

MM99R1BG11



HUNTINGTON ALLOYS CORPORATION
3200 Riverside Drive, Huntington, West Virginia 25705-1771 USA
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Certificate No. 56583-00

Dated 18-NOV-15

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CERTIFIED MATERIALS TEST REPORT

Note: The recording of false, fictitious or fraudulent statements on entries on this document may be punishable as a felony under federal statute.

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

Customer
CORROSION MATERIALS INC
2262 GROOM RD
BAKER
LA
70714

Ship To
CORROSION MATERIALS INC
2262 GROOM RD
BAKER
LA
70714

Heat # MM99R1BG11
Tracer # T0795839

Sales Order Number 300034972 / 1.1
Purchase Order Number P00039999-B
Mark Order Number 39999-B
Material Heat / Lot Identity MM99R1BG11

UNS Number
N04400

Material Description

MONEL alloy 400, AIR INDUCTION MELTED-ELECTROSLAG REMELTED, , HOT FIN ROUND, ROUGH T, STRESS RELIEVED, 11.0000, 120.0000-168.0000, IN 1 PC PC# 12 4125 LBS

Specifications

ASTM B 164-03 (2014)/ ASME SB-164 2013 EDITION/ ASTM B 564-15 CHEMISTRY ONLY/ ASME SB-564 2013 EDITION CHEMISTRY ONLY/ US FED QQ-N-281D AM 2 CL A FM 1 MARKING WAIVED/ NACE MR0175-ISO 15156-3 (2009)/ NACE MR0103-2010.

ANALYSIS

Table with 10 columns: C %, MN %, FE %, S %, SI %, CU %, NI %, AL %, CO %. Row 1: H .1 1.1 2.03 .002 .1 31.8 64.2 .04 .03. Row 2: Method C/S ICP ICP C/S ICP ICP ICP ICP

Table with 4 columns: P %, PB %, SN %, ZN %. Row 1: H .01 .0004 .001 .0005. Row 2: Method ICP ICP-MS ICP-MS ICP-MS

Table with 2 columns: NI+CO. Row 1: H 64.2

Alloy 400
11" R-Bar

ROLLED ALLOYS CANADA
VERIFIED TRUE COPY
Heat No. MM99R1BG11
Tracer No. : 000198290
Date: 05/17/16 Per: [Signature]

INCOLOY®, INCONEL®, MONEL®, NILO®, NIMONIC®, NI-SPAN-C®, UDIMET®, DURANICKEL®, 601GC®, 625LCF®, 718SPF®, 740H®, 800HT®, 945®, and 945X® are trademarks of the Special Metals group of companies

EF595



HUNTINGTON ALLOYS CORPORATION
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CERTIFIED MATERIALS TEST REPORT

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Method

ANALYSIS METHOD LEGEND

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

Heat # HMSSR18G11

ITEM WEIGHTS WITH ANALYSIS

Tracer # T0795939

ANALYSIS METHOD LEGEND

TENSILE TEST

ROOM TEMP TENSILE - LONG|LAB|MECHANICAL

PIECE TEST TEMPER LOCATION HARDNESS HARD TYPE TENSILE KSI .2% YIELD KSI EFF GA LNPTH IN

11	SR	T	82.2	HRB	84.6	48.4	2.000
----	----	---	------	-----	------	------	-------

RED OF AREA% ELONG% ORIENT

63.3	40.6	LONG
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HEAT TREATMENT

TREATMENT FURNACE TEMP SCALE TEMP 1 F TEMP 1 HOLD HOLD 1 UNITS CHANGE 1

STR REL	SF2	F	1100	1	HR	AC
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NO WELDING OR WELD REPAIR WAS PERFORMED.

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

TEST VERDICT LEGEND: P = PASS W = WAIVER

TEST TEMPER LEGEND

SR - Stress relieved

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.

COUNTRY OF ORIGIN: MELTED AND MANUFACTURED IN THE USA. DFARS PART 252.225.7014 AND 252.225.7008 COMPLIANT.

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.

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 29, 2017).

ROLLED ALLOYS CANADA
VERIFIED TRUE COPY

Heat No. HM 99R18G11

Tracer No. : 000198260

Date: 05/17/16 Per: 2

Alloy 400
 11" R.Bar

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HUNTINGTON ALLOYS CORPORATION IS AN ACCREDITED INDEPENDENT NADCAP MATERIALS TESTING LABORATORY VIA CERTIFICATE NUMBER 3200155438 (EXPIRES APRIL 30, 2016) FOR ALL TESTING SPECIFIED IN THE SCOPE OF ACCREDITATION. MATERIAL PRODUCED UNDER QA SYSTEM DOCUMENTED IN HUNTINGTON ALLOYS CORP QA MANUAL REV. 51, DATED 10/17/2014 QA MANUAL NOT TO IMPLY COMPLIANCE TO ASME SECTION III. COMPLIANCE MUST BE OTHERWISE STATED ON CMTR. 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.

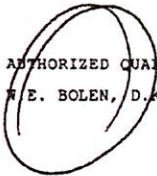
CHEMICAL ANALYSIS AS REQUIRED FOR CARBON, SULFUR, NITROGEN, OR OXYGEN IS PERFORMED BY COMBUSTION TECHNIQUES.

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

Heat #
MM99R1BG11
 Tracer #
T0795839

AUTHORIZED QUALITY CERTIFICATION REPRESENTATIVES:

R. E. BOLEN, D. K. MILLER, K. R. SMITH, V. A. POWELL, S. E. LEER, M. WINSEMIUS K. BORSODI



**ROLLED ALLOYS CANADA
 VERIFIED TRUE COPY**

Alloy 400
 11" R-Bar

Heat No. MM 99R1BG11

Tracer No. : 0001982EP

Date: 05/17/16 Per. 2

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

REV. 8/08

For and on behalf of HUNTINGTON ALLOYS CORPORATION

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