

852755-2A

outokumpu
high performance stainless steel

Outokumpu Stainless Plate, LLC



Certificate of Analysis and Tests

* RE-CERTIFICATION *

Page: 1

OUR ORDER 0277847 - 15

HEAT & PIECE 852755-2A 07/02/14

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 -----
 62283 10/03/11
 ----- ITEM DESCRIPTION -----
 HEAT & PIECE 852755 - 2A Lot No. 0000
 WEIGHT 19523
 FINISH 1
 GRADE 316L / 316 UNS-S31603 / UNS-S31600
 DIMENSIONS 4.500 X 96.000 X 155.000 EXACT

----- SPECIFICATIONS -----
 *** MFG IN NEW CASTLE, IN, USA FROM SLABS IMPORTED FROM BRITAIN
 AMS 5507F WITH EXCEPTIONS AMS 5524L WITH EXCEPTIONS
 ASTM A240-14 ASME SA240-13ED ASTM A480-14A ASMESA480 13ED
 DUPONT SW-300-M JAN 82 ASME SA312 2013 ED CHEM ONLY
 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
 REQUIRES PRODUCT ANALYSIS ASTM A276-13 CON A CHM ONLY
 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 HRBW 75
 GRAIN SIZE 5
 YIELD STRENGTH (PSI) 38900
 TENSILE STRENGTH (PSI) 80500
 INTERGRANULAR CORROSION OK
 ELONGATION % IN 2" 54.0
 REDUCTION OF AREA % 69.5

----- CHEMICAL COMPOSITION ----- PRODUCT ANALYSIS -----
 CARBON (C) .014 (C) .017
 MANGANESE (MN) 1.61 (MN) 1.45
 PHOSPHORUS (P) .029 (P) .026
 SULFUR (S) .001 (S) .005
 SILICON (SI) .37 (SI) .38
 CHROMIUM (CR) 16.40 (CR) 16.50
 NICKEL (NI) 10.07 (NI) 10.00
 COBALT (CO) .35 (CO) .28
 COPPER (CU) .44 (CU) .46
 MOLY (MO) 2.07 (MO) 2.18
 NITROGEN (N) .08 (N) .05
 COLUMBIUM (CB) .022 (CB) .026
 TITANIUM (TI) .015 (TI) .017
 ALUMINUM (AL) .008 (AL) .008
 TIN (SN) .008 (SN) .011
 TANTALUM (TA) .003 (TA)
 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 ACCEPTABLE.

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

JAMES DOUBMAN, QUALITY ASSURANCE MANAGER

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