



**ONE MONROE**  
**AEROSPACE**

**CERTIFICATE OF CONFORMITY**

**NO: 928473**

**BILL TO:**  
BARMIL, LTD.  
ACCTS. PAYABLE  
69 GISSIN STREET  
P.O.B 4171,  
PETACH TIKYA 4922384


**SHIP TO:**  
BARMIL, LTD.  
ATTN: ARIK YOCHAI  
c/o ALISON TRANSPORT / PAI TRUCKING  
145-45 156TH ST  
JAMAICA, NY 11434

<b>CUSTOMER PO</b> 260340	<b>SHIP DATE</b>	<b>AIRWAY BILL/TRACKING #</b> 1Z3165E00377241238
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PART NO:	Description	CD	QTY	S/L	
2600-LW REV: N	RETAINING RING Customer Reference:	NE	150	70	LOT: 17994523 MFR: HOWMET
27S3-4S REV: U	CAMLOC S/S Customer Reference:	NE	150	42	LOT: 2582650 MFR: HOWMET
NAS1149D0663J REV: 7	WASHER Customer Reference:	NE	100	8	LOT: C2635 MFR: ANILLO
MS21042L06 REV: 3	SELF LOCKING NUT Customer Reference:	NE	5000	128	LOT: 72856-000 MFR: ESNA
MS20426AD3-6 REV: 3	SOLID RIVET Customer Reference:	NE	1	71	LOT: X0124353-1 MFR: PFR
MS21919WCH4 REV: E	CLAMP S/S Customer Reference:	NE	75	47	LOT: UMP168193 MFR: UMPCO
MS21919WCH8 REV: E	CLAMP S/S Customer Reference:	NE	75	40	LOT: UMP164253 MFR: UMPCO
MS21919WCH10	CLAMP S/S Customer Reference:	NE	75	39	LOT: UMP162428 MFR: UMPCO
MS21919WCH12 REV: E	CLAMP S/S Customer Reference:	NE	75	41	LOT: UMP171804 MFR: UMPCO
MS21919WCH24 REV: E	CLAMP S/S Customer Reference:	NE	3	28	LOT: 001071-39-1 MFR: PACMET
MS21919WCH24	CLAMP S/S Customer Reference:	NE	47	26	LOT: 244096 MFR: J&M
MS51957-63 REV: F	SCREW S/S Customer Reference:	NE	280	17	LOT: 92033 MFR: NEFCO

**CONDITIONS: NE-NEW NS-NEW SURPLUS OH-OVERHAULED RP-REPAIRED SV-SERVICEABLE COM-COMMERCIAL**

We hereby certify that the items that are a part of this Purchase Order have been visually & dimensionally found to conform to all applicable standards, drawings & specifications. The liability of ECAS, LLC is limited to replacement of any item which is rejected because of a defect in material or workmanship if notified within 30 days & liability shall not exceed the invoice value. Such replacement shall constitute satisfaction of all liability.

SIGNED:   
For and on behalf of ECAS, LLC dba MONROE AEROSPACE

**ECAS, LLC dba MONROE AEROSPACE**  
300 NORTH DR STE 100 MELBOURNE, FL 32934 PH: 800.330.3975



**ONE MONROE  
AEROSPACE**

**CERTIFICATE OF CONFORMITY**

**NO: 928473**

**BILL TO:**  
BARMIL, LTD.  
ACCTS. PAYABLE  
69 GISSIN STREET  
P.O.B 4171,  
PETACH TIKYA 4922384


**SHIP TO:**  
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ATTN: ARIK YOCHAI  
c/o ALISON TRANSPORT / PAI TRUCKING  
145-45 156TH ST  
JAMAICA, NY 11434

<b>CUSTOMER PO</b>	<b>SHIP DATE</b>	<b>AIRWAY BILL/TRACKING #</b>
260340		1Z3165E00377241238

PART NO:	Description	CD	QTY	S/L	
MS24693-C23	SCREW S/S Customer Reference:	NE	100	12	LOT: 45216 MFR: NEFCO
NAS6204-10 REV: 11	BOLT Customer Reference:	NE	50	29	LOT: 104728 MFR: MAC
NAS6204-7	BOLT Customer Reference:	NE	50	30	LOT: 319542 MFR: CALSCREW

**CONDITIONS: NE-NEW NS-NEW SURPLUS OH-OVERHAULED RP-REPAIRED SV-SERVICEABLE COM-COMMERCIAL**

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SIGNED:   
\_\_\_\_\_  
For and on behalf of ECAS, LLC dba MONROE AEROSPACE

**ECAS, LLC dba MONROE AEROSPACE**  
300 NORTH DR STE 100 MELBOURNE, FL 32934 PH: 800.330.3975



# Packing Slip & Certification

Order Number: SO61571

Fulfillment Number: IF29917

Terms: Net 30

Customer #: ECALLCFL01

Ordered Date: 12/10/2025

Ordered by: KEITH GILIBERTY

Sales Rep: Jamie Gilbert

Customer PO: FL105306

WG Henschen  
WG Henschen  
24908 Avenue Kearny  
Valencia CA 91355  
United States





**Ship To**  
ECAS, LLC MONROE AEROSPACE (FL)  
ATTN RECEIVING  
300 NORTH DR SUITE 100  
MELBOURNE FL 32934  
United States

**Bill To**  
ECAS, LLC  
dba. MONROE AEROSPACE  
300 NORTH DR SUITE 100  
MELBOURNE FL 32934  
United States

Date	Ship Via	Ship Acct#
12/10/2025	UPS 3 Day Select®	3165E0

Customer/Order Instructions

Cust Ln	Ln	Item	Ordered	Shipped	B/Q'd	UM	Req'd Date
1	1	MS21042L06 Customer PN: MS21042L06 NUT Lot: 1000014366 72856; Qty: 13500;	13,500	13,500	0	EA	12/10/2025

TOTAL PACKAGES: 1  
 GROSS WEIGHT IN LBS: 12  
 DIMENSIONS: 10x7x7

16150 North Arrowhead Fountains  
Center Drive  
Suite #240A  
Peoria AZ 85382  
United States



SO61571



IF29917

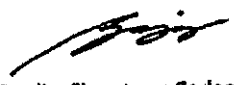
**CERTIFICATION**

PARTS ARE CONFORMING TO THE PURCHASE ORDER, INSPECTION, TEST, QUALITY, AND PERFORMANCE ARE IN ACCORDANCE WITH SPECIFICATIONS, AND DRAWINGS AS APPLICABLE. PARTS WERE NOT SUBJECTED TO CONDITIONS OF EXTREME STRESS, HEAT OR ENVIRONMENT. UNLESS OTHERWISE STATED ON THE FACE OF THE INVOICE, WG HENSCHEN'S LIABILITY EXPRESSLY LIMITED TO REPLACEMENT OR CREDIT FOR THOSE PARTS. MATERIALS MAY NOT BE RETURNED WITHOUT PRIOR AUTHORIZATION FROM WG HENSCHEN (RMA). CLAIMS FOR SHORTAGE OR DEFECTIVE MATERIAL MAY BE MADE WITHIN 30 DAYS FROM RECEIPTS OF GOODS. DISCLAIMER: NO HAZARDOUS SUBSTANCE (LEAD, MERCURY, CADMIUM, RADIUM ETC) WERE USED IN PROCESSING THIS ORDER, EXCEPT FOR THOSE PERMITTED BY CUSTOMER CONTROLLED SPECIFICATIONS. ALL ATTACHED CERTIFICATIONS ARE CERTIFIED TRUE COPIES AND ORIGINALS ARE MAINTAINED ON FILE.

If applicable, These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

We hereby certify that no returns will be accepted without WG Henschen Return Material Authorization number (RMA). Only lot traceable material will be accepted for return.

The standard terms and conditions for sales by WG Henschen are accessible via <https://www.wghco.com/wp-content/uploads/2023/12/A-820-002-Buyer-SO-Terms-Conditions-Rev-G.pdf>. These terms and conditions are to be considered an integral part of this order unless WG Henschen and the buyer have mutually agreed otherwise in a document signed by both parties. The governance of this order will be under these terms and conditions, overriding any conditions the buyer may have included with the order. The acceptance of this order implies the buyer's agreement to these terms and conditions. Unless there is explicit mutual agreement in writing signed by both WG Henschen and the buyer, these terms and conditions will take precedence over any other terms, conditions, representations, and understandings, whether verbal or written.



Quality Signature: Carlos Dominguez

16150 North Arrowhead Fountains  
Center Drive  
Suite #240A  
Peoria AZ 85382  
United States



SO81571



IF29917

ESNA  
611 COUNTRY CLUB ROAD  
POCAHONTAS, ARKANSAS 72455  
(870) 892-5201

TO: WG HENSCHEN CO  
7363 EAST TIERRA BUENA LANE, SUITE 100

DATE: 4/29/2025

SCOTTSDALE, AZ 85260


SUBJECT:	YOUR ORDER NUMBER	PO14088	ITEM NUMBER	1
	ESNA ORDER NUMBER	131288		
	FSCM/ CAGE NUMBER	018L2		
	YOUR PART NUMBER	MS21042L06		
	CERTIFIED AS	MS21042L06 PER NASM21042 REV 3		
	ESNA PART NUMBER	M52LF3324-62		
	QUANTITY	33139		
	PACKING LIST NUMBER	94675		
	SHOP ORDER NUMBER	72856- 000		

This is to certify that all applicable plating, heat treating, and inspection processing and that all material used in the manufacture of subject parts conform to the specification or drawings received by ESNA and set forth in the subject purchase order; that the parts are of good material and workmanship; and that all necessary records, including chemical and physical where applicable, will be made available for review upon request. The inspection and test reports provided represent the actual attributes of the items furnished on this contract and indicate full compliance with all applicable specification and contract requirements.

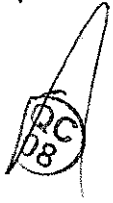
This is to certify that the materials supplied against the subject order are free of contamination by presence of mercury.

Very truly yours,

ESNA

  
DUSTIN SMITH  
QUALITY ASSURANCE MANAGER  
Brenda Ramsey, Sr. Certs Expert /Level II NDT

The above subject parts were manufactured in the United States of America.



ESNA  
611 COUNTRY CLUB ROAD  
POCAHONTAS, ARKANSAS 72455

CERTIFICATE OF QUALITY COMPLIANCE

DATE: 4/29/2025

TO: WG HENSCHEN CO  
7383 EAST TIERRA BUENA LANE, SUITE 100  
  
SCOTTSDALE, AZ 85260

ESNA PART NO. M52LF3324-62 (2 SEPT 97)  
MANUFACTURER'S LOT SIZE 100341 (APPROX. WT. COUNT)  
MANUFACTURED UNDER SHOP ORDER NUMBER 72868 - 000  
ORIGINATED AS SHOP ORDER NUMBER \_\_\_\_\_  
CUSTOMER PO #: PO14088 PACKING LIST #: 94876  
ESNA ORDER #: 131288 QTY PACKAGED: 33138  
CUSTOMER PART #: MS21042L08

ACCEPTANCE TESTS PER NASM 25027 REV 1

MATERIAL RAW MATERIAL TYPE .157 WIRE 4037 DATE MFG: 6/14/2022  
RAW MATERIAL CONFORMS TO AMS 6300E AS EVIDENCED BY THE ATTACHED MILL CERTIFICATION. ESNA SHOP  
ORDER NO. 72858 - 000 MILL HEAT NO. 10681150 VENDOR WIRETECH  
FINISH FINISH TYPE SAE AMS QQ-P-416E TP II CL 2;  
LUBRICANT TYPE EVERLUB 620C DRY FILM LUBE PER AS5272 TYPE I

AXIAL STRENGTH REQUIRED LBS. MINIMUM 1670 ALL SAMPLE PIECES TESTED MEET OR EXCEED  
EXCEEDS LBS. 1670 MINIMUM REQUIREMENTS.  
SAMPLE SIZE 27 PIECES.

WORKMANSHIP CONFORMS DIMENSIONALLY TO MS21042L08 PER NASM21042 REV 3 STANDARD.  
BEARING SURFACE SQUARENESS AS SPECIFIED PER NASM 25027 REV 1

DISCONTINUITIES WITHIN LIMITS PER NASM 25027 REV 1 AND MIL-STD-271D/ACN 1/ AND REV E/ NOTICE 2/ AND REV F/ NOTICE 1.  
MT PER SPEC 718 R SAMPLE SIZE(MT - PCS): 32  
ACCEPTED(PCS): 32  
PT PER SPEC 731 SAMPLE SIZE(PT - PCS): 0  
ACCEPTED(PCS): N/A

This is to certify that all applicable plating, heat treating, and inspection processing and that all material used in the manufacture of subject parts conform to the specification or drawings received by ESNA and set forth in the subject purchase order; that the parts are of good material and workmanship; and that all necessary records, including chemical and physical where applicable, will be made available for review upon request. The inspection and test reports provided represent the actual attributes of the items furnished on this contract and indicate full compliance with all applicable specification and contract requirements.  
This is to certify that the materials supplied against the subject order are free of contamination by presence of mercury.

The recording of false, fictitious or fraudulent statements or entries on this document may be punishable as a felony under Federal Statute.  
This document shall not be reproduced in full without the written approval of the laboratory.

SIGNATURE Brenda Ramsey  
DUSTIN SMITH, QUALITY ASSURANCE MANAGER  
Brenda Ramsey, Sr. Certs Expert /Level II NDT

**ESNA  
POCAHONTAS, ARKANSAS 72455**

**LOCKING TORQUE TEST**

CUSTOMER NAME **WG HENSCHEN CO**  
7363 EAST TIERRA BUENA LANE, SUITE 100

CUSTOMER DUE DATE

4/29/2025

SCOTTSDALE, AZ 85280

CUSTOMER PO # **PO14088**  
ITEM NUMBER **056082**  
QUANTITY **33139**  
THREAD SIZE **.1380-32**  
HEX **.180 MAX.**  
LINE NO **1**  
MS NUMBER - REF: **MS21042L06 PER NASM21042 REV 3**

ESNA ORDER # **131288**  
PART # **M52LF3324-62**  
SHOP ORDER # **72858 - 000**  
LOT QUANTITY **100341**  
PARENT SHOP ORDER # **-**

Sample Size & Requirements per Spec NASM 26027 REV 1

SampleSz 27

REQUIREMENT: 1ST, 7TH, 15TH, INSTALLATION MAXIMUM TORQUE  
15TH BREAKAWAY MINIMUM TORQUE

10  
1.0

SAMPLE #	1ST ON	1ST BREAK	7TH ON	7TH BREAK	15TH ON	15TH BREAK
1	05.0	03.0	03.0	02.0	03.0	01.5
2	06.5	05.0	05.0	03.5	04.0	03.0
3	06.5	05.0	05.0	04.0	04.5	03.0
4	06.0	04.0	04.5	03.0	03.5	02.5
5	08.0	05.0	08.5	03.5	05.5	02.5
6	05.0	03.5	03.5	02.0	04.0	02.0
7	10.0	07.0	07.5	05.0	07.0	05.0
8	05.5	04.0	05.0	03.0	04.5	02.0
9	06.5	05.5	05.0	03.5	05.0	03.0
10	07.0	06.0	07.0	05.0	05.0	03.5
11	07.5	06.0	05.0	04.0	04.5	03.5
12	07.5	06.0	05.5	04.0	04.5	03.5
13	03.5	02.5	02.5	01.5	04.0	02.0
14	08.5	05.0	08.5	05.0	05.0	03.5
15	05.0	04.0	04.0	03.0	04.0	02.5
16	07.0	04.0	04.0	03.0	04.5	03.0
17	08.0	05.0	06.0	03.5	04.0	03.0
18	08.0	07.0	08.0	04.0	05.0	04.0
19	06.0	04.0	04.5	03.0	04.5	03.0
20	07.5	05.5	07.0	05.5	05.0	04.0
21	09.5	07.5	08.0	06.0	07.5	05.0
22	09.5	06.0	08.5	03.5	04.5	03.5
23	08.0	05.0	05.0	04.0	05.0	03.0
24	06.0	05.0	03.5	03.0	04.0	03.0
25	05.5	04.0	04.0	04.0	04.5	03.0
26	05.5	04.0	03.0	02.0	04.5	02.5
27	05.0	02.5	02.5	02.0	03.5	03.0

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SIGNATURE Brenda Ramsey  
DUSTIN SMITH, QUALITY ASSURANCE MANAGER  
Brenda Ramsey, Sr. Certs Expert /Level II NDT

FSCM/CAGE NO. 019L2  
QAF73 REV.01-31-20  
Page 3 of 3

SHOP ORDER #

72858 - 000



2500 W. Main  
 Jacksonville, AR 72076  
 Phone: 501-982-3148 Fax: 501-982-3140

Customer No: 1138

ESNA PRODUCTS  
 611 COUNTRY CLUB ROAD  
 POCAHONTAS, AR 72455

Shipped To: ESNA PRODUCTS  
 611 COUNTRY CLUB ROAD  
 POCAHONTAS, AR 72455

**Certification for Order**  
**431414**  
**Certified On**  
**March 19, 2025**

Purchase Order	Order Date	Cust Shipper#	Heat Code	Material	Lot Number	Orig	Containers
57348	08-Mar-2025			4037	72856		2 BINS

**HEAT TREAT**

Part Number/Description	Quantity	Weight
M52LP3324-82 (088082) H/T PER SPEC 510	102578	80.0

**Requirements & Test Results**

Requirement	Test	Tested	Test Results	Test Performed	Test Results	Qty
SRFS HDS - 43-46 RC	3	3	43-45 RC	SRFS HDS	43	1
				SRFS HDS	45	2

Special Notes:  
 15N 82/83 = RC 43/45

Certification for Order#: 431414

Louis Nettles, Quality Control

Date Signed; 19 March 2025  
 Coleman Heat Treating Inc.  
 2500 W. Main  
 Jacksonville, AR 72076

Fischerscope® XRAY XDAL 237



-Copper-                      -Nickel-                      -Cadmium-                      -Zinc-                      -Tin-

Commercial Plating  
9100 Riverview Drive \* St. Louis, Missouri \* 63137  
Phone: (314) 867-4212 \* www.commercialplating.com \* FAX: (314) 867-4523

COMMERCIAL PLATING CERTIFICATION & TEST RESULTS

This is to certify that the order detailed below was plated to comply with the agreed upon requirements of the requested specification.

Date: 4/8/2025  
Part No.: M62LF3324-62  
Order No: 57812

Customer: ESNA  
Part Description: # 62 NUT  
Lot No: 72858

Net Weight: 77  
Plated to Gauge: N

Specification: SAE AMS, QQ-P-418E, TYPE II, CLASS 2

Requirements: .0003-.0008 OAD, 23 HOUR BAKE (375 +/- 25F) AND BLACK CHROMATE

Signature:

R.S. Wagner, Quality Manager

Results: Cd/Fe

n= 1 Cd 1= 372.0 μ"  
n= 2 Cd 1= 324.3 μ"  
n= 3 Cd 1= 438.2 μ"  
n= 4 Cd 1= 343.6 μ"  
n= 5 Cd 1= 458.3 μ"  
n= 6 Cd 1= 604.2 μ"  
n= 7 Cd 1= 405.9 μ"  
n= 8 Cd 1= 438.4 μ"  
n= 9 Cd 1= 390.2 μ"  
n= 10 Cd 1= 346.4 μ"  
n= 11 Cd 1= 340.9 μ"  
n= 12 Cd 1= 541.9 μ"  
n= 13 Cd 1= 370.2 μ"  
n= 14 Cd 1= 443.3 μ"  
n= 15 Cd 1= 373.1 μ"  
n= 16 Cd 1= 376.6 μ"  
n= 17 Cd 1= 391.4 μ"  
n= 18 Cd 1= 489.0 μ"  
n= 19 Cd 1= 477.7 μ"  
n= 20 Cd 1= 383.5 μ"

## COMMERCIAL PLATING SAE AMS QQ-P-416E PROCESSING

THIS IS TO CERTIFY THAT THE ORDER DESCRIBED BELOW WAS BAKED IN AN OVEN CERTIFIED TO AND FOLLOWING THE REQUIREMENTS OF SAE AMS 416E.

DATE: 4/10/2025

CUSTOMER: ESNA

CPC WORK ORDER NUMBER: 1602

PART NUMBER: M52LF3324-62 ORDER NUMBER: 57612 LOT NUMBER: 72856

TOTAL WEIGHT: 77 LBS

PIECES: 110139

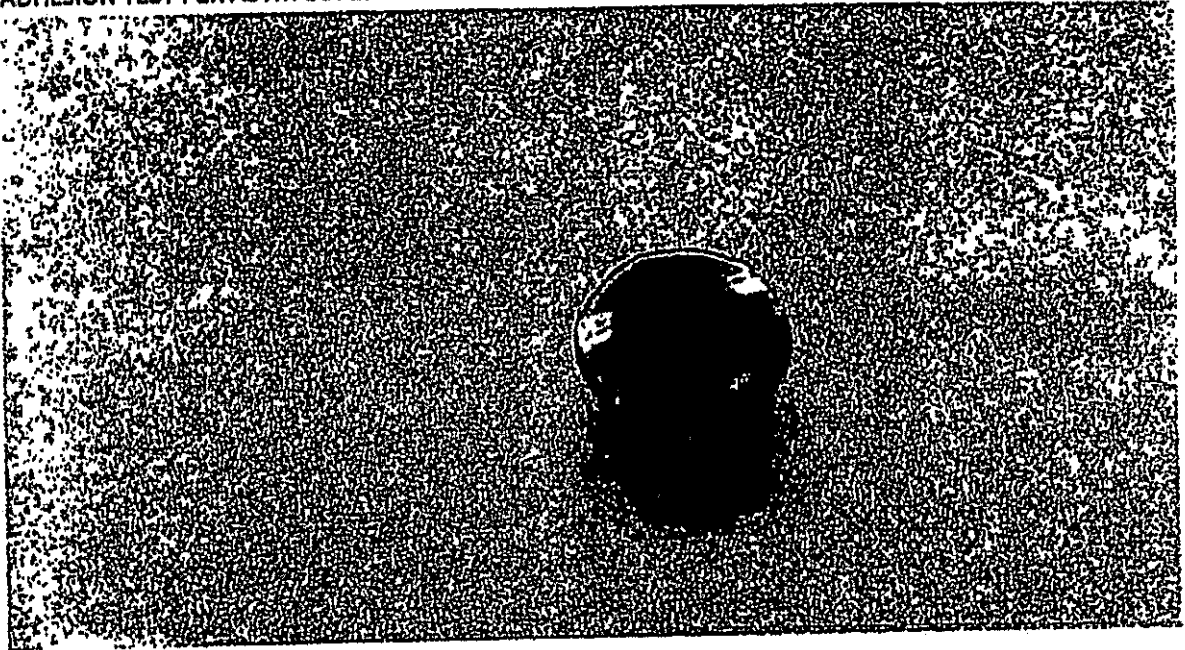
BAKING PER SAE AMS 2750D:

FIRST OUT OF LINE: 2:20 PM 4/03/2025

IN OVEN: 4:15 PM 4/03/2025

OUT OF OVEN: 4:15 PM 4/04/2025

ADHESION TEST PER ASTM B571:



AUTHORIZED SIGNATURE:  
TITLE: QUALITY CONTROL MANAGER

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**INDUSTRIAL METAL FINISHING**

ISO 9001:2008

Shipping: 107 N. Lear Road Street Walnut Ridge AR, 72476

Mailing: P.O. Box 326 Pocahontas AR 72455

Phone (870) 886-7531 Brian's cell:(870)378-1977

Krystal's cell(870)378-1976

Fax (870) 886-9546

bniswonger@indmetalfinishings.com

**Certificate of Compliance**

04/23/2025

ESNA

PO# 57815

Job# 72856

Part# M52LF3324-62

Quantity: 99559

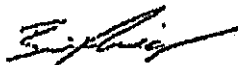
Base Material: 0.157 4037 ALLOY WIRE

Specification requirement: EVERLUBE 620C AS5272 TYPE 1

Finishing: Dip & spin with Everlube 620C

Drylube batch# PC-4607

Sincerely,



Brian Niswonger

Brian Niswonger

President, IMF

---



# WireTech, Inc.

6440 E. Canning Street  
Los Angeles, CA 90040  
Phone (323) 722-4833  
Fax (323) 721-2738

SOLD TO:

ESNA  
611 Country Club Road  
Pocahontas, AR 72458  
USA

RMIR # 31363  
P.O. # 41728  
SIZE: .157 4037 Wire  
HEAT# 10661150

WORK ORDER  
157893

CERTIFICATION  
HEAT NO. 10661150  
SALES ORDER / RLS  
889905 / 1  
ISO 9001-2008 REGISTERED



ACCREDITED  
MECHANICAL TESTING  
CERT # 911.01



CERT# 911.01

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	CARRIERS	LADING NO	SHIPMENT DATE			
41720000	0820070157	422 Lbs	1	00153331	06/14/2022			
SPECIFICATION: M064037-101570A #4037, AQ, SKFG, CHQ WIRE, SEAM & DECARB FREE, SAIP Zinc Phosphate, Lime & Stearate Coating, Size: 0.157/158 Specifications: AMS 2801K, AMS 6300E, 4042G								
CERTIFICATION REQUIREMENTS								
Chemical Properties								
C	Si	Mn	P	S	Cu	Ni	Cr	Mo
.37	.27	.75	.008	.007	.08	.05	.16	.20
Physical Properties								
Grain Size	Jominy 1	Jominy 2	Inclusions Macro	Cleanliness	Mill Source			
6	J1-55	J5-54	S2-R1-C2	GOOD	F&S=0	Charter		
Country of Origin USA - DFAR Compliant								
Mechanical Properties								
TEST	UNITS	RESULTS				Results		
Tensile Strength	KSI					75.0		
Yield Strength	KSI					63.6		
% Elongation	%					22.5		
% Reduction of Area	%					81.2		
Decarb (Total)	In					0.00		
Rockwell Hardness B Scale	HRB (s)					81		

RECEIVED  
JUN 21 2022

Merchandise covered by this invoice is warranted to be free from defects in workmanship of material but not for any specific length of time, type or measure of service. No claim for allowance will be recognized unless presented in writing within 10 days after receipt of material. Our maximum liability for any claim is limited to the purchase price of the merchandise. Our liability is limited to replacement of it, or to repayment of it, or to repayment of the purchase price thereof, as we elect. Material is to specific length or size unless otherwise indicated. Requests for cancellation of such orders will not be considered if manufacturer has been contacted. Buyer, by acceptance of the merchandise covered by this invoice, agrees to the foregoing terms and conditions and those set forth on the reverse hereof. The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal statutes including Federal law, Title 18, Chapter 47.  
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WireTech, Inc. metallurgical laboratory is accredited in the following tests: chemical analysis per ASTM E 418, mechanical testing per ASTM A 370, Rockwell hardness per ASTM E 78, metallographic mount preparation per ASTM E 3, decarburization depth per ASTM E 1071, E2282, decarburization performed in per E2282.  
The reported Chemical and Physical Properties are Mill Source results, furnished from mill certificates. HRB (s) are hardness results performed with a 1/16" carbide ball. Unless otherwise specified, HRB and HRC results are conversions from ASTM A370 tables 1 and 2. (s) result not covered by our current AQLA accreditation. Tests which have been undertaken by a subcontractor laboratory that is not accredited are not endorsed by AQLA or covered by WireTech, Inc. AQLA accreditation.  
TEST RESULTS RELATE ONLY TO THE ITEMS TESTED.  
LATEST REVISIONS OF ASTM

DFAR: Material per Clauses 252.228-7014 PLT. 1, 252.228-7009, & 225.003(b)  
All Statements of conformity are based on simple acceptance  
Material is free of molybdenum, radium, or alpha contamination.  
Eroik Estrada Quality Manager  
08/14/2022 DATE



**CHARTER STEEL**

A Division of  
Charter Manufacturing Company, Inc.

Melted in USA Manufactured in USA

EMAIL

1698 Cold Springs Road  
Saukville, Wisconsin 53080  
(262) 269-2400  
1-800-497-8789  
Fax (262) 269-2570

**CHARTER STEEL TEST REPORT**

Wiretech Incorporated  
6440 East Canning Street  
Los Angeles, CA-90040  
Kind Attn :Curt To>Contact

Cust P.O.	8348-1
Customer Part #	4037C1A070-C
Charter Sales Order	70098819
Heat #	6270681150
Shp Lot #	4848161
Grade	4037 R 8K FG AQ 8/32 RND COIL
Process	HRSA
Finish Size	8/32
Ship date	21-JUL-20

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and that it satisfies these requirements. The recording of false, fictitious and fraudulent statements or entries on this document may be punishable as a felony under federal statute.

Test Results of Heat Lot # 12067150

Lab Code: 7388	C	MN	P	S	SI	NI	CR	MO	CU	SN	V
CHEM	.37	.75	.008	.007	.270	.05	.16	.20	.08	.008	.003
%WT	AL	N	B	Ti	NB						
	.025	.0070	.0001	.002	.001						

JOMINY(HRC)	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J12
	55	54	50	41	34	30	28	27	28	26	22
	J14	J16	J18								
	21	21	20								

JOMINY SAMPLE TYPE ENGLISH=C  
MACHTYP=R  
MACRO ETCH SURFACE=1

MACRO ETCH RANDOM=1

MACRO ETCH CENTER=1

AMS 2301 FREQUENCY AVERAGE=.07  
AMS 2301 SEVERITY AVERAGE=.00  
GRAIN SIZE LAB=6358-01

MIN. GRAIN SIZE=8

AMS 2301 FREQUENCY INDIVIDUAL=.08  
AMS 2301 SEVERITY INDIVIDUAL=.00  
MAX. GRAIN SIZE=8

Test Results of Rolling Lot # 1208584

REDUCTION RATIO=488:1

		Test Results of Processing Lot #4849741, 4845161			
TENSILE (KSI)	# of Tests	Min Value	Max Value	Mean Value	TENSILE LAB = 0338-07
REDUCTION OF AREA (%)	1	75.5	75.3	75.3	RA LAB = 0338-07
		72	72	72	
NUM DECARB=1		FREE FERRITE DECARB (inch)=.005		FREE FERR & PARTIAL DECARB (inch)=.004	
NUM SPHERO=1		SPHERODIZATION (%)=95.0		CP SPHERO % LAB=0338-07	

Specifications: Manufactured per Charter Steel Quality Manual Rev Date 05/12/17.  
Charter Steel certifies this product is indistinguishable from background radiation levels by having process radiation detectors in place to measure for the presence of radiation within our process & products.  
Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:  
Customer Document = AMS 83000 / AMS 2301K / COP-3010M Revision = Dated =

Additional Comments:

Melt Source:  
Charter Steel  
Saukville, WI, USA



This MTR supersedes all previously dated MTRs for this order

*Jenica Bernard*  
Jenica Bernard, Division Mgr. of Quality Assurance  
bernardj@chartersteel.com  
Printed Date : 07/21/2020

Trip: 1437854

- The following statements are applicable to the material described on the front of this Test Report:
1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States meeting DFARS compliance, LEEDS compliance, REACH compliance, ROHS-WEEE compliance, and Conflict Materials Restrictions.
  2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
  3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
  4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory	Address
0358-01	7388	C88M Charter Steel Melting Division	1658 Cold Springs Road, Saukville, WI 53080
0358-02	8171	C88R Charter Steel Rolling	1658 Cold Springs Road, Saukville, WI 53080
0358-07	8171	C88P Charter Steel Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123833	C8FP Charter Steel Ohio Processing Division	8255 US Highway 23, Rising Sun, OH 43457
0358-04	125344	C8CM/C8CR Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004
*	*	-	Subcontracted test performed by laboratory not in Charter Steel System

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Specifications	C88M	C88R/ C88P	C8FP	C8CM/ C8CR
Chemistry Analysis	ASTM E418; ASTM E1019	X			X
Macroetch	ASTM E381	X			X
Hardenability (Jominy)	ASTM A255; SAE J408; JIS G0561	X			X
Grain Size	ASTM E112	X	X	X	X
Tensile Test	ASTM E8; ASTM A370		X	X	X
Rockwell Hardness	ASTM E18; ASTM A370	X	X	X	X
Microstructure (spheroidization)	ASTM A892		X	X	X
Inclusion Content (Methods A, E)	ASTM E45		X	X	X
Decarburization	ASTM E1077		X	X	X

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/21. All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
  - It may be distributed only to their customers
  - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Sales Order number) to the customer's purchase order. Both order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.

