

843535-2A

05-27-'08 11:44 FROM-

T-713 P059/069 F-961

**OUTO
KUMPU**

Certificate of Analysis and Tests

OUR ORDER 0263766 - 01

HEAT & PIRCE 843535-2A 05/16/08

SOLD TO: A. M. CASTLE & COMPANY
3400 NORTH WOLF ROAD
FRANKLIN PARK IL 60131

SHIP TO: A. M. CASTLE METALS
3400 NORTH WOLF ROAD
847-455-7111
FRANKLIN PARK IL 60131

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

01-48504

4/03/08

TAG# IAC 138

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

HEAT & PIRCE 843535 - 2A
WEIGHT 11072
FINISH 1
GRADE 304LP / 304P
DIMENSIONS 2.500 X 96.000 X 158.000 EXACT
UNS-S30403 / UNS-S30400

----- SPECIFICATIONS -----

*** MFG IN NEW CASTLE, IN, USA
AMS 5511H EXCEPT LINE MARK
ASTM A240-07
ASME SA240 07 EDITION
ASTM A249-07 CHEM ONLY
ASME SB312 07 ED CHEM ONLY
A M CASTLE 3304-70 REV 16
97/23/EC PED #224/2004/MDC
AVESTA NACH TEST PER SP020
NO WELD REPAIRS
ASTM A262-02A PRACTICE A
PRODEC QUALITY

FROM SLABS IMPORTED FROM BRITAIN
AMS 5513H EXCEPT LINE MARK
ASTM A312-07 CHEMMECH ONLY
ASTM A479-06A CHEMMECH ONLY
ASTM A276-06 COND A CHEM ONLY
ASTM A480/A480M-06B
ASTM A262-02A PRACTICE B
97/23/EC ANNEX 1 PARA 4.3
NO CRIPPER MARKS

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 83
GRAIN SIZE 5
YIELD STRENGTH (PSI) 39770
TENSILE STRENGTH (PSI) 84190
INTERGRANULAR CORROSION OK
ELONGATION % IN 2" 58.3
REDUCTION OF AREA % 64.1

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

CARBON	(C)	.017
MANGANESE	(Mn)	1.48
PHOSPHORUS	(P)	.032
SULFUR	(S)	.022
SILICON	(Si)	.43
CHROMIUM	(Cr)	18.21
NICKEL	(Ni)	8.25
COBALT	(Co)	.18
COPPER	(Cu)	.39
MOLY	(Mo)	.42
NITROGEN	(N)	.07
COLUMBIUM	(Cb)	.015
TITANIUM	(Ti)	.003
ALUMINUM	(Al)	.006
TIN	(Sn)	.015
TANTALUM	(Ta)	.001

CASTLE METALS CORP
DATE RCVD 5/16/08
IAC 138
APPROVED BY *[Signature]*

ISO 9001:2000
QMS Control
06-2807

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 Douberman

Outokumpu Stainless Plate, Inc.
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