



I.I.I. - Tubacex Tubos Inoxidables, S.A.

Registro Mercantil de Alava, Tomo 687, Folio 189, Hoja VI 2665 - N.I.F. A-01140227

Printed on:
02/02/2009

INSPECTION CERTIFICATE EN 10204 3.1

Number: 418962
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Rev: 0

Date: 02/02/2009 02/02/2009

CUSTOMER : GLOBAL STAINLESS SUPPLY INC PO : 6876
 STANDARD : ASTM-ASME A/SA312 + A/SA376M-06 ED.07
 ADDIT.SPECS : NACE MR01.75-03 / ISO 15156-3
 GRADE : TP316-316L
 DIMENSIONS : 3" SCH 10
 MATERIAL : SEAMLESS STAINLESS STEEL TUBE
 COLD ROLLED; PICKLED-PASSIVATED;
 PLAIN ENDS SQUARE CUT;

OUR REFERENCE: J9412

058499

ITEM YOUR	HEAT TTI. NR.	NO. OF PIECES	WEIGHT KG	TOTAL LENGTH 639.73	UNIT LENGTH 20' - 24'
21	41355	29	1296		

RAW MATERIAL FROM: ACERALAVA
 MELTING PROCESS: ELECTRIC FURNACE + A.O.D
 PEELED BARS; MACROETCH TESTING: GOOD;

CHEMICAL COMPOSITION (*1 L: LADLE; C: PRODUCT)

*1 HEAT	C	Mn	Si	P	S	Ni	Cr	Mo	Cu	V	Ti	Nb
L 41355	0,018	1,40	0,490	0,029	0,0010	11,20	16,80	2,17	0,31	0,054	0,003	0,024
C 41355	0,020	1,40	0,490	0,028	0,0020	11,10	16,70	2,18	0,30	0,054	0,004	0,027
	H	Co	N									
L 41355	0,030	0,070	0,0595									
C 41355	0,030	0,070	0,0600									

HEAT TREATMENT
 SOLUTION ANNEALED 1100 °C HOLDING TIME >=1.5 MIN/MM WATER QUENCHED

HEAT NR.	TEST NR.	T(°C)	TENSION KSI			IMPACT TESTS		HARDNESS HRB	
HEAT	TEST		RM	RP 0,2	RP 1,0	A	Z	T(°C) MINIMUM AVERAGE	
41355	900755	20	81,1	45,7	48,9	52,0		80	81

FLATTENING TEST: GOOD

TECHNOLOGICALS

METALLURGICAL TEST
 INTERGRANULAR CORROSION: A262 PRACT "E" + 5 TESTS ACC.MIL-P-1144D+24691/3: NOT OBJECTIONS

NON DESTRUCTIVE TEST
 100 % HYDROSTATIC PRESSURE TESTED AT 1.000 PSI, DURING 5 SEC, GOOD
 STEEL GRADE CHECKING ON EACH TUBE BY SPECTROMETRY (PMI): SATISFACTORY
 DIMENSIONAL CHECKING ON EACH TUBE, SATISFACTORY
 VISUAL INSPECTION ON EACH TUBE, SATISFACTORY

MARKS
 TUBACEX ASTM-ASME A-SA 312 TP316-316L A-SA 376 TP316 3" SCH 10
 SMLS 1000 PSI HEAT/..... S10 PMI SPAIN

REMARKS
 NO WELD REPAIR WAS PERFORMED
 NO MERCURY, MERCURY COMPOUNDS OR MERCURY BEARING INSTRUMENTS AND/OR EQUIPMENT
 HAVE BEEN USED ALONG MANUFACTURING AND INSPECTION PROCESS.



We hereby certify that the material hereby described has been manufactured, sampled, tested and inspected in accordance with above standards and specifications and satisfies the order 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 a copy of it, he must effect an endorsement to the record, assuming the responsibility for any alteration of T.I.I.S.A. not signed by us.
 Any forgery or falsification of this certificate shall be legally prosecuted.

T.I.I. Tubacex Tubos Inoxidables, S.A.

INGENIERIA DE CALIDAD

Jon Alana Zubizarreta