



Certificate of Analysis and Tests

OUR ORDER 0275276 - 10

HEAT & PIECE 851192-3A 05/19/11

SOLD TO: C.F.F. SPECIALTY STEELS INC.
1340 BURLINGTON ST. E.

SHIP TO: CUSTOMER PICK UP
CONTACT NATALIE FAX 905-549-29
OR NHILDEBRANDT@CFESTAINLESS.C
ONTARIO CN 00000

ONTARIO L8H 3L4 00000

----- YOUR ORDER & DATE -----
C77553 2/14/11

----- ITEM DESCRIPTION -----
HEAT & PIECE 851192 - 3A
WEIGHT 17712
FINISH 1
GRADE 316L / 316 UNS-S31603 / UNS-S31600
DIMENSIONS 5.000 X 78.000 X 156.000 EXACT

----- SPECIFICATIONS -----
*** MFG IN NEW CASTLE, IN, USA FROM SLABS IMPORTED FROM BRITAIN
ASTM A240-11A ASMESA240 10E ASTM A480-11A ASMESA480 10ED
NACE MR0175-2003/ISO 15156 NO GRIPPER MARKS
NO WELD REPAIRS
ASTM A262-02A PRACTICE A ASTM A262-02A PRACTICE E

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 RB 70
GRAIN SIZE 3
YIELD STRENGTH (PSI) 39300
TENSILE STRENGTH (PSI) 75280
INTERGRANULAR CORROSION OK
ELONGATION % IN 2" 61.2
REDUCTION OF AREA % 60.2

----- CHEMICAL COMPOSITION -----
CARBON (C) .017
MANGANESE (MN) 1.58
PHOSPHORUS (P) .028
SULFUR (S) .001
SILICON (SI) .31
CHROMIUM (CR) 16.14
NICKEL (NI) 10.09
COBALT (CO) .12
COPPER (CU) .32
MOLY (MO) 2.04
NITROGEN (N) .09
COLUMBIUM (CB) .005
TITANIUM (TI) .002
ALUMINUM (AL) .005
TIN (SN) .005
TANTALUM (TA) .007

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

Outokumpu Stainless Plate, Inc.
P.O. Box 370
New Castle, Indiana 47362

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ANS