

**Outokumpu Stainless Plate, Inc.**



# Certificate of Analysis and Tests

OUR ORDER 0259456 - 01

HEAT & PIECE 841551-3A 08/17/07

SOLD TO: A. M. CASTLE & COMPANY

SHIP TO: A. M. CASTLE METALS

3400 NORTH WOLF ROAD  
FRANKLIN PARK IL 60131

3400 NORTH WOLF ROAD  
847-455-7111  
FRANKLIN PARK IL 60131

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

01-33724

5/21/07

TAG# IAC 18469

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

HEAT & PIECE	841551 - 3A	
WEIGHT	13388	
FINISH	1	
GRADE	304L / 304	UNS-S30403 / UNS-S30400
DIMENSIONS	3.000 X 96.000 X	159.000 EXACT

----- SPECIFICATIONS -----

*** MFG IN NEW CASTLE, IN, USA	FROM SLABS IMPORTED FROM BRITAIN
AMS 5511H EXCEPT LINE MARK	AMS 5513H EXCEPT LINE MARK
ASTM A240-06C	ASTM A276-06 COND A CHEM ONLY
ASTM A312-06 CHEM&MECH ONLY	ASME SA240 07 EDITION
ASME SA312 07 ED CHEM ONLY	ASTM A479-06A CHEM ONLY
ASTM A480/A480M-06B	ASTM A249-04A CHEM ONLY
A M CASTLE S30403-66 REV 2	ASTM A262-02A PRACTICE E
97/23/EC PED #224/2004/MUC	GL&V 81543-1 R D W/EXCEPTION
CASTLE S30403-63 R2 W/EXCEPT	97/23/EC ANNEX 1 PARA 4.3
NO GRIPPER MARKS	NO WELD REPAIRS
ASTM A262-02A PRACTICE A	

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)

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

HARDNESS RB	82
GRAIN SIZE	4
YIELD STRENGTH (PSI)	38151
TENSILE STRENGTH (PSI)	82710
INTERGRANULAR CORROSION	OK
ELONGATION % IN 2"	57.2
REDUCTION OF AREA %	70.3

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

CARBON (C)	.018
MANGANESE (MN)	1.87
PHOSPHORUS (P)	.031
SULFUR (S)	.001
SILICON (SI)	.31
CHROMIUM (CR)	18.29
NICKEL (NI)	8.64
COBALT (CO)	.17
COPPER (CU)	.51
MOLY (MO)	.35
NITROGEN (N)	.07
COLUMBIUM (CB)	.019
TITANIUM (TI)	.003
ALUMINUM (AL)	.005
TIN (SN)	.017
TANTALUM (TA)	.001

**CASTLE METALS CORP.**  
 DATE RCVD 8/20/07  
 IAC 18469  
 APPROVED BY [Signature]

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

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

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