



50975-1A.

L U U U 1 2 1

<p>MATERIAL CERTIFICATION REPORT and CERTIFICATION OF QUALITY CONFORMANCE</p>  <p>ELECTRALLOY G. O. CARLSON PLATE</p>  <p>175 Main Street Oil City PA 16301 1 (800) 458-7273</p>	<p>Customer Address</p> <p>ASA ALLOYS INC 81 STEINWAY BLVD ETOBICOKE ON M9W6H6 CANADA</p>	<p>Shipping Address</p> <p>ASA ALLOYS INC 20 CHALLENGER CRESCENT SHERWOOD PARK AB T8H2R1 CANADA</p>	<p>Print Date Time</p> <p>28-Sep-2012 16:07</p>	<p>Ship Note</p> <p>120096</p>
			<p>Certification ID</p> <p>135065-1</p>	<p>Customer Order</p> <p>P028290</p>
			<p>Sales Order</p> <p>115207</p>	<p>Customer Order</p> <p>115207</p>

Grade: 316L
Specification: Type 316/316L(UNS S31600/S31603) - ASTM A262 practice E, ASTM A182/A182M-11a, AMS 5648L, AMS 5653G, ASTM A193/A193M-12,(316), ASTM A320/A320M-11a (316), ASTM A479/A479M-11, ASTM A314-08, ASTM A473-01(2009), 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-320 M, (316)ASME SA-479/SA-479M,ASTM A4 84/A484M-11, 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
115207-1	1	50975	50975-1A	13,660 LB	Diam: 20.0950 in; Length: 150.3100 in	

Lot	Test	Result	Low Limit	High Limit					
SPECIFICATION RESULTS					BRINELL				
FINAL LADLE CHEMISTRY FOR AIRMELT					50975-1A	(BHN)	149	140	200
50975	C	0.019	0.000	0.030	GRAIN SIZE				
50975	Mn	1.83	1.25	2.00	50975-1A	Grain Size TT (GRS)	3	0	9999
50975	P	0.023	0.000	0.040	ASTM PRACTICES - ASTM A262				
50975	S	0.022	0.020	0.025	50975-1A	Prac E LT	PASS		
50975	Si	0.52	0.00	1.00					
50975	Cr	16.53	16.00	18.00					
50975	Ni	10.51	10.00	14.00					
50975	Mo	2.13	2.00	3.00					
50975	Cu	0.31	0.00	0.75					
50975	N	0.083	0.000	0.100					
50975	Co	0.18	0.00	0.20					
PASS / FAIL TESTS									
50975-1A	Carb Net	PASS							
50975-1A	Macro Etch	PASS							
REDUCTION AREA									
50975-1A	LT (%)	79	50	999					
TENSILE									
50975-1A	LT (PSI)	83000	75000	400000					
.2% YIELD OFFSET									
50975-1A	LT (PSI)	41900	30000	400000					
ELONGATION 4D									
50975-1A	LT (%)	62.1	45	999					

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.

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MATERIAL CERTIFICATION REPORT and CERTIFICATION OF QUALITY CONFORMANCE  ELECTRALLOY G. O. CARLSON PLATE	Customer Address ASA ALLOYS INC 81 STEINWAY BLVD ETOBICOKE ON M9W6H6 CANADA	Shipping Address ASA ALLOYS INC 20 CHALLENGER CRESCENT SHERWOOD PARK AB T8H2R1 CANADA	Print Date Time 28-Sep-2012 16:07	Ship Note 120096
			Certification ID 135065-1	Customer Order P028290

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.
 All items are in full compliance with all purchase order and specification requirements.
 At time of shipment, items and/or material produced under this order have not come in contact with Mercury or its compounds.
 Compliant with DFARS 252.225-7014 Alt. 1. Preference for Domestic Specialty Metals
 HWRR - 8.6:1 from a 50" round ingot.
 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 Electralloy Quality Control Program dated 06/07/2011, which meets the requirements of ISO9001(2008), MIL-I-45208A including Amendment 1 and ASME Code Section 3, Subsection NCA 3800.
 Material represented was ultrasonically inspected in accordance with ASTM A388 and found acceptable using a 1/8" flat bottom hole as the acceptance criteria.
 Material was not exposed to Radium or other radioactive materials while at our facility.
 Melting and Refining Source - Electralloy
 Method of manufacture - Electric Arc Furnace, 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. 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).

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.

Name: Bart Plyler
Title: QC Technician
By: 