



Certificate of Analysis and Tests

* RE-CERTIFICATION *

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OUR ORDER 0273396 - 07

HEAT & PIECE 849641-1A 02/25/15

SOLD TO: C.F.F. SPECIALTY STEELS INC.
1840 BURLINGTON ST. E.

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

ONTARIO L8H 3L4 00000

----- YOUR ORDER & DATE -----	
C75463	9/10/10
----- ITEM DESCRIPTION -----	
HEAT & PIECE	849641 - 1A
WEIGHT	17602
FINISH	1
GRADE	316L / 316
DIMENSIONS	4.500 X 78.000 X 172.000 EXACT
	UNS-S31603 / UNS-S31600

----- SPECIFICATIONS -----	
*** MFG IN NEW CASTLE, IN, USA	FROM SLABS IMPORTED FROM BRITAIN
ASTM A240-14 ASME SA240-13ED	ASTM A480-14B ASMESA480 13ED
NACE MRO175-2009/ISO 15156	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	71
GRAIN SIZE	3
YIELD STRENGTH (PSI)	34272
TENSILE STRENGTH (PSI)	75920
INTERGRANULAR CORROSION	OK
ELONGATION % IN 2"	53.0
REDUCTION OF AREA %	62.6

----- CHEMICAL COMPOSITION -----	
CARBON (C)	.016
MANGANESE (MN)	1.63
PHOSPHORUS (P)	.035
SULFUR (S)	.001
SILICON (SI)	.43
CHROMIUM (CR)	16.15
NICKEL (NI)	10.10
COBALT (CO)	.29
COPPER (CU)	.47
MOLY (MO)	2.06
NITROGEN (N)	.03
COLUMBIUM (CB)	.022
TITANIUM (TI)	.003
ALUMINUM (AL)	.007
TIN (SN)	.010
TANTALUM (TA)	.004
PB (PB)	.001

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

JAMES DOUBMAN, QUALITY ASSURANCE MANAGER

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

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