

181# 9047

Outokumpu Stainless Plate, Inc.

844215

OUTOKUMPU

Certificate of Analysis and Tests

OUR ORDER 0263839 - 06

HEAT & PIECE 844215-1A 05/09/08

SOLD TO: SAMUEL, SON & CO., INC.
5022 ASHLEY COURT
HOUSTON TX 77041

SHIP TO: SAMUEL SPECIALTY METALS
713-896-1200
5022 ASHLEY COURT
HOUSTON TX 77041

----- YOUR ORDER & DATE -----

6765143

4/08/08

TAG# 5310079

----- ITEM DESCRIPTION -----

HEAT & PIECE 844215 - 1A
WEIGHT 20765
FINISH 1
GRADE 304 / 304H UNS-S30400 / UNS-S30409
DIMENSIONS 3.750 X 96.000 X 198.000 EXACT

----- SPECIFICATIONS -----

*** MFG IN NEW CASTLE, IN, USA
ASME SA480 07 EDITION
QQ-S-766D AMENDIII EX.P4.5.2
NACE MRO175-2003
ASTM A480/A480M-06B
AMS 5513H EXCEPT LINE MARK
NO GRIPPER MARKS
ASTM A262-02A PRACTICE A

ASTM A240-07
ASTM A167-99(2004)
ASME SA240 07 EDITION
MIL-8-5059D WITH EXCEPTIONS
MFG IN NEW CASTLE, IN, USA
NO WELD REPAIRS
ASTM A262-02A PRACTICE E

PLATES & TEST PCS SOLUTION ANNEALED @ 1950 DEGREES FAHRENHEIT MINIMUM.
THEN WATER COOLED OR RAPIDLY COOLED BY AIR
FREE FROM MERCURY CONTAMINATION AT CURRENT DETECTION LIMITS
HOT ROLLED, ANNEALED & PICKLED (HRAP)
FREE OF RADIOACTIVE CONTAMINATION BEYOND PERMISSABLE LEVELS

----- MECHANICAL & OTHER TESTS -----


HARDNESS RB 74
GRAIN SIZE 3
YIELD STRENGTH (PSI) 39495
TENSILE STRENGTH (PSI) 83460
INTERGRANULAR CORROSION OK
ELONGATION % IN 2" 61.7
REDUCTION OF AREA % 62.5

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

CARBON (C) .04
MANGANESE (MN) 1.92
PHOSPHORUS (P) .030
SULFUR (S) .003
SILICON (SI) .40
CHROMIUM (CR) 18.51
NICKEL (NI) 8.07
COBALT (CO) .12
COPPER (CU) .42
MOLY (MO) .36
NITROGEN (N) .07
COLUMBIUM (CB) .010
TITANIUM (TI) .002
ALUMINUM (AL) .005
TIN (SN) .015
TANTALUM (TA) .004

[Handwritten Signature]

DATE _____
CUSTOMER _____
CUSTOMER _____
PAGE # _____



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.
P.O. Box 370
New Castle, Indiana 47362