



Certificate of Test

L#0
PO 76445
W05532
CPA Nozzle 2-80

HEAT 100595 ORDER 621312/ 03 BOL 0211141 * RE-CERTIFICATION * 09/26/11

SHIP TO:
COPPER & BRASS SALES
SUITE 106
5441 NE 148TH AVENUE
PORTLAND 972300000

100595

----- YOUR ORDER & DATE -----
5400096241 9/26/11 CUST# 0316001 CUST TAG#SSRD01750

----- ITEM DESCRIPTION -----
GRADE 304L/304 Ship Condition CONDA
Size 304L RND HRART CONDA 3.7500 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 1 Total Weight 958

WO 2012188 Bundles: 1F

----- SPECIFICATIONS -----
AMS 5639H, 5647J
ASME SA182 E07-E10, Add. 11a
ASTM A262 98 Practice E
ASTM A479/A479M 11
DIN 50049/EN 10204 3.1
AISI 304L, UNS S30403, SAES304
Federal Spec QQ-S-763F
ASTM A320 11 B8 Class 1
NACE MR0175-03, mid-rad hard

SAE AMS-QQ-S-763B
ASME SA479 E07-E10 A11a
ASTM A276 10
ASTM A484 11
Solution Annealed Condition
AISI 304, UNS S30400
ASTM A182 10a
ASTM A193 11 B8

----- MECHANICAL & OTHER TESTS -----
Hardness as shipped (146 HB)
Hardness as shipped 78 HRB
Grain size 5.0 Tensile strength, KSI (MPa) 80.9 (558)
Micro OK 0.2% Yield Strngth, KSI (MPa) 37.3 (257)
Intergranular corrosion OK
Elongation % in 4D 67.0
Reduction of area % 74.0

----- CHEMICAL COMPOSITION -----
Carbon (C) .020 Manganese (Mn) 1.600
Phosphorus (P) .031 Sulphur (S) .027
Silicon (Si) .417 Chromium (Cr) 18.090
Nickel (Ni) 8.080 Cobalt (Co) .122
Copper (Cu) .413 Moly (Mo) .280
Nitrogen (N) .077 Columbium (Cb) .007
Titanium (Ti) .003 Aluminum (Al) .005
Tin (Sn) .015 Boron (B) .001
Vanadium (V) .060 .000
Columbium/
Tantalum (Cb+Ta) .007
Iron (Fe) Balance
Melt Practice EAF
Refining Practice AOD
De-long Ferrite

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