

# Certificate of Test

*E140346 - 6.5*

HEAT E140346 ORDER 651483/ 02 BOL 0228291 \* RE-CERTIFICATION \* 10/22/14

SHIP TO:  
COPPER & BRASS SALES  
TMX DIVISION  
13338 ORDEN DRIVE  
SANTA FE SPRINGS 906700000

----- YOUR ORDER & DATE -----  
5400224852 5/23/14 CUST# 0316001 CUST TAG#SSRD00605

----- 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.: UNITED STATES  
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 1525

WO 2049346 Bundles: 1FA

----- SPECIFICATIONS -----  
MFG TO FINISHED BAR IN THE USA FROM BILLETS IMPORTED UNITED KINGDOM  
AMS 5639H, 5647J SAE AMS-QQ-S-763C  
UNS S30400, AISI 304 ASME SA479 2007-2013 Ed.  
UNS S30403, AISI 304L ASTM A276 13a  
ASTM A479/A479M 14 ASTM A484 14  
DIN 50049/EN 10204 Type 3.1 Solution Annealed Condition  
Federal Spec QQ-S-763F Copper & Brass 304L MAXX  
ASTM A182 13a ASTM F899 12  
NACE MR0175-09, ISO 15156:09 EN 10204 Type 3.1 Document

----- MECHANICAL & OTHER TESTS -----  
Hardness as shipped (154 HB )  
Hardness as shipped 81 HRB  
Grain size 5.0 Tensile strength, KSI (MPa) 87.0 ( 600)  
Micro OK 0.2% Yield Strngth, KSI (MPa) 37.0 ( 255)  
Intergranular corrosion OK  
Elongation % in 4D 59.0  
Reduction of area % 74.0

----- CHEMICAL COMPOSITION -----  
Carbon (C) .020 Manganese (Mn) 1.640  
Phosphorus (P) .031 Sulphur (S) .026  
Silicon (Si) .400 Chromium (Cr) 18.300  
Nickel (Ni) 8.140 Cobalt (Co) .087  
Copper (Cu) .330 Moly (Mo) .280  
Nitrogen (N) .080 Columbium (Cb) .020  
Titanium (Ti) .003 Aluminum (Al) .005  
Tin (Sn) .008 Boron (B) .001  
Tantalum (Ta) .001 Vanadium (V) .060  
Tungsten (W) .020 .000  
Columbium/  
Tantalum (Cb+Ta) .021  
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

*M.F. Marcanio*