



Certificate of Test

PRODEC QUALITY

Page: 1

HEAT E182201 ORDER 687941/ 10 BOL 0247271 * CERTIFICATION * 06/14/19

R 712366

----- YOUR ORDER & DATE -----
 P937434423 5/17/19 CUST# 0548001 CUST TAG#509370

----- ITEM DESCRIPTION -----
 GRADE 316L/316 PRODEC QUALITY Ship Condition CONDA
 Size 316L RND HRART CONDA 6.2500 x 144.000 RL
 Country of Melt: UNITED KINGDOM Country of Mfg.: SWEDEN
 No weld repair
 Free of mercury contamination, Free of radiation contamination
 No WEEE relevant substances; Meets RoHS-2011/65/EU and 2015/863

Total Bundles 2 Total Weight 5660 Approx. Hot Red. Ratio 5:1

WO 2092605 Bundles: 1E, 1F

----- SPECIFICATIONS -----
 AMS 5648M, 5653J SAE AMS-QQ-S-763D
 ASME BPVC.II.A-2017 SA-182 ASME SA-193 2017 Edition
 ASME SA-479 2017 Ed. ASME SA-320 B8M CL1, 2017 Ed
 ASTM A182/A182M 19 ASTM A262 15 Practice A/E
 ASTM A276/A276M 17 ASTM A479/A479M 18
 ASTM A484/A484M 18a ASTM A320 18 B8M Class 1
 Prodec Quality ASTM A193 17
 DIN 50049/EN 10204 Type 3.1 Federal Spec QQ-S-763F
 NACE MR0175-09, ISO 15156:09 NACE MR0103-10
 DEARS 252.225.7009 10/4/11 DEARS 225.7002-3(B)(1)
 EN 10204 Type 3.1 Document

----- MECHANICAL & OTHER TESTS -----
 Hardness as shipped (150 HB)
 Hardness as shipped 80 HRB
 Grain size 5.0 Tensile strength, KSI (MPa) 85.3 (588)
 Micro OK 0.2% Yield Strngth, KSI (MPa) 37.6 (259)
 Intergranular corrosion OK
 Elongation % in 4D 55.0
 Reduction of area % 74.0

----- CHEMICAL COMPOSITION -----
 Carbon (C) .018 Manganese (Mn) 1.600
 Phosphorus (P) .038 Sulphur (S) .025
 Silicon (Si) .420 Chromium (Cr) 16.810
 Nickel (Ni) 10.100 Cobalt (Co) .369
 Copper (Cu) .510 Moly (Mo) 2.080
 Nitrogen (N) .080
 Iron (Fe) Balance
 Melt Practice EAF
 Refining Practice AOD
 De-long Ferrite 1.6

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
ANS