

E141207



Certificate of Test

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HT# HEAT E141207 ORDER 656957/ 02 BOL 0230488 * CERTIFICATION * 01/06/15

SHIP TO:
ROLLED ALLOYS INC.
50 GREAT POND ROAD
(860) 687-2157 MUST MAKE APPT
WINDSOR 060950000

TR# 0441659 US

----- YOUR ORDER & DATE -----
0120591-WIN 12/31/14 CUST# 0773001 CUST TAG#0009197

----- ITEM DESCRIPTION -----
GRADE 304L/304 Ship Condition CONDA
Size 304L RND HRART CONDA 8.0000 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 4640 Approx. Hot Red. Ratio 10:1

WO 2055585 Bundles: 1D

----- SPECIFICATIONS -----
MFG TO FINISHED BAR IN THE USA FROM BILLETS IMPORTED UNITED KINGDOM
AMS 5639H, 5647J SAE AMS-QQ-S-763C
ASME SA182 2007-2013 Ed ASME SA479 2007-2013 Ed.
ASME SA484 2013 Ed. ASME SA320 B8 CL1, 2013 Ed.
ASME SA193 B8 2013 Edition ASTM A182 13a
ASTM A262 13 Practice A/E ASTM A276 13a
ASTM A314 13a ASTM A479/A479M 14
ASTM A484 14a ASTM A320-11 B8 Class 1
ASTM A193 14 B8 Solution Annealed Condition
NACE MR0175-09 ISO 15156:09 DFARS 252.225.7009 10/4/11
Federal Spec QQ-S-763F UNS S30400, AISI 304
UNS S30403, AISI 304L Free of Cont.carbide network
EN 10204 Type 3.1 Document RA-53 RAM 304L
Prodec Quality ASTM F899 12
NACE MR0103-10 DFARS 225.7002-3(B)(1)
Sol Ann 1850F min/Rapid Cool Bars are 100% UT inspected

----- MECHANICAL & OTHER TESTS -----
Hardness as shipped 144 HB
Hardness as shipped (78 HRB)
Grain size 4.5 Tensile strength, KSI (MPa) 82.5 (569)
Micro OK 0.2% Yield Strngth, KSI (MPa) 36.2 (250)
Intergranular corrosion OK
Elongation % in 4D 54.0
Reduction of area % 54.0

-- Continued --

ROLLED ALLOYS QUALITY ASSURANCE
APPROVED *[Signature]*
DATE 1-7-15

M.F. Mancoske

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----- 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

M.F. Marcanio