

E141207 - 15"



Certificate of Test

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HEAT **E141207** ORDER 657712/ 01 BOL 0230941 * RE-CERTIFICATION * 04/01/15

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

----- YOUR ORDER & DATE -----
5400250764 2/04/15 CUST# 0316001 CUST TAG#SSRD01303

----- ITEM DESCRIPTION -----
GRADE 304L/304 Ship Condition CONDA
Size 304L RND HRART CONDA 15.0000 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 9280 Approx. Hot Red. Ratio 3:1

WO 2052733 Bundles: 1A

----- SPECIFICATIONS -----
AMS 5639H, 5647J SAE AMS-QQ-S-763C
UNS S30400, AISI 304 ASME SA479 2007-2013 Ed.
UNS S30403, AISI 304L ASTM A276-15
ASTM A479/A479M 14 ASTM A484 15
DIN 50049/EN 10204 Type 3.1 Solution Annealed Condition
Federal Spec QQ-S-763F Copper & Brass 304L MAXX
ASTM A182 14b ASTM F899 12
NACE MR0103-10 **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) 81.0 (558)
Micro OK 0.2% Yield Strngth, KSI (MPa) 36.8 (254)
Intergranular corrosion OK
Elongation % in 4D 64.6
Reduction of area % 77.0

----- CHEMICAL COMPOSITION -----
Carbon (C) .013 Manganese (Mn) 1.910
Phosphorus (P) .037 Sulphur (S) .026
Silicon (Si) .270 Chromium (Cr) 18.170
Nickel (Ni) 8.100 Cobalt (Co) .179
Copper (Cu) .420 Moly (Mo) .310
Nitrogen (N) .090 Columbium (Cb) .017
Titanium (Ti) .003 Aluminum (Al) .005
Tin (Sn) .012 Boron (B) .001
Tantalum (Ta) .001 Vanadium (V) .070
Tungsten (W) .027 .000
Columbium/
Tantalum (Cb+Ta) .018
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