

Ordered by Thyssenkrupp Materials NA, Anna Ruggs  
Quantity: 531 LB  
Est PO#:  
Customer:

*Anna C. Ruggs* 845526-2A

2008-10-27  
Shipper#: UA0078  
Cust Part#:

**Outokumpu Stainless Plate, Inc.**

**OUTO  
KUMPU**

**Certificate of Analysis and Tests**

OUR ORDER 0265458 - 01

HEAT & PIECE 845526-2A 09/25/08

SOLD TO: COPPER & BRASS SALES  
PO BOX 5116  
SOUTHFIELD MI 48086

SHIP TO: COPPER & BRASS SALES  
2923 TECHNOLOGY DR.  
PH: 248-844-4851  
ROCHESTER HILLS MI 48309

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

CZ5749

8/01/08

TAG# 412909-4

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

HEAT & PIECE 845526 - 2A  
WEIGHT 8367  
FINISH 1  
GRADE 316LP / 316P UNS-S31603 / UNS-S31600  
DIMENSIONS 3.000 X 60.000 X 159.000 EXACT

----- SPECIFICATIONS -----

\*\*\* MFG IN NEW CASTLE, IN, USA  
AMS 5507F WITH EXCEPTIONS  
ASTM A240-08 ASME SA240 07ED  
AVESTA MACH TEST PER SPO20  
NO WEEE RELEVANT SUBSTANCES  
NO WELD REPAIRS  
ASTM A262-02A PRACTICE A  
PRODEC QUALITY

FROM SLABS IMPORTED FROM BRITAIN  
AMS 5524K WITH EXCEPTIONS  
ASTM A480-08 ASME SA480 07E  
MEETS EU ELECTRICAL ROHS  
NO GRIPPER MARKS  
ASTM A262-02A PRACTICE E

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 76  
GRAIN SIZE 6  
YIELD STRENGTH (PSI) 39156  
TENSILE STRENGTH (PSI) 82390  
INTERGRANULAR CORROSION OK  
ELONGATION % IN 2" 55.2  
REDUCTION OF AREA % 59.5

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

CARBON	(C)	.025
MANGANESE	(MN)	1.45
PHOSPHORUS	(P)	.029
SULFUR	(S)	.022
SILICON	(SI)	.53
CHROMIUM	(CR)	16.71
NICKEL	(NI)	10.09
COBALT	(CO)	.21
COPPER	(CU)	.36
MOLY	(MO)	2.07
NITROGEN	(N)	.05
COLUMBIUM	(CB)	.026
TITANIUM	(TI)	.002
ALUMINUM	(AL)	.006
TIN	(SN)	.007
TANTALUM	(TA)	.004



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

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

*James Douman*

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