



Certificado de Calidad

IT020305 rev.01

N° NN-20557

Industrias Nelson
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	Descripción	Código	Certificado
1	CUPLA ¾" NPT H X ¾" NPT H	103S12	AA-699 / AA-754
	Componentes	Material	Certificado
	BARRA HEXAGONAL DE 36mm	AISI 316L	AA-699 / AA-754

Protocolo de ensayo :

Tipo		Presión de trabajo	Estado	Presión de prueba	Estado	Tiempo
Hidráulico	1	6.000 PSI	Ok	8.000 PSI	Ok	60 segundos

Dimensional:

Se controlaron las roscas con el calibre correspondientes dando como resultado satisfactorio. Se controlaron también la rugosidad superficial y las dimensiones generales dando un resultado satisfactorio.

Visual/Funcional:

Se controlaron la porosidad, rebabas, ensamblado, terminación superficial y su función mecánica dando como resultado: satisfactorio

Observaciones :

Se certifica que las piezas descritas fueron construidas de acuerdo a lo indicado en nuestros estándares internos, que se cumplen de acuerdo a un sistema de Gestión de Calidad certificado ISO 9001:2015, manteniendo en archivo los certificados correspondientes a cada material.

Firma: INDUSTRIAS NELSON S.A.



AA-699

VILLARES METALS
INSPECTION CERTIFICATE

Our quality system is certified according to ISO 9001, TS 16949, NBR 15100 (AS 9100) and NADCAP (heat treatment and ultrasonic test), ISO 14001 Environmental Certification.

ACC. TO EN 10204 3.1

CERTIFICATE 792161

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INVOICE 948E16

CUSTOMER JORVICAL ACEROS S/A				
PURCHASE ORDER / ITEM OC J403- / 06.11.2014				
JOB ORDER	LOT	PACKAGE	NET WEIGHT	QUANTITY
1640863	1640863	1640863/01	1,271 KG	28
VILLARES GRADE			SIMILAR GRADE	
V316UF			AISI 316 USIFAC	
DIMENSIONS		LENGTH RANGE	DRAWING NUMBER	
36.00 (-)0.160 (+)0.000		4,000 / 5,500		
PRODUCT		HEAT TREATMENT CONDITION	FINISHING	
Hexagon Bar		Solution Treated	Cold Drawn and Polished	
PRODUCT LINE		MELTING PROCESS	HEAT	
Hot Rolled		EAF+VOD+LF (CONT. CAST.)	0806331	
CHEMICAL COMPOSITION (% in weight)				
Chemical Composition (% in weight)				
C 0.061	Si 0.50	Mn 1.44	P 0.026	S 0.026
Ni 10.18	Cu 0.13	Al <0.005	N 0.0556	Co 0.09
				Cr 16.79
				Mo 2.05
SPECIFICATIONS				
ASTM A276 / 13A, ASTM A479 / 14				
Grain Size according to specification ASTM E112				
Result: Approved				
GRAIN SIZE RESULT: 1/4 ASTM				
Tensile Test - longitudinal according to specification ASTM A370				
Specimen #: 21447		Position: Longitudinal		Temperature: 22.30 °C
Dimension: 12.61 mm		Tensile Strength: 645 MPa		Yield Strength 0,2%: 469 MPa
Reduction of Area: 73.8 %		Elongation: 48.9 %		
Hardness according to specification ASTM A370				
Result: 224 HBW				
Corrosion Resistance according to specification ASTM A262 (PR.E)				
Result: Approved				
Visual And Dimensional Inspections				
Result: Approved				
Anti-Mixture Testing				
Result: Approved				
REMARKS				
VILLARES METALS DECLARES THAT THIS PRODUCT IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE ORDER AND SPECIFICATION				
Sumaré PLANT / OFFICE R. Alfredo Dumont Villares, 155 13178-902 - Sumaré - SP - BRAZIL Phone: 55 19 3303-8000 Fax: 55 19 3303-8696 e-mail: metals@villaresmetals.com.br			20.05.2016 <i>José R. M. Melo</i> José Roberto Moreira Melo Product Engineering Dept Manager	



VIRAJ PROFILES LIMITED (SRM Division)

Works: SURVEY NO.- 25/1, 25/2, 26 & 34, Village- MAAN, Taluka- PALGHAR, Dist.- PALGHAR, MAHARASHTRA -401 506, INDIA,
e-mail- vielqc@viraj.com

(A02) INSPECTION CERTIFICATE & MILL TEST REPORT

(A06)CUSTOMER : JORVICAL ACEROS S.A. CATAMARCA, 1527 B1824ESI-LANUS OESTE PROVINCIA DE BUENOS AIRES	Manufacturer's Symbol (A04)	(A03)MTR NO. (Z02) DATE MATERIAL SPEC. (B02) GRADE DIMENSIONAL SPEC.	1053832/11 23.07.2019 AISI 316 h11		
	(B01) : STAINLESS STEEL BRIGHT BARS		(B04) DELIVERY CONDITION : COLD DRAWN		
	(A07)ORDER NO: J-2589			(A09)Article No:	
	(B09-B11)ITEM DESCRIPTION	LENGTH	(B08) PIECES(Nos)	NET WEIGHT(TO)	(B07) HEAT NO
	HEXAGON 36.000 MM	5.00 - 5.20	19	0.858	112094

Bundle No	1101128103
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(C71-C92) CHEMICAL ANALYSIS

ELEMENT	%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Cu	%Mo	%Co	%N				
HEAT	0.0250	1.5500	0.4000	0.0250	0.0390	16.9400	10.0700	0.3800	2.0300	0.2200	0.0715				

MECHANICAL PROPERTIES

Inspection No.	(C12) Tensile Strength	Yeild Strength		(C13) Elongation%	Reduction of Area%	Hardness									
		Rp=0.2%	Rp = 1%												
100011620110	Mpa	Mpa	Mpa	Lo=4D		HBW									
	661.00	489.00		39.00	67.00	196									

(B06)Product Marking : SIZE, GRADE, HEAT NO., LOGO & INSPECTOR STAMP															
MATERIAL CONFIRMS TO ASTM A276/A276M-17 COND A, INTERGRANULAR CORROSION TEST SATISFACTORY AS PER ASTM A262-15 PRACTICE E. CERTIFIED AS PER EN 10204-3.1.															
REMARKS : MINIMUM SOLUTION ANNEALING TEMPERATURE 1050°C, SOAKING TIME 01 HR/INCH WATER QUENCHED. MATERIAL IS FREE FROM MERCURY CONTAMINATION, FREE FROM WELD OR WELD REPAIRS. WE CONFIRM THAT THE MATERIAL HAS BEEN TESTED AND FOUND TO BE FREE FROM RADIOACTIVE CONTAMINATION.															

we certify that the above material has been inspected and tested and complies with the order/contract and is of Indian origin



AUTHORIZED WORKS INSPECTOR
RADHAKRISHNA MURTHY