

858353-1A

outokumpu
high performance stainless steel

Outokumpu Stainless Plate, LLC



Certificate of Analysis and Tests

Page: 1

OUR ORDER 0287684 - 05

HEAT & PIECE 858353-1A 08/14/14

SOLD TO: SANDMEYER STEEL COMPANY
ONE SANDMEYER LANE
PHILADELPHIA PA 19116

SHIP TO: SANDMEYER STEEL COMPANY
ONE SANDMEYER LANE
PHILADELPHIA PA 19116

----- YOUR ORDER & DATE -----
 62848 6/23/14
 ----- ITEM DESCRIPTION -----
 HEAT & PIECE 858353 - 1A Lot No. 1586
 WEIGHT 21499
 FINISH 1
 GRADE 316LEZ UNS S31603
 DIMENSIONS 3.750 X 96.000 X 205.000 EXACT

----- SPECIFICATIONS -----
 *** MFG IN NEW CASTLE, IN, USA FROM SLABS IMPORTED FROM BRITAIN
 ASTM A240-14 ASME SA240-13ED ASTM A480-14A ASMESA480 13ED
 DUPONT SW-300-M JAN 82 ASME SA312 2013 ED CHEM ONLY
 AMS 5507F WITH EXCEPTIONS REFINED A.O.D. PROCESS
 MELTED ELECTRIC ARC METHOD ASTM A312-13A CHM&MECH ONLY
 QQ-S-766D AMENDIII EX.P4.5.2 NACE MRO175-2009/ISO 15156
 NACE MR0103-2012 97/23/EC PED #228/2004/MUC
 97/23/EC ANNEX 1 PARA 4.3 UT ASTM A578-07 LEV C+S1+S3
 UT TO ASTM A435/435M-90 NO GRIPPER MARKS
 NO WELD REPAIRS
 ASTM A262-13 PRACTICE A ASTM A262-13 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 HRB 82
 GRAIN SIZE 3
 YIELD STRENGTH (PSI) 40180
 TENSILE STRENGTH (PSI) 77070
 INTERGRANULAR CORROSION OK
 ELONGATION % IN 2" 56.4
 REDUCTION OF AREA % 59.3
 UT TEST PER ASME SA435 PASSES

----- CHEMICAL COMPOSITION -----
 CARBON (C) .026
 MANGANESE (MN) 1.40
 PHOSPHORUS (P) .030
 SULFUR (S) .023
 SILICON (SI) .56
 CHROMIUM (CR) 16.96
 NICKEL (NI) 10.12
 COBALT (CO) .15
 COPPER (CU) .44
 MOLY (MO) 2.04
 NITROGEN (N) .08
 COLUMBIUM (CB) .010
 TITANIUM (TI) .003
 ALUMINUM (AL) .007
 TIN (SN) .009
 PB (PB) .001

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 ACCERTABLE.

JAMES DOUBMAN, QUALITY ASSURANCE MANAGER

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

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