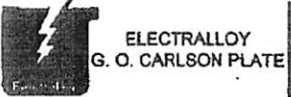



Technoworx

MATERIAL CERTIFICATION REPORT and CERTIFICATION OF QUALITY CONFORMANCE  	Customer Address	Shipping Address	Print Date Time	Ship Note
	ENERGY STEEL PRODUCTS 7404 RAILHEAD HOUSTON, TX 77086	ENERGY STEEL PRODUCTS 7404 RAILHEAD HOUSTON, TX 77064	09-Nov-2011 14:37	113662
	175 Main Street OH City PA 16301 1 (800) 458-7273		Certification ID	
			114404-1	Sales Order
		1593	111500	

50975

Grade: 316L
Specification: Type 316/316L(UNS S31600/S31603) - ASTM A182/A182M-11(F316,F316L) AMS 5648L, AMS 5653G ASTM A193/A193M-11,(316),ASTM A479/A479M-11, ASTM A 276-10, NACE STD-MR0175/ISO 15156-3 AMS QQ-S-763B, ASME SA-182/SA-182M 2010 Edition, SA-479/SA-479M 2010 Edition, ASTM A484/A484M-11, ASME SA-193/ SA-193M 2010 Edition, ASTM A262 practice E (A allowed),NACE MR0103 and Energy Steel SS1 Rev. 5,and any additional specifications which may be listed below. Material certification satisfies EN 10204 3.1.
Condition: HOT ROLLED / HOT FORGED, ANNEALED
Finish: ROUGH TURNED

Sales Order	Quantity	Heat	Lot ID	Weight	Size	Customer Mark
111500-2	1	50975	50975-2A	6,880 LB	Diam: 14.1200 in; Length: 151.5600 in	
111500-2	1	50975	50975-2B	7,750 LB	Diam: 14.1180 in; Length: 171.7500 in	

Lot	Test	Result	Low Limit	High Limit	
SPECIFICATION RESULTS					BRINELL
FINAL LADLE CHEMISTRY FOR AIRMELT					50975-2B (BHN) 140 140 200
50975	C	0.019	0.000	0.030	GRAIN SIZE
50975	Mn	1.83	1.25	2.00	50975-2B Grain Size TT (GRS) 3.5 0 9999
50975	P	0.023	0.000	0.040	ASTM PRACTICES - ASTM A262
50975	S	0.022	0.020	0.025	50975-2B 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	0.50	
50975	N	0.083	0.000	0.100	
50975	Co	0.18	0.00	0.20	
PASS / FAIL TESTS					
50975-2B	Carb Net	PASS			
50975-2B	Macro Etch	PASS			
REDUCTION AREA					
50975-2B	LT (%)	79.9	50	999	
TENSILE					
50975-2B	LT (PSI)	83900	75000	400000	
.2% YIELD					
50975-2B	LT (PSI)	46600	30000	400000	
ELONGATION 4D					
50975-2B	LT (%)	64.8	45	999	

This report is a copy of original mill certificate and does not constitute a certification of the material. The material is certified by the mill. DATE: 11/15/11

Heat#: 50975
 Qty: 592
 Part: 11414005
 P.O#: 24012409-C6A

**MATERIAL CERTIFICATION REPORT and
CERTIFICATION OF QUALITY CONFORMANCE**



ELECTRALLOY
G. O. CARLSON PLATE



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

Customer Address
ENERGY STEEL PRODUCTS
7404 RAILHEAD
HOUSTON, TX 77086

Shipping Address
ENERGY STEEL PRODUCTS
7404 RAILHEAD
HOUSTON, TX 77064

Print Date Time	Ship Note
09-Nov-2011 14:37	113662
Certification ID	
114404-1	
Customer Order	Sales Order
1593	111500

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, material represented had not come in contact with Mercury or any of its compounds nor with any mercury containing device employing a single boundary of containment.

Compliant with DFARS 252.225-7014 Alt. 1. Preference for Domestic Specialty Metals
HWRR - 8.1-1

Heat 50975-2B also qualifies 50975-2A from the same heat, size and heat treat lot.

Ultrasonic inspection performed to Electralloy In House Procedure WU1001 - Results Pass - Sound Center.

Material represented was not weld repaired.

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.

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

Melting and Refining Source - Electralloy

Method of Melt, SPEED-E-MAC stainless steel bar, electric arc furnace melted, A.O.D. refined.

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

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).

Name: Duane E. Kline

Title: QC Technician/UT Technician/Works Inspector

By:

Duane E. Kline

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.