

ROLDAN, S.A. - Stainless Steels

FACTORY

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HEAD OFFICE

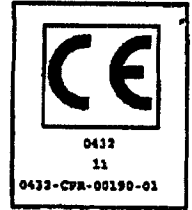
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**INSPECTION
CERTIFICATE**

3.1
EN 10204



TÜVRheinland[®]
CERT
ISO 9001



CERTIFICATE N°	2015/006349	DATE	2/04/2015	SHEET	1	DELIVERY NOTE N°	2015/001150
GRADE	EOLDAMAX-339 EN10.088.3 (1.4401/1.4404.)						
DIMENSIONS	41.27 mm.						
LENGTH	3.100 mm.	TOLERANCE	ISO h10				
PRODUCT	[31] Round bar, annealed, smooth turned, polished						
REQUIREMENTS	EN 10.088.3	CUSTOMER ORDER	49395700				
TENSILE TEST	EN ISO 6992-1	ACCORDING TO EN 10.272					
EDITION	AD-2000 W2	AD-2000 W10					
INTERGRANULAR CORROSION	EN ISO 1651-2 SATISFACTORY	WITHOUT OBJECTIONS					
SURFACE AND DIMENSIONS CONTROL	WITHOUT OBJECTIONS	Spectrometrical Identity Test: O.K.					
IMPACT TEST, SAMPLE DIMENSIONS	EN ISO 148-1	MATERIAL FREE FROM RADIOACTIVITY EN 10.088.5					

ORDER N°	WORKS N°	MARKS / BOX	HEAT NUMBER	SAMPLE	WEIGHT	PRODUCTION PROCESS	INSPECTOR STAMP
PL02432 11		9 / RH15942	J1AW	J1AW	527	EAF + AOD + CC	R3
		10 / RH15944	J1AW	J1AW	463		
		11 / RH15947	J1AW	J1AW	459		
						TRADE MARK	QUALITY INSPECTOR
							JUAN JOSE ALVAREZ RODRIGUEZ
						MARKING	QUALITY CONTROL REPRESENTATIVE
						HEAT NUMBER	Signature is not necessary according to EN 10.134
						GRADE (ACE-339)	

MECHANICAL PROPERTIES																	
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 mm²	kg / m
								Lo50	Lo100		20°C	-196°C					
J1AW	J1AW	30.00	20°C	589	353	408	70	83	88				162				
REQUIREMENTS	EN ISO 377			500	200	235	60				100	40		215			

CHEMICAL COMPOSITION %													
CAST	C	P	S	Si	Mn	Cr	Ni	Mo	Ti	N	Cu	Co	
J1AW	0.0190	0.0330	0.0240	0.3720	1.3231	16.7900	10.5010	2.0220	0.0060	0.0460	0.3520	0.2340	
REQUIREMENTS	0.0300	0.0450	0.0300	1.0000	2.0000	16.5000	10.0000	2.0000		0.1100			

OBSERVATIONS
 EN 10.088.3 - 1.4401/1.4404. AISI 316/316L. UNS S31600/S31603.
 ASTM A-182. ASTM A-193. ASTM A-276. ASTM A-479. ASME SA-182. ASME SA-193. ASME SA-479.
 ASTM A-262 practice "B". NACE MR0175 & MR0183.

OTHER TEST RESULTS	REQUIREMENTS	TRD100 TRB100, AD-2000-W2-W10, DGR197/23/RC (FRD)
HEAT TREATMENT	1.050 °C AND WATERCOOLED	