

# ROLDAN, S.A. - Stainless Steels

**FACTORY**

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**HEAD OFFICE**

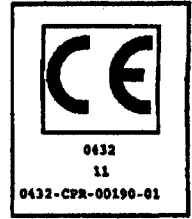
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## INSPECTION CERTIFICATE

3.1  
EN 10204



TÜV Rheinland®  
**CERT**  
ISO 9001



EN 10.088:5

CERTIFICATE N°	2016/015198	DATE	29/06/2016	SHEET	1	DELIVERY NOTE N°	2016/002039
GRADE	ROLDANMAX-339 EN10088:3 ( 1.4401/1.4404. )						
DIMENSIONS	25,00 mm.						
LENGTH	4.000 mm.	TOLERANCE	ISO h10				
PRODUCT	[31] Round bar, annealed, smooth turned, polished						
REQUIREMENTS	EN10088:3	CUSTOMER ORDER	56438/June16				
TENSILE TEST	EN ISO 6892-1	EDITION	AD-2000 W2	AD-2000 W10			
ACCORDING TO	EN 10272						
INTERGRANULAR CORROSION	EN ISO 3651-2 method A: SATISFACTORY	WITHOUT OBJECTIONS					
SURFACE AND DIMENSIONS CONTROL	WITHOUT OBJECTIONS	Spektrometrical Identity Test: O.K.					
IMPACT TEST, SAMPLE DIMENSIONS	EN ISO 148-1	MATERIAL FREE FROM RADIOACTIVITY					

ORDER N°	WORKS N°	MARKS / BOX	HEAT NUMBER	SAMPLE	WEIGHT
PL04376 1		16 / RB66918	LSWT	LSWT	1074

**PRODUCTION PROCESS**  
EAF + AOD + CC

**TRADE MARK**

**MARKING**  
HEAT NUMBER  
GRADE ( ACX-339 )

**INSPECTOR STAMP**  
**R3**

**QUALITY INSPECTOR**  
JUAN JOSE ALVAREZ RODRIGUEZ

**QUALITY CONTROL REPRESENTATIVE**

CAST	SAMPLE	SAMPLE DIMENSIONS mm.	Observ. T°	Rm MPa	Rp 0,2% MPa	Rp 1% MPa	E %	A %		Agt %	IMPACT STRENGTH ISO-V (J)		HARDNESS HB	FATIGUE TEST	BEND TEST	CROSS SECTIONAL AREA cm²	Rt / m
								L-50	L+10		20°C	-196°C					
LSWT	LSWT	25,00	20°C	608	351	401	70	53	55				162				
REQUIREMENTS	EN ISO 377			500	200	235		40			100		215				

CAST	C	P	S	Si	Mn	Cr	NI	Mo	Ti	N	Cu	Co				
LSWT	0,0160	0,0300	0,0270	0,3230	1,3400	16,7500	10,4000	2,0730	0,0050	0,0470	0,4440	0,1640				
REQUIREMENTS	0,0300	0,0450	0,0300	1,0000	2,0000	16,5000	10,0000	2,0000		0,1000						

FLOW TECHNOLOGY LTD  
TEST CERTIFICATE  
VERIFIED TRUE  
COPY OF ORIGINAL

**OBSERVATIONS**  
EN10088:3 - 1.4401/1.4404. AISI 316/316L. UNS S31600/S31603.  
ASTM A-182 grade F316L. ASTM A-193 class 1 grade 30M. ASTM A-276 condition A. ASTM A-479 condition A.  
ASME SA-182. ASME SA-193. ASME SA-276. ASME SA-479. ASME BVPC section II part A.  
NACE MR0175 & MR0103. ASTM A-262 practice E: OK.

OTHER TEST RESULTS	HEAT TREATMENT	1.050 °C AND WATERCOOLED	REQUIREMENTS	TRD100 TRD100, AD-2000-W2-W10, DGR197/23/EC(19ED)
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