

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.wmtt.com
WMTT is a technical leader in the material testing industry.

February 9, 2006

CERTIFICATION

MetalTek International
The Carondelet Division
8600 Commercial Blvd.
1-55 Industrial Park
Pevely, MO 63070-1528

Attention: Jim Galaske

Subject: All processes, performed upon the material as received, were conducted at WMTT & R, Inc. in accordance with the WMTT & 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 95Max ---) 0.2% YS ksi (Min 72Max ---) 4D Elong. % (Min 32Max ---) Modulus Msi (Min 21Max ---)

SOAK TIME: 5 Minutes

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

MATERIAL: 316 S/S

DISPOSITION: Acceptable

Specimen ID	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	AUVR
A4-Z1	C97608	-320	162.9	95.4	49	40	23.0	15620	9147	0.3494	0.2703	1.40	2.08	0.09588169	M9	A
A4-Z3	C97610	-320	165.6	100.9	43	37	31.1	15910	9690	0.3497	0.2786	1.40	2.00	0.09604641	M9	A
A4-Z2-2	D08135	-320	168.3	103.8	46	39	32.5	16650	10270	0.3549	0.2764	1.40	2.05	0.09892405	M9	A

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

Requirements supplied by Metal Tek International.

Section 1 of 1

WMTT & R Report No. 6-20609

P.O. No. 19386

Requisition No. 7748



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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
Danbury Vt. ~ Tel. +44 (0) 1295 261211

Matthew J. Galaske
Roy E. Startmatt Wojcik
Technical Services Manager / Tensile Supervisor

February 9, 2006

2810 Clark Avenue • St. Louis, MO 63103-2574 • (314) 531-8080 • FAX (314) 531-8085
 Chemical, Metallurgical, Mechanical, Nondestructive, Environmental Testing, Analyses and Field Service.

METALTEK INTERNATIONAL
 8600 Commercial Blvd.
 Pevely, MO 63070

January 31, 2006
 Lab No. 06P-0106
 P.O. No. 21324
 Page 1 of 3

Attention: Chuck Ruud

REPORT OF CHARPY IMPACT TEST

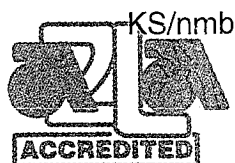
MATERIAL (SAMPLE ID): A4-Z1, Z2, Z3
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: 293K (Room Temp)
RESULTS:

BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z1-4	150	0.094	100
Z1-5	152	0.075	100
Z1-6	148	0.075	100
Average	150	0.081	100
BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z2-4	130	0.084	100
Z2-5	154	0.087	100
Z2-6	144	0.093	100
Average	143	0.088	100
BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z3-4	166	0.125	100
Z3-5	148	0.101	100
Z3-6	160	0.083	100
Average	158	0.103	100



Identification of tested specimens provided by client.


 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.



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January 31, 2006
 Lab No. 06P-0106
 P.O. No. 21324
 Page 2 of 3

Attention: Chuck Ruud

REPORT OF CHARPY IMPACT TEST

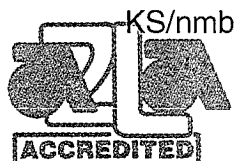
MATERIAL (SAMPLE ID): A4-Z1, Z2, Z3
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: 77K (-320°F)
RESULTS:

BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z1-7	91	0.043	50
Z1-8	78	0.040	50
Z1-9	80	0.044	50
Average	83	0.042	50
BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z2-7	73	0.040	50
Z2-8	64	0.043	50
Z2-9	78	0.035	40
Average	72	0.039	47
BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z3-7	78	0.050	50
Z3-8	74	0.041	50
Z3-9	72	0.044	50
Average	75	0.045	50



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MEMBER
ACIL

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January 31, 2006
Lab No. 06P-0106
P.O. No. 21324
Page 3 of 3

Attention: Chuck Ruud

REPORT OF MECHANICAL TESTS

SAMPLE ID: A4-Z1, Z2, Z3

Sample ID	Original Area Sq. Inches	Reduced Area Sq. Inches	Reduction in Area %	Modules of Elasticity	Yield Strength PSI	Tensile Strength PSI	Elongation (2.0" Gage Length)	
							in.	%
Z1	.1886	.1046	44.5	22.8	44200	85600	0.92	46.0
Z2	.1893	.0929	50.9	23.8	44400	84800	1.01	50.5
Z3	.1901	.0656	65.5	22.2	42900	83400	1.10	55.0

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.

KS/nmb


Karl Schmitz, Director
Materials Testing



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Certificate No. 0397-02

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PRODUCT CONFORMANCE REPORT



Product	ENM 4455	Size(s) mm	1,2
Class.	EN 12072-99: G 20 16 3 Mn L	Lot/Batch	3018513/78308
		Item No.	692129
Customer	EUROWELD MOORESVILLE N.C. 28117 UNITED STATES	Quantity	105,0 KG
		Customer ref.	P.O. 05 - 46
		LSW Order No.	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
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	Date	22/03/2005	Cert.No.	3018513/7830
										Fax:	31 24 3522200				

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METALTEK INTERNATIONAL
8600 Commercial Blvd.
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



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Certificate No. 0397-02

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Pevely, MO 63070

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

Attention: CHUCK RUUD

REPORT OF MECHANICAL TESTS

SAMPLE ID: LNM 4455, LINCOLN LOT 3018513/78308

Sample ID	Original Area	Reduced Area	Reduction in Area %	Yield Strength PSI	Tensile Strength PSI	Elongation (2.0" Gage Length)		Modules of Elasticity
	Sq. Inches	Sq. Inches				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.

KS/tlv

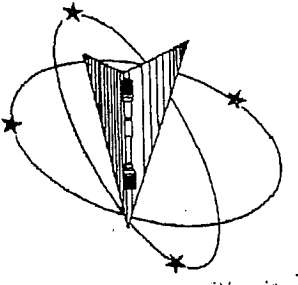

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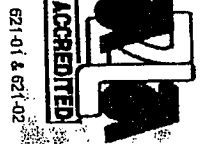




October 18, 2005

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

CERTIFICATION



Section 1 of 1
WMT&R Report No. 5-35979
Requisition No. 4972

MetaTek International
The Cammelleet Division
8600 Commercial Blvd.
1-55 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./in./min.

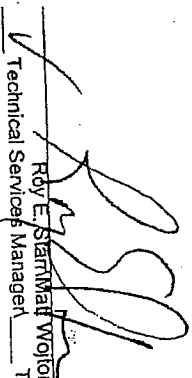
MATERIAL: METALTEK CF8MNMNM0D

Specimen ID	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	ALLUR
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

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

DISPOSITION: Report

KNOWINGLY OR WILLFULLY FALSIFYING OR CONCEALING A MATERIAL FACT ON THIS FORM
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HEREON SHALL CONSTITUTE A FEDERAL VIOLATION UNDER FEDERAL
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Roy E. Starbuck
Technical Services Manager

October 18, 2005

10-18-05

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8600 Commercial Blvd.
Pevely, MO 63070

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

Attention: Chuck Ruud

REPORT OF CHARPY IMPACT TEST

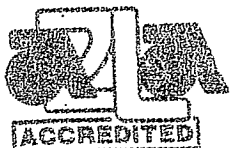
MATERIAL (SAMPLE ID): WELD PLATE- 3018513 / 78308
SPECIFICATION: ASTM A 370-03a
SPECIMEN TYPE: "A" Vee Notch
SPECIMEN SIZE: 10 mm x 10 mm
TEMPERATURE OF TEST: -320°F
REQUIREMENTS: minimum 35 ft / lbs.

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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