

253915

Product Certification Report

Page 1 of 1

Report Number: 4741861

Certified on Jan 16, 2012

1102693 001 10/28/11 Customer I.D. Customer Purchase Order Dim 1 Dim 2 Heat LD. 3.1250 .0000 0000 253915 002573 5400121767-R02 Product Shape Product Surface 316/316L Rounds HR & Rough Turned Length (inches) Bill of Lading # 132.000 Min. 156.000 Max. 416238 VALBRUNA STAINLESS, INC. Attention: TKX LOGISTICS 2400 TAYLOR STREET WEST COPPER AND BRASS SALES Ship Sold 8001 THYSSENKRUPP PARKWAY FORT WAYNE, IN 46802 To To NORTHWOOD, OH Lifts: 0035 CONDITION A *NACE MR0175-10 ISO 15156-3 ASTMA 276-10 ASMESA 479-10 CHEMICAL ANALYSIS Cu P Co N C Mn S Si Cr Νi Mo 52 030 2.03 55 030 16.87 10.03 06 BRINELL HARDNESS ASTM E10-08 HBW 184 TENSILE PROPERTIES ASTM E8-08 TS (PSI) .2%YS (PSI) %EL(2") %RA 74.9 86700 <u>40100</u> <u>57.0</u> MACRO ASTM E340-00/E381-01 MACRO OK OK GRAIN SIZE ASTM E112-10 GRAIN SIZE Etchant Magnification X Oxalic ASTMA 262-10 PR E(A Utilized) OXALIC Etchant Magnification X Oxalic 500 No mercury or low melting alloy contamination. Continuous carbide and intergranular corrosion test OK. *Certification revised at Valbruna by D. Hackett (12/11/12). Chemical testing performed to one or more of the following ASTM methods: E415-08, E572-02a, E1019-08, E1085-Location of tensile fracture: inside middle of gage length. Chemical Analysis performed at Acciaierie Valbruna, Italy. No mercury or low melting alloy contamination. No weld repair. Material melted in Italy, manufactured in the United States. Material conforms to listed specifications and is DFARS compliant.

Results relate only to the items tested. Certification shall not be reproduced except in full, without written approval of Valbruna Stainless Inc. The recording of false, fictitious, or fraudulent statements on this document may be punished as a felony under federal statuses. Including Federal las Title 18, Chapter 47. Consult meterial safety data sheet (MSDS) for hazard info. I hereby certify that the reported figures are correct as contained in the records of the corporation.

Quality system is compliant with ISO 9001:2008, Produced in accordance with EN 10204 3.1.

Manager Laboratory Services

email: DHackett@valbruna.us

Dennis Hackett