

46207



ELECTRALLOY

175 Main Street
Oil City, PA 16301
PHONE: 814-678-4200
Fax: 814-678-4146

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

This document shall not be reproduced, except in full,
without the written approval of Electralloy

<u>CUSTOMER NAME AND ADDRESS</u> Copper & Brass Sales Accounts Payable 22355 West 11 Mile Road Southfield, MI 48034-4735	CUSTOMER ORDER NO. CV8546 IDENTIFICATION Heat #46207
--	---

PRODUCT DESCRIPTION	Stainless steel bar, electric arc furnace melted, A.O.D. refined press forged, solution annealed, water quenched, lathe turned, with saw cut square ends
---------------------	--

SPECIFICATIONS

Type 316/316L(UNS S31600/S31603) - ASTM A182/A182M-06, AMS 5648K, AMS 5653F ASTM A193/A193M-06a, (316), ASTM A320/A320M-05a (316), ASTM A479/A479M-06a ASTM A314-97, ASTM A473-01, ASTM A276-06, NACE MRO175/ISO 15156-3:2003E, ASTM A336/A336M-06a. ASME SA-182/SA-182M, ASME SA-336/SA-336M, ASME SA - 320/SA-320M02, (316)ASME SA-479/SA-479M, ASTM A484/A484M-06b, ASTM SA-193/ SA-193M-94, QQ-S-763F and any specifications which may be listed below.
--

CHEMICAL ANALYSIS

Heat Number	C	MN	P	S	SI	CR	NI	MO
46207	0.016	1.83	0.028	0.022	0.48	16.29	10.18	2.10
	CU	N	CO					
	0.45	0.086	0.19					

ITEM DESCRIPTION

Heat Number	HWRR	Quantity & Weight	Size
46207-2A		1 Bar - 6,885 Lbs	Nom 16.00" Rd x 116.81

TENSILE PROPERTIES

Heat Number	Test Dir	Test Loc	Tensile (PSI)	.2% Yield (PSI)	Reduction (%)	Elong 4D (%)
46207-2A	LT	TOP	85710	42360	80.1	56.1

BRINELL/ROCKWELL

Heat Number	Test Loc	Brinell
46207-2A	TOP	151

Note: 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.

Meets EU Electrical "RoHS".
Contains NO "WEEE" relevant substances.
Complies with DFARS-225.1-Buy American Act-Supplies

By David A. Fulkerson Date: 04/15/08

HWRR = Minimum Hot Working Reduction Ratio.

Name : David A. Fulkerson

Title: QC Technician/Works Inspector

**ELECTRALLOY**

175 Main Street
Oil City, PA 16301
PHONE: 814-678-4200
Fax: 814-678-4146

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

This document shall not be reproduced, except in full,
without the written approval of Electralloy

<u>CUSTOMER NAME AND ADDRESS</u> Copper & Brass Sales Accounts Payable 22355 West 11 Mile Road Southfield, MI 48034-4735		CUSTOMER ORDER NO. CV8546 IDENTIFICATION Heat #46207
PRODUCT DESCRIPTION	Stainless steel bar, electric arc furnace melted, A.O.D. refined press forged, solution annealed, water quenched, lathe turned, with saw cut square ends	

PASS/FAIL TESTS

Heat Number	Carb Net	Macro Etch							
46207-2A	P	P							

ASTM PRACTICES (Normal)

Heat Number	Prac E						
	TT	LT					
46207-2A	P						

OTHER TESTS

Heat Number	Grain Size					
	TT	LT				
46207-2A	2.0					

STATEMENTS

Material represented was melted and manufactured in the USA

All items represented 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.

Material represented was not weld repaired.

Material represented was solution annealed at 1925 deg. F +/- 25 deg. F

Note: 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.

Meets EU Electrical "RoHS".
Contains NO "WEEE" relevant substances.
Complies with DFARS-225.1-Buy American Act-Supplies.

By : David A. Fulkerson Date: 04/15/08

HWRR = Minimum Hot Working Reduction Ratio.

Name : David A. Fulkerson

Title: QC Technician/Works Inspector

**ELECTRALLOY**

175 Main Street
Oil City, PA 16301
PHONE: 814-678-4200
Fax: 814-678-4148

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

This document shall not be reproduced, except in full,
without the written approval of Electralloy

<p><u>CUSTOMER NAME AND ADDRESS</u> Copper & Brass Sales Accounts Payable 22355 West 11 Mile Road Southfield, MI 48034-4735</p>	<p>CUSTOMER ORDER NO. <u>CV8546</u> IDENTIFICATION <u>Heat #46207</u></p>
<p>PRODUCT DESCRIPTION Stainless steel bar, electric arc furnace melted, A.O.D. refined press forged, solution annealed, water quenched, lathe turned, with saw cut square ends</p>	

STATEMENTS

held 30 minutes per inch of thickness and water quenched

Material represented was produced in accordance with the Electralloy Quality Control Program dated 09/26/2006, which meets the requirements of ISO9001(2000), MIL-I-45208A and ASME Code Section 3, Subsection NCA 3800

ASTM E1019-03, ASTM E572-02a, and ASTM E1086-94, are the methods used to determine the chemical analysis for Fe base (high alloy), Ni base and Cu base alloys.

Material Certification conforms to Certificate 3.1 as in EN 10204.

Note: 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.

Meets EU Electrical "RoHS".
Contains NO "WEEE" relevant substances.
Complies with DFARS-225.1-Buy American Act-Supplies

By : David A. Fulkerson Date: 04/15/08

HWRR = Minimum Hot Working Reduction Ratio.

Name : David A. Fulkerson

Title: QC Technician/Works Inspector