

HT# 840825-5A

Outokumpu Stainless Plate, Inc.

OUTOKUMPU

Certificate of Analysis and Tests

OUR ORDER 0259608 - 02

HEAT & PIECE 840825-5A 06/07/07

SOLD TO:

SHIP TO:

MI 48162

J11310 5/31/07 YOUR ORDER & DATE TAG# 5-3903-3799-02-

HEAT & PIECE 840825 - 5A ITEM DESCRIPTION
WEIGHT 8167
FINISH 1
GRADE 2205+2
DIMENSIONS 1.000 X 92.500 X UNS-S32208 296.000 EXACT

\*\*\* MFG IN NEW CASTLE, IN, USA
ASTM A240-06 CASHMSA240 04E06A
ASTM A 923-06 METH A, B & C
MELTED ELECTRIC ARC METHOD
UHA 51 CHARPY @ -40F (-40C)
CONTAINS 40% TO 60% FERRITE
NAFTA CTRY ORIGIN = SLB CTRY
NO GRIPPER MARKS

SPECIFICATIONS
FROM SLABS IMPORTED FROM BRITAIN
ASTM A480-06DASME SA48004E06A
REFINED A.O.D. PROCESS
NACE MR0175-2003
ROHS SPEC 2205+2
85% POINT C FERRITE 40-50%
ROHS BY ELECTRICAL ROHS

PLATES & TEST PCS SOLUTION ANNEALED @ 1900 DEGREES FAHRENHEIT MINIMUM.
THEN WATER QUENCHED
FREE FROM MERCURY CONTAMINATION AT CURRENT DETECTION LIMITS
HOT ROLLED, ANNEALED & PICKLED (HRAP)

Mechanical & Other Tests
HARDNESS RC 22
YIELD STRENGTH (PSI) 90360
TENSILE STRENGTH (PSI) 111770
BEND OK
ASTM A923 METHOD A OK
ELONGATION % IN 2" 35.5
REDUCTION OF AREA % 65.8
A923 METHOD C CORROSION TEST M.D.D. = 0.00 @ 25 DEGREES C 24HRS.
CHARPY TEST AT -40F (TRANS) 122, 149, 154 FT-LBS. FULL SAMPLE SIZE
PERCENT SHEAR = 100%, 100%, 100%
LATERAL EXPANSION = 74, 87, 87 (MILS)
ASTM E-562 POINT COUNT FERRITE = 46.0%

Table with 3 columns: Element, Symbol, and Value. Includes Carbon (.025), Manganese (1.51), Phosphorus (.023), Sulfur (.001), Silicon (.44), Chromium (22.59), Nickel (5.66), Cobalt (.10), Copper (.36), Moly (3.18), Nitrogen (.18), Columbium (.008), Titanium (.003), Aluminum (.020), Tin (.016), and Tantalum (.003).

CHEMICAL COMPOSITION



QUALITY ASSURANCE

APPROVED [Signature]
DATE 6/13/07

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, Inc.
PO, Box 370
New Castle, Indiana 47362

JAMES DOUBMAN, QUALITY ASSURANCE MANAGER

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

E16085

Material UNS-S31803 Gr 2205