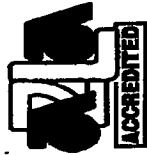


Westmoreland Mechanical Testing & Research, Inc.  
P.O. Box 388  
Westmoreland Drive  
Youngstown, Pa. 15696-0388 U.S.A.  
Telephone: 724-537-3131 Fax: 724-537-3151

Website: [www.wmtr.com](http://www.wmtr.com)

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



621-01 & 621-02



Materials Testing Laboratory

March 29, 2006

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

## CERTIFICATION

Section 1 of 1

WMT&R Report No. 6-26364  
P.O. No. 19386  
Requisition No. 7592

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 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./min./in.

MATERIAL: 316 S/S

Coil No.	Specimen	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
A5	Z1	D36087	-320	165.9	103.1	37	23	27.4	15780	9809	0.3480	0.3048	1.40	1.92	0.09511486	M9	A
A5	Z2	D36088	-320	164.8	98.9	59	58	28.5	15660	9400	0.3478	0.2263	1.40	2.23	0.09500556	M9	A
A5	Z3	D36089	-320	164.9	100.9	50	49	25.3	15790	9661	0.3492	0.2494	1.40	2.10	0.09577195	M9	A

DISPOSITION: Acceptable

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

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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

Matthew Wojcik  
Roy E. Stamm  
Technical Services Manager  
Tensile Supervisor  
3-29-06  
March 29, 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

February 9, 2006  
 Lab No. 06P-0404  
 P.O. No. 21324  
 Page 1 of 3


**Attention: Chuck Ruud**

**REPORT OF CHARPY IMPACT TEST**

**MATERIAL (SAMPLE ID):** A5 COIL- Z1, Z2, Z3  
**SPECIFICATION:** ASTM A 370-03a  
**SPECIMEN TYPE:** "A" Vee Notch  
**SPECIMEN SIZE:** 10 mm x 10 mm  
**TEMPERATURE OF TEST:** 77°K  
**REQUIREMENTS:** 35 ft / lbs min

BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z1-1	69	0.045	50
Z1-2	88	0.049	50
Z1-3	65	0.033	40
<b>Average</b>	<b>74</b>	<b>0.042</b>	<b>47</b>
SAMPLE ID	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z2-1	77	0.047	50
Z2-2	78	0.032	50
Z2-3	57	0.025	30
<b>Average</b>	<b>71</b>	<b>0.035</b>	<b>43</b>
SAMPLE ID	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z3-1	67	0.036	30
Z3-2	66	0.036	30
Z3-3	66	0.037	30
<b>Average</b>	<b>66</b>	<b>0.036</b>	<b>30</b>

Identification of tested specimen 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.



2/9/06



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 8600 Commercial Blvd.  
 Pevely, MO 63070

February 9, 2006  
 Lab No. 06P-0404  
 P.O. No. 21324  
 Page 2 of 3

**Attention: Chuck Ruud**


### REPORT OF CHARPY IMPACT TEST

**MATERIAL (SAMPLE ID):** A5 COIL- Z1, Z2, Z3  
**SPECIFICATION:** ASTM A 370-03a  
**SPECIMEN TYPE:** "A" Vee Notch  
**SPECIMEN SIZE:** 10 mm x 10 mm  
**TEMPERATURE OF TEST:** 293°K  
**REQUIREMENTS:** 50 ft / lbs min

BASE METAL	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z1-4	158	0.088	100
Z1-5	126	0.080	100
Z1-6	146	0.087	100
<b>Average</b>	143	0.085	100
SAMPLE ID	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z2-4	144	0.054	70
Z2-5	134	0.085	90
Z2-6	166	0.067	50
<b>Average</b>	148	0.069	70
SAMPLE ID	FOOT LBS.	LATERAL EXPANSION	% SHEAR
Z3-4	142	0.087	100
Z3-5	142	0.074	90
Z3-6	160	0.062	80
<b>Average</b>	148	0.074	90

  
 2/9/06

*Identification of tested specimen provided by client.*

  
 Karl Schmitz, Director  
 Materials Testing



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

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8600 Commercial Blvd.  
Pevely, MO 63070

February 9, 2006

Lab No. 06P-0404

P.O. No. 21324

Page 3 of 3

**Attention: Chuck Ruud**

**REPORT OF MECHANICAL TESTS**

**SAMPLE ID: A5 COIL- Z1, Z2, Z3**

Sample ID	Original Area Sq. Inches	Reduced Area Sq. Inches	Reduction in Area %	Modulus of Elasticity	Yield Strength PSI	Tensile Strength PSI	Elongation (2.0" Gage Length)	
							in.	%
Z1	0.1886	0.1152	38.9	22.9	42200	81100	1.04	52.0
Z2	0.1917	0.0683	64.3	23.8	42300	83500	1.09	54.5
Z3	0.1901	0.1238	34.9	22.7	42600	82100	0.89	44.5

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/tlv

  
 Karl Schmitz, Director  
 Materials Testing



Certificate No. 0397-01  
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 Min 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	0,09



## Mechanical tests, all weld metal EN10204 2.2

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

## Additional information EN10204 2.2

Other tests



## Remarks

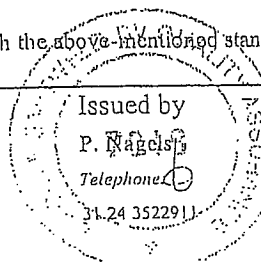
Impact testing (individual values): 70J - 65J - 67J.

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 hereby 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



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

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8600 Commercial Blvd.  
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 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.*

KS/tlv

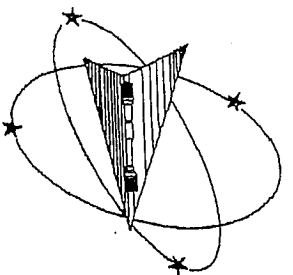
  
Karl Schmitz, Director  
Materials Testing



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

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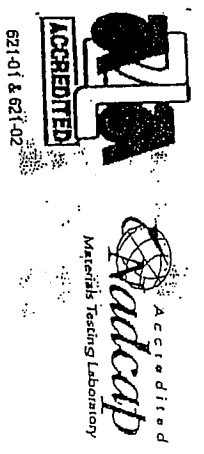




October 18, 2005

**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.wmtr.com](http://www.wmtr.com)  
WMTR is a technical leader in the material testing industry.

Section 1 of 1  
WMTR Report No. 5-35979  
Requisition No. 4972



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 WMTR, Inc. in accordance with the WMTR 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 CF8MMNMNMOD

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	AIUR R
3018513/8308	C54936	-320	184.9	123.7	33	33	32.8	10470	12350	0.3566	0.2926	1.40	1.86	0.09987403	M9	R

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

DISPOSITION: Report

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Testing Specialists for Aerospace, Automotive, and Material Testing Fields  
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Roy E. Starnatt Wojton  
Technical Services Manager Tensile Supervisor  
October 18, 2005  
10-18-05





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METALTEK INTERNATIONAL  
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

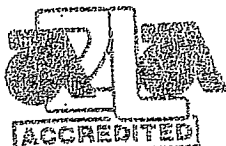
MATERIAL (SAMPLE ID): WELD PLATE- 3018513 / 78308  
SPECIFICATION: ASTM A 370-03a  
SPECIMEN TYPE: "A" Vee Notch  
SPECIMEN SIZE: 10 mm x 10 mm  
TEMPERATURE OF TEST: -320°F  
REQUIREMENTS: minimum 35 ft / lbs.

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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