



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-C1

CAF Metal Designation CF8MNMnMod

Material Spec CF8MNMnMOD

Ladle#1 Heat 27728

Cert Number S73140-1

Pour Date 12/19/2004

Revised 8/1/05

Element	Min	Actual	Max
C	0.04	0.07	0.07
MN	2.3	2.7	2.8
SI	0.0	0.5	0.5
CR	18.0	18.2	18.5
NI	13.0	13.1	13.5
MO	2.1	2.2	2.5
P*	0.0	----	0.015
S*	0.0	----	0.015
N	0.24	0.26	0.28

* Reported on weighted average MTR see Doc. #4.

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

Material Test Report

ENERGY INDUSTRIES OF OHIO

Purchase Order Number PPPL-FP-LTS-2

Pattern Number MCWF-C1

CAF Metal Designation CF8MNMnMod

Material Spec CF8MNMnMOD

Ladle#2 Heat 27730

Cert Number S73140-1

Pour Date 12/19/2004

Revised 8/1/05

Element	Min	Actual	Max
C	0.04	0.05	0.07
MN	2.3	2.8	2.8
SI	0.0	0.6	0.5
CR	18.0	18.1	18.5
NI	13.0	13.2	13.5
MO	2.1	2.2	2.5
P*	0.0	----	0.015
S*	0.0	----	0.015
N	0.24	0.25	0.28

* Reported on weighted average MTR see Doc. #4.

A handwritten signature in black ink, appearing to read "CAR".

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

Material Test Report

ENERGY INDUSTRIES OF OHIO

Purchase Order Number PPPL-FP-LTS-2

Pattern Number MCWF-C1

CAF Metal Designation CF8MNMnMod

Material Spec CF8MNMnMOD

Ladle#3 Heat 27731

Cert Number S73140-1

Pour Date 12/19/2004

Revised 8/1/05

Element	Min	Actual	Max
C	0.04	0.05	0.07
MN	2.3	2.6	2.8
SI	0.0	0.4	0.5
CR	18.0	18	18.5
NI	13.0	13.1	13.5
MO	2.1	2.3	2.5
P*	0.0	----	0.015
S*	0.0	----	0.015
N	0.24	0.28	0.28

* Reported on weighted average MTR see Doc. #4.

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

Material Test Report

ENERGY INDUSTRIES OF OHIO

Purchase Order Number PPPL-FP-LTS-2

Cert Number S73140-1

Pattern Number MCWF-C1

Pour Date 12/19/2004

CAF Metal Designation CF8MNMnMod

Material Spec CF8MNMnMOD

Weighted average of 3 heats - 27728(32.4%), 27730(25.1%), 27731(42.5%) Total Weight 28779 lbs.

Revised 8/1/05

Element	Min	Actual	Max
C	0.04	0.06	0.07
MN	2.3	2.7	2.8
SI	0.0	0.5	0.5
CR	18.0	18.1	18.5
NI	13.0	13.1	13.5
MO	2.1	2.2	2.5
P*	0.0	0.018	0.015
S*	0.0	0.014	0.015
N	0.24	0.27*	0.28

*P & S taken from cast on bar and analyzed by wet chemistries, ASTM E1019-03 for sulfur and Colormetric for phosphorous.

*P is above the specification.

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

Material Test Report

ENERGY INDUSTRIES OF OHIO

Purchase Order Number PPPL-FP-LTS-2

Pattern Number MCWF-C1

Weld Material Batch 3012668/82743

Element	Actual
C	0.02
MN	7.3
SI	0.4
CR	19.5
NI	15.2
MO	3.0
P	0.03
S	0.03
N	0.17

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "CAR".

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

Material Test Report

ENERGY INDUSTRIES OF OHIO

Purchase Order Number PPPL-FP-LTS-2

Pattern Number MCWF-C1

Weld Material Batch WO 19711

Cert Number S73140-1

Pour Date 12/19/2004

Element	Actual
C	0.02
MN	3.4
SI	0.2
CR	17.7
NI	16.2
MO	2.8
P	0.02
S	0.002
N	0.15

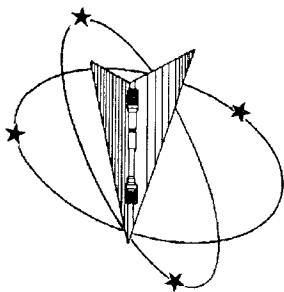
Respectfully Submitted,

A handwritten signature in black ink, appearing to read "CAR" or similar, written over a white background.

Charles A. Ruud
Quality Assurance Manager

Superior Quality Engineered Metal Products

www.MetalTekInt.Com



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.

CERTIFICATION

April 19, 2005

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

Attention: Rick Suria

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

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: 0.0050 in./in./min., 0.0500 in./in./min.

MATERIAL: Metatek CF8MNMNMOD

CAST on Bars from C-1 coil *4/1/05*

DISPOSITION: Acceptable

Sample	Test Log Number	Temp. °F	UTS KSI	0.2% YS KSI	Elong %	RA %	Modulus MSI	Ult. Load LBS	0.2% YLD. LBS	Orig. Dia. (in.)	Final Dia. (in.)	4D Orig GL (in.)	4D Final GL (in.)	Orig. Area (Sq. In.)	Machine Number	A/U/R
Tensile-2	B67872	-320	172.0	98.7	62	68	24.2	16590	9522	0.3504	0.1968	1.40	2.27	0.09643131	M9	A
Tensile-4E	B67873	-320	167.4	97.8	44	36	23.3	16120	9416	0.3502	0.2805	1.40	2.02	0.09632126	M9	A
Tensile-5A	B67874	-320	171.2	98.7	61	64	22.5	16450	9481	0.3498	0.2090	1.40	2.25	0.09610135	M9	A

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



Section 1 of 1
WMT&R Report No. 5-25287
WMT&R Quote No. QN250563
Req No. 2767

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.

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

4-19-05
April 19, 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



2810 Clark Avenue • St. Louis, MO 63103-2574 • (314) 531-8080 • FAX (314) 531-8085

METALTEK INTERNATIONAL
8600 Commercial Blvd.
Pevely, MO 63070

March 22, 2005
Lab No. 05P-0864
P.O. No. 12516
Page 1 of 2
(Corrected Report 6/15/05)

Attention: **Chuck Ruud**

REPORT OF MECHANICAL TESTS

SAMPLE ID: 3 EA., HT# 27728 Alloy CF8MNMNMOD +70°F


Sample ID	Original Area Sq. Inches	Reduced Area Sq. Inches	Reduction in Area %	Yield Strength PSI	Tensile Strength PSI	Modulus of Elasticity	Elongation (2.0" Gage Length)	
							in.	%
27728-1	.1948	.0683	64.9	34,600	82,500	21.3	1.06	53.0
27728-2	.1886	.0697	63.0	34,800	85,100	20.5	1.03	51.5
27728-3	.1924	.0683	64.5	33,300	83,900	21.1	1.00	50.0

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.


Ken 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. DO NOT REPRODUCE.
NOT OFFICIAL WITHOUT THE RAISED SEAL OF ST. LOUIS TESTING LABORATORIES, INC.
SEE REVERSE FOR CONDITIONS





2810 Clark Avenue • St. Louis, MO 63103-2574 • (314) 531-8080 • FAX (314) 531-8085

METALTEK INTERNATIONAL
8600 Commercial Blvd.
Pevely, MO 63070

March 22, 2005
Lab No. 05P-0864
P.O. No. 12516
Page 2 of 2
(Corrected Report 6/15/05)

Attention: **Chuck Ruud****REPORT OF MECHANICAL TESTS****SAMPLE ID:** HT# 28597 & HT# 28679

Sample ID	Original Area Sq. Inches	Reduced Area Sq. Inches	Reduction in Area %	Yield Strength PSI	Tensile Strength PSI	Elongation (2.0" Gage Length)	
						in.	%
28597	.1886	.1140	39.5	54,600	84,100	0.48	24.0
28679	.1863	.1029	44.7	57,400	82,900	0.46	23.0

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.

*Unrelated
to project
C/R 4/14/05*



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

K
Kar Schmitz, Director
Materials Testing

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



SA



2810 Clark Avenue • St. Louis, MO 63103-2574 • (314) 531-8080 • FAX (314) 531-8085

METALTEK INTERNATIONAL
8600 Commercial Blvd.
Pevely, MO 63070

May 12, 2005
Lab No. 05P-1439
P.O. No. 12516
Page 1 of 1

Attention: Chuck Ruud

REPORT OF MECHANICAL TESTS

SAMPLE ID: HT# 27728

Sample ID	Original Area Sq. Inches	Reduced Area Sq. Inches	Reduction in Area %	Yield Strength PSI	Modulus MSI	Tensile Strength PSI	Elongation (2.0" Gage Length)	
							in.	%
27728	.1948	.0651	66.6	37,300	28.1	83,100	1.1	55.0

Round, reduced section room temperature tensiles

Yield taken at .2% offset

Tested in accordance with ASTM A 370-03a

Identification of tested specimens provided by the client.

KS/tw

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. DO NOT REPRODUCE.
NOT OFFICIAL WITHOUT THE RAISED SEAL OF ST. LOUIS TESTING LABORATORIES, INC.
SEE REVERSE FOR CONDITIONS.



EB



2810 Clark Avenue • St. Louis, MO 63103-2574 • (314) 531-8085 • FAX (314) 531-8085

METALTEK INTERNATIONAL
8600 Commercial Blvd.
Pevely, MO 63070

June 1, 2005
Lab No. 05P-1658
P.O. No. 12516
Page 1 of 1

May 3

Attention: Chuck Ruud

REPORT OF MECHANICAL TESTS

SAMPLE ID: HT# 27728, 29511, 29497, 29563, 29560, 29553

Sample ID	Original Area Sq. Inches	Reduced Area Sq. Inches	Reduction in Area %	Yield Strength PSI	Tensile Strength PSI	Elongation (2.0" Gage Length)		Modulus of Elasticity (MSI)
						in.	%	
27728	.1886	.0830	56.0	36400	83100	1.05	52.5	24.4
27728b	.1886	.0908	51.9	34100	84300	1.00	50.0	23.4

Sample ID	Original Area Sq. Inches	Reduced Area Sq. inches	Reduction in Area %	Yield Strength PSI	Tensile Strength PSI	Elongation (2.0" Gage Length)		
						in.	%	
29511	.1995	.1878	05.9	40600	60400	0.12		06.0
29497	.1932	.1772	08.3	35700	62100	0.18		09.0
29563	.1847	.1840	00.4	37700	37900	0.04		02.0
29560	.1863	.1728	07.3	47500	69500	0.24		12.0
29553	.1886	.1765	06.4	50100	72700	0.16		08.0

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.

unrelated
to project
of 4/4/05

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. DO NOT REPRODUCE.
NOT OFFICIAL WITHOUT THE RAISED SEAL OF ST. LOUIS TESTING LABORATORIES, INC.
SEE REVERSE FOR CONDITIONS.





2810 Clark Avenue • St. Louis, MO 63103-2574 • (314) 531-8080 • FAX (314) 531-8085

METALTEK INTERNATIONAL
8600 Commercial Blvd.
Pevsly, MO 63070

January 10, 2005
Lab No. 05P-0008
P.O. No. 12516
Page 3 of 3

Attention: Chuck Ruud

REPORT OF CHARPY IMPACT TEST

MATERIAL (SAMPLE ID): HT# 27728, Alloy CF8 MnMN-MOD
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: -320°F

RESULTS:

BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
27728-1	98	0.051	50
27728-2	91	0.060	50
27728-3	80	0.045	50
Average	90	0.052	50
BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
27728-4	77	0.038	40
27728-5	86	0.055	50
27728-6	61	0.032	40
Average	75	0.042	43
BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
27728-7	64	0.041	50
27728-8	67	0.043	50
27728-9	72	0.030	40
Average	68	0.038	47

Identification of tested specimens provided by client.



Certification No. 0397-01
Certification No. 0397-02

Karl Schmitz
Karl Schmitz, Director
Materials Testing

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





2810 Clark Avenue • St. Louis, MO 63103-2574 • (314) 531-8080 • FAX (314) 531-8085

METALTEK INTERNATIONAL
860C Commercial Blvd.
Pevsley, MO 63070

January 10, 2005
Lab No. 05P-0008
P.O. No. 12516
Page 2 of 3

Attention: Chuck Ruud

REPORT OF CHARPY IMPACT TEST

MATERIAL (SAMPLE ID): HT# 27728, Alloy CF8 MnMN-MOD
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: +70°F
RESULTS:

BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
27728-1	139	0.097	100
27728-2	119	0.081	100
27728-3	167	0.091	100
Average	142	0.090	100
BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
27728-4	170	0.107	100
27728-5	124	0.071	100
27728-6	129	0.060	100
Average	141	0.079	100
BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
27728-7	141	0.103	100
27728-8	137	0.052	100
27728-9	150	0.114	100
Average	143	0.090	100

Identification of tested specimens provided by client.



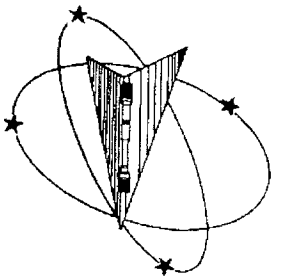
Certificate No. 0317-01
Certification Exp. 09/7/02

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

Karl Schmitz, Director
Materials Testing



on chart



April 28, 2005

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

Attention: Rick Suria

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

Requirements: UTS ksi (Min 95Max ---) 0.2% YS ksi (Min 72Max ---) 4D Elong. % (Min 32Max ---) Modulus Msi (Min 21Max ---)
SOAK TIME: 5 Minutes

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

MATERIAL: 316 S/S

Sample	Test Log 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
Bar#1 (Lot#3012668/82743)	B75123	-320	187.7	126.3	33	22	27.1	37740	25394	0.5060	0.4471	2.00	2.65	0.20109020	M9	A
Bar#2 (Batch#W019711)	B75124	-320	166.9	109.5	34	27	26.4	33500	21990	0.5056	0.4315	2.00	2.67	0.20077240	M9	A

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

DISPOSITION: Acceptable

D. York

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.wmttr.com

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

CERTIFICATION

Section 1 of 1
WMT&R Report No. 5-26097
P.O. No. 19386R9
WMT&R Quote No. QN250563
Req. No. 4315



WARNING: ON 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 WMTTR, INC.

Matthew J. Jordon
Roy E. Starr Manager
Technical Services Manager
Tensile Supervisor
April 28, 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

12



2810 Clark Avenue • St. Louis, MO 63103-2574 • (314) 531-8080 • FAX (314) 531-8085

METALTEK INTERNATIONAL8600 Commercial Blvd.
Pevely, MO 63070

Attention: Chuck Ruud

April 22, 2005
Lab No. 05P-1170
P.O. No. 12516
Page 1 of 1
(revised 6/15/05)**REPORT OF MECHANICAL TESTS****SAMPLE ID:** 1 Ea., Sample Bar #1, Lot 3012668/82743
1 Ea., Sample Bar #2, Batch # WO19711

Sample ID	Original Area Sq. Inches	Reduced Area Sq. Inches	Reduction in Area %	Yield Strength PSI	Tensile Strength PSI	Elongation (2.0" Gage Length) in. %		Elastic Modulus
#1	.1901	.0855	55.0	56,500	85,000	0.80	55.0	25.5 MSI
#2	.1917	.0881	54.0	63,900	98,100	0.88	54.0	23.1 MSI


Round, reduced section all weld room temperature tensiles

Yield taken at .2% offset

Tested in accordance with ASTM A 370

Identification of tested specimens provided by the client

KS/tw


Karl Schmitz, Director
Materials TestingCertificate No. 0397-01
Certificate No. 0397-02AN OFFICIAL COPY OF TEST REPORT WILL BE PROVIDED BY THIS LABORATORY ON REQUEST. DO NOT REPRODUCE.
NOT OFFICIAL WITHOUT THE RAISED SEAL OF ST. LOUIS TESTING LABORATORIES, INC.
SEE REVERSE FOR CONDITIONS.



2810 Clark Avenue • St. Louis, MO 63103-2574 • (314) 531-8080 • FAX (314) 531-8085

METALTEK INTERNATIONAL
8600 Commercial Blvd.
Pevely, MO 63070

April 6, 2005
Lab No. 05P-1007
P.O. No. 12516
Page 1 of 2

Attention: Chuck Ruud

REPORT OF CHARPY IMPACT TEST

MATERIAL (SAMPLE ID): 1 Ea., Material (1) LNM4455, Lot # 3012668/82743
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: -320°F

ALL WELD METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
LNM4455-1	52	0.027	40
LNM4455-2	50	0.022	40
LNM4455-3	50	0.016	20
Average	51	0.022	33

Identification of tested specimen provided by client.

KS/tw

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. DO NOT REPRODUCE.
NOT OFFICIAL WITHOUT THE RAISED SEAL OF ST. LOUIS TESTING LABORATORIES, INC.
SEE REVERSE FOR CONDITIONS.





2810 Clark Avenue • St. Louis, MO 63103-2574 • (314) 531-8080 • FAX (314) 531-8085

METALTEK INTERNATIONAL
8600 Commercial Blvd.
Pevely, MO 63070

April 6, 2005
Lab No. 05P-1007
P.O. No. 12516
Page 2 of 2

Attention: Chuck Ruud

REPORT OF CHARPY IMPACT TEST

MATERIAL (SAMPLE ID): (2) Metrode B316NF, Batch # WO19711
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: -320°F

ALL WELD METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
B316NF-1	48	0.030	30
B316NF-2	52	0.027	30
B316NF-3	44	0.027	30
Average	48	0.028	30

Identification of tested specimen provided by client.

KS/tw


Karl Schmitz, Director
Materials Testing



Certificate No. 0357-01
Certificate No. 0397-02

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

MEMBER
ACIL



2810 Clark Avenue • St. Louis, MO 63103-2574 • (314) 531-8080 • FAX (314) 531-8085

METALTEK INTERNATIONAL
8600 Commercial Blvd.
Pevely, MO 63070

February 28, 2005
Lab No. 05P-0554
P.O. No. 12516
Page 1 of 2
(Revised Report 3-2-05)

Attention: Rick Suria

REPORT OF CHARPY IMPACT TEST

MATERIAL (SAMPLE ID): Electrode LNM 4455 & B316NF
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch, All Weld
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: +70°F

30126682743

L W01974

Chc 6/14/05

RESULTS:

ALL WELD	JOULES	FOOT LBS.	LATERAL EXPANSION	% SHEAR
LNM 4455-7	149	110	0.055	50
LNM 4455-8	130	96	0.050	50
LNM 4455-9	134	99	0.051	50
Average	138	102	0.052	50

ALL WELD	JOULES	FOOT LBS.	LATERAL EXPANSION	% SHEAR
B316NF-7	155	114	0.056	50
B316NF-8	151	111	0.053	50
B316NF-9	146	108	0.052	50
Average	151	111	0.054	50

Identification of tested specimen provided by client.

KS/clm



Certificate No. 0387-01
Certificate No. 0387-02

Karl Schmitz, Director
Materials Testing

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





2810 Clark Avenue • St. Louis, MO 63103-2574 • (314) 531-8080 • FAX (314) 531-8085

METALTEK INTERNATIONAL
8600 Commercial Blvd.
Pevely, MO 63070

February 28, 2005
Lab No. 05P-0554
P.O. No. 12516
Page 2 of 2
(Revised Report 3-2-05)

Attention: Rick Suria

PROCEDURE QUALIFICATION

WELDER: TERRY STANFIELD
MATERIAL: 1" CF8MnMn, Mod
SPECIFICATION: ASME IX
ELECTRODE: B316NF
PROCESS: SMAW

REDUCED SECTION TENSILE

SAMPLE ID	WIDTH INCHES	THICKNESS INCHES	AREA SQ. INCHES	ACTUAL LBS.	TENSILE STRENGTH PSI	FRACTURE
TS-2	.750	1.000	.7500	70,000	93,300	Weld Metal
TS-5	.750	1.010	.7575	71,000	93,700	Weld Metal

GUIDED BEND TEST

SAMPLE ID	BEND	RESULTS
TS-1	Side	Acceptable, No Discontinuities
TS-3	Side	Acceptable, No Discontinuities
TS-4	Side	Acceptable, No Discontinuities
TS-6	Side	Acceptable, No Discontinuities

KS/clm

Karl Schmitz, Director
Materials Testing
CWI No. 92120161



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

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





Carondelet Division

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

Final Inspection Report

Customer Name: ENERGY
INDUSTRIES OF
OHIO

Pattern: MCWF-C1

Order Number: PPPL-FP-LTS-2

Revised 7/26/05

ASTM Metal CF8MNMN MOD

Date 7/26/2005

Type Description	Cert Number	Procedure	Acceptance Criteria	Actual
Radiographic	S73140-1	Technique # 12726	MSS SP 54	Acceptable
Liquid Penetrant	S73140-1	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	S73140-1	SOP Mag Perm 100 Rev 1	<1.02	Acceptable
Visual	S73140-1	CQP - 500 REV 4	ASTM A802 LEVEL 2	Acceptable

Liquid Penetrant

Technician: Kevin Anderson
ASNT Level II

Respectfully Submitted,
Charles A. Ruud
Quality Assurance Manager

Superior Quality Engineered Metal Products

www.MetalTekInt.Com