

CRA-36"

853041-3A.

Outokumpu Stainless Plate, Inc.

OUTOKUMPU

Certificate of Analysis and Tests

OUR ORDER 0278156 - 01

HEAT & PIECE 853041-3A 01/06/12

SOLD TO:

SHIP TO:

----- YOUR ORDER & DATE -----
 S4844-I 10/28/11
 ----- ITEM DESCRIPTION -----
 HEAT & PIECE 853041 - 3A
 WEIGHT 21080
 FINISH 1
 GRADE 304L / 304
 DIMENSIONS 6.000 X 72.000 X 168.000 EXACT
 UNS-S30403 / UNS-S30400

----- SPECIFICATIONS -----
 *** MFG IN NEW CASTLE, IN, USA
 AMS 5511H WITH EXCEPTIONS
 ASTM A240-11A ASMESA240-11ED
 ASTM A167-91
 ASTM A666-03 ANN COND ONLY
 MELTED ELECTRIC ARC METHOD
 ASTM A262-02A PRACTICE A
 NACE MR0103-2005
 NO WELD REPAIRS

FROM SLABS IMPORTED FROM BRITAIN
 AMS 5513J WITH EXCEPTIONS
 ASTM A480-11A ASMESA480 11ED
 ASTM A262-02A PRACTICE E
 ASTM A312-11 CHEM&MECH ONLY
 REFINED A.O.D. PROCESS
 NACE MR0175-2003/ISO 15156
 NO GRIPPER MARKS

PLATES & TEST PCS SOLUTION ANNEALED @ 1900 DEGREES FAHRENHEIT MINIMUM.
 THEN WATER COOLED OR RAPIDLY COOLED BY AIR
 FREE FROM MERCURY CONTAMINATION AT CURRENT DETECTION LIMITS
 HOT ROLLED, ANNEALED & PICKLED (HRAP)

----- MECHANICAL & OTHER TESTS -----
 HARDNESS HRBW 77
 GRAIN SIZE 4
 YIELD STRENGTH (PSI) 40801
 TENSILE STRENGTH (PSI) 83780
 INTERGRANULAR CORROSION OK
 ELONGATION % IN 2" 62.5
 REDUCTION OF AREA % 70.2

----- CHEMICAL COMPOSITION -----

CARBON (C)	.017
MANGANESE (MN)	1.65
PHOSPHORUS (P)	.032
SULFUR (S)	.003
SILICON (SI)	.30
CHROMIUM (CR)	18.16
NICKEL (NI)	8.04
COBALT (CO)	.10
COPPER (CU)	.39
MOLY (MO)	.26
NITROGEN (N)	.07
COLUMBIUM (CB)	.007
TITANIUM (TI)	.003
ALUMINUM (AL)	.005
TIN (SN)	.016
TANTALUM (TA)	.005



ISO 9001-2008
 SAI Cert#CERT-0033834

WE HEREBY CERTIFY THAT THE MATERIAL HEREIN HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATION(S) AND THAT THE RESULTS OF ALL TESTS ARE ACCEPTABLE.

JAMES DOUBMAN, QUALITY ASSURANCE MANAGER

CERTIFICATE IN CONFORMANCE WITH EN10204-95 3.1.B/EN10204-2004 3.1

James Douberman

Outokumpu Stainless Plate, Inc.
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