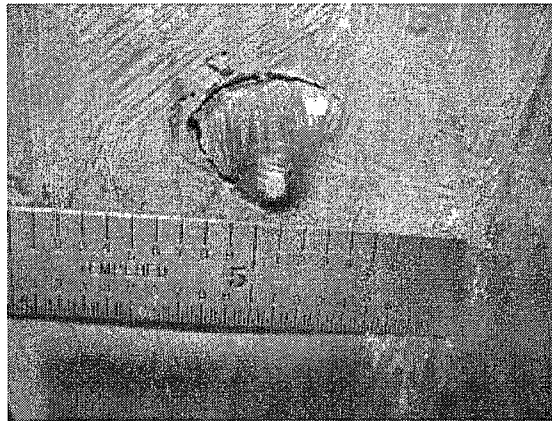
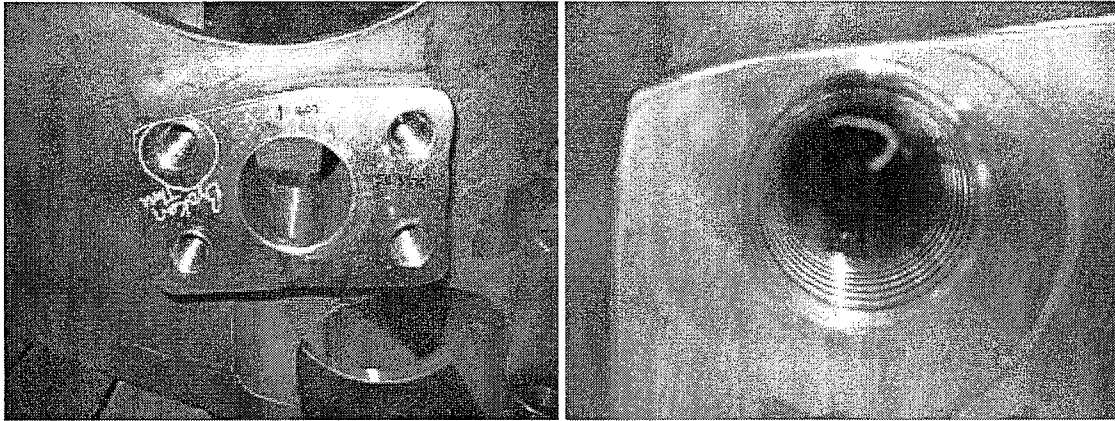
Title: _____

Date: _____

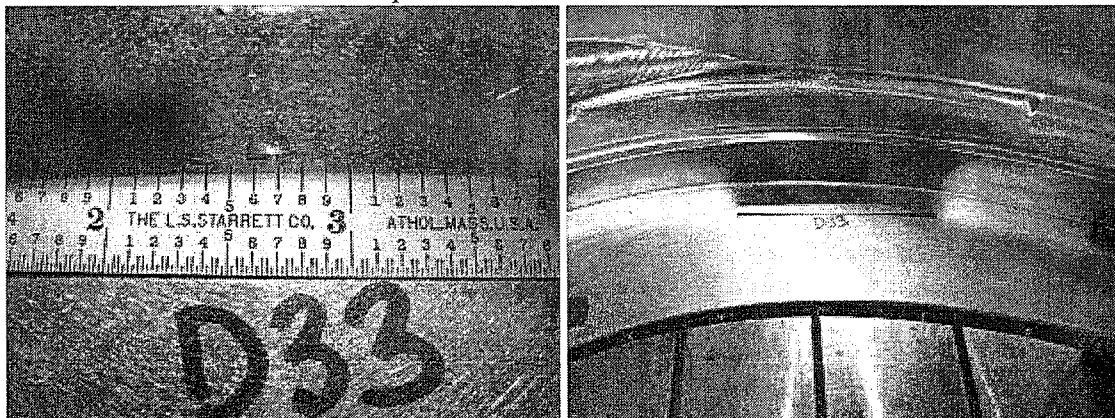
n:\vntmapps\l\mtonc14.qrp

SE141-115 B2
NC20670 attachment

1. Tapped hole broke thru inner casting wall. This pad is located on sheet 3, zone C6 of the drawing.

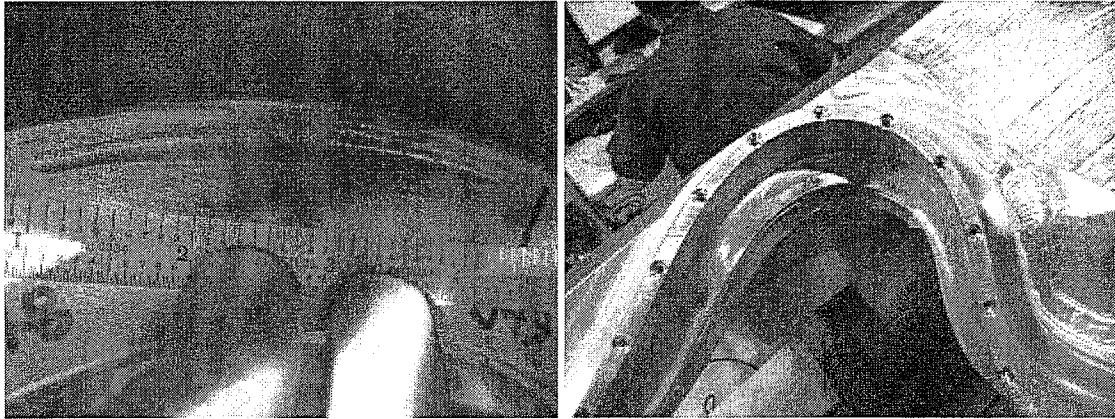


2. Small tooling gouge on long leg of T on D side near hole 33. Gouge is approx. .120" x .08" and less than .010" deep.

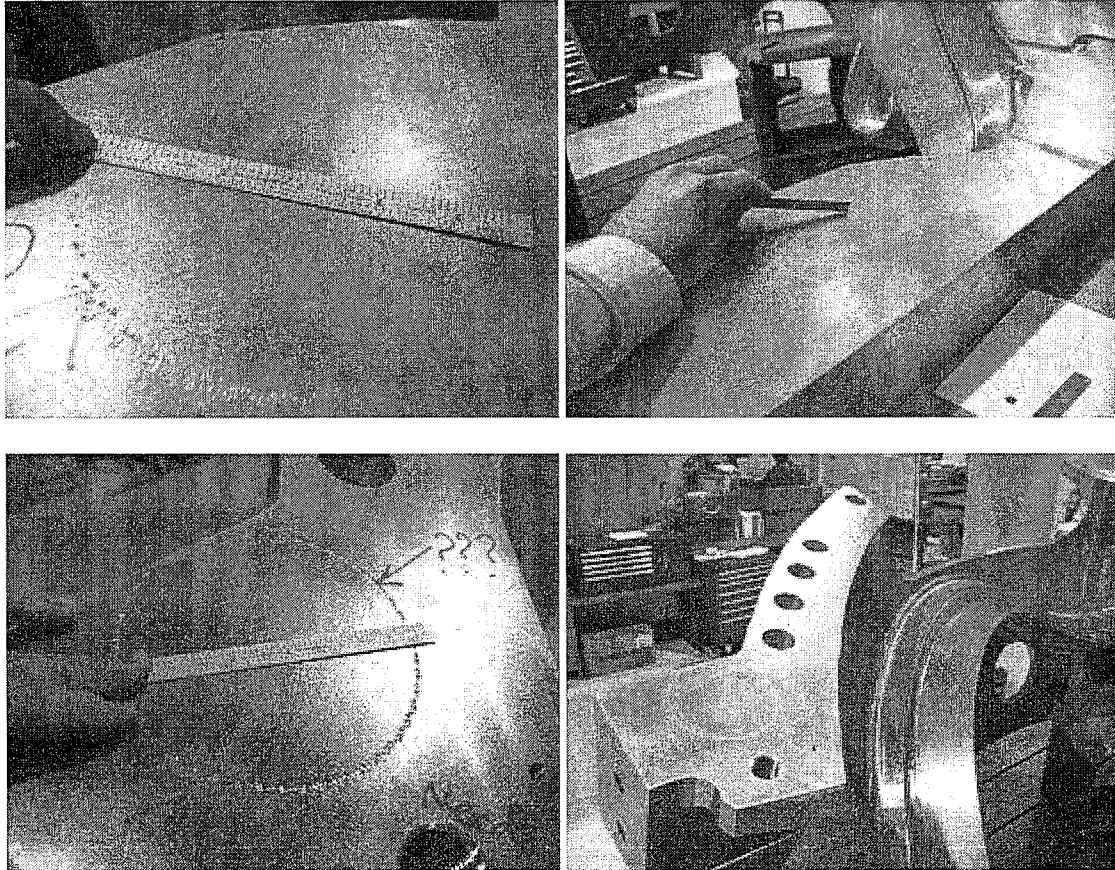


SE141-115 B2
NC20670 attachment

3. Tool gouge located on short leg of T on the D side between T holes 48 and 49. The gouge is approx. 3.5" in length and is .03" - .04" deep.



4. There are two areas on the D flange face that have chatter marks from the facing tool.

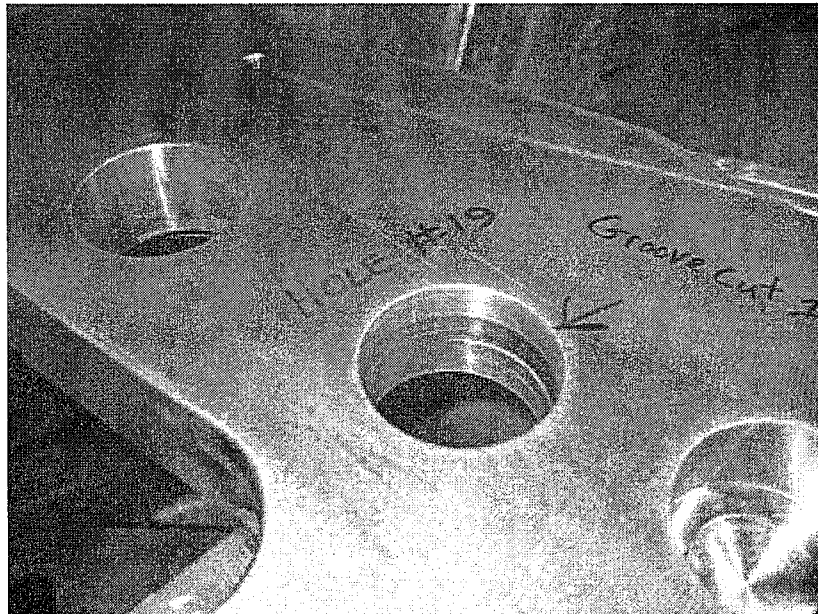


SE141-115 B2
NC20670 attachment

5. Gouges around the chamfer of the 1.885 thru hole located on D flange hole 1.

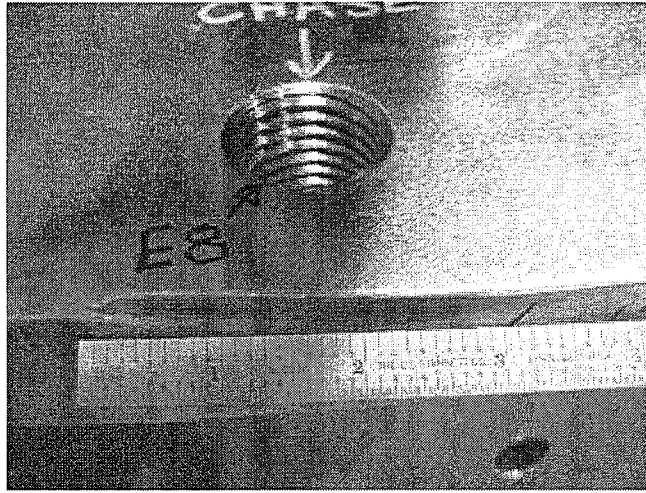


6. Groove in the 1.885 thru hole located at D flange hole 18. The groove is approx. .018" deep x .400" wide and is visible on 50% on the diameter.

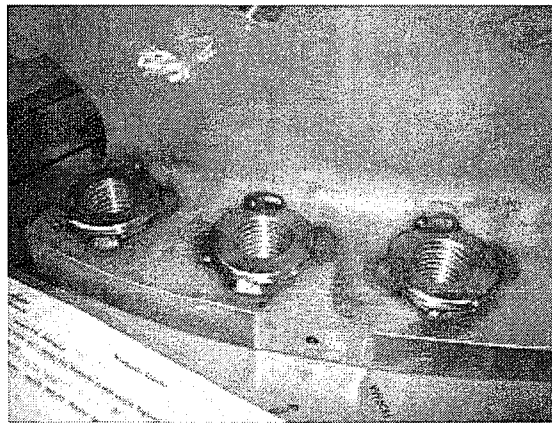
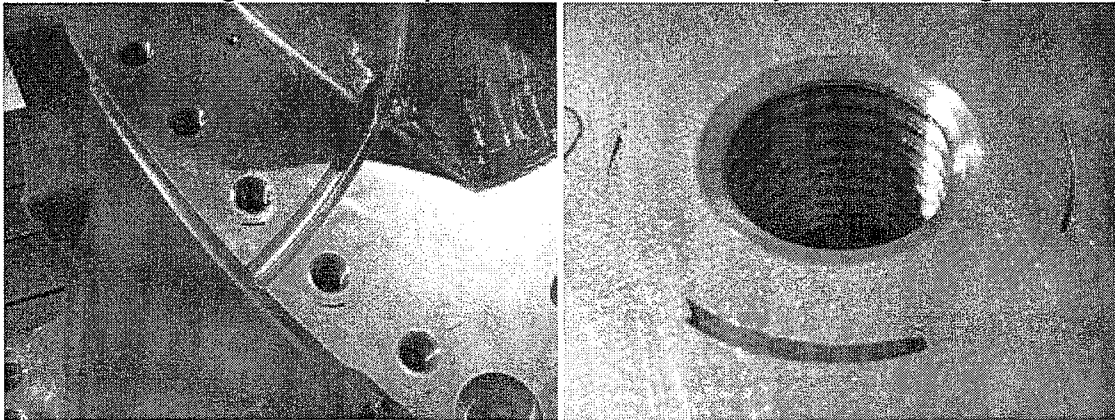


SE141-115 B2
NC20670 attachment

7. Gouge on outer edge of E flange perimeter near hole #8.. Defective area has been blended smooth and all raised metal removed.



8. The pictures below are of the flange holes repaired under NC20449. There is no nonconforming condition to report but I felt this was worthy of documenting.



Mike Griffith

Page 4 of 5

10/25/2006



Major
Tool & Machine, Inc.

SE141-115 B2
NC20670 attachment

9. Small tooling gouges located on long and short legs near hole 95 on the E datum side of part. Largest defect is on long leg (.200" x .100" .010" deep).



10. Tool gouge located on short leg of T near hole 77 on E datum side.



Customer: ENERGY INDUSTRIES OF OHIO

Contact: NANCY HORTON
E-Mail: NKHFlowen@aol.com

Telephone: 216-496-2314
Fax: 216-328-2001

Part: SE141-115 / MODULAR COIL, TYPE B

Drawing ID: SE141-115 Revision: 9
W/O Links: 1-Type:W: 65708/2.0 Sub: 1

Customer P.O.: S005242-F/Ln:2
Serial No./Qty: B2

Reported By: MIKE GRIFFITH
E-Mail: mGriffith@MajorTool.com

Telephone: 317-636-6433
Fax: 317-634-9420

Problem: Workorder: 65708/2.0 Sub:1 Op:132

Inspection Test #: 60 rejected: : {h|.02|A}: .027
Inspection Test #: 90 rejected: OUTER AS CAST SURFACES: {g|.5|A|C|B}: -.0129 TO .306
Inspection Test #: 130 rejected: 2X R.11: : .110 TO .120 E SIDE HOLE#BREAK TO 7 18-25 38-43 48-57
59-64 73-84 ARE .250R
Inspection Test #: 150 rejected: MACHINED SURFACES
M TO M1: {g|.02|R|S|T}: -.0178 TO .0251
Inspection Test #: 160 rejected: DATUM D SIDE
VERIFY SHELL INTERSECT CLEARANCE
USING GAGE MTMFX-3473: : ACCEPT IN ALL AREAS EXCEPT BETWEEN HOLE #83-84 AND 88-94
Inspection Test #: 170 rejected: P TO M: {g|.2|R|S|T}: -.0316 TO .1214
Inspection Test #: 190 rejected: MACHINED SURFACES
N TO N1: {g|.02|R|S|T}: -.0282 TO .0265
Inspection Test #: 200 rejected: DATUM E SIDE
VERIFY SHELL INTERSECT CLEARANCE
USING GAGE MTMFX-3473: : ACCEPT IN ALL AREAS EXCEPT BETWEEN HOLE #30-46 49-56 & 82-84
Inspection Test #: 210 rejected: Q TO N: {g|.2|R|S|T}: .022 TO .1179
Inspection Test #: 240 rejected: : 84X .375-16 UNC y .75
: ALL THREADS ARE GOOD EXCEPT 1 HOLE IS REJECTED HOLE #91 IS TAPPED AT A ANGLE
Inspection Test #: 250 rejected: : 84X b.625 y .188: .156 TO .190 44 HOLES ARE UNDERSIZED ON
DEPTH
Inspection Test #: 260 rejected: : {#|.06|R|S|T}: .003 TO .144
Inspection Test #: 340 rejected: DATUM E: {f|.01}: .045
Inspection Test #: 360 rejected: DATUM D: {f|.01}: .032
Inspection Test #: 510 rejected: : 14X
d1.885 ~ .003 THRU: 1.884 TO 1.886 HOLE #6 1.884 - 1.889 HOLE #10 1.884 - 1.893
Inspection Test #: 540 rejected: : 10X
d1.885 ~ .003 THRU: 1.884 TO 1.886 HOLE #19 HAS A GROOVE .400 TALL BY .018 DEEP
Inspection Test #: 560 rejected: 10 X Ø1.885: {#|.06|M|A|D}: .0316 TO .063
Inspection Test #: 580 rejected: : 3x bd2.000 - 2.001
y .990 - 1.000: 3X - 2.0002 BY 1.003
Inspection Test #: 590 rejected: 3X Ø1.130: {#|d.06|M|A|D}: .054 TO .066
Inspection Test #: 610 rejected: Ø1.375-6UNC: {#|.06|M|A|D}: .022 TO .072
Inspection Test #: 630 rejected: : d.03 x 45` CHAMFER: .500
Inspection Test #: 650 rejected: : d.03 x 45` CHAMFER: .505
Inspection Test #: 680 rejected: 3X Ø1.50: : 1.476 TO 1.491
Inspection Test #: 840 rejected: 2X .88/1.13: : 1.090 AND 1.170
Inspection Test #: 880 rejected: 2X 1.56: : 1.78 TO 1.81
Inspection Test #: 900 rejected: : 6X
.375-16UNC-2B TAP y .75
.03 X 45` CHAMFER: ALL GOOD EXCEPT ONE HOLE THE NOGO GOES 4 TURNS
Inspection Test #: 1010 rejected: AS CAST SURFACES: {g|.5|A|B|C}: -.309 TO .435

Proposed Disposition:

STEP 130 REJECTION FOR OVERSIZE RADIUS TO BE REWORKED PER DIRECTION FROM PPPL:

- Non-conforming radii are to be ground to a corner radius of 0.06-0.11"
- Steps or undercuts not to exceed 0.03" are acceptable.
- Use care to not gouge adjacent areas, since these surfaces are used in measurements.

MTM PROPOSES THAT ALL OTHER REJECTIONS BE ACCEPTED AS IS.

Number of additional pages: 13 PAGE IDC ATTACHMENT

Customer Disposition: Use As Is Rework Repair Scrap Replace

All except Step 130 were accepted as is (which is dispositioned above) after a review held during a conference call on 10/26/06 attended by L. Dudek, L. Sutton, D. Williamson, F. Malinowski, J. Chrzanowski, T. Brown, and P. Heitzenroeder

Following text added 10/31/2006

Each dimensional deviation was discussed and can be accommodated during assembly. However, MTM was requested to review the machining setup processes since it was noted that these accommodations do take some effort on NCSX's part and the perception is that there has been some gradual loosening of achieved tolerances. MTM has such a review in progress already- we request that this be reported back during a Quality conference call.

Accepted by:

Phil
Heitzenroeder

Digitally signed by Phil
Heitzenroeder
DN: cn=Phil Heitzenroeder, c=US,
o=PPPL, ou=Mech. Eng. Division
Date: 2006.10.31 10:17:05 -05'00'

Brad
Nelson

Digitally signed by Brad Nelson
DN: cn=Brad Nelson, c=US,
o=ORNL, ou=FED,
email=nelsonbe@ornl.gov
Date: 2006.10.31 13:11:58
-05'00'

Tech. Rep.

RLM

Major Tool Implemented By: _____

Mike
Griffith

Digitally signed by Mike Griffith
DN: cn=Mike Griffith, c=US, o=Major Tool
and Machine, ou=CFT - White,
email=mgriffith@mtajtool.com
Reason: I agree to the terms defined by the
placement of my signature on this document
Date: 2006.11.01 10:20:14 -05'00'

Title: _____

Date: _____


n:\mtmapps\Mtnonc14.qrp


SOUTH TEXAS BOLT & FITTING, INC. 4845 HOMESTEAD RD, #500 HOUSTON, TEXAS 77028 PH # 713-673-5376 FAX# 713-673-5379	* MATERIAL TEST REPORT * Date: 05-18-2006
--	---

SOLD TO: Major Tool & Machine, Inc. 1458 East 19th Street Indianapolis, IN 46218	Customer P/O # P06-01393 STBF Order # 81140A
---	---

ITEM	QTY	DESCRIPTION	LOT / HEAT				
1	76	1 3/8-6 x 9 1/2 660B Broached Tapend Stud Silver Plated Per AMS 2410	xf / E3930				
Chemical Properties							
C	Mn	P	S	Si	Ni	Cr	Mo
.046	.26	.015	.001	.28	25.60	14.10	1.21
Cu	Co	V	Al	Ti	B		
.13	.08	.22	.24	2.18	.0054		
Mechanical Properties							
Tensile	Yield	Elong	RA	Hardness	Temperature	Macro	
163310	11090	23.10	49.90	290hb	1325°F	Pass	
Remarks: ASTM A453-03							

Certificate of Conformance
 This is to certify that the material purchased on this order was made in accordance with, and to conform to, the specifications and descriptions required by the American Society for Testing Materials (ASTM) and the American Society of Mechanical Engineers (ASME).

SOUTH TEXAS BOLT & FITTING

 Lance Byrns
 Quality Coordinator

MAY 22 2006 

RECEIVED

MAY 18 2006

107675 JH

Lines 5-14

SOUTH TEXAS BOLT & FITTING, INC.
 4845 HOMESTEAD RD, #500
 HOUSTON, TEXAS 77028
 PH # 713-673-5376
 FAX# 713-673-5379


*** MATERIAL TEST REPORT ***
Date: 06-06-2006

SOLD TO: Major Tool & Machine, INc.
 1458 East 19th Street
 Indianapolis, IN 46218

Customer P/O # P06-01394
STBF Order # 81140-1B

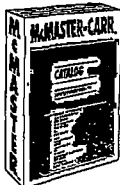
ITEM	QTY	DESCRIPTION	LOT / HEAT
1	184	1 3/8"-6 660B 12 Point Hex Nut Silver Plated Per AMS 2410	XFQ / 5407813
Chemical Properties			
C	Mn	P	S
.034	1.50	.007	.0016
Si	Ni	Cr	Mo
.54	25.00	14.70	1.22
Cu	Co	V	Al
.06	.05	.26	.27
Ti	B	Pb	
2.25	.0074	.0001	
Mechanical Properties			
Tensile	Yield	Elong	RA
160000	109000	27.60	43.10
Hardness	Temperature	Macro	
319hr	720^C	Pass	
Remarks: ASTM A453			

Certificate of Conformance
 This is to certify that the material purchased on this order was made in accordance with, and to conform to, the specifications and descriptions required by the American Society for Testing Materials (ASTM) and the American Society of Mechanical Engineers (ASME).

SOUTH TEXAS BOLT & FITTING

 Lance Byrns
 Quality Coordinator


JUN 06 2006

RECEIVED
 JUN 6 2006
 108032 JH
 Lines 5-14



McMASTER-CARR
NEW BRUNSWICK, NEW JERSEY

Certificate of Compliance

This certifies that, according to our records, all items on your purchase order were supplied in accordance with their descriptions and as illustrated in our catalog.

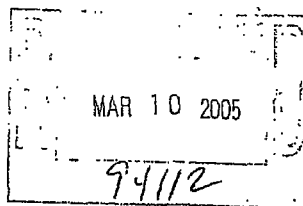
Purchase Order: PO5-01332

Date: 3/7/05

McM Reference: 62416630-1

Sincerely,

Keith Jones
Quality Manager



1-4
B2



3/10/05

McMaster-Carr Supply Company

Phone: (732) 329-3200 FAX: (732) 329-3772 Internet: www.mcmaster.com

Mail: P.O. Box 440, New Brunswick, NJ 08903-0440 Street Address: 473 Ridge Rd., Dayton, NJ 08810-0317

mc108545 (1628x2145x2 tiff)

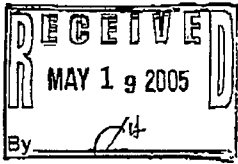
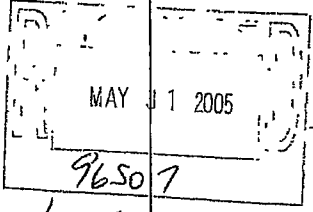
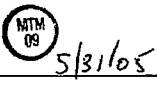


55 Nadeau Drive
Rochester, NH 03867
Ph: (603) 332-0555 Fax: (603) 332-5357
www.spauldingcom.com

Shipping List 072435
Customer No 101193
Sales Order Shipper

Sold to : STANDARD GRINDING & MFG CO
3721 W. CHASE AVENUE
SKOKIE, IL 60076
United States

Ship to : STANDARD GRINDING & MFG CO
3721 W. CHASE AVENUE
SKOKIE, IL 60076
United States

Ship Date	Customer PO	Sales Order	# of Boxes	Weight	Ship VIA	Bill of Lading	FOB
05/17/2005	60624	065171-00	1	0	YELLOW	072435	DE
Item	Part / Description / Details				Order Quantity	Ship Qty	
000001	39GTCNT73125NMWLF U/M SHT SO Item 4				1.00000		
	G-11-CR 48" x untrimmed X 36" x untrimmed Thickness: 3.125" +/- .110" PLEASE NOTE THAT THERE IS NO NEMA STANDARD FOR G-11 CR SHEET SPAULDING C OF C TO G-11 CR SHEET NO TESTING REQUIRED AT TIME OF ORDER <p style="text-align: center;"><i>Sheet Feeds 3.550 TR</i></p>					1.00000	
				 96507 Lines 1, 2 B-1 			

CERTIFICATE of CONFORMANCE

WE HEREBY CERTIFY THAT THE MATERIAL SUPPLIED ON THIS ORDER WAS MADE IN ACCORDANCE WITH THE STANDARDS AND PROCESSES ESTABLISHED BY SPAULDING COMPOSITES COMPANY FOR THE REQUIREMENTS OF MATERIAL DESCRIBED ABOVE.

LOT # _____ DOML
Authorized By: Mark L. Caudillo Date: 05/17/2005

Customer Copy

Page # 1

Form: SCSHIP Rev: 8/99

0002/003

ATLAS FIBRE CO.

847 674 1723

05/26/05 13:00



Spaulding
COMPOSITES

55 Nadeau Drive
Rochester, NH 03867
Ph: (603) 332-0955 Fax: (603) 332-5357
www.spauldingcom.com

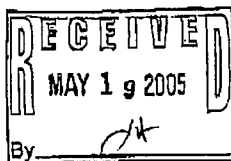
Shipping List 072434

Customer No 101193
Sales Order Shipper

Sold to : STANDARD GRINDING & MFG CO
3721 W. CHASE AVENUE
SKOKIE, IL 60076
United States

Ship to : STANDARD GRINDING & MFG CO
3721 W. CHASE AVENUE
SKOKIE, IL 60076
United States

Ship Date	Customer PO	Sales Order	# of Boxes	Weight	Ship VIA	Bill of Lading	FOB
05/17/2005	60624	065169-00	1	716	YELLOW	072434	DE
Item	Part / Description / Details				Order Quantity	Ship Qty	
000001	39G1CNT71850NMWLF U/M SHT SO Item 5				1.00000		
	G-11 CR 48" *UNTRIMMED X 36" *UNTRIMMED THK: 1.850" +/- .070"						
	PLEASE NOTE THAT THERE IS NO NEMA STANDARD FOR G-11 CR SHEET						
	SPAULDING C OF C TO G-11 CR SHEET NO TESTING REQUIRED AT TIME OF ORDER						
						1.00000	



5/31/05
MTM 09

CERTIFICATE of CONFORMANCE

WE HEREBY CERTIFY THAT THE MATERIAL SUPPLIED ON THIS ORDER WAS MADE IN ACCORDANCE WITH THE STANDARDS AND PROCESSES ESTABLISHED BY SPAULDING COMPOSITES COMPANY FOR THE REQUIREMENTS OF MATERIAL DESCRIBED ABOVE.

LOT #

DOM.

Authorized By: Mark L. Caudillo Date: 05/17/2005

Customer Copy

Page # 1

Form: SCSHIP Rev: 8/99

0003/003

ATLAS FIBRE CO.

847 874 1723

05/26/05 13:00

Quality Assurance Documentation for Part ID: SE141-102 - Item: 12

Workorder: 65708/2-0 Sub:1 Op:140

Part: SE141-102 - MODULAR COIL, TYPE B -

Drawing ID: SE141-102 Rev: 3			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		<u>TEST 1</u> RESISTANCE TO BE >500 kohms CHECK RESISTANCE BETWEEN THE MID-PLANE POLOIDAL BREAK SHIM AND THE WINDING FORM.	MULTIMETER	QA		J-1358	2.2 G KOHMS	503-B.H			A
(10)								10-23-06			
*		<u>TEST 2</u> RESISTANCE TO BE >500 kohms CHECK RESISTANCE BETWEEN THE JUMPERED BOLTS AND JUMPERED MID-PLANE CASTING AND WINDING FORM.	MULTIMETER	QA		J-1358	2.2G KOHMS	503-B.H			A
(20)								10-23-06			

METRODE PRODUCTS LIMITED
HANWORTH LANE, CHERTSEY

SURREY, UK, KT16 9LL

Tel: +44 (0) 1832 566721

Fax: +44 (0) 1832 565188

Email: info@metrode.com

Website: www.metrode.com

CERTIFIED MATERIAL TEST REPORT

THIS PRODUCT HAS BEEN MANUFACTURED
AND SUPPLIED THROUGH A SYSTEM
APPROVED TO ISO 9001 & 2 OR EQUIVALENT



TEST CERTIFICATE NUMBER

183695

INVOICE TO
EUROWELD LTD
255 ROLLING HILLS ROAD
MOORESVILLE
NC 28117
USA

DESPATCHED TO
EUROWELD LTD
255 ROLLING HILLS ROAD
MOORESVILLE
NC 28117
USA

CUSTOMER ORDER NUMBER	N.05-34
DELIVERY NOTE DOCUMENT NUMBER	DN0105859
QUANTITY (KG)	15.0000
OUR ORDER REFERENCE	SO1787730 / 1
DATE	02/03/05

METRODE WELDING CONSUMABLE	ER316MNNF TIG 2.4mm
FORM	TIG WIRE
BATCH NUMBER	W020132
SPECIFICATION	BS EN 12072:2000 W 20 16 3 Mn L

Chemical Analysis (Weight %)										Type: BS EN 10204: 3.1.B / ASME SFA-5.01: Sch. H	
C	Mn	Si	S	P	Cr	Ni	Mo	N	Cu		
0.015	7.43	0.42	0.006	0.014	19.9	15.4	2.62	0.14	0.20		

--	--	--	--	--	--	--	--	--	--	--	--

Mechanical Tests						Type: BS EN 10204: 2.2 / ASME SFA-5.01: Sch. G		
Tensile Tests				Impact Energies				
Condition	Test Temperature	Rp0.2x (MPa)	Rm (MPa)	A4 (%)	Z (%)	Temperature (°C)	Impact Energy (J)	Lateral Expansion (mm)
AS-WELDED	ROOM	>400	>600	40	-	-196	70	-

Metrode Products Limited certifies that the above material conforms to the indicated specifications

This document is produced electronically and is valid without signature.

IMPORTANT: Any liability arising from either reliance on this certificate, or use of our products, is strictly limited and governed by our conditions of business.

Barrie Kyjet - Q.A. Manager

ASME SFA-5.01; Lot classification S4

3/3/05
93911
Linc B.A

Notes:
% Ni includes incidental Co unless otherwise specified.
% Ni (Co) includes incidental Fe unless otherwise specified.
Ferrite is given as FN (Ferrite number) and measured on air-weld gas using instrument calibrated against NBS-listed secondary standards (See AWS A4-2-07) unless otherwise specified.

MTH
GS
3/7/05

METRODE PRODUCTS LTD
 HANWORTH LANE
 CHERTSEY SURREY
 ENGLAND KT16 9LL
 Tel +44 (0)1932 566721
 Fax. +44 (0)1932 565168
 Email info@metrode.com
 Internet http://www.metrode.com



TEST CERTIFICATE

THIS PRODUCT HAS BEEN MANUFACTURED
 AND SUPPLIED THROUGH A SYSTEM APPROVED
 TO ISO 9001 & 2 OR EQUIVALENT



TEST CERTIFICATE NUMBER 194277

INVOICE TO
EUROWELD LTD 255 ROLLING HILLS ROAD MOORESVILLE NC 28117 USA

DESPATCHED TO
EUROWELD LTD 255 ROLLING HILLS ROAD MOORESVILLE NC 28117 USA

BATCH No.	W020132
OUR ORDER REF.	S01788013 / 1
DATE	07/03/05
PRODUCT	ER916MNNF TIG 2.4MM
FORM	TIG WIRE
SPECIFICATION	BS EN 12072:2000 W 20 16 3 Mn L

IMPORTANT: Any liability arising from either reliance on this certificate, or use of our products, is strictly limited and governed by our conditions of business.

CUSTOMER ORDER No.
N. 05-39

DELIVERY NOTE DOCUMENT No.
DN0106163

QUANTITY (Kg)
17.5000

CHEMICAL ANALYSIS (WEIGHT %)				CERTIFIED MATERIAL TEST REPORT: BS EN 10204: 3.1. B								
C	Mn	Si	S	P	Cr	Ni	Mo	N	Cu			
0.015	7.43	0.42	0.006	0.014	19.9	15.4	2.62	0.14	0.20			

TYPICAL ALL-WELD METAL MECH. PROPERTIES, AS WELDED:-
 TS: >600 N/mm²; 0.2%PS: >400 N/mm²; EL. ON 4D: 40 %;
 CVN @ -196 DEG.C: 70 J.

3/23/05
 44534
 Live!
 B-2

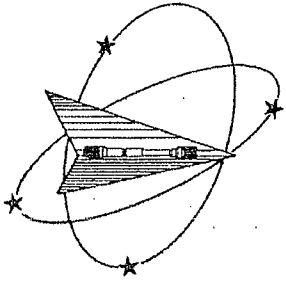
Metrode Products Ltd. certifies that the above material conforms to the indicated specifications

B. KYIET
 Q A MANAGER

NOTES *Ni includes incidental Co unless otherwise specified
 *Nb (Co) includes incidental Ta unless otherwise specified
 Ferrite is given as FN (Ferrite Number) and measured on all-weld pad using instrument calibrated against NBS related secondary standards (See AWS A4 2-97) unless otherwise specified

All Test certificates issued by METRODE will contain this embossed seal
 Any recipient of a copy of METRODE Test Certificate without the seal should ensure from the supplier that it is a true and accurate reproduction of the original

mc106579 (1852x2103x2.tif)



Westmoreland Mechanical Testing & Research, Inc.

P.O. Box 388

Westmoreland Drive

Youngstown, Pa. 15696-0388 U.S.A.

Telephone: 724-537-3131 Fax: 724-537-3151

Website: www.wmtr.com

WMT&R is a technical leader in the material testing industry.



621-01 & 621-02

Page IM1 of 1

WMT&R Report No. 5-25008

P.O. No. P05-01764

PQR No. 434

Welder Jason Bever #465

April 22, 2005

CERTIFICATION

Major Tool & Machine Inc.
1458 East 19th Street
Indianapolis, IN 46218

Corrected Date
May 4, 2005

Attention: Josh Mayne

Subject: All processes, performed upon the material as received, were conducted at WMT&R, Inc. in accordance with the WMT&R Quality Assurance Manual, Rev. 9, dated 4/1/2000.
The following tests were performed on this order: IMPACT and TENSILE

IMPACT RESULTS: ASME Section IX and AWS B2.1, ASTM E23-02

No Requirements


MATERIAL: Metaltek CF8MNMN MOD

SAMPLE TYPE: Charpy V-Notch

DISPOSITION: Report

Specimen ID	TestLog Number	Sample Size	Temp. °F/°C	Energy ft-lbs	Energy joules	Mils Lat Exp	AIUR
Weld-1	B65835	Standard	68/20	173	234.6	84	Report
Weld-2	B65836	Standard	68/20	160	216.9	68	Report
Weld-3	B65837	Standard	68/20	157	212.9	81	Report

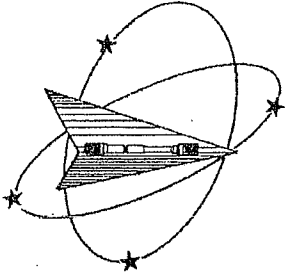
AIUR: A=ACCEPTABLE, U=UNACCEPTABLE, R=REPORT


Richard G. Parks
Project Manager/Industrial Technology Engineer

5/4/05
May 4, 2005

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Testing Specialists for Aerospace, Automotive, and Material Testing Fields
Locations in Youngstown, PA U.S.A. ~ Tel. (724) 537-3131 and
Banbury U.K. ~ Tel. +44 (0) 1295 261211



Westmoreland Mechanical Testing & Research, Inc.

P.O. Box 388

Westmoreland Drive

Youngstown, Pa. 15696-0388 U.S.A.

Telephone: 724-537-3131 Fax: 724-537-3151

Website: www.wmtr.com

WMT&R is a technical leader in the material testing industry.



621-01 & 621-02



April 20, 2005

CERTIFICATION

Major Tool & Machine Inc.
1458 East 19th Street
Indianapolis, IN 46218

Section 1 of 2

WMT&R Report No. 5-25008

P.O. No. P05-01764

PQR No. 434

Welder Jason Bever #465

Attention: Josh Mayne

Subject: All processes, performed upon the material as received, were conducted at WMT&R, Inc. in accordance with the WMT&R Quality Assurance Manual, Rev. 9, dated 4/1/2000.

The following tests were performed on this order: IMPACT and TENSILE

TENSILE RESULTS: ASME Section IX and AWS B2.1, ASTM E21-03a

SOAK TIME: 5 Minutes

SPEED OF TESTING: 0.0050 in./in./min., 0.0500 in./min./in.

MATERIAL: Metrode ER316Mnnf

DISPOSITION: Report

Specimen ID	TestLog Number	Temp. °F/°C	UTS KSI/MPA	0.2% YS KSI/MPA	Elong %	RA %	Modulus MSI/GPA	Ult. Load LBS/NEWTONS	0.2% YLD. LBS/NEWTONS
T1	B65833	-320/-196	191.8/1320	148.7/1030	27	39	28.7/198	2630/11699	2039/9071

A/U/R: A=ACCEPTABLE, U=UNACCEPTABLE, R=REPORT

DISPOSITION: Report

Specimen ID	TestLog Number	Orig. Width (in./mm)	Final Width (in./mm)	Orig. Thick (in./mm)	Final Thick (in./mm)	Orig. Dia. (in./mm)	4D Orig GL (in./mm)	4D Final GL (in./mm)	Orig. Area (Sq. In./Sq. mm)	Failure Location/Type	Machine Number	A/U/R
T1	B65833	0.1802/4.57708	0.1437/3.650	0.0761/1.933	0.0582/1.478	0.2511/6.378	0.70/17.78	0.89/22.61	0.04183816/26.992307	WELD/DUCTILE	M9	R

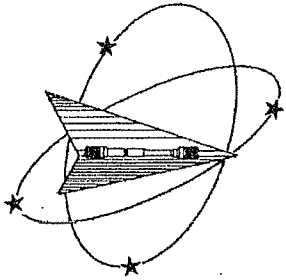
A/U/R: A=ACCEPTABLE, U=UNACCEPTABLE, R=REPORT

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Roy E. Starr/Matt Wojton
____ Technical Services Manager/____ Tensile Supervisor

April 20, 2005

Testing Specialists for Aerospace, Automotive, and Material Testing Fields
Locations in Youngstown, PA U.S.A. ~ Tel. (724) 537-3131 and
Banbury U.K. ~ Tel. +44 (0) 1295 261211



Westmoreland Mechanical Testing & Research, Inc.

P.O. Box 388

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Youngstown, Pa. 15696-0388 U.S.A.

Telephone: 724-537-3131 Fax: 724-537-3151

Website: www.wmtr.com

WMT&R is a technical leader in the material testing industry.



621-01 & 621-02



April 20, 2005

CERTIFICATION

Major Tool & Machine Inc.

Section 2 of 2

WMT&R Report No. 5-25008

P.O. No. P05-01764

TENSILE RESULTS: ASME Section IX and AWS B2.1, ASTM E21-03a

SOAK TIME: 5 Minutes

SPEED OF TESTING: 0.0050 in./in./min., 0.0500 in./min./in.

MATERIAL: Metrode ER316Mnnf

DISPOSITION: Report

Specimen ID	TestLog Number	Temp. °F/°C	UTS KSI/MPA	0.2% YS KSI/MPA	Elong %	RA %	Modulus MSI/GPA	Ult. Load LBS/NEWTONS	0.2% YLD. LBS/NEWTONS
T2	B65834	-320/-196	204.7/1410	156.5/1080	29	.34	29.9/206	5095/22664	3894/17323

A/U/R: A=ACCEPTABLE, U=UNACCEPTABLE, R=REPORT

DISPOSITION: Report

Specimen ID	TestLog Number	Orig. Dia. (in./mm)	Final Dia. (in./mm)	4D Orig GL (in./mm)	4D Final GL (in./mm)	Orig. Area (Sq. In./Sq. mm)	Failure Location/Type	Machine Number	A/U/R
T2	B65834	0.1780/4.521	0.1444/3.668	0.70/17.78	0.90/22.86	0.02488456/16.054520	WELD/DUCTILE	M9	R

A/U/R: A=ACCEPTABLE, U=UNACCEPTABLE, R=REPORT

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 Roy E. Starr/Matt Wojton
 Technical Services Manager / Tensile Supervisor

4-20-05
April 20, 2005

Testing Specialists for Aerospace, Automotive, and Material Testing Fields
 Locations in Youngstown, PA U.S.A. ~ Tel. (724) 537-3131 and
 Banbury U.K. ~ Tel. +44 (0) 1295 261211

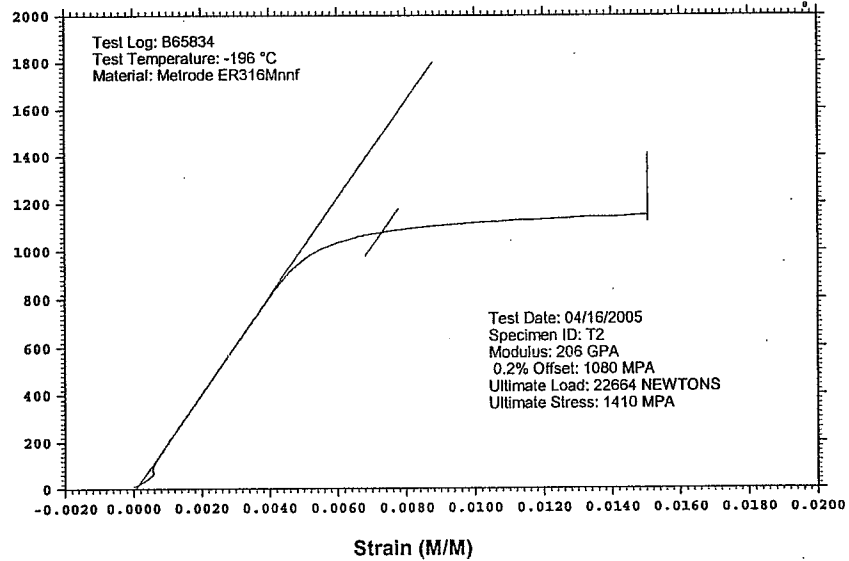
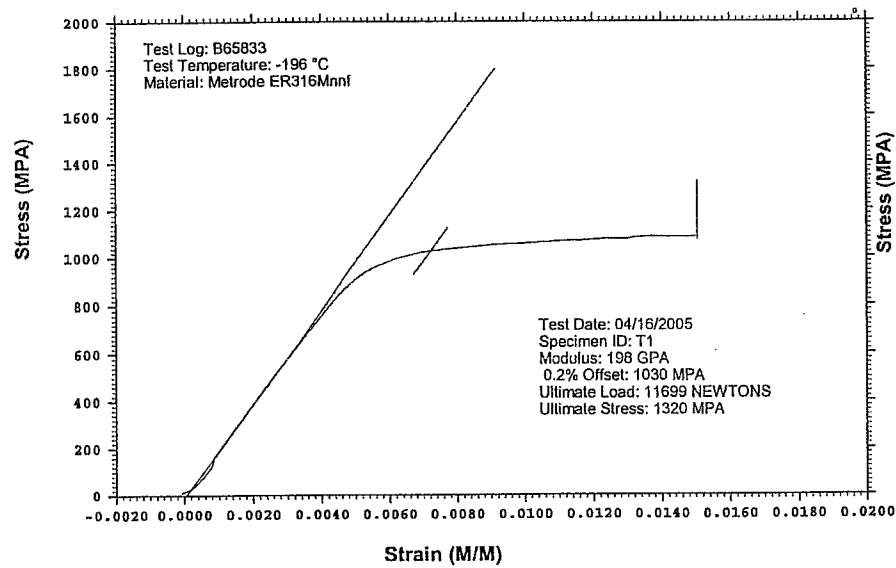
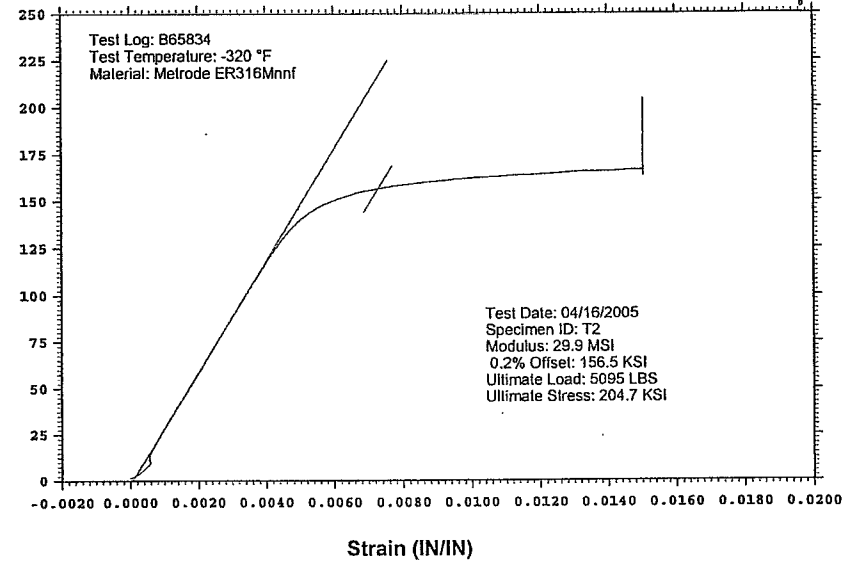
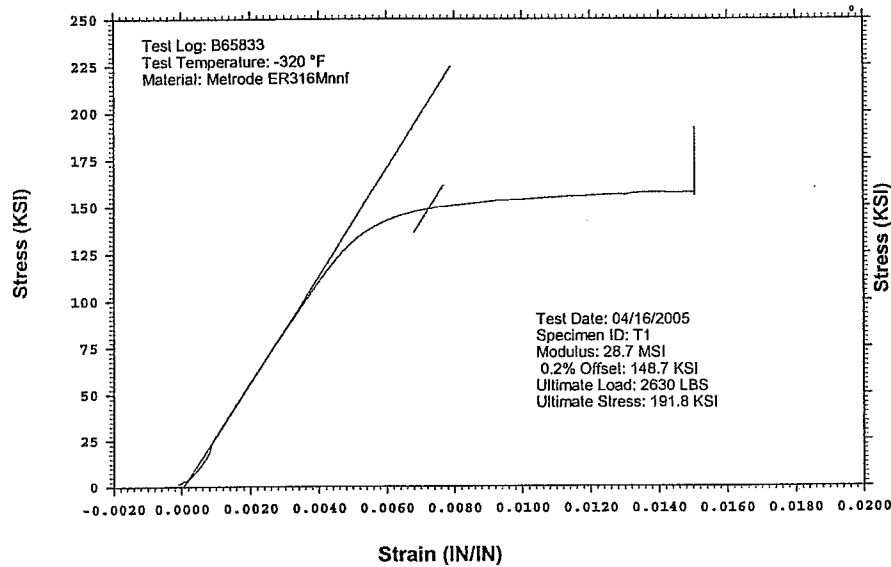
WESTMORELAND MECHANICAL TESTING & RESEARCH, Inc

Stress vs. Strain

Phone: (724)537-3131

Customer: Major Tool & Machine Inc.
WMT&R Report: 5-25008

P.O. No.: P05-01764
PQR No.: 434
Welder: Jason Bever #465



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GE Advanced Materials, Polymershapes

Certificate of Conformance

Date:

Attn: Receiving Inspection
 To: Major Tool Machine
 Address: 1453 E. 19th St.
Indianapolis, IN 46218

Customer P.O. Number: PO5-01288
 Sales Order No: 2790834

It is hereby certified that the product information provided below conforms to the corresponding information in the possession of GE Advanced Materials, Polymershapes with respect to such products. This certification and the sale of products are subject to GE Advanced Materials, Polymershapes' standard conditions of sale. This document shall not be reproduced, except in full, without prior written approval.

Quantity	Description	Lot/Specification/Standard Number
36	GILICK Plendic sheet .062" THK 16" x 38"	NO SPEC / N38.009023

APR - 5 2005
 94942
 1-18

GE Advanced Materials, Polymershapes

By: Ernest Evans
 Title: Warehouse Worker

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Major

Tool & Machine, Inc.

1458 E. 19th Street, Indianapolis, In 46218
TEL:(317)636-6433 FAX:(317)634-9420

Nondestructive Test Certification for Liquid Penetrant Examination

Quality Assurance Documentation for Part ID: SE141-115 - Item: 17

Date of Inspection: 10/18/2006

Type of Material: STAINLESS

NDT#: 18201

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input type="checkbox"/> In-Process Inspection <input checked="" type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input type="checkbox"/> Weldment <input type="checkbox"/> Bar Stock <input type="checkbox"/> Forging	<input checked="" type="checkbox"/> Casting <input type="checkbox"/> Plate <input type="checkbox"/> Other	Surface Condition: <input checked="" type="checkbox"/> Machined <input type="checkbox"/> Rough <input type="checkbox"/> Other	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--	---	---	---	--

Part Information: MTM Job Number: 65708/2.0 -Sub:1 -Op:100 Resource ID: 810-LIQUID PENETRANT INSPE Part ID: SE141-115 Part Name: MODULAR COIL, TYPE B Serial Number: Customer P.O.: S005242-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 0 Quantity Rejected: 1 Run Hours: 0.0	Inspection Results: Customer N/C #: <input type="checkbox"/> Accepted <input checked="" type="checkbox"/> Rejected <input type="checkbox"/> N/C-Report <input type="checkbox"/> Rework MTM N/C #: 20632
--	---	--

Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASTM A903/A903M MTM Spec Number: NDT-WI-009 Acceptance Standard: ASTM A903/A903M LEVEL 1
--	---

Inspection Materials Used: Manufacturer: SHERWIN Type of Penetrant: DP-51 Batch Number: 69-E47 Developer: D-100 Batch Number: 65-C6	Penetrant Examination Processes: Type: II (Visible) / Dwell Time: 20 Minutes Method: A (Water Wash) Method of Drying: Forced Air Fan Form: e (nonaqueous for Type II visible dye) / Dwell Time: 20 Min
---	---

Inspection Requirements:

% of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other

Notes:
PART IS REJECTED PER ASTM A903/A903M LEVEL 1. TEN REJECTABLE INDICATION WERE FOUND AT TIME OF INSPECTION. ALL DEFECTS ARE MARKED AS NOTED.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 674-S.WILLIAMS

Date: 10/18/2006

Sylvester Williams Level II

Quality Assurance Documentation for Part ID: SE141-115 - Item: 18

Workorder: 65708/2-0 Sub:1 Op:130

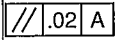
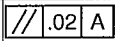
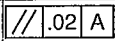
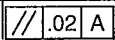
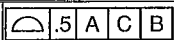
Part: SE141-115 - MODULAR COIL, TYPE B -

Drawing ID: SE141-102 Rev: 3			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
2* (10)	D2	Ø.001 - Ø.002 CHECK CLEARANCE OF ITEM 5 TO ITEM 6.		MFG			LESS THAN .002	825-B.J 10-19-06		A
* (15)		THE GAP BETWEEN THE POLOIDAL BREAK BUSHINGS AND FLANGE SHAL BE LESS THAN .002"		MFG			LESS THAN .002	825-B.J 10-19-06		A
* (20)		ENSURE THAT THE CUMULATIVE GAP AT ANY SINGLE CROSS SECTION OF THE POLOIDAL FLANGE ELEMENTS IS LESS THAN .005".	FEELER GAGES	MFG		J-1144	.005	771-B.S 10-25-06		A
* (30)		THE MAX. GAP AT THE POLOIDAL BREAK PERIMETER IS .015" AND CANNOT EXCEED 1/8" FROM THE EDGE	FEELER GAGES	MFG		J-1144	.013	771-B.S 10-25-06		A
1* (40)	F3	TORQUE ASSEMBLY TO 1500 +/- 30 FT-LBS PER DRAWING NOTE 15.	TORQUE MULTIPLI	MFG		J-1240	1500	825-B.J 10-19-06		A

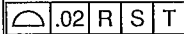


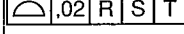
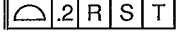
Quality Assurance Documentation for Part ID: SE141-115 - Item: 19

Workorder: 65708/2-0 Sub:1 Op:132

Part: SE141-115 - MODULAR COIL, TYPE B -

Drawing ID: SE141-115 Rev: 9			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1* (10)	C3	VERIFY PART MARKING: MAJOR TOOL SE141-115 B(casting number) (weight) LBS.		QA		VISUAL	ACCEPT	533-B.C 10-26-06			A
1* (20)	C3	RECORD FINAL PART WEIGHT		QA		VISUAL	5540	533-B.C 10-26-06			A
1* (30)	F3	NOTE 14 BACK SPOTFACE ALL THRU HOLES TO MINIMUM CLEAN UP.		QA		MTMFX-3564	ACCEPT	533-B.C 10-25-06			A
1* (40)	E7		CMM	QA		00064	.0089	533-B.C 10-25-06			A
1* (50)	E6		CMM	QA		00064	.0105	533-B.C 10-25-06			A
1* (60)	B6		CMM	QA		00064	.027 [N/C:20676-Doc :NC20676]	533-B.C 10-25-06			R
1* (70)	B5		CMM	QA		00064	.007	533-B.C 10-25-06			A
1* (90)	D3	 OUTER AS CAST SURFACES	CMM	QA		00064	-.0129 TO .306 [N/C :20676-Doc:NC20676]	533-B.C 10-26-06			R
2* (100)	G7	2X .03 X 45°		QA		VISUAL	ACCEPT	533-B.C 10-25-06			A
2* (110)	G7	.40	CALIPER	QA		J-707	.390 TO .400	533-B.C 10-25-06			A
2* (120)	G7	2X .03 X 45°		QA		VISUAL	ACCEPT	533-B.C 10-25-06			A
2*	G8		RADIUS GAGE	QA		R-21	.110 TO .120 E SI DE HOLE#BREAK TO 7	533-B.C			R


INSPECTION DATA CHECKLIST

(130)		2X R.11				18-25 38-43 48-57 59-64 73-84 ARE .25 OR [N/C:20676-Doc :NC20676]	10-25-06		
2* (140)	H7	2X .31	CALIPER	QA	J-707	.305 TO .317	533-B.C 10-25-06		A
2* (150)	H6	 MACHINED SURFACES M TO M1	CMM	QA	00064	-.0178 TO .0251 [N/ C:20676-Doc:NC20676]	533-B.C 10-26-06		R
2* (160)	F5	DATUM D SIDE VERIFY SHELL INTERSECT CLEARANC USING GAGE MTMFX-3473		QA	MTMFX-3473	ACCEPT IN ALL AREA EXCEPT BETWEEN H E #83-84 AND 88-94 [N/C:20676-Doc:NC20 676]	533-B.C 10-25-06		R
2* (170)	E6	 P TO M	CMM	QA	00064	-.0316 TO .1214 [N/ C:20676-Doc:NC20676]	533-B.C 10-26-06		R
2* (180)	H4	 MACHINED SURFACES M1 TO N1	CMM	QA	00064	-.0322 TO .0315	533-B.C 10-26-06		A
2* (190)	G3	 MACHINED SURFACES N TO N1		QA		-.0282 TO .0265 [N/ C:20676-Doc:NC20676]	533-B.C 10-26-06		R
2* (200)	F3	DATUM E SIDE VERIFY SHELL INTERSECT CLEARANC USING GAGE MTMFX-3473		QA	MTMFX-3473	ACCEPT IN ALL AREA EXCEPT BETWEEN H E #30-46 49-56 & 82 -84 [N/C:20676-Doc: NC20676]	533-B.C 10-25-06		R
2*	F3		CMM	QA	00064	.022 TO .1179 [N/C:	533-B.C		R

INSPECTION DATA CHECKLIST

(210)		Q TO N				20676-Doc:NC20676]	10-26-06		
2*	D6	└┐.625┐.188		QA		VISUAL	NO COUNTERBORE O ART DUE TO REV CHA	533-B.C	A
(220)		HOLE 63 THRU 73					GE	10-25-06	
2*	C5	2X .06-.09 X 45°		QA		VISUAL	ACCEPT	533-B.C	A
(230)								10-25-06	
2*	C4	84X .375-16 UNC ┐ .75	THREAD PLUG GA	QA		A-233	ALL THREADS ARE GO D EXCEPT 1 HOLE IS REJECTED HOLE #91 I S TAPPED AT A ANGL	533-B.C	R
(240)			DEPTH MICROMET			J-1024	[N/C:20676-Doc:NC2 0676]	10-26-06	
2*	C4	84X └┐.625 ┐ .188	CALIPER	QA		J-707	.156 TO .190 44 HOLES ARE UNDERSIZ D ON DEPTH [N/C:206	533-B.C	R
(250)			DEPTH MICROMET			J-1062	76-Doc:NC20676]	10-25-06	
2*	C4	Φ .06 R S T	CMM	QA		00064	.003 TO .144 [N/C:2 0676-Doc:NC20676]	533-B.C	R
(260)								10-26-06	
3*	G7			QA		VISUAL	SEE IGES DATA	533-B.C	A
(270)		9.00						10-25-06	
3*	G7			QA		VISUAL	SEE IGES DATA	533-B.C	A
(280)		4.50						10-25-06	
3*	G6			QA		VISUAL	SEE IGES DATA	533-B.C	A
(290)		3.00						10-25-06	
3*	F7			QA		VISUAL	SEE IGES DATA	533-B.C	A
(300)		1.50						10-25-06	
3*	F7	4X Ø1.0-8UNC ┐2.1	THREAD PLUG GA	QA		A-670	ACCEPT	533-B.C	A
(310)								10-25-06	
3*	G5			QA		VISUAL	SEE IGES DATA	533-B.C	A
(320)		17.00 AT MOUNTING AREA						10-25-06	
3*	H2	125/ DATUM E	PROFILOMETER	QA		J-1152	11 TO 62	533-B.C	A
(330)								10-25-06	
3*	G1	▱ .01	CMM	QA		00064	.045 [N/C:20676-Doc	533-B.C	R

INSPECTION DATA CHECKLIST

(340)		DATUM E				:NC20676]	10-26-06		
3* (350)	G3	.25± .01 DATUM E	CMM	QA	00064	.250	533-B.C 10-26-06		A
3* (360)		 DATUM D	CMM	QA	00064	.032 [N/C:20676-Doc :NC20676]	533-B.C 10-26-06		R
3* (370)	E2	.25± .01 DATUM D	CMM	QA	00064	.250	533-B.C 10-26-06		A
3* (380)	E2	125° DATUM D	PROFILOMETER	QA	J-1152	18 TO 47 TWO SPO TS HAVE CIRCULAR T OL DAMAGE	533-B.C 10-26-06		A
3* (390)	F4	2X Ø2.50	CALIPER	QA	J-707	2.510	533-B.C 10-25-06		A
3* (400)	F4	4X Ø1.0 -8UNC ∇ 2.5	THREAD PLUG GA	QA	A-185	ACCEPT	533-B.C 10-26-06		A
3* (410)	F4	1.72	CALIPER	QA	J-707	1.710	533-B.C 10-25-06		A
3* (420)	D5	8X Ø1-8UNC ∇ 1.5	THREAD PLUG GA	QA	A-185	ACCEPT	533-B.C 10-26-06		A
3* (430)	B7	4X 1-8UNC ∇ 2.5	THREAD PLUG GA	QA	A-185	ACCEPT	533-B.C 10-26-06		A
3* (440)	C1	1.50		QA	VISUAL	SEE IGES DATA	533-B.C 10-25-06		A
3* (450)	C1	3.00		QA	VISUAL	SEE IGES DATA	533-B.C 10-25-06		A
3* (460)	C1	4X Ø 1-8UNC ∇ 2.1	THREAD PLUG GA DEPTH MICROMET	QA	A-670 J-1024	ACCEPT	533-B.C 10-25-06		A
3* (470)	C1	4.50		QA	VISUAL	SEE IGES DATA	533-B.C 10-25-06		A
3* (480)	B1	9.00		QA	VISUAL	SEE IGES DATA	533-B.C 10-25-06		A
4* (500)	H6	Ø1.375-6UNC THRU OR Ø1.375-6UNC X ∇ 1.5 MIN FOR FLANGE THK GREATER THAN 1.5	THREAD PLUG GA	QA	A-375	ACCEPT	533-B.C 10-26-06		A

INSPECTION DATA CHECKLIST

(510)	4*	E6	14X Ø1.885 ± .003 THRU	DIAL BORE GAGE	QA	J-1400	1.884 TO 1.886 HO LE #6 1.884 - 1.889 HOLE #10 1.884 - 1.893 [N/C:20676-D oc:NC20676]	533-B.C 10-25-06		R
(520)	4*	E6	14X └┘Ø3.00 SPOTFACE BACKSIDE MINIMUM TO CLEAN UP		QA	MTMFX-3564	ACCEPT	533-B.C 10-26-06		A
(530)	4*	E6	Φ .06 M A D 14 X Ø1.885	CMM	QA	00064	.046 TO .060	533-B.C 10-26-06		A
(540)	4*	D6	10X Ø1.885 ± .003 THRU	DIAL BORE GAGE	QA	J-1400	1.884 TO 1.886 HOLE #19 HAS A GRO VE .400 TALL BY .01 8 DEEP [N/C:20676-D oc:NC20676]	533-B.C 10-25-06		R
(550)	4*	D6	10X └┘Ø3.00 SPOTFACE BACKSIDE MINIMUM TO CLEAN UP		QA	MTMFX-3564	ACCEPT	533-B.C 10-26-06		A
(560)	4*	D6	Φ .06 M A D 10 X Ø1.885	CMM	QA	00064	.0316 TO .063 [N/C :20676-Doc:NC20676]	533-B.C 10-26-06		R
(580)	4*	C7	3X └┘Ø2.000 - 2.001 ▽ .990 - 1.000		QA	LARGE DEA	3X - 2.0002 BY 1.00 3 [N/C:20676-Doc:NC 20676]	854-R.U 10-03-06		R
(590)	4*	C7	Φ .06 M A D 3X Ø1.130	CMM	QA	00064	.054 TO .066 [N/C:2 0676-Doc:NC20676]	533-B.C 10-26-06		R
(600)	4*	D4	Ø1.375-6UNC THRU OR Ø1.375-6UNC X 1.5 MIN FOR FLANGE THK GREATER 1.5	THREAD PLUG GA	QA	A-375	ACCEPT	533-B.C 10-26-06		A
(610)	4*	D4	Φ .06 M A D Ø1.375-6UNC	CMM	QA	00064	.022 TO .072 [N/C:2 0676-Doc:NC20676]	533-B.C 10-26-06		R
	4*	E2	10X .25-20UNC-2B	THREAD PLUG GA	QA	A-716	ACCEPT	533-B.C		A

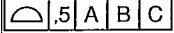
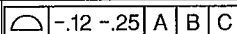
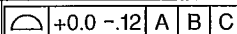
INSPECTION DATA CHECKLIST

(620)								10-25-06		
4* (630)	E2	Ø.03 X 45° CHAMFER	CALIPER	QA		J-707	.500 [N/C:20676-Doc :NC20676]	533-B.C 10-25-06		R
5* (640)	F7	12X .25-20UNC-2B	THREAD PLUG GA	QA		A-716	ACCEPT	533-B.C 10-25-06		A
5* (650)	F7	Ø.03 X 45° CHAMFER	CALIPER	QA		J-707	.505 [N/C:20676-Doc :NC20676]	533-B.C 10-25-06		R
5* (660)	G6	3X 1.0	DEPTH MICROMET	QA		J-1024	ACCEPT	533-B.C 10-25-06		A
5* (670)	G6	3X Ø3.00	CALIPER	QA		J-707	3.003	533-B.C 10-25-06		A
5* (680)	G6	3X Ø1.50	CALIPER	QA		J-1103	1.476 TO 1.491 [N/C :20676-Doc:NC20676]	533-B.C 10-25-06		R
5* (690)	E3	12XØ1.375-6UNC THRU OR Ø1.375-6UNC X ▽1.5 MIN FOR FLANGE THK GREATER THAN 1.5	THREAD PLUG GA	QA		A-375	ACCEPT	533-B.C 10-25-06		A
5* (700)	E3	<input type="text" value="Φ.06 N A E"/> 12X Ø1.375-6	CMM	QA		00064	.010 TO .028	533-B.C 10-26-06		A
5* (710)	D4	14XØ1.375-6UNC THRU OR Ø1.375-6UNC X ▽1.5 MIN FOR FLANGE THK GREATER THAN 1.5	THREAD PLUG GA	QA		A-375	ACCEPT	533-B.C 10-25-06		A
5* (720)	D4	<input type="text" value="Φ.06 N A E"/> 14X Ø1.375-6	CMM	QA		00064	.006 TO .052	533-B.C 10-26-06		A
5* (730)	E3	3X Ø1.885 ±.003 THRU	DIAL BORE GAGE	QA		J-1400	1.886	533-B.C 10-25-06		A
5* (740)	E3	3X <input type="text" value="□"/> Ø3.00 SPOTFACE BACKSIDE MINIMUM CLEAN UP		QA		MTMFX-3564	ACCEPT	533-B.C 10-26-06		A
5* (750)	E3	<input type="text" value="Φ.06 N A E"/> 3X Ø1.885	CMM	QA		00064	.024 TO .026	533-B.C 10-26-06		A
6* (760)	G7	5.00		QA		VISUAL	SEE IGES DATA	533-B.C 10-25-06		A

INSPECTION DATA CHECKLIST

6* (770)	H7	5.00		QA		VISUAL	SEE IGES DATA	533-B.C 10-25-06			A
6* (780)	H6	5.00		QA		VISUAL	SEE IGES DATA	533-B.C 10-25-06			A
6* (790)	C6	6.00		QA		VISUAL	SEE IGES DATA	533-B.C 10-25-06			A
6* (800)	C6	5.00		QA		VISUAL	SEE IGES DATA	533-B.C 10-25-06			A
6* (810)	F6	4X Ø1.00	CALIPER	QA		J-707	1.001 TO 1.002	533-B.C 10-25-06			A
6* (820)	F7	6.50		QA		VISUAL	SEE IGES DATA	533-B.C 10-25-06			A
6* (830)	F6	2.00		QA		VISUAL	SEE IGES DATA	533-B.C 10-25-06			A
6* (840)	H5	2X .88/1.13	CALIPER	QA		J-707	1.090 AND 1.170 [N/ C:20676-Doc:NC20676]	533-B.C 10-25-06			R
6* (850)	C5	2.250 ± .010	CALIPER	QA		J-707	2.240	533-B.C 10-25-06			A
6* (860)	F4	.06 - .09 X 45°	CALIPER	QA		J-707	.070	533-B.C 10-25-06			A
7* (880)	C4	2X 1.56	CALIPER	QA		J-707	1.78 TO 1.81 [N/C:2 0676-Doc:NC20676]	533-B.C 10-25-06			R
7* (890)	C4	5.190		QA		VISUAL	SEE IGES DATA	533-B.C 10-25-06			A
7* (900)	C3	6X .375-16UNC-2B TAP ▽ .75 .03 X 45° CHAMFER	THREAD PLUG GA	QA		A-233	ALL GOOD EXCEPT O HOLE THE NOGO GOE 4 TURNS [N/C:20676 -Doc:NC20676]	533-B.C 10-25-06			R
7* (910)	B3	3.75		QA		VISUAL	SEE IGES DATA	533-B.C 10-25-06			A
7* (920)	B3	7.50		QA		VISUAL	SEE IGES DATA	533-B.C 10-25-06			A
8* (930)	C5	4X Ø1.0 THRU	CALIPER	QA		J-707	1.003 TO 1.010	533-B.C			A

INSPECTION DATA CHECKLIST

(930)							10-25-06		
9*	C7	2X Ø.50 THRU	CALIPER	QA	J-707	.495 TO .499	533-B.C		A
(940)							10-25-06		
9*	F4			QA	VISUAL	SEE IGES DATA	533-B.C		A
(950)		10.15					10-25-06		
9*	F4			QA	VISUAL	SEE IGES DATA	533-B.C		A
(960)		1.63					10-25-06		
9*	D4	Ø.25 ∇5.0 └┘Ø.625 ∇3.0	PIN GAGE	QA	J-652-1	.245 DEPTH 5.7	533-B.C		A
(970)						.625 DPETH 3.6	10-26-06		
9*	E2	Ø.25 └┘Ø.625 DETAIL D	PIN GAGE	QA	J-652-1	.625 .246	533-B.C		A
(980)							10-26-06		
9*	F2	4X Ø1.0 THRU	CALIPER	QA	J-707	1.001 TO 1.004	533-B.C		A
(990)							10-25-06		
11*	E5	 AS CAST SURFACES	CMM	QA	00064	-.309 TO .435 [N/C: 20676-Doc:NC20676]	533-B.C		R
(1010)							10-26-06		
11*	C8	 WING SURFACES	CMM	QA	00064	-.029 TO .055	533-B.C		A
(1020)							10-26-06		
11*	D1	 WING POCKET	CMM	QA	00064	-.035 TO .028	533-B.C		A
(1030)							10-26-06		



Industrial Services, Inc.
TCM Division

10540 Chester Road
Cincinnati, Ohio 45215
(513) 771-3292 Phone

RADIOGRAPHY READER SHEET

Form # 20.3A Rev. 3

Densitometer S/N: 12105 Cal Date: 8/2/06

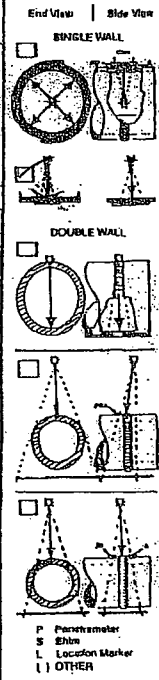
Client <u>Major Tool & Machine</u>		Interpreter/Level <u>Robert Weaver II</u>		Radiographer <u>Robert Weaver</u>		Job No. <u>13860001</u>	P.O. No. <u>N/A</u>	Date <u>10/21/06</u>		
Isotope/X-Ray <u>IR192</u>	Dia. X Len/KV <u>.106" x .106"</u>	Curies/MA <u>25</u>	Focal Spot Size <u>.151"</u>	SFD <u>15"</u>	SOD <u>14.25"</u>	Time <u>4:00</u>	Film Processing <u>Auto</u>	Film Type / 1 or 2 <u>2</u>	PB Screens <u>.010"</u>	Film Technique <u>Double</u>
Weld Process / Heat Number <u>N/A</u>		Material Spec. <u>316 SST</u>	Material Diameter <u>N/A</u>	Material Thickness <u>.75"</u>	Penetrameter <u>ASTM 1B</u>	Shim <u>N/A</u>	Acceptance Standard <u>No defects > .080"</u>			

Description: 65708/20/1134/818
SE141-115 rev. 9

Density Readings through IQI(s) & Area of Interest
2.0-4.0

Remarks: Refer to Film Identification for Special Requirement for ASME Sec XI
N/A

FITTING SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRAMEETER		SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF PEN	LACK FUSION	INTERNAL CONVEXITY	INTERNAL CONCAVITY	TUNGSTEN	MELT-THROUGH	BURN-THROUGH	CRATER-PIT	OXIDATION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	WELD CONTOUR	MIS-MATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT	End View	Side View
			SIZE	QUALITY LEVEL																										
<u>T-area</u>	<u>68-68</u>	<u>N/A</u>	<u>1B</u>	<u>.016"</u>																								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	<u>68-73</u>																												<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



Robert Weaver II
TEAM Technician Signature

Raymond D. Edwards
Customer Representative Signature

10/21/06
Date

INC122927 (2541X3313X2) (1/0)

MCWF Type B

MTM Workorder Number: _____

RT Map of High Stress Region

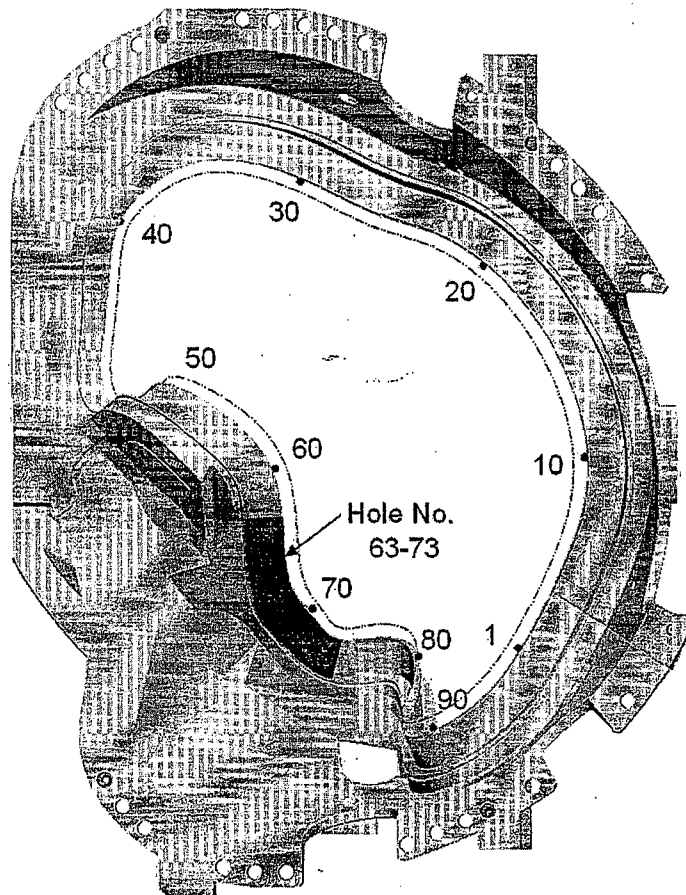


Figure 1 - High Stress Region Identification for Type-B MCWF

LS708/20/1/134/818

SE141-115 rev. 9

Page 2 of 2

Rev. 1

Quality Assurance Documentation for Part ID: SE141-115 - Item: 21

Workorder: 65708/2-0 Sub:1 Op:136

Part: SE141-115 - MODULAR COIL, TYPE B -

Drawing ID: SE141-115 Rev: 9			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		D A T U M - E - S I D E MAG PERMEABILITY TO BE NO GREATER THAN 1.02μ. CHECK 3 PLACES ADJACENT TO EVERY 5TH HOLE IN T SECTION.	MASTER GAGE	QA		J-1165	< 1.02	495-D.C			A
(10)								10-23-06			
*		D A T U M - D - S I D E MAG PERMEABILITY TO BE NO GREATER THAN 1.02μ. CHECK 3 PLACES ADJACENT TO EVERY 5TH HOLE IN T SECTION.	MASTER GAGE	QA		J-1165	< 1.02	495-D.C			A
(20)								10-23-06			



Major
Tool & Machine, Inc.

1458 E. 19th Street, Indianapolis, In 46218
TEL:(317)636-6433 FAX:(317)634-9420

Nondestructive Test

Certification for Liquid Penetrant Examination

Quality Assurance Documentation for Part ID: SE141-115 - Item: 22

Date of Inspection: 10/05/2006

Type of Material: STAINLESS

NDT#: 18058

Stage of Inspection: <input type="checkbox"/> Incoming Inspection <input type="checkbox"/> In-Process Inspection <input checked="" type="checkbox"/> After Repair <input type="checkbox"/> Final Inspection	Manufacturing Process: <input checked="" type="checkbox"/> Weldment <input type="checkbox"/> Casting <input type="checkbox"/> Bar Stock <input type="checkbox"/> Plate <input type="checkbox"/> Forging <input type="checkbox"/> Other WELD UPGRADE	Surface Condition: <input checked="" type="checkbox"/> Machined <input checked="" type="checkbox"/> Rough <input type="checkbox"/> Other	Test Being Run to: <input checked="" type="checkbox"/> Router Instructions <input checked="" type="checkbox"/> Drawing <input type="checkbox"/> Test Plan <input type="checkbox"/> Technique Card	Heat Treated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Part Information: MTM Job Number: 65708/2.0 -Sub:15 -Op:30 Resource ID: 810-LIQUID PENETRANT INSPE Part ID: SE141-115 Part Name: MODULAR COIL, TYPE B Serial Number: Customer P.O.: S005242-F Customer Unit/Plant:	Test Results: Quantity Inspected: 1 Quantity Accepted: 1 Quantity Rejected: 0 Run Hours: 0.0	Inspection Results: Customer N/C #: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> N/C-Report <input type="checkbox"/> Rework MTM N/C #: 20449
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Customer Inspection Plan: Test Step: Revision: Material Test Number:	Inspection Criteria: Customer Specification: ASTM A903/A903M MTM Spec Number: PS582 (REF NDT-WI-009) Acceptance Standard: ASTM A903 (SEE NOTES)
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Inspection Materials Used: Manufacturer: SHERWIN Type of Penetrant: DP-51 Batch Number: 69-E47 Developer: D-100 Batch Number: 65-C6	Penetrant Examination Processes: Type: II (Visible) / Dwell Time: 20 Minutes Method: A (Water Wash) Method of Drying: Forced Air Fan Form: e (nonaqueous for Type II visible dye) / Dwell Time: 20 Min
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Inspection Requirements:

100 % of all accessible surfaces Joint Preps Root Pass Back Gouge Cover Pass Other

Notes:

RE-INSPECT WELD AREA.

NO REJECTABLE INDICATION NOTE AT TIME OF RE-INSPECTION.

This is to certify that the pieces specified have been inspected in accordance with the specifications shown.

Inspector: 674-S.WILLIAMS

Date: 10/05/2006

Sylvester Williams Level II DATA P-1

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE141-115 - Item: 23

Workorder: 65708/2-0 Sub:15 Op:40

Part: SE141-115 - REWORK / REPAIR PER N/C - N/C #

Drawing ID: SE141-115 Rev: 9			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		NC 20449 PERMEABILITY OF WELD TO BE LESS THAN 1.02μ.	MASTER GAGE	QA		J-1165	LESS THAN 1.02	854-R.U		
(10)								10-04-06		

Quality Assurance Documentation for Part ID: SE141-139 - Item: 24

Workorder: 65708/2-0 Sub:11 Op:30

Part: SE141-139 - SHORT BEARING PLATE TYPE "B" -

Drawing ID: SE141-139 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1*	G2	RECORD MAGNETIC PERMEABILITY. RESULTS TO BE NO GREATER THAN 1.02μ.	MASTER GAGE	QA		J-1270	LESS THAN 1.02	854-R.U		
(10)										

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE141-140 - Item: 25

Workorder: 65708/2-0 Sub:12 Op:30

Part: SE141-140 - LONG BEARING PLATE TYPE "B" -

Drawing ID: SE141-140 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1*	G2	RECORD MAGNETIC PERMEABILITY. RESULTS TO BE NO GREATER THAN 1.02μ.	MASTER GAGE	QA		J-1165	LESS THAN 1.02	854-R.U		
(10)										

Employees: 495-D.Coffman / 503-B.Houk / 533-B.Clevenger / 771-B.Schultz / 825-B.Jarrett / 854-R.Upchurch

PRINCETON UNIVERSITY

PLASMA PHYSIC LABORATORY -- PPPL

PRODUCT CERTIFICATION AND SHIPPING RELEASE

PROJECT PPPL - NCSX Modular Coil Winding Form	ITEM DESCRIPTION B-2 Modular Coil Winding Form			SHIPMENT NUMBER 10	
PPPL SUBCONTRACT/ ORDER NO. S005242-F	REV. Amend #14	ITEM NO. B-2	SUPPLIER REFERENCE NO. PPPL -FP-LTS-3 with Major Tool & Machine	REV. Amend # 9	QUANTITY SHIPPED 1

SUPPLIER'S CERTIFICATION

This is to certify that the products and services identified herein have been produced under a controlled quality assurance program and are in conformance with the procurement requirements, including applicable codes, standards and specifications as identified in the above-referenced documents, unless noted below. Any supporting documentation will be retained in accordance with the procurement requirements.

Per agreement with PPPL, authorization for shipping release is granted prior to sign off of NC's and completion of corrective action, as set forth below, as well as completion of documentation package.

SIGNED: Nancy K. Horton Digitally signed by Nancy K. Horton
DN: cn = Nancy K. Horton, c = US, o = Energy Industries of
Ohio, ou = Nuclear Energy
Date: 2006.10.26 17:40:45 -04'00' **DATE:** 10/26/06

TITLE: EIO Program Manager for NCSX **COMPANY:** Energy Industries of Ohio

PPPL (AUTHORIZED REPRESENTATIVE) SHIPPING RELEASE

This is to certify that evidence supporting the above Supplier's Certification statement has been audited and no product/service nonconformances from procurement requirements have been found unless noted below. This product/service is hereby released for shipment.

This section serves as the Quality Assurance release for the above described product for shipment. It does not constitute an acceptance thereof and does not relieve the Vendor, Manufacturer or Contractor of any and all responsibility or obligation imposed by the purchase contract. It does not waive any rights the Purchaser may have under the purchase contract, including the Purchaser's right to reject the above described material upon discovery of any deviations from requirements of the purchase contract, drawings and specifications.

NONCONFORMANCES FROM PROCUREMENT QUALITY REQUIREMENTS:

As documented on approved Metal Tek Corrective Action Report CA1538 and Nonconformances from Major Tool including NC's 20475, (lead block deviations) & 20449 (rework of threaded holes), as well as PPPL Request for Deviations (RFD's) 14-022 (reorientation of lead slots) 14-023, (VV Supports), 14-024 (bearing plates) and 14-025 (counterbore rework). In addition, the following open NC's, which have been approved by PPPL and are currently in their signature cycle:

- NC 20632 for PT rejections
- NC 20670 for Various Surface conditions
- NC 20676 for Rejections on the IDC. Note: all but one rejection have been reviewed and accepted by PPPL to use as-is. The outstanding rejection is being reworked per direction from PPPL and will be completed and the CA signed off, prior to shipment.

REMARKS/PRODUCT SERIAL NUMBERS:

Release with open NC actions as documented above.

BY PPPL QA REPRESENTATIVE (Or Designee)

DATE

F. Malinowski

Digitally signed by F. Malinowski
Date: 2006.10.26 17:40:45 -04'00'