

260644 (4")



Product Certification Report
Report Number: **4971180**

Certified on Feb 25, 2014 Page 1 of 2

Order I.D. 1302801 002		Order Date 12/04/13		Commodity Code 3184.ORT	
Dim 1 4.0000	Dim 2 .0000	Dim 3 .0000	Heat I.D. 260644	Customer I.D. 002471	Customer Purchase Order 37291
Product Shape Rounds			Product Surface HR & Rough Turned		Customer Grade 2205
Length (Inches) 132.000 Min. 156.000 Max.			Bill of Lading # 421199	Weight	

Ship To
VALBRUNA STAINLESS, INC
4747 OATES ROAD
HOUSTON, TX 77013

Sold To
VALBRUNA STAINLESS, INC.
4747 OATES ROAD
HOUSTON, TX. 77013

Lifts: 0036 0045 0046 0047 0056 0057 0058 0067					
API 6A: 19th ed. 2005	Condition A	EN 10204 3.1			
NACE MR0175/ISO 15156-3 2009	UNS S31803/S32205	ASTMA 182-13 Chem Only			
ASTMA 276-13	ASTMA 479-13a	ASTMA 484-12			
ASMESA 479-13					

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Cr	Ni	Mo	N
.020	1.48	.029	.001	.54	22.40	5.77	3.15	.189

ROCKWELL HARDNESS ASTM E18-11

HRC	
22.0	
24.0	

TENSILE PROPERTIES ASTM E8-13a

TS (PSI)	.2%YS (PSI)	%EL(2")	%RA
108600	73700	47.4	80.5

Subsize Charpy V notch 5x10mm

FT/LB	FT/LB	FT/LB	LAT EXP	LAT EXP	LAT EXP	%SHR	%SHR	%SHR	AVG FT LBS
100	101	96	75	71	81	70	70	70	99
AVG LAT EXP		AVG % SHEAR	TEST(F)						
75		70	- 50						

PRODUCTION HEAT TREATMENT

SOL-ANN(F)	SOL-ANN(HR)	QUENCH
1950	3.25	Water

MACRO ASTM E340-00/E381-01

C	R	S	MACRO
1	1	1	OK

FERRITE PER ASTM E562
56.0

ASTM A262-10 PR E(A Utilized)

Oxalic	Etchant	Magnification X
OK	NaOH	500

ASTM A 182 Grade F51 (Chemistry Only)
Reduction Ratio Exceeds 4:1
Electric Furnace melted; AOD refined.

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 statutes, including Federal law Title 18, Chapter 47. Consult material safety data sheet (MSDS) for hazard info. I hereby certify that the reported figures are correct as contained in the records of the corporation.

Manager Laboratory Services *Dennis Hackett*
Dennis Hackett

email: DHackett@valbruna.us

From: TK Materials CA, Ltd.
Cust.
CstAr
Wgt.: 2 LB

Del.: 2404643295
CstOr 2016-657
Date 07/11/2016

Tomas Sanchez



VALBRUNA
 SLATER STAINLESS, INC.
 2490 TAYLOR STREET WEST - PO BOX 630
 FORT WORTH, TX 76102 USA
 PHONE 260.754.2600 - FAX 260.414.2601

Product Certification Report

Report Number: **4971180**

Certified on Feb 25, 2014 Page 2 of 2

Order I.D. 1302801 002		Order Date 12/04/13		Commodity Code 3184.ORT	
Dim 1 4.0000	Dim 2 .0000	Dim 3 .0000	Head I.D. 260644	Customer I.D. 002471	Customer Purchase Order 37291
Product Shape Rounds			Product Surface HR & Rough Turned		Customer Grade 2205
Length (inches) 132.000 Min. 156.000 Max.			Bill of Lading # 421199	Weight	

Ship To
 VALBRUNA STAINLESS, INC
 4747 OATES ROAD
 HOUSTON, TX 77013

Sold To
 VALBRUNA STAINLESS, INC.
 4747 OATES ROAD
 HOUSTON, TX. 77013

Chemical testing to one or more of the listed ASTM methods:
 E415-08, E572-02a, E1019-11, E1085-95, E1086-08.
 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.
Quality system is compliant with ISO 9001:2008. Produced in accordance with EN 10204 3.1.

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 statutes, including Federal law Title 18, Chapter 47. Consult material safety data sheet (MSDS) for hazard info. I hereby certify that the reported figures are correct as contained in the records of the corporation.

Manager Laboratory Services *Dennis Hackett*
 email: DHackett@valbruna.us Dennis Hackett

From: TK Materials CA, Ltd.
 Cust.
 CstAr
 Wgt.: 2 LB

Del.: 2404643295
 CstOr 2016-657
 Date 07/11/2016

Tomas Sanchez