



Certificate of Test E120522

HEAT E120522 ORDER 635774/ 17 BOL 0221087 * RE-CERTIFICATION * 05/07/13

SHIP TO:
COPPER AND BRASS SALES
8001 THYSSENKRUPP PARKWAY

NORTHWOOD 436190000

----- YOUR ORDER & DATE -----
5400163168 5/07/13 CUST# 0316001 CUST TAG#SSRD00570

----- ITEM DESCRIPTION -----
GRADE 304L/304 Ship Condition CONDA
Size 304L RND HRART CONDA 6.2500 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 1536

WO 2031712 Bundles: 1EA

----- SPECIFICATIONS -----
AMS 5639H, 5647J SAE AMS-QQ-S-763B
UNS S30400, AISI 304 ASME SA479 E07-E10 A11
UNS S30403, AISI 304L ASTM A276 10
ASTM A479/A479M 13 ASTM A484 13
DIN 50049/EN.10204 Type 3.1 Solution Annealed Condition
Federal Spec QQ-S-763F Copper & Brass 304L MAXX
ASTM A182 12 NACE MR0175-09, ISO 15156:09

----- MECHANICAL & OTHER TESTS -----
Hardness as shipped (150 HB)
Hardness as shipped 79 HRB
Grain size 5.0 Tensile strength,KSI (MPa) 85.1 (587)
Micro OK 0.2% Yield Strngth,KSI (MPa) 36.3 (250)
Intergranular corrosion OK
Elongation % in 4D 59.0
Reduction of area % 75.0

----- CHEMICAL COMPOSITION -----
Carbon (C) .019 Manganese (Mn) 1.650
Phosphorus (P) .035 Sulphur (S) .025
Silicon (Si) .410 Chromium (Cr) 18.330
Nickel (Ni) 8.100 Cobalt (Co) .136
Copper (Cu) .460 Moly (Mo) .380
Nitrogen (N) .085 Columbium (Cb) .010
Titanium (Ti) .002 Aluminum (Al) .005
Tin (Sn) .014 Boron (B) .001
Vanadium (V) .090 Tungstem (W) .050
Columbium/
Tantalum (Cb+Ta) .010
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