



51506 (13.1")

C049442

MATERIAL CERTIFICATION REPORT and CERTIFICATION OF QUALITY CONFORMANCE		Customer Address	Shipping Address	Print Date Time	Ship Note
 ELECTRALLOY G. O. CARLSON PLATE	 PLATE C PRODUCTS	175 Main Street Oil City PA 16301 1 (800) 458-7273	ASA ALLOYS INC 20 CHALLENGER CRESCENT SHERWOOD PARK AB T8H2R1 CANADA	13-Feb-2012 14:30	115045
		Certification ID	Customer Order	Sales Order	
				116574-1	
				P025883	112274

Grade: 316L
Specification: Type 316/316L(UNS S31600/S31603) - ASTM A262 practice E, ASTM A182/A182M-11, AMS 5648L, AMS 5653G, ASTM A193/A193M-11,(316), ASTM A320/A320M-11(316), ASTM A479/A479M-11, ASTM A314-08, ASTM A473-01, ASTM A 276-10, NACE Std-MR0175-03, QQ-S-763F, ASTM A336/A336M-10a, ASME SA-182/SA-182M, ASME SA-336/SA-336M, ASME SA - 320/SA-320M, (316)ASME SA-479/SA-479M,ASTM A4 84/A484M, SA-193/A193M 2010 Edition and any additional specifications which may be listed below.
Condition: HOT ROLLED / HOT FORGED, ANNEALED
Finish: ROUGH TURNED

Sales Order	Quantity	Heat	Lot ID	Weight	Size	Customer Mark
112274-8	1	51506	51506-3A	7,590 LB	Diam: 13.1000 in; Length: 195.3700 in	

Lot	Test	Result	Low Limit	High Limit					
SPECIFICATION RESULTS					51506-3A	(BHN)	149	140	200
FINAL LADLE CHEMISTRY FOR AIRMELT					GRAIN SIZE				
51506	C	0.016	0.000	0.030	51506-3A	Grain Size TT (GRS)	3.5	0	9999
51506	Mn	1.76	1.25	2.00	ASTM PRACTICES - ASTM A262				
51506	P	0.025	0.000	0.040	51506-3A	Prac E LT	PASS		
51506	S	0.022	0.020	0.025					
51506	Si	0.52	0.00	1.00					
51506	Cr	16.43	16.00	18.00					
51506	Ni	10.36	10.00	14.00					
51506	Mo	2.14	2.00	3.00					
51506	Cu	0.37	0.00	0.75					
51506	N	0.082	0.000	0.100					
51506	Co	0.17	0.00	0.20					
PASS / FAIL TESTS									
51506-3A	Carb Net	PASS							
51506-3A	Macro Etch	PASS							
REDUCTION AREA									
51506-3A	LT (%)	78.5	50	999					
TENSILE									
51506-3A	LT (PSI)	86000	75000	400000					
.2% YIELD									
51506-3A	LT (PSI)	46000	30000	400000					
ELONGATION 4D									
51506-3A	LT (%)	58.4	45	999					
BRINELL									

CO 49442

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CERTIFICATION OF QUALITY CONFORMANCE**



ELECTRALLOY
G. O. CARLSON PLATE



175 Main Street
Oil City PA 16301
1 (800) 458-7273

Customer Address

ASA ALLOYS INC
20 CHALLENGER CRESCENT
SHERWOOD PARK AB T8H2R1
CANADA

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Quality Statements:

ASTM E1019-08, ASTM E572-02a (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.

At time of shipment, items and/or material produced under this order have not come in contact with Mercury or its compounds.

Material Certification conforms to Certificate 3.1 as in EN 10204:2004

Material represented was melted and manufactured in the USA

Material represented was not weld repaired.

The reported results represent the actual attributes of the material furnished and indicate full compliance with all applicable specification and contract requirements.

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

Material represented was ultrasonically inspected in accordance with ASTM A388 and found acceptable using a 1/8" flat bottom hole as the acceptance criteria.

Melting and Refining Source - Electralloy

Material represented was produced in accordance with the Electralloy Quality Control Program dated 08/23/2010, which meets the requirements of ISO9001(2008), MIL-I-45208A and ASME Code Section 3, Subsection NCA 3800.

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

Stainless Steel bar, electric arc furnace melted, A.O.D. refined.

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

Name: William A. Deets

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.

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.