



P.O. # 6342 Part # 10-F0E-80 Desc: 10" CPA 50E 5-80 316 5/5

EAV9162002

EARB02242-2

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 Oil City PA 16301 1 (800) 458-7273	TA CHEN INTERNATIONAL INC 5855 OBISPO AVENUE LONG BEACH, CA 90805	05-Apr-2022 10:47 Certification ID 192980-1 Customer Order LA0299-S	162311 Sales Order 143531

Grade: 316L
 Specification: Type 316/316L(UNS S31600/S31603) - AMS 5648M, AMS 5653J, AMS QQ-S-763D, ASTM A182/A182M-21, ASTM A193/A193M-20(316), ASTM A276-17, ASTM A314-19, ASTM A320/A320M-21a (316), ASTM A336/A336M-19, ASTM A473-19, ASTM A479/A479M-20, ASTM A484/A484M-20b, ANSI/NACE MR0175/ISO 15156-1:2015, ASME SA-182/SA-182M, ASME SA-193/SA-193M, ASME SA-320/SA-320M (316), ASME SA-336/SA-336M, ASME SA-479/SA-479M all ASME 2019 Editions, 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
143531-4	1	64183	64183-2A	7,415 LB	Diam: 13.0990 in; Length: 101.5000 in	

Lot	Test	Result	Low Limit	High Limit
SPECIFICATION RESULTS				
FINAL LADLE CHEMISTRY FOR AIRMELT				
64183	C	0.015	0.000	0.030
64183	Mn	1.74	1.25	2.00
64183	P	0.023	0.000	0.040
64183	S	0.022	0.020	0.025
64183	Si	0.66	0.00	1.00
64183	Cr	16.37	16.00	18.00
64183	Ni	10.18	10.00	14.00
64183	Mo	2.10	2.00	3.00
64183	Cu	0.34	0.00	0.50
64183	N	0.082	0.000	0.100
64183	Co	0.18	0.00	0.20
PASS / FAIL TESTS				
64183-2A	Carb Net	PASS		
64183-2A	Macro Etch	PASS		
REDUCTION AREA				
64183-2A	LT (%)	78	50	999
TENSILE				
64183-2A	LT (PSI)	84200	75000	400000
2% YIELD OFFSET				
64183-2A	LT (PSI)	40200	30000	400000
ELONGATION 4D				
64183-2A	LT (%)	65	45	999

BRINELL			
64183-2A	(BHN)	149	140 200
GRAIN SIZE			
64183-2A	Grain Size TT (GRS)	3.5	0 9999
ASTM PRACTICES - ASTM A262			
64183-2A	Proc E LT	PASS	

P.O.#:	P125704
R#:	R176746
ITEM#:	521534
HEAT#:	64183
BRANCH#:	875



SPEED-E-MAC®

11/a

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 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.

MILL TEST REPORT
 Customer: ENCCAL PO#:P125704-875 SO#:1JQSW3
 Item:RB6L1300 Bundle:EAV9162002 Heat#:64183
 TA CHEN INTERNATIONAL, INC.
 This MTR contains 1 page (Page # 1)
 MTR#:EARB02242-2.GII

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				Certification ID	Customer Order
				192980-1	LA0299-S
					143531

Quality Statements:
 ASTM E1019-18, ASTM E572-13 and ASTM E1086-14 are methods used to determine the chemical analysis for Fe Base (High Alloy) alloys utilizing XRF, OES and Combustion and Fusion Methods.
 The recording of false, fictitious or fraudulent statements or entries on this document may be punishable as a felony under Federal Statute, including US Code Title 18 Chapter 47.
 At time of shipment, items and/or material produced under this order have not come in contact with Mercury or its compounds.
 HWRR - 3.3:1 from a 25" square ingot.
 Material Certification conforms to Certificate 3.1 as in EN 10204:2004
 Material represented was Ultrasonically Inspected in house procedure WU1001 and found acceptable with no rejectable indications.
 Material represented was melted and manufactured in the USA
 Material represented was not weld repaired
 Material represented was produced in accordance with the Electralloy Quality Control Program dated 07/27/2020, which meets the requirements of AS9100:2016, ISO9001(2015), MIL-I-45208A including Amendment 1 and 2, ASME Code Section 3, Subsection NCA 3800.
 Material satisfies DFARS 252.225-7008 Restriction on Acquisition of Specialty Metals.
 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 Melt AOD Refined
 The mechanical tests have been performed at Modern Industries, Materials Research Division located at 613 West 11th Street Eric, PA 16512-0399
 All items are in full compliance with all purchase order and specification requirements.

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. 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: Bradley Moore
 Title: QC Technician
 By: *Bradley A. Moore*

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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