



**HUNTINGTON ALLOYS CORPORATION**  
 3200 Riverside Drive, Huntington, West Virginia 25705-1771 USA  
 Tel: +1.304.526.5100 Toll-Free in the USA: 1.800.334.4626  
 Fax: +1.304.526.5643 info@specialmetals.com

Certificate No. N30647-00

Dated 09-FEB-14

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## CERTIFIED MATERIALS TEST REPORT

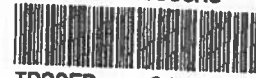
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This report relates only to the item(s) tested and may not be reproduced except in full.

Customer  
**ROLLED ALLOYS INC**  
 125 W STERNS RD  
 TEMPERANCE  
 MI  
 48182-0310

Ship To  
**ROLLED ALLOYS INC**  
 125 W STERNS RD  
 TEMPERANCE  
 MI  
 48182-0310

HEAT # NX0830AG



TRACER # 0413642115

Sales Order Number

100059780 / 1.1

Purchase Order Number

0108017

Mark Order Number

0108017

Material Heat / Lot Identity

NX0830AG SM91A

UNS Number

N06625

### Material Description

INCONEL alloy 625, EAF-AOD-ELECTROSLAG REMELTED,, , CR SHEET, PICKLED, ANNEALED, .1250,  
 48.0000, 150.0000, IN  
 19 PCS 5304 LBS

### Specifications

SAE AMS 5599G/ ASME SB-443 2013 EDITION GR 1/ HONEYWELL EMS 95377 REV C MARKING WAIVED/  
 ASTM B 443-00 (2009) GR 1/ GE S-400 (10-10-2011)/ GE S-1000 (12-4-2013)/WERKSTOFF 2.4856/  
 NACE MR0175-ISO 15156-3 (2009)/ NACE MR0103-2010/ MTS 1187-1 ISSUE 2010-07 CHEMISTRY ONLY.

### ANALYSIS

	C %	MN %	FE %	S %	SI %	NI %	CR %	AL %	TI %
H	.02	.09	4.31	.001	.15	60.1	22.25	.12	.21
Method	C/S	ICP	ICP	C/S	ICP	ICP	ICP	ICP	ICP
	CO %	MO %	NB %	TA %	P %				
H	.10	8.98	3.45	.005	.009				
Method	ICP	ICP	ICP	ICP	ICP				

BRIGHTRAY, CORRONEL, FERRY, INCOCLAD, INCOLOY, INCONEL, INCOTHERM, INCO-WELD, KOTHERM, MAXORB,  
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AL+TI NB+TA  
 H .32 3.45  
 Method

**ANALYSIS METHOD LEGEND**

ICP - Inductively Coupled Plasma  
 C/S - Carbon/Sulfur

**TENSILE TEST**

ROOM TEMP TENSILE - TRANS|LAB|MECHANICAL

TEST TEMPER LOCATION HARDNESS HARD TYPE TENSILE KSI .2% YIELD KSI EFF GA LGTH IN ELONG ORIENT

AN	F	98.9	HRB	134.8	74.4	2	47.8	TRANS
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**HEAT TREATMENT**

TREATMENT	FURNACE	TEMP SCALE	TEMP 1	F TEMP 1	HOLD	HOLD 1	UNITS	CHANGE 1
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ANNEAL	CAP	F	1900	1.9	MN	AC		
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**OTHER TESTS**

BEND TEST - TRANS|LAB|MECHANICAL

TEST TEMPER LOCATION TEST VERDICT BEND FACTOR BEND ANGLE CRACK CHECK ORIENT

AN	F	P	2T	180	NC	TRANS
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GRAIN SIZE MEASUREMENT|LAB|METALLOGRAPHY

TEST TEMPER TEST ORIENT AV GS ASTM NRM or DUP LOCATION

AN	TRANSVERSE	8	NORMAL	F
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NO WELD REPAIR HAS BEEN PERFORMED ON THIS MATERIAL.

LOCATION LEGEND: B = BACK C = CENTER F = FRONT H = HEAD M = MIDDLE T = TOE

ALL TEST RESULTS ARE REPORTED TO AT LEAST THE REQUIRED PRECISION BY THE ROUNDING METHOD OF ASTM E 29  
 UNLESS OTHERWISE REQUIRED BY PURCHASE ORDER OR SPECIFICATION.

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COUNTRY OF ORIGIN: MELTED AND MANUFACTURED IN THE USA

THIS CERTIFICATION AFFIRMS THAT THE CONTENTS OF THIS REPORT ARE CORRECT AND ACCURATE AND THAT ALL TEST RESULTS AND OPERATIONS PERFORMED BY SPECIAL METALS CORPORATION, INC. OR ITS SUBCONTRACTORS ARE IN COMPLIANCE WITH THE MATERIAL SPECIFICATIONS AND THE SPECIFIC APPLICABLE MATERIAL REQUIREMENTS OF ASME SECTION III.

ASME QUALITY SYSTEMS CERTIFICATE QSC-328, EXPIRES 3/25/2014.

AS APPLICABLE ANY SUBCONTRACTED WORK ALSO COMPLIES WITH CUSTOMER AND ASME SECTION III, NCA 3800 REQUIREMENTS.

QUALITY SYSTEM MEETS REQUIREMENTS OF DIRECTIVE 97-23/EC (PRESSURE EQUIPMENT DIRECTIVE),

ANNEX 1, CHAPTER 4.3 PER ABS GROUP LTD CERTIFICATE 41734 (EXPIRES JULY 30, 2014)."

HUNTINGTON ALLOYS CORPORATION IS AN ACCREDITED INDEPENDENT NADCAP MATERIALS TESTING LABORATORY VIA CERTIFICATE NUMBER 127805 (EXPIRES OCTOBER 31, 2014) FOR ALL TESTING SPECIFIED IN THE SCOPE OF ACCREDITATION.

MATERIAL PRODUCED UNDER QA SYSTEM DOCUMENTED IN HUNTINGTON ALLOYS CORP QA MANUAL REV. 50, DATED 4/8/2013

QUALITY SYSTEM CERTIFICATION: ISO 9001:2008 (ABS-QE CERT. 30125); EN 10 204/DIN 50049 (TYPE 3.1)

LABORATORY IS ACCREDITED TO ISO/IEC 17025:2005 FOR MECHANICAL TESTING AND CHEMICAL ANALYSIS.

VISUAL AND DIMENSIONAL EXAMINATION SATISFACTORY.

MATERIAL, WHEN SHIPPED, IS FREE FROM CONTAMINATION BY MERCURY, RADIUM, ALPHA SOURCE, AND LOW MELTING ELEMENTS.

CHEMICAL ANALYSIS AS REQUIRED FOR CARBON, SULFUR, NITROGEN, OR OXYGEN IS PERFORMED BY COMBUSTION TECHNIQUES.

ALL OTHER REPORTED ELEMENTS ARE ANALYZED BY X-RAY AND/OR EMISSION SPECTROSCOPY."

AUTHORIZED QUALITY CERTIFICATION REPRESENTATIVES:

W.E. BOLEN, D.K. MILLER, K.R. SMITH, G.J. BURKHEAD

CERTIFIED TESTING LABORATORY DATA SOURCE IAI AEBG VENDOR NO. 47150 M. R. B. CASE RECORD NO. : NONE

AUTHORIZED VENDOR SIGNATURE

K.R. Smith DATE 2-9-14

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ROLLED ALLOYS QUALITY ASSURANCE  
APPROVED [Signature]  
DATE 2/12/14

### End Of Certificate

This is to certify that all required samplings inspections and tests have been performed in accordance with the order and specification requirements. The test report represents the actual attributes of the material furnished and the values shown are correct and true. The material described by this certificate is in full compliance with all order and inspection requirements. We hereby certify that the figures given are in accordance with the specified contract requirements.

Signed

[Signature]

REV. 8/08

For and on behalf of HUNTINGTON ALLOYS CORPORATION  
Authorized Signature

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