

Rolled Alloys PO 76996 WO 5606 CPA-4 FOWE Nozzle

OUTOKUMPU

Certificate of Test **E111305.**

HEAT E111305 ORDER 625665/ 05 BOL 0215141 * CERTIFICATION * 12/15/11

SHIP TO:
ROLLED ALLOYS BAR CENTER
711 PHOENIX LAKE AVENUE

STREAMWOOD 601070000

ok
3/23/12

----- YOUR ORDER & DATE -----
103196 12/15/11 CUST# 0773001 CUST TAG#834045903001-05

----- ITEM DESCRIPTION -----
GRADE 304L/304 Ship Condition CONDA
Size 304L RND HRART CONDA 6.5000 x 144.000 RL
Country of Melt: UNITED KINGDOM Country of Mfg.: SWEDEN
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 2 Total Weight 5810

WO 2026085 Bundles: 1B, 1C

AMS 5639H, 5647J
ASME SA182 E07-E10, Add. 11a
ASME SA484 E10 A11a
ASME SA193 B8 E10 A11a
ASTM A262 10 Practice A/E
ASTM A314 97
ASTM A484 11
ASTM A193 11 B8
NACE MR0175-03, ISO 15156:03
Federal Spec QQ-S-763F
UNS S30403, AISI 304L
EN 10204 Type 3.1 Document
Prodec Quality

SPECIFICATIONS -----
SAE AMS-QQ-S-763B
ASME SA479 E07-E10 All
ASME SA320 B8 CL1 E10 A11a
ASTM A182 10a
ASTM A276 10
ASTM A479/A479M 11
ASTM A320 11 B8 Class 1
Solution Annealed Condition
DFARS 252.225.7009 10/4/11
UNS S30400, AISI 304
Free of Continuous carbide
RA-53 RAM 304L
Process Annealed 1750F min



----- MECHANICAL & OTHER TESTS -----
Hardness as shipped (161 HB)
Hardness as shipped 82 HRB
Grain size 5.5
Micro OK
Intergranular corrosion OK
Tensile strength, KSI (MPa) 86.0 (593)
0.2% Yield Strngth, KSI (MPa) 36.0 (248)
Elongation % in 4D 60.0
Reduction of area % 75.0

----- CHEMICAL COMPOSITION -----
Carbon (C) .020
Phosphorus (P) .032
Silicon (Si) .399
Nickel (Ni) 8.100 ✓
Copper (Cu) .406
Nitrogen (N) .080
Titanium (Ti) .002
Tin (Sn) .014
Vanadium (V) .060
Columbium/ Tantalum (Cb+Ta) .011
Iron (Fe) Balance
Melt Practice EAF
Refining Practice AOD
De-long Ferrite
Manganese (Mn) 1.640
Sulphur (S) .027
Chromium (Cr) 18.290 ✓
Cobalt (Co) .122
Moly (Mo) .340 ✓
Columbium (Cb) .011
Aluminum (Al) .004
Boron (B) .001
.000

ROLLED ALLOYS QUALITY ASSURANCE
APPROVED
DATE 12-19-11

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.

M.F. Marcanio, Quality Manager

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

M.F. Marcanio

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