

E140577



Certificate of Test

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HEAT E140577 ORDER 649955/ 09 BOL 0228854 * CERTIFICATION * 08/27/14

SHIP TO:
ROLLED ALLOYS BAR CENTER
711 PHOENIX LAKE AVENUE

STREAMWOOD 601070000

----- YOUR ORDER & DATE -----
0110778-STR 4/01/14 CUST# 0773001 CUST TAG#0009203

----- ITEM DESCRIPTION -----
GRADE 304L/304 Ship Condition CONDA
Size 304L RND HRART CONDA (11.0000) x 144.000 RL
Country of Melt: UNITED KINGDOM Country of Mfg.: UNITED KINGDOM
NAFTA Country of Origin is Country of Melt

No weld repair
Free of mercury contamination, Free of radiation contamination
No WEEE relevant substances; Meets EU electrical ROHS

Total Bundles 1 Total Weight 3951 Approx. Hot Red. Ratio 6:1

WO 2053954 Bundles: 1A

----- SPECIFICATIONS -----
AMS 5639H, 5647J SAE AMS-00-S-763C
ASME SA182 2007-2013 Ed ASME SA479 2007-2013 Ed.
ASME SA484 2013 Ed. ASME SA320 B8 CL1, 2013 Ed.
ASME SA193 B8 2013 Edition ASTM A182 13a
ASTM A262 13 Practice A/E ASTM A276 13a
ASTM A314 13a ASTM A479/A479M 14
ASTM A484 14 ASTM A320 11 B8 Class 1
ASTM A193 12b B8 Solution Annealed Condition
NACE MR0175-09, ISO 15156:09 DFARS 252.225.7009 10/4/11
Federal Spec 00-S-763F UNS S30400, AISI 304
UNS S30403, AISI 304L Free of Cont. carbide network
EN 10204 Type 3.1 Document RA-53 RAM 304L
Prodec Quality ASTM F899 12
NACE MR0103-10 DFARS 225.7002-3(B)(1)

----- MECHANICAL & OTHER TESTS -----
Hardness as shipped (149 HB)
Hardness as shipped 78 HRB
Grain size 6.0 Tensile strength, KSI (MPa) 80.5 (555)
Micro OK 0.2% Yield Strngth, KSI (MPa) 32.3 (223)
Intergranular corrosion OK
Elongation % in 4D 65.0
Reduction of area % 77.0

----- CHEMICAL COMPOSITION -----
Carbon (C) .014 Manganese (Mn) 1.920
Phosphorus (P) .036 Sulphur (S) .028
Silicon (Si) .230 Chromium (Cr) 18.330 ✓
Nickel (Ni) 8.180 ✓ Cobalt (Co) .173
Copper (Cu) .480 Moly (Mo) .370 ✓
Nitrogen (N) .097 Columbium (Cb) .010
Titanium (Ti) .002 Aluminum (Al) .005
Tin (Sn) .012 Boron (B) .001
Tantalum (Ta) .001 Vanadium (V) .060
Tungsten (W) .081 .000
Columbium/ Tantalum (Cb+Ta) .011
Iron (Fe) Balance
Melt Practice EAF
Refining Practice AOD
De-long Ferrite

HEAT # E140577
TRACER # 0431478US

ROLLED ALLOYS QUALITY ASSURANCE
APPROVED
DATE 9/6/2014

Knowingly & willfully falsifying or concealing a material act on this form, or making false, fictitious or fraudulent statements or representations herein could constitute a felony punishable under federal statutes. We hereby certify that the test results shown in this report are correct and accurate as contained in the records of the company and are in compliance with the specifications, codes, and standards listed above.

Outokumpu Stainless Bar, LLC
3043 Crenshaw Pkwy.
Richburg, SC 29729

M.F. Marcanio, Quality Manager