



R & M Forge & Fittings  
 6455 Wesco Way  
 Houston, TX 77041  
 (713) 896 - 4081 (713) 896 - 6206  
 www.rmforge.com

**MATERIAL TEST REPORT**

Date: 11/18/2020

PO# 2020-1174	Line Item: 3	R&M S/O#: 44774
DESCRIPTION: ROUGH MACHINED 1/4" ALLOWANCE - 250 RMS 13.0" OD X 3.75" THK		
TAG: JOB# 1579		
HEAT NUMBER: 57404		QTY. Shipped: 1 PC.
Spec: ASME SA182 F51 (S31803) & PER NACE MR0175		Mill: ACERALAVA (SPAIN)

	C	MN	P	S	SI	NI	CR	MO	CU	V	CB/NB
LADLE	.014	1.11	.018	.0005	.42	5.28	22.60	3.13			
PRODUCT											
	N	AL	CE	FE	TI	W	SB	SN	AS	CB+TA	J-FACTOR
LADLE	.1735										
PRODUCT											

Mechanical Properties	
YIELD (PSI) 0.2% OFFSET	76,300
TENSILE (PSI)	107,100
ELONG. (%) 2"	41.0
R/A (%)	80.0
HARDNESS	255-269
CVN (FT/LBS) AVG.	158-258-290 235
LAT. EXP.	.076-.083-NB
SHEAR (%)	100-100-NB
CVN TEMP.	-40F

Heat Treatment
SOLUTION ANNEALED @ 1950F FOR 4 HOURS / WATER QUENCHED

Requirements & Other Results
EF AOD
PER EN 10204 3.1
MELTED IN SPAIN AND MANUFACTURED IN USA
CVN @ -40F PER UHA-51
.015 MIN LATERAL EXPANSION

**COMMENTS:**  
 THIS PRODUCT HAS NOT COME IN CONTACT WITH MERCURY OR MERCURY COMPOUNDS. NO WELDING PERFORMED.  
**CERTIFICATION OF CONFORMANCE**  
 THIS IS TO CERTIFY THAT THE ITEMS DESCRIBED ON THIS DOCUMENT ARE IN FULL CONFORMANCE WITH ALL REQUIREMENTS OF YOUR PURCHASE ORDER AND MATERIAL SPECIFICATIONS.

We hereby certify that all test results and process information contained herein are correct and true as contained in the records of the company.  
 This 18th day of November 2020

Janelia Lian Tan/Quality Assurance

*INS*



**INSPECTION CERTIFICATE**  
EN 10204:2004 / 3.1

Number: 712912	Rev: 01
Page: 1 / 2	

Created on: Date: 27.01.2020	Modified on: 17.04.2020
---------------------------------	----------------------------

**ACERÍA DE ALAVA S.A.U.**

Registro Mercantil de Álava Tomo 414, Folio 131, Hoja VI-325. NIF A-01.010.958

Polígono Industrial Saracho

01470 Amurrio(Álava)

Spain

TL: +34 946719300

FAX: +34 946725062

E-MAIL: qualityaceralava@tubacex.es

**CUSTOMER DESCRIPTION**

CLIENT ORDER: 620723

SALES ORDER: 347285

STAINLESS STEEL SQUARE BILLET  
RANDOM LENGTHS: 5.000/7.500 MM ,  
GRADE: F51, F60, S31803, S32205  
STANDARD: ASTM A182/A182M-19  
TOLERANCES: ASTM A182/A182M-19  
DIMENSIONS: 254 MM SQ  
PRODUCTION TYPE: ROLLING

Sales Item	Client Item	Delivery No	Lot No.	Heat No	Pieces	Weight	Un Lgth
50		8120053602	200244796	57404	3	8.724 KG	5000-7500 MM

LOT No	BAR No
200244796	13, 12, 11

**RAW MATERIAL**

Heat Nr:	Supplier	Method
57404	ACERALAVA (SPAIN)	Electric furnace+AOD

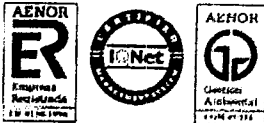
**CHEMICAL COMPOSITION (%)**

* Heat	Seq	C	Mn	*L. Ladle C:Products			S	Ni	Cr	Mo	W	N
				Si	P							
L 57404	1	0,014	1,11	0,420	0,018	0,0005	5,28	22,60	3,13	0,030	0,1735	

**SURFACE FINISH**  
FULLY SURFACE GROUND

**INGOT REDUCTION**

Item	Reduction
50	3.70



ACERÍA DE ALAVA S.A.U  
ACERALAVA  
Quality & Environmental Systems  
*[Signature]*  
Date: 17.04.2020

We hereby certify that the material herein described has been manufactured, sampled, tested, and inspected in accordance with above standards and specifications and satisfies orders requirements. This certificate is issued by a computerized system and it is valid without original signature. In case the owner of the certificate would release as a copy of it, he must attest its conformity to the issued, assuming the responsibility for any unlawful or TUBACEX, not allowed use. Any forgery or falsification of this certificate shall legally prosecuted.



INSPECTION CERTIFICATE  
EN 10204:2004 / 3.1

Number: 712912 Rev: 01  
Page: 2 / 2

Created on: Modified on:  
Date: 27.01.2020 17.04.2020

TENSILE TEST

Lot No.	Sample	T	Rp0.2	Rm	A4	A5	Z	Type
		°C	MPa	MPa	%	%	%	
200244796	1	20	562	725	32	31	65	L

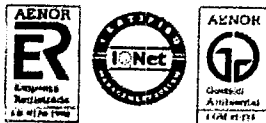
NON-DESTRUCTIVE TESTS

STEEL GRADE ASSESSMENT BY LASER ANALYZER: WITHOUT OBJECTIONS

REMARKS

STAMP OF THE INSPECTION REPRESENTATIVE: ACI  
THIS MATERIAL AND THE ELEMENTS USED ALONG MANUFACTURING ARE MERCURY FREE  
NO WELDING WAS PERFORMED ON THE MATERIAL  
RADIATION CONTAMINATION TEST: OK

COUNTRY OF ORIGIN: SPAIN



We hereby certify that the material herein described has been manufactured, sampled, tested, and inspected in accordance with above standards and specifications and satisfies order's requirements. This certificate is issued by a computerized system and it is valid without original signature. In case the owner of the certificate would release as a copy of it, he must attest its conformity to the issued, assuming the responsibility for any unlawful or TUBACEX, not allowed use. Any forgery or falsification of this certificate shall legally prosecuted.

ACERVA DE ALAVA, S.A.U.  
ACERALAVA  
C/Alfonso de Eizola, 10  
48940 Leizor (Leizor) (Bizkaia) (Spain)  
T. 945 21 21 21  
F. 945 21 21 22  
www.aceralava.com