



53906-2C

C+B PO 78063 WO 5953 CPA 6 FOE 80

52pcs

MATERIAL CERTIFICATION REPORT and CERTIFICATION OF QUALITY CONFORMANCE	Customer Address	Shipping Address	Print Date Time	Ship Note
 ELECTRALLOY G. O. CARLSON PLATE	 175 Main Street OH City PA 16301 ! (800) 438-7273	COPPER & BRASS SALES WESTERN REGION MATERIALS 13338 ORDEN DR., BUILDING H SANTA FE SPRINGS, CA 90670	COPPER & BRASS SALES WESTERN REGION MATERIALS 13338 ORDENDR., BUILDING H SANTA FE SPRINGS, CA 90670	05-Aug-2013 14:28 124128
		Certification ID 150458-1 Customer Order 5400185194-R05		Sales Order 117371

Grade: 316L

Specification: Type 316/316L (UNS S31600/S31603) - ASTM A182/A182M-12b, AMS 5648L, AMS 5653H, ASTM A193/A193M-12b, (316), ASTM A320/A320M-11a (316), ASTM A479/A479M-12, ASTM A314-DE, ASTM A475-01(2009), ASTM A 276-19 (NACE Std-MR0175-03), QQ-S-763F, ASTM A336/A336M-10a, ASME SA-182/SA-182M, ASME SA-536/SA-536M, ASME SA - 320/SA-320 M, (316) ASME SA-479/SA-479M, ASTM A4 84/A484M-12, SA-193/A193M 2010 Edition and any additional specifications which may be listed below.

Condition: HOT ROLLED / HOT FORGED, ANNEALED

Finish: PEELED

Sales Order	Quantity	Heat	Lot ID	Weight	Size	Customer Mark
117371-2	1	53906	53906-2C	3,175 LB	Diarm: 9.1060 in; Length: 170.1200 in	
117371-2	1	53906	53906-2D	3,210 LB	Diarm: 9.1090 in; Length: 171.5000 in	
117371-2	1	53906	53906-2E	3,235 LB	Diarm: 9.1110 in; Length: 173.1200 in	

Lot	Test	Result	Low Limit	High Limit	
SPECIFICATION RESULTS					ELONGATION 4D
TENSILE TENSILE CHEMISTRY FOR AIRMELT					53906-2C LT (%) 56.7 45 999
53906	C	0.018	0.000	0.030	BRINELL
53906	Mn	1.79	1.25	2.00	53906-2C (BHN) 140 140 200
53906	P	0.029	0.000	0.040	GRAIN SIZE
53906	S	0.022	0.020	0.025	53906-2C Grain Size FT (GRS) 3.5 0 9999
53906	Si	0.54	0.00	1.00	ASTM PRACTICES - ASTM A262
53906	Cr	16.50 ✓	16.00	18.00	53906-2C Prac E LT PASS
53906	Ni	10.25 ✓	10.00	14.00	
53906	Mo	2.10 ✓	2.00	3.00	
53906	Cu	0.48	0.00	0.75	
53906	N	0.001	0.000	0.100	
53906	Co	0.16	0.00	0.20	
PASS / FAIL TESTS					
53906-2C	Carb Net	PASS			
53906-2C	Macro Etch	PASS			
REDUCTION AREA					
53906-2C	LT (%)	78.5	50	999	
TENSILE					
53906-2C	LT (PSI)	87600	75000	400000	
1.2% YIELD OFFSET					
53906-2C	LT (PSI)	45000	30000	400000	

OK
CUT
8/27/13

The recording of false, fictitious, or fraudulent statements or entries on this document may be punishable as a felony under Federal Statute.
The above are true and correct results of tests on samples of the material. Results conform to the specification(s) listed above and are on record.
At time of shipment, items and/or material produced under this order have not come into contact with Mercury or its compounds.

MATERIAL CERTIFICATION REPORT and
CERTIFICATION OF QUALITY CONFORMANCE



ELECTROALLOY
G. O. CARLSON PLATE



175 Main Street
OH City PA 16301
1 (800) 438-7273

Customer Address

COPPER & BRASS SALES
WESTERN REGION MATERIALS
13338 ORDEN DR., BUILDING H
SANTA FE SPRINGS, CA 90670

Shipping Address

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124128

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150458-1

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117371

Quality Statements:

ASTM E1019-06, ASTM B572-92a (2006)e2 and ASTM E1086-08 are methods used to determine the chemical analysis for Fe Base (High Alloy) alloys utilizing XRF, OES and Combustion and Fusion Methods.

All items are in full compliance with all purchase order and specification requirements.

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Compliant with DFARS 252.225-7014 Alt. 1, Preference for Domestic Specialty Metals

Heat #53906-2C qualifies 2D, 2R.

Material Certification conforms to Certificate 3.1 as in EN 10204:2010

The mechanical tests have been performed at Modern Industries, Materials Research Division located at 613 West 11th Street Erie, PA 16512-0399

Material represented was not weld repaired.

Material represented was produced in accordance with the Electroalloy Quality Control Program dated 11/14/2012, which meets the requirements of AS9100C ISO9001(2008), MIL-I-45208A including Amendment 1 and 2, ASME Code Section 3, Subsection NCA 3800.

Material represented was solution annealed at 1925 degrees F +/-25 degrees F, hold 30 minutes per inch of thickness and water quenched.

Material was not exposed to Radium or other radioactive materials while at our facility.

Method of Manufacture - Electric Arc Furnace Melt AOD Refined

Material represented was melted and manufactured in the USA

Meets EU Electrical "RoHS". Contains NO "WEEE" relevant substances. Complies with DFARS-225.1-Buy American Act-Supplies. INWR = Minimum Hot Working Reduction Ratio. Electroalloy only accepts residual and trace elements to the limits invoked by the specification and per customer. This document shall not be reproduced, except in full, without the written approval of Electroalloy / GOC Plate. We hereby affirm that the reported results on this certification are correct and accurate. All tests and results and operations performed by (Electroalloy/G.O. Carlson Plate) or its subcontractors are in compliance with the applicable material/customer specification(s).

Name: David A. Fulkerson

Title: QC Technician/Works Inspector

By: 

The parties agree that when title transfers for the products subject to this agreement, or when the products are delivered to purchaser, whichever occurs first, responsibility for the submission of any required export or re-export licenses or related export control approvals for these products also transfers to purchaser. Any export license requirement under any applicable export control statute, regulation, or practice, from any U.S. government agency, including but not limited to the Department of Commerce's Bureau of Industry and Security, the Department of Treasury, Office of Foreign Assets Control, the U.S. Department of State, Directorate of Defense Trade Controls, and the Nuclear Regulatory Commission, are solely the responsibility of the purchaser. Further, purchaser warrants that it will comply with all applicable export and re-export controls related to these products.

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