

3TBR80



Certificate of Test

PRODEC QUALITY

Page: 1

HEAT E170813 ORDER 674057/ 03 BOL 0239971 * CERTIFICATION * 07/12/17

SHIP TO:
COPPER AND BRASS SALES
12321 CUTTEN ROAD

HOUSTON 770660000

----- YOUR ORDER & DATE -----
5400350058 4/27/17 CUST# 0316001 CUST TAG#SSRD00523

----- ITEM DESCRIPTION -----
GRADE 316L/316 PRODEC QUALITY Ship Condition CONDA
Size 316L RND HRART CONDA 3.0000 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 2855 Approx. Hot Red. Ratio 4:1

WO 2077552 Bundles: 1A

----- SPECIFICATIONS -----
MFG TO FINISHED BAR IN THE USA FROM BILLETS IMPORTED UNITED KINGDOM
AMS 5648M, 5653H SAE AMS-QQ-S-763D
ASME SA479 2007-2015 Ed. ASTM A182/A182M 16a
ASTM A262 15 Practice A/E ASTM A276-17
ASTM A479/A479M 17 ASTM A484 16
ASTM E112 96 ASTM A320 17a B8M Class 1
ASTM A193 16 B8M DIN 50049/EN 10204 Type 3.1
DFARS 252.225.7009 10/4/11 Federal Spec QQ-S-763F
Copper & Brass 316L MAXX NACE MR0175-09, mid-rad hard
NACE MR0103-10 UNS S31600, AISI 316
UNS S31603, AISI 316L
Sol Anneal at 1900F min/ Water Quench

----- MECHANICAL & OTHER TESTS -----
Hardness as shipped 156 HB
Hardness as shipped (81 HRB)
Grain size 8.0 Tensile strength, KSI (MPa) 86.2 (594)
Micro OK 0.2% Yield Strngth, KSI (MPa) 37.0 (255)
Intergranular corrosion OK
Elongation % in 4D 52.5
Reduction of area % 72.6

-- Continued --

Outokumpu Stainless Bar, LLC
3043 Crenshaw Pkwy.
Richburg, SC 29729

From: TK Materials CA, Ltd.
Cust. ATLANTIS INDUSTRIES Del.: 2405407740
CstAr CstOr Bozo - Aug 28/17
Wgt.: 249 LB Date 08/25/2017

M.F. Marinis
Thomas Sanchez

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CHEMICAL COMPOSITION			
Carbon	(C)	0.020	
Phosphorus	(P)	0.033	
Silicon	(Si)	0.430	
Nickel	(Ni)	10.100	
Copper	(Cu)	0.540	
Nitrogen	(N)	0.068	
Iron	(Fe)	Balance	
Melt Practice	RAF		
Refining Practice	AOD		
De-Long Ferrite		1.4	

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. Marciano, Quality Manager

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