

OFFICINE SASPE S.R.L.

Via Senato, 10
20020 ARESE (MI)

Date : 31.07.2012

Doc. N° Cover 64W1

INSPECTION BOOK N° 64W1

WORKSHOP JOB N° : 2F11

CUSTOMER : BALLESTRA S.p.A. Milano

JOB : 2F11

ORDER N°. : 121304

Item : 64W1

Description : NOZZLE CIRCUIT

OFFICINE SASPE S.R.L.
E.Accomazzi

OFFICINE SASPE S.R.L.

Via Senato, 10
20020 ARESE (MI)

Workshop Job n° 2F11
N°. C0 661/12

CERTIFICATO CONTROLLO DIMENSIONALE

DIMENSIONAL TEST REPORT

CUSTOMER : BALLESTRA S.p. A.

JOB N° 2F11

Purchase Order N°.121304

Doc. N° Sheet 1 of 1 Rev. 0

ITEM :

Description :

DATA SHEET N°.

Constructive Dwg. N°.

64W1

NOZZLES CIRCUIT

2F11.60.103

SI CERTIFICA CHE L' APPARECCHIO E' STATO SOTTOPOSTO A
CONTROLLO DIMENSIONALE IN ACCORDO AI DISEGNI :

BALLESTRA S.p.A. : DATA SHEET N° /
BALLESTRA S.p.A. : COSTRUTTIVO N° 2F11.60.103

ED ALLE SPECIFICHE RICHIAMATE SUGLI STESSI

TUTTE LE MISURAZIONI EFFETTUATE SONO CONFORMI
ALLE TOLLERANZE INDICATE A DISEGNO
ED ALLE SPECIFICHE IN ESSI RICHIAMATE.
E' STATO ESEGUITO CONTROLLO SPESSORI

WE CERTIFY THAT THE ITEM HAS BEEN CONTROLLED
DIMENSIONALLY ACCORDING TO DRAWINGS :

BALLESTRA S.p.A. : DATA SHEET N° /
BALLESTRA S.p.A. : CONSTRUCTIVE N° 2F11.60.103

AND TO THE SPECIFICATIONS NOTED IN
THE ABOVE MENTIONED DRAWINGS.

ALL THE MEASUREMENTS PERFORMED RESULT WITHIN
DRAWINGS TOLERANCES
AND TO THE SPECIFICATIONS NOTED IN
THE ABOVE MENTIONED DRAWINGS.
THICKNESS CHECK HAS BEEN PERFORMED

RISULTATO / Result : SODDISFACENTE / Satisfactory

1	E.Accomazzi						
0	Off. Saspe Srl	31.07.2012					
Rev.	Issued by	Date	Checked by	Date	Approved by	Date	Description
REV.	Emesso da	Data	Controllato da	Data	Approvato da	Data	Descrizione

OFFICINE SASPE S.R.L.

Via Senato, 10
20020 ARESE (MI)

Workshop Job N° 2F11
N°.: CO 661/12

CERTIFICATO DI CONFORMITA'

CERTIFICATE OF COMPLIANCE

CUSTOMER : BALLESTRA S.p.A.

JOB N°. 2F11

Purchase Order N°. : 121304

Doc. N°. Sheet 1 of 1 Rev. 0

ITEM :

64W1

Description :

NOZZLES CIRCUIT

DATA SHEET N°.

Constructive Dwg. N°.

2F11.60.103

QUALITY CONTROL PLAN :

SI CERTIFICA CHE IL MATERIALE RISULTA CONFORME
A QUANTO RICHIESTO DAI DISEGNI,
DALL' ORDINE ED ALLE SPECIFICHE IN ESSI RICHIAMATI.

WE HEREBY CERTIFY THAT THE MATERIAL IS IN COMPLETELY
ACCORDANCE WITH THE DRAWINGS,
THE ORDER AND THE SPECIFICATIONS NOTED IN ABOVE
MENTIONED DOCUMENTS.

OFFICINE SASPE S.R.L. ARESE (MI)

1	E.Accomazzi						
0	Off.Saspe Srl	31.07.2012					
Rev.	Issued by	Date	Checked by	Date	Approved by	Date	Description
REV.	Emesso da	Data	Controllato da	Data	Approvato da	Data	Descrizione

Bulloneria Trevi srl
Via C. Porta, 7
24047 Treviglio (BG)

INSPECTION CERTIFICATE
EN 10204 3.1

N° 800172

DATE 17/09/08

OVER srl
VIA MATTEOTTI, 16
24050 GRASSOBBIO (BG)

ROLLED BAR ANSI B1.1 A/SA 193 B7 3/4"-10UNCX1000
ZINC PLATING WHITE

Qty 5
Item

Order FAX

Date 06/08/08

Heat AR3583

LOT 1060623

RDC 814834

Heat treatment QUENCHED AND TEMPERED 593°C

The material is conforming to the following specifications:

ASTM A193/A193M-04b B7-ASME II PART "A" ED.2004 SA 193 B7

Mechanical Properties	R Mpa	Rs 0.2 Mpa	A%	Z%	HB	HB 24h	Impact test min med	Temp °C	Proof Load min med	Impact test J Temp °C
-----------------------	-------	------------	----	----	----	--------	---------------------	---------	--------------------	-----------------------

Required	MIN 860	MIN 720	MIN 16	MIN 50	MAX 321					
Actual	970	921	21.0	60.4	294-311					

Chemical Properties	C	Mn	Si	P	S	Ni	Cr	Mo	V	Ti	Al	B
Actual	.430	.770	.240	.010	.024		.930	.170				

VISUAL AND DIMENSIONAL TEST: SATISFACTORY. WE STATE THAT THE BOLLING MATERIAL WERE MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH THE SPECIFICATION AND ANY SUPPLEMENTARY REQUIREMENTS OR OTHER REQUIREMENTS DESIGNATED IN THE PURCHASE ORDER OR CONTACT AND WAS FOUND TO MEET THOSE REQUIREMENTS.

HEAVY HEX NUT h=D ANSI B18.2.2 Tab 9 A/SA 194 2H 3/4"-10UNC
ZINC PLATING WHITE

Qty 100
Item

Heat 34855

LOT 1046284

RDC 814810

The material is conforming to the following specifications:

ASTM A194/A194-04a GR.2H-ASME II PART "A" ED.2004 SA 194 2H

Mechanical Properties	R Mpa	Rs 0.2 Mpa	A%	Z%	HB	HB 24h	Impact test min med	Temp °C	Proof Load min med	Impact test J Temp °C
-----------------------	-------	------------	----	----	----	--------	---------------------	---------	--------------------	-----------------------

Required										
Actual										

Chemical Properties	C	Mn	Si	P	S	Ni	Cr	Mo	V	Ti	Al	B
Actual	.430	.730	.160	.009	.022							

VISUAL AND DIMENSIONAL TEST: SATISFACTORY. WE STATE THAT THE BOLLING MATERIAL WERE MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH THE SPECIFICATION AND ANY SUPPLEMENTARY REQUIREMENTS OR OTHER REQUIREMENTS DESIGNATED IN THE PURCHASE ORDER OR CONTACT AND WAS FOUND TO MEET THOSE REQUIREMENTS.

Quality Control Department
bulloneria Trevi srl

Bulloneria Trevi srl
Via C. Porta, 7
24047 Treviglio (BG)

INSPECTION CERTIFICATE
EN 10204 3.1

N° 10071

DATE 27/04/10

OVER srl
VIALE MATTEOTTI 16
24050 GRASSOBBIO (BG)

ROLLED BAR ANSI B1.1 A/SA 193 B7 5/8"-11UNCX1000

Qty 20 Item

Order FAX

Date 27/04/10

Heat AR4760

LOT 1090557

RDC 815849

Heat treatment QUENCHED AND TEMPERED 593°C

The material is conforming to the following specifications:

ASTM A193/A193M-07 B7-ASME II PART "A" ED.2007 SA 193 B7

Mechanical Properties

R Mpa

Rs 0.2 Mpa

A%

Z%

HB

HB 24h

Impact test min med

Temp °C

Proof Load min med J Impact test Temp °C

Required MIN 860

MIN 720

MIN 16

MIN 50

MAX 321

Actual 1005

860

17.8

57.3

300

Chemical Properties

C

Mn

Si

P

S

Ni

Cr

Mo

V

Ti

Al

B

Actual .450

.820

.210

.006

.025

.970

.180

VISUAL AND DIMENSIONAL TESTS: SATISFACTORY. WE STATE THAT THE BOLTING MATERIAL WERE MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH THE SPECIFICATION AND ANY SUPPLEMENTARY REQUIREMENTS OR OTHER REQUIREMENTS DESIGNATED IN THE PURCHASE ORDER OR CONTRACT AND WAS FOUND TO MEET THOSE REQUIREMENTS.

HEAVY HEX NUT h=D ANSI B18.2.2 Tab 9 A/SA 194 2H 5/8"-11UNC

Qty 350 Item

Order FAX

Date 27/04/10

Heat 613171

LOT 1089999

RDC 819093

Heat treatment QUENCHED AND TEMPERED 455°C

The material is conforming to the following specifications:

ASTM A194/A194-07a GR.2H-ASME II PART "A" ED.2007 SA 194 2H-ASME VIII Div 2 ED2007 Art.M-5

Mechanical Properties

R Mpa

Rs 0.2 Mpa

A%

Z%

HB

HB 24h

Impact test min med

Temp °C

Proof Load min med J Impact test Temp °C

Required

MIN 248 MAX 327

MIN 179/540°C

296-313

291-301

Actual

C

Mn

Si

P

S

Ni

Cr

Mo

V

Ti

Al

B

Properties

Actual .470

.520

.310

.013

.029

VISUAL AND DIMENSIONAL TESTS: SATISFACTORY. WE STATE THAT THE BOLTING MATERIAL WERE MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH THE SPECIFICATION AND ANY SUPPLEMENTARY REQUIREMENTS OR OTHER REQUIREMENTS DESIGNATED IN THE PURCHASE ORDER OR CONTRACT AND WAS FOUND TO MEET THOSE REQUIREMENTS.

Quality Control Department
Bulloneria Trevi srl

bulloneria Trevi srl
Via Carlo Porta 7
24047 Treviglio (BG)

OVER srl
VIALE MATTEOTTI 16
24050 GRASSOBBIO (BG)

Certificato di Collaudo EN 10204 3.1 n. 11049 del 11/04/2012

Ordine cliente: TEL. DEL 03/04/2012

Normativa							
ASTM A193 - 10a/ASME SA193 Ed.2007 B7 ASME II part A ed 2007 add.09							
Articolo ROLLED BAR A/SA 193 B7 1/2"-13UNCX1000				Trattamento termico QUENCHED AND TEMPERED 593°C			
Colata 463535	Quantità 15		Lotto P1139615		Job PB 0000097508		
Analisi chimica "%"							
	C	Mn	Si	P	S	Cr	Mo
Richiesto	0.037-0.49	0.650-1.1	0.15-0.35	max0.035	max 0.04	0.75-1.2	0.15-0.25
Preventivato	0.42	0.84	0.25	0.014	0.024	1.050	0.170
Prova di trazione							
	Rm "Mpa"		Rp02 "Mpa"		A "%"		Z "%"
Richiesto	Min 860		Min 720		Min 16		Min 50
Preventivato	972		779		20		57.7
	Hardness "HB"						
Richiesto	max 321						
Preventivato	292						
Macroetch Examination		Positive		Controllo visivo dimensionale		Positive	

Il materiale è stato prodotto, testato e controllato in conformità alle specifiche ed ai requisiti supplementari dell'ordine di acquisto o di contratto.

COPIA CONFORME ALL'ORIGINALE

Quality Control Departement
bulloneria Trevi srl

bulloneria Trevi srl
Via Carlo Porta 7
24047 Treviglio (BG)

OVER srl
VIALE MATTEOTTI 16
24050 GRASSOBBIO (BG)

Certificato di Collaudo EN 10204 3.1 n. 11049 del 11/04/2012

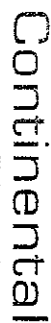
Ordine cliente: TEL. DEL 03/04/2012

Normativa						
ASTM A194 - 10°/ASME SA194 Ed.2007 GR.2H ASME II part A ed 2007 add.09						
Articolo HEAVY HEX NUT H=d ANSI B18.2.2 Tab 9 A/SA 194 2H 1/2"-13UNC				Trattamento termico QUENCHED AND TEMPERED 455°C		
Colata 32856	Quantità 250		Lotto P1139658		Job PB 0000097510	
Analisi chimica "%"						
	C	Mn	Si	P	S	
Richiesto	0.4-0.55	Max 1	Max 0.4	Max 0.04	0.05	
Preventivato	0.44	0.75	0.20	0.006	0.025	
Prova di trazione						
	Proof Load		Hardness "HB"		HB after T.T. 24h	
Richiesto	Positive		248-327		179	
Preventivato	Positive		275;309		270;300	
Macroetch Examination		Positive	Controllo visivo dimensionale		Positive	

Il materiale è stato prodotto, testato e controllato in conformità alle specifiche ed ai requisiti supplementari dell'ordine di acquisto o di contratto.

COPIA CONFORME ALL'ORIGINALE

Quality Control Department
bulloneria Trevi srl



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R.E.A.COMO 0165943
qually.cff@larmas.com

FERRAMENTA INDUSTRIALE BONACINA SRL

Certificato n. 2082 **Del 27.06.2012**

V.LE EUROPA 2G
24048 CURNASCO DI TREVIOLO BG

DDT N. 2458	Del	27.06.2012
Ns. Ord. N.	Del	

I risultati delle analisi chimiche e prove meccaniche sono una copia conforme all'originale dei certificati 3.1 emessi dal produttore e/o fornitore

Pag. 2 - 4

COD. COL.	COLATA	POS.	TRATT. TERM. (°)	FORMING øHOTI-COLD	SML W WX	SNERVAMENTO N/mm2 >=0,2%	ROTTURA N/mm2 >=	ALLUNGAMENTO %>=	CONTRAZIONE %>=	DUREZZA HBW	RESILIENZA - JOULE				NS.RIF.	
											Sec. ASTIA ASTIO	°C	1	2		3
MP1	73040	012	3	0		321,0	528,0	33,0	56,0	160,0 - 164,0	KV	-10	61	65	64	N10356
	JC10282-15	030682	013	3	0	302,0	438,0	40,0	0,0	156,0 - 166,0	KV	-10	59	62	54	F10-58
	53B30043	G3024058	013	3	0	312,0	492,0	39,0	0,0	131,0 - 142,0	KV	0	166	177	160	F21-28
	54C000216	2-70486	014	3	0	341,0	497,0	39,0	0,0	133,0 - 135,0	KV	-10	43	51	38	F31-28
	54F00049-1	7-05962	015	3	0	371,0	515,0	36,0	0,0	130,0 - 144,0	KV	-10	41	43	37	F32-4/23
JW62	872248	016	3	0	SMLS	343,0	500,0	39,0	0,0	153,0 - 160,0	KV	-10	80	96	72	F20-13/14
	210261	017	3	0	SMLS	379,0	549,0	28,5	0,0	143,0 - 152,0	KV	-10	26	22	23	F24-86
	966578	018	3	0	SMLS	391,0	490,0	41,2	0,0	138,0	KV	-10	174	162	174	F17-10/11
	870095	019	6	2	SMLS	312,0	591,0	56,0	0,0	141,0 - 146,0	KV	0	0	0	0	F13-26/103
	96617	020	6	1	SMLS	283,0	590,0	49,0	0,0	140,0 - 145,0	KV	0	0	0	0	F24-103
JN98	76032	021	3	0		~311,0	515,0	32,2	56,4	151,0 - 159,0	KV	-10	69	75	74	061429
	76201	022	3	0		313,0	518,0	31,0	53,5	151,0 - 158,0	KV	-10	68	71	72	061462

ACQUERIRNO - MID SF - INGLE MINUT 005 - FED 07/02/00 - INGLE MINUT 005 TO - INGLE MINUT 005
SECONDO I REQUISITI E LE SPECIFICHE DELL'ORDINE - SUPPLIED MATERIAL MEETS
SPECIFICATIONS AND P.O. REQUIREMENTS

(*) 1=Prodotto a caldo tra 620°-980° 2=Tratti di distensione 3=Normalizzato 4=Normalizzato e rinvenuto
5=Temprato e rinvenuto 6=Solubilizzato 7=Vedi descrizione

UFFICIO CONTROLLO QUALITA'	ENTE UFFICIALE DI COLLAUDO	COLLAUDO ESTERNO
----------------------------	----------------------------	------------------

QUALITY CONTROL

DEP 1-800-368-2808 TTY: 1-800-368-2808

~~Male Europa 26-28000 (M.V.O.L.D. 186)~~

035 201208

009177 SEP 04 - 08:20:21

00727710102

61-6774A-0012110107

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Flanges & Filings Italia S.p.A.
COMPANY WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY BVQI ISO 9001:2000

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22032 ERBA (Como) Italy
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CERTIFICATO DI COLLAUDO

FERRAMENTA INDUSTRIALE BONACINA SRL
V.LE EUROPA 2G
24048 CURNASCIO DI TREVISO BG IT

Certificato n. 2082
Fattura N.
DDT N. 2458
Ns. Ord. N.
Del 27.06.2012
Del 27.06.2012
Del

I risultati delle analisi chimiche e prove meccaniche sono una copia conforme all'originale dei certificati 3.1 emessi dal produttore e/o fornitore.

COD. COL.			COLATA		POS.	VS. ORDINE	Q.TA'		DESCRIZIONE										DIM. IN ACC. A		VISIVO E DIMENS.	
COD. COL.			COLATA	POS.	MATERIALE	C%	SI%	Mt%	S%	P%	Ct%	Nt%	Mo%	Tt%	Ct%	V%	Nb%	N%	At%	C.E.%	ALTRI	
54NCA012			13600 C60010 YU162437 SF07565 C400020 MFS MR2 54C20229 MZ1 164C 53M20003-2 54E	001 002 003 004 005 006 007 008 009 010 011	FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX	12,00 1,00 4,00 1,00 1,00 19,00 1,00 16,00 4,00 10,00 2,00	316/316L CAPS 1/2 SCH.40S 316/316L CAPS 6 SCH.40S 304/304L CAPS 10 40S 304/304L CAPS 8 40S 304/304L CAPS 8 40S 304L COUPLING 1/2 3000 NPT 304L COUPLING 1.1/2 3000 NPT WPB/P265GH CONC. RED. 3X2.1/2 SCH. STD SA234 A105N CAPS 3/4 3000 NPT WPB/P265GH CONC. RED. 3X2.1/2 SCH. STD SA234 WPB 80SR ELBOWS 4 SCH. STD SA234 WPB CONC. RED. 1X1/2 SCH. STD A105N ELBOWS 90 1/2 3000 SW										VEDI NOTE VEDI NOTE VEDI NOTE VEDI NOTE VEDI NOTE VEDI NOTE VEDI NOTE VEDI NOTE VEDI NOTE VEDI NOTE VEDI NOTE		SODDISFACENTE SODDISFACENTE SODDISFACENTE SODDISFACENTE SODDISFACENTE SODDISFACENTE SODDISFACENTE SODDISFACENTE SODDISFACENTE SODDISFACENTE SODDISFACENTE			
54NCA012			13600 C60010 YU162437 SF07565 C400020 MFS MR2 54C20229 MZ1 164C 53M20003-2 54E	001 002 003 004 005 006 007 008 009 010 011	FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX	0,022 0,710 0,028 0,028 0,028 0,022 0,018 0,018 0,185 0,210 0,140 0,205	0,520 0,710 0,400 0,430 0,430 0,280 0,370 0,260 0,185 0,240 0,270 0,210 0,220	1,710 1,090 1,450 1,670 1,290 1,520 1,570 0,860 1,090 0,450 1,160 0,970	0,023 0,001 0,012 0,005 0,005 0,015 0,015 0,006 0,006 0,009 0,013 0,015	0,029 0,032 0,039 0,035 0,019 0,019 0,020 0,014 0,120 0,040 0,020 0,100	16,860 10,340 8,090 8,220 8,190 8,050 8,050 0,000 0,000 0,050 0,010 0,010	10,590 2,040 8,080 8,220 8,180 8,050 8,050 0,000 0,000 0,010 0,010 0,010	2,000 2,040 0,000 0,000 0,000 0,000 0,000 0,080 0,010 0,010 0,010 0,010	0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,023 0,000 0,000 0,000 0,005	0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,180 0,002 0,030 0,010 0,220	0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,002 0,002 0,000 0,001 0,001	0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,002 0,002 0,000 0,001 0,001	0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000	0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,031 0,000 0,000 0,000 0,023			
54NCA012			13600 C60010 YU162437 SF07565 C400020 MFS MR2 54C20229 MZ1 164C 53M20003-2 54E	001 002 003 004 005 006 007 008 009 010 011	FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX	267,0 284,0 291,0 335,0 334,0 350,0 329,0 354,0 346,0 340,0 290,0 311,0	564,0 587,0 620,0 665,0 648,0 633,0 641,0 518,0 463,0 533,0 435,0 528,0	63,0 59,0 57,0 62,0 52,0 46,0 52,0 36,0 33,5 41,0 51,0 31,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	152,0 155,0-165,0 150,0-160,0 156,0-162,0 160,0-160,0 178,0-185,0 170,0-176,0 121,0-124,0 164,0-170,0 143,0-154,0 117,0-120,0 156,0-162,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0				
54NCA012			13600 C60010 YU162437 SF07565 C400020 MFS MR2 54C20229 MZ1 164C 53M20003-2 54E	001 002 003 004 005 006 007 008 009 010 011	FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX	267,0 284,0 291,0 335,0 334,0 350,0 329,0 354,0 346,0 340,0 290,0 311,0	564,0 587,0 620,0 665,0 648,0 633,0 641,0 518,0 463,0 533,0 435,0 528,0	63,0 59,0 57,0 62,0 52,0 46,0 52,0 36,0 33,5 41,0 51,0 31,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	152,0 155,0-165,0 150,0-160,0 156,0-162,0 160,0-160,0 178,0-185,0 170,0-176,0 121,0-124,0 164,0-170,0 143,0-154,0 117,0-120,0 156,0-162,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0				
54NCA012			13600 C60010 YU162437 SF07565 C400020 MFS MR2 54C20229 MZ1 164C 53M20003-2 54E	001 002 003 004 005 006 007 008 009 010 011	FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX	267,0 284,0 291,0 335,0 334,0 350,0 329,0 354,0 346,0 340,0 290,0 311,0	564,0 587,0 620,0 665,0 648,0 633,0 641,0 518,0 463,0 533,0 435,0 528,0	63,0 59,0 57,0 62,0 52,0 46,0 52,0 36,0 33,5 41,0 51,0 31,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	152,0 155,0-165,0 150,0-160,0 156,0-162,0 160,0-160,0 178,0-185,0 170,0-176,0 121,0-124,0 164,0-170,0 143,0-154,0 117,0-120,0 156,0-162,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0				
54NCA012			13600 C60010 YU162437 SF07565 C400020 MFS MR2 54C20229 MZ1 164C 53M20003-2 54E	001 002 003 004 005 006 007 008 009 010 011	FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX	267,0 284,0 291,0 335,0 334,0 350,0 329,0 354,0 346,0 340,0 290,0 311,0	564,0 587,0 620,0 665,0 648,0 633,0 641,0 518,0 463,0 533,0 435,0 528,0	63,0 59,0 57,0 62,0 52,0 46,0 52,0 36,0 33,5 41,0 51,0 31,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	152,0 155,0-165,0 150,0-160,0 156,0-162,0 160,0-160,0 178,0-185,0 170,0-176,0 121,0-124,0 164,0-170,0 143,0-154,0 117,0-120,0 156,0-162,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0				
54NCA012			13600 C60010 YU162437 SF07565 C400020 MFS MR2 54C20229 MZ1 164C 53M20003-2 54E	001 002 003 004 005 006 007 008 009 010 011	FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX	267,0 284,0 291,0 335,0 334,0 350,0 329,0 354,0 346,0 340,0 290,0 311,0	564,0 587,0 620,0 665,0 648,0 633,0 641,0 518,0 463,0 533,0 435,0 528,0	63,0 59,0 57,0 62,0 52,0 46,0 52,0 36,0 33,5 41,0 51,0 31,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	152,0 155,0-165,0 150,0-160,0 156,0-162,0 160,0-160,0 178,0-185,0 170,0-176,0 121,0-124,0 164,0-170,0 143,0-154,0 117,0-120,0 156,0-162,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0				
54NCA012			13600 C60010 YU162437 SF07565 C400020 MFS MR2 54C20229 MZ1 164C 53M20003-2 54E	001 002 003 004 005 006 007 008 009 010 011	FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX	267,0 284,0 291,0 335,0 334,0 350,0 329,0 354,0 346,0 340,0 290,0 311,0	564,0 587,0 620,0 665,0 648,0 633,0 641,0 518,0 463,0 533,0 435,0 528,0	63,0 59,0 57,0 62,0 52,0 46,0 52,0 36,0 33,5 41,0 51,0 31,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	152,0 155,0-165,0 150,0-160,0 156,0-162,0 160,0-160,0 178,0-185,0 170,0-176,0 121,0-124,0 164,0-170,0 143,0-154,0 117,0-120,0 156,0-162,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0				
54NCA012			13600 C60010 YU162437 SF07565 C400020 MFS MR2 54C20229 MZ1 164C 53M20003-2 54E	001 002 003 004 005 006 007 008 009 010 011	FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX	267,0 284,0 291,0 335,0 334,0 350,0 329,0 354,0 346,0 340,0 290,0 311,0	564,0 587,0 620,0 665,0 648,0 633,0 641,0 518,0 463,0 533,0 435,0 528,0	63,0 59,0 57,0 62,0 52,0 46,0 52,0 36,0 33,5 41,0 51,0 31,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	152,0 155,0-165,0 150,0-160,0 156,0-162,0 160,0-160,0 178,0-185,0 170,0-176,0 121,0-124,0 164,0-170,0 143,0-154,0 117,0-120,0 156,0-162,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0	0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0				
54NCA012			136																			



METALFAR
PRODOTTI INDUSTRIALI S.P.A.

SEMPRE A CARO DI ACCIOMI COMINI - LEGGI E MODIFICAZIONI

SEDE AMMINISTRATIVA E STABILIMENTO:
23861 CESANA BRIANZA (LC) - Italy
Via G. Paitini, 28
Tel. +39 031 8551441
Fax +39 031 8551419
quality.mf@acciom.com

COMPANY WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY DNV
= ISO 9001:2008 =

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

Carte N. 5648	Del/Dated 22.11.2011	Fattura / Invoice N.	Del/Dated
DDT / Del Note N. 4305	Del/Dated 22.11.2011	Ns.Ord. / Our ref. N.	Del/Dated
FERRAMENTA INDUSTRIALE BONACINA SRL			
VIALE EUROPA, 26 - FRAZ. CURNASCO	BG	IT	
24048	TREVIOLLO		

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SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT

COD. COL.	COLATA	POS.	VS. ORDINE	Q.T.A.	DESCRIZIONE	DIM. IN ACC. A	VISIVO E DIMENS.
HEAT CODE	HEAT	ITEM	YOUR REFERENCE	Q.T.Y.	S/O DESCRIPTION	DIM. ACCORDANCE TO	VIS. & DIMENS.
MATERIALE / MATERIAL	10/73800	048	REINTEGRO C.T.O DEPO...	30,00	S/O 150 RF 1.1/2"	ASME/ANSI B16.5 -2009	SATISFACTORY
ASTM A105			C% 0,190 S% 0,220 Mn% 1,040 S% 0,008 P% 0,015 Cr% 0,120 Ni% 0,060 Mo% 0,010 Ti% 0,016 Cu% 0,200 V% 0,003 Nb% 0,002 N% 0,000 Al% 0,028 C.E.% 0,407				
PROVETTA / TEST SPECIMEN	FORMA	SVERNAMENTO	YIELD POINT	TENSILE STRENGTH	ALLUNGAMENTO	CONTRAZIONE	REDUCTION OF AREA
SEZ. mm2	SHAPE	N/mm2 >=0,2%	N/mm2 >=0,2%	N/mm2 >=	%>=	%>=	%>=
126,60	50,80	1	335,0	536,0	31,0	58,0	163,0 - 165,0
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO							
ASTM/ASME A 105/SA 105 M - 10 ASME CODE SECT. II, PART A, ED. 2010							
TRATTAMENTO TERMICO / HEAT TREATMENT				NORMALIZED AT 920 C - COOLED IN STILL AIR			
FORNO / FURNACE				ELECTRIC FURNACE			
ORIGINE / ORIGIN				EUROPE			

COD. COL.	COLATA	POS.	VS. ORDINE	Q.T.A.	DESCRIZIONE	DIM. IN ACC. A	VISIVO E DIMENS.
HEAT CODE	HEAT	ITEM	YOUR REFERENCE	Q.T.Y.	S/O DESCRIPTION	DIM. ACCORDANCE TO	VIS. & DIMENS.
MATERIALE / MATERIAL	09/78064	020	REINTEGRO C.T.O DEPO...	10,00	S/O 300 RF 4"	ASME/ANSI B16.5 -2009	SATISFACTORY
ASTM A105			C% 0,205 S% 0,240 Mn% 1,010 S% 0,009 P% 0,010 Cr% 0,080 Ni% 0,060 Mo% 0,010 Ti% 0,008 Cu% 0,180 V% 0,001 Nb% 0,001 N% 0,000 Al% 0,024 C.E.% 0,408				
PROVETTA / TEST SPECIMEN	FORMA	SVERNAMENTO	YIELD POINT	TENSILE STRENGTH	ALLUNGAMENTO	CONTRAZIONE	REDUCTION OF AREA
SEZ. mm2	SHAPE	N/mm2 >=0,2%	N/mm2 >=0,2%	N/mm2 >=	%>=	%>=	%>=
126,60	50,80	1	341,0	551,0	32,0	57,0	166,0 - 170,0
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO							
ASTM/ASME A 105/SA 105 M - 10 ASME CODE SECT. II, PART A, ED. 2010							
TRATTAMENTO TERMICO / HEAT TREATMENT				NORMALIZED AT 920 C - COOLED IN STILL AIR			
FORNO / FURNACE				ELECTRIC FURNACE			
ORIGINE / ORIGIN				EUROPE			

COD. COL.	COLATA	POS.	VS. ORDINE	Q.T.A.	DESCRIZIONE	DIM. IN ACC. A	VISIVO E DIMENS.
HEAT CODE	HEAT	ITEM	YOUR REFERENCE	Q.T.Y.	S/O DESCRIPTION	DIM. ACCORDANCE TO	VIS. & DIMENS.
MATERIALE / MATERIAL	10/72796	021	REINTEGRO C.T.O DEPO...	10,00	S/O 150 RF 5"	ASME/ANSI B16.5 -2009	SATISFACTORY
ASTM A105			C% 0,195 S% 0,240 Mn% 1,110 S% 0,010 P% 0,012 Cr% 0,080 Ni% 0,050 Mo% 0,010 Ti% 0,023 Cu% 0,190 V% 0,002 Nb% 0,003 N% 0,000 Al% 0,029 C.E.% 0,414				
PROVETTA / TEST SPECIMEN	FORMA	SVERNAMENTO	YIELD POINT	TENSILE STRENGTH	ALLUNGAMENTO	CONTRAZIONE	REDUCTION OF AREA
SEZ. mm2	SHAPE	N/mm2 >=0,2%	N/mm2 >=0,2%	N/mm2 >=	%>=	%>=	%>=
126,60	50,80	1	344,0	556,0	32,0	57,0	166,0 - 170,0
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO							
ASTM/ASME A 105/SA 105 M - 10 ASME CODE SECT. II, PART A, ED. 2010							
TRATTAMENTO TERMICO / HEAT TREATMENT				NORMALIZED AT 920 C - COOLED IN STILL AIR			
FORNO / FURNACE				ELECTRIC FURNACE			
ORIGINE / ORIGIN				EUROPE			

NOTE	UFFICIO CONTROLLO QUALITA'	ENTE UFFICIALE DI COLLAUDO	MARCHIO PRODUZIONE
NOTES	QUALITY CONTROL DEPARTMENT	INSPECTION AUTHORITY	MANUFACTURER'S SYMBOL

FERRAMENTA INDUSTRIALE

BONACINA S.R.L.

GIULIO SANTINI

FERRAMENTA INDUSTRIALE

BONACINA S.R.L.

Viale Europa, 26 - Treviolo (BG)

Tel. 035-201261 Fax 035-201266

C.F. e P.IVA 0012710152

UFFICIO CONTROLLO QUALITA'

QUALITY CONTROL DEPARTMENT

ENTE UFFICIALE DI COLLAUDO

INSPECTION AUTHORITY

MARCHIO PRODUZIONE

MANUFACTURER'S SYMBOL

COPIONE CONFORME

ALL'ORIGINALE



Certif. N. 3282	Del/Dated 29.06.2012	Fattura / Invoice N. 2258	Del/Dated 29.06.2012
DDT / Del Note N. 2841	Del/Dated 28.06.2012	Ns. Ord. / Our ref. N.	
FERRAMENTA INDUSTRIALE BONACINA SRL			
VALE EUROPA, 2G - FRAZ. CURNASCO			
24048	TREVIOLO	BG	IT

SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT

COD. COL.	COLATA	POS.	VS. ORDINE	Q.TA	DESCRIZIONE	DIM. IN ACC. A	VISIVO E DIMENS.
HEAT CODE	HEAT	ITEM	YOUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACCORDANCE TO	VIS. & DIMENS.

MATERIALE / MATERIAL							
ASTM A105 (LADLE)							
C%	0,195	Si%	0,220	Mn%	0,950	P%	0,007
S%	0,007	P%	0,014	C%	0,090	Ni%	0,050
Mo%	0,010	Ti%	0,017	Cu%	0,110	V%	0,001
Nb%	0,002	N%	0,000	Al%	0,027	C.E.%	0,384

PROVETTA / TEST SPECIMEN	FORMA	SNERVAMENTO	TENSILE STRENGTH	ALLUNGAMENTO	CONTRAZIONE	DUREZZA	RESILLENZA / IMPACT TEST	SNERVAMENTO
SEZ. mm2	1	YIELD POINT	N/mm2 >= 0,2%	ELONGATION	% >=	HARDNESS	Joule/cm2	YIELD POINT
126,60	50,80	337,0	522,0	30,0	58,0	156,0 - 159,0	-10 62 64 62	N/mm2 >= 10%
								0,0

MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO
ASTM/A5ME A 105/SA 105 M - 11 ASME CODE SECT. II, PART A, ED. 2010
TRATTAMENTO TERMICO / HEAT TREATMENT
NORMALIZED AT 920 C - COOLED IN STILL AIR
FORNO / FURNACE
ELECTRIC FURNACE
ORIGINE / ORIGIN
EUROPE

COD. COL.	COLATA	POS.	VS. ORDINE	Q.TA	DESCRIZIONE	DIM. IN ACC. A	VISIVO E DIMENS.
HEAT CODE	HEAT	ITEM	YOUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACCORDANCE TO	VIS. & DIMENS.

MATERIALE / MATERIAL							
ASTM A105 (LADLE)							
C%	0,180	Si%	0,220	Mn%	1,080	P%	0,014
S%	0,007	P%	0,014	C%	0,090	Ni%	0,050
Mo%	0,010	Ti%	0,018	Cu%	0,180	V%	0,004
Nb%	0,001	N%	0,000	Al%	0,025	C.E.%	0,396

PROVETTA / TEST SPECIMEN	FORMA	SNERVAMENTO	TENSILE STRENGTH	ALLUNGAMENTO	CONTRAZIONE	DUREZZA	RESILLENZA / IMPACT TEST	SNERVAMENTO
SEZ. mm2	1	YIELD POINT	N/mm2 >= 0,2%	ELONGATION	% >=	HARDNESS	Joule/cm2	YIELD POINT
126,60	50,80	336,0	542,0	33,0	58,0	164,0 - 166,0	-10 61 63 59	N/mm2 >= 10%
								0,0

MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO
ASTM/A5ME A 105/SA 105 M - 11 ASME CODE SECT. II, PART A, ED. 2010
TRATTAMENTO TERMICO / HEAT TREATMENT
NORMALIZED AT 920 C - COOLED IN STILL AIR
FORNO / FURNACE
ELECTRIC FURNACE
ORIGINE / ORIGIN
EUROPE

COD. COL.	COLATA	POS.	VS. ORDINE	Q.TA	DESCRIZIONE	DIM. IN ACC. A	VISIVO E DIMENS.
HEAT CODE	HEAT	ITEM	YOUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACCORDANCE TO	VIS. & DIMENS.

MATERIALE / MATERIAL							
ASTM A105 (LADLE)							
C%	0,195	Si%	0,220	Mn%	0,950	P%	0,014
S%	0,007	P%	0,014	C%	0,090	Ni%	0,050
Mo%	0,010	Ti%	0,017	Cu%	0,110	V%	0,001
Nb%	0,002	N%	0,000	Al%	0,027	C.E.%	0,384

PROVETTA / TEST SPECIMEN	FORMA	SNERVAMENTO	TENSILE STRENGTH	ALLUNGAMENTO	CONTRAZIONE	DUREZZA	RESILLENZA / IMPACT TEST	SNERVAMENTO
SEZ. mm2	1	YIELD POINT	N/mm2 >= 0,2%	ELONGATION	% >=	HARDNESS	Joule/cm2	YIELD POINT
126,60	50,80	337,0	522,0	30,0	58,0	156,0 - 159,0	-10 62 64 62	N/mm2 >= 10%
								0,0

MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO
ASTM/A5ME A 105/SA 105 M - 11 ASME CODE SECT. II, PART A, ED. 2010
TRATTAMENTO TERMICO / HEAT TREATMENT
NORMALIZED AT 920 C - COOLED IN STILL AIR
FORNO / FURNACE
ELECTRIC FURNACE
ORIGINE / ORIGIN
EUROPE

NOTE	MANUFACTURING IN ACCORDANCE WITH ORDER AND SPECIFICATION	UFFICIO CONTROLLO QUALITA'	ENTE UFFICIALE DI COLLAUDO	MARCHIO PRODUZIONE
NOTES	Q.A.S. IN ACCORD WITH PRESS. EQUIP. DIRECT. 9723/EC/EPD/ ANNEX I, PARAGRAPH 4.3	QUALITY CONTROL DEPARTMENT	INSPECTION AUTHORITY	MANUFACTURER'S SYMBOL

CERT. MLN 0531016/01

Viale Europa 2G - Fraz. Curناسco (BG)

Tel. 0362.201.200 - Fax 0362.201468

C.I. P. IVA 00727710162

L. S. Corti
for Metal Far

Formamenta Industriale
BONACINA S.R.L.
MFF



UFFICIO AMMINISTRATIVO E SEGRETERIA
 23861 - CESANA BRIANZA (LC) - Italy
 Via G. Pardini, 28
 Tel. +39 031.6554411
 Fax +39 031.655149
qualita.mf@laromas.com

**COMPANY WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY DNV
= 150 9001:2008 =**

CERTIFICATO DI LAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE			
Certif. n. 1839	Del / Dated	11.04.2011	
DDT / Del Nota n. 1402	Del / Dated	11.04.2011	
FERRAMENTA INDUSTRIALE BONACINA SRL		Fattura / Invoice n.	Del / Dated
VIALE EUROPA, 23 - FRAZ. CURINASSO			
24006 TREVISO			
BQ	IT		

Page. 3 - 6

SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT

COD. COL. HEAT CODE	COLATA HEAT	POS. ITEM	VS. ORDINE YOUR REF.	Q.TA' Q.TY	DESCRIZIONE DESCRIPTION	DIM. ACC. A DIM. ACCORDANCE TO	VISO E DIMENS. VISUAL & DIMENS.														
08/74605	017	017	REINTEGRO CONTO DEPOSITO	10,00	BLIND 600 RF 2"	ASME/ANSI B16.5	SATISFACTORY														
32428	018	018	REINTEGRO CONTO DEPOSITO	10,00	BLIND 600 RF 2.1/2"	ASME/ANSI B16.5	SATISFACTORY														
09/79422	019	019	REINTEGRO CONTO DEPOSITO	10,00	BLIND 600 RF 3"	ASME/ANSI B16.5	SATISFACTORY														
10/73804	022	022	REINTEGRO CONTO DEPOSITO	20,00	SW 150 RF 1/2" 40	ASME/ANSI B16.5	SATISFACTORY														
10/70231	023	023	REINTEGRO CONTO DEPOSITO	20,00	SW 150 RF 3" 40	ASME/ANSI B16.5	SATISFACTORY														
10/39872	024	024	REINTEGRO CONTO DEPOSITO	20,00	SW 150 RF 4" 40	ASME/ANSI B16.5	SATISFACTORY														
10/73801	025	025	REINTEGRO CONTO DEPOSITO	10,00	SW 300 RF 1" 40	ASME/ANSI B16.5	SATISFACTORY														
COD. COL. HEAT CODE	COLATA HEAT	POS. ITEM	MATERIALE MATERIAL	C%	SI%	Mn%	S%	P%	Cr%	NI%	Mo%	TT%	Cu%	V%	Nb%	N%	Al%	C.E.%	ALTRI ELEMENTI OTHER ELEMENTS		
08/74605	017	017	ASTM A105	0,195	0,260	0,940	0,005	0,010	0,070	0,050	0,010	0,006	0,160	0,001	0,000	0,000	0,020	0,381			
32428	018	018	ASTM A105	0,195	0,220	0,870	0,021	0,010	0,150	0,060	0,010	0,009	0,170	0,003	0,002	0,000	0,005	0,404			
09/79422	019	019	ASTM A105	0,190	0,220	0,960	0,013	0,012	0,140	0,070	0,010	0,009	0,160	0,001	0,002	0,000	0,027	0,396			
10/73804	022	022	ASTM A105	0,190	0,220	1,070	0,008	0,010	0,080	0,050	0,010	0,020	0,200	0,003	0,002	0,000	0,026	0,404			
10/70231	023	023	ASTM A105	0,205	0,220	0,980	0,015	0,016	0,120	0,050	0,010	0,013	0,170	0,002	0,002	0,000	0,024	0,409			
10/39872	024	024	ASTM A105	0,185	0,210	1,090	0,010	0,011	0,110	0,040	0,010	0,017	0,140	0,002	0,003	0,000	0,029	0,403			
10/73801	025	025	ASTM A105	0,180	0,220	1,070	0,010	0,011	0,080	0,060	0,010	0,017	0,200	0,003	0,002	0,000	0,028	0,394			
COD. COL. HEAT CODE	COLATA HEAT	POS. ITEM	PROVETA / TEST SPECIM. SEZ. RECT.	LUNGHEZZA mm	YIELD POINT N/mm2 >=0,2%	TENSILE STRENGTH N/mm2 >=	ALLUNGAMENTO %>=	CONTRAZIONE REDUCT. OF AREA %>=	DUREZZA HBW HARDNESS HBW	PIEGA BEND TEST	SCHIACCIAM. FLATTENING TEST	RESILLENZA / IMPACT TEST TPO / TYPE			JULIENZ °C			FORMA SHAPE ISO 2-0	SNERVAMENTO YIELD POINT N/mm2 >=0,01%		
08/74605	017	017	126,60	50,80	332,0	533,0	33,0	58,0	163,0 - 165,0	0,0	0,0	KV	20	89	86	86	1	0,0			
32428	018	018	126,60	50,80	357,0	523,0	30,0	59,0	159,0 - 163,0	0,0	0,0	KV	20	86	86	80	1	0,0			
09/79422	019	019	126,60	50,80	331,0	533,0	33,0	58,0	166,0 - 170,0	0,0	0,0	KV	20	83	83	88	1	0,0			
10/73804	022	022	126,60	50,80	333,0	543,0	31,0	58,0	164,0 - 166,0	0,0	0,0	KV	20	96	82	88	1	0,0			
10/70231	023	023	126,60	50,80	338,0	546,0	33,0	57,0	164,0 - 166,0	0,0	0,0	KV	20	90	80	83	1	0,0			
10/39872	024	024	126,60	50,80	359,0	523,0	30,0	58,0	166,0 - 168,0	0,0	0,0	KV	20	82	88	86	1	0,0			
10/73801	025	025	126,60	50,80	335,0	541,0	33,0	58,0	164,0 - 166,0	0,0	0,0	KV	20	81	87	87	1	0,0			
COD. COL. HEAT CODE	COLATA HEAT	POS. ITEM	MATERIALE IN ACCORDO A MATERIAL IN ACCORDANCE TO																		
COD. COL. HEAT CODE	COLATA HEAT	POS. ITEM	TRATTAMENTO TERMICO HEAT TREATMENT																		
COD. COL. HEAT CODE	COLATA HEAT	POS. ITEM	FORNO FURNACE																		
COD. COL. HEAT CODE	COLATA HEAT	POS. ITEM	ORIGINE ORIGIN																		
08/74605	017	017	ASTM/ASME A 105/SA 105 M - 09	NORMALIZED AT 920 C - COOLED IN STILL AIR																ELECTRIC FURNACE	EUROPE
32428	018	018	ASTM/ASME A 105/SA 105 M - 09	NORMALIZED AT 920 C - COOLED IN STILL AIR																ELECTRIC FURNACE	EUROPE
09/79422	019	019	ASTM/ASME A 105/SA 105 M - 09	NORMALIZED AT 920 C - COOLED IN STILL AIR																ELECTRIC FURNACE	EUROPE
10/73804	022	022	ASTM/ASME A 105/SA 105 M - 09	NORMALIZED AT 920 C - COOLED IN STILL AIR																ELECTRIC FURNACE	EUROPE
10/70231	023	023	ASTM/ASME A 105/SA 105 M - 09	NORMALIZED AT 920 C - COOLED IN STILL AIR																ELECTRIC FURNACE	EUROPE
10/39872	024	024	ASTM/ASME A 105/SA 105 M - 09	NORMALIZED AT 920 C - COOLED IN STILL AIR																ELECTRIC FURNACE	EUROPE
10/73801	025	025	ASTM/ASME A 105/SA 105 M - 09	NORMALIZED AT 920 C - COOLED IN STILL AIR																ELECTRIC FURNACE	EUROPE

NOTE
NOTES
FERRAMENTA AND GOTTALIE

PERMANENT INDUSTRIAL

UFFICIO CONTROLLO QUALITÀ
QUALITY CONTROL DEPARTMENT

**ENTE UFFICIALE DI COLLAUDO
INSPECTION AUTHORITY.**

MARCHIO PRODUZIONE
MANIEACTIBEE'S SYMB

Viale Europa, 40-TREVISO (TV)
Tel. 035-201268-Fax 035-201268
C.F. e P.IVA 00727710162

EDMACINA S.R.L.
SALVA SANTINI

COPIA CONFORME
ALL'ORIGINALE



COD. COL. HEAT CODE		COLATA HEAT	POS. ITEM	VS. ORDINE YOUR REF.	Q.TA Q.TY	DESCRIZIONE DESCRIPTION	DIM. IN ACC. A DIM. ACCORDANCE TO				VISIVO E DIMENS. VISUAL & DIMENS.																											
COD. COL. HEAT CODE	COLATA HEAT	POS. ITEM	MATERIALE MATERIAL	C %	SI %	Mn %	S %	P %	Cr %	Ni %	Mo %	TT %	Cu %	V %	Nb %	N %	Al %	C.E. %	ALTRI ELEMENTI OTHER ELEMENTS																			
																				10/72681	045	REINTEGRO C.TO DEPOSITO	10,00	S/O 600 RF 3"	A105	ASME/ANSI B16.5	SATISFACTORY											
																				10/38778	046	REINTEGRO C.TO DEPOSITO	10,00	S/O 600 RF 4"	A105	ASME/ANSI B16.5	SATISFACTORY											
																				10/71474	051	REINTEGRO C.TO DEPOSITO	20,00	S/W 600 RF 1" 80	A105	ASME/ANSI B16.5	SATISFACTORY											
																				76150	054	REINTEGRO C.TO DEPOSITO	20,00	W/N 150 RF 2.1/2" STD	A105	ASME/ANSI B16.5	SATISFACTORY											
																				10/72782	056	REINTEGRO C.TO DEPOSITO	50,00	W/N 150 RF 4" STD	A105	ASME/ANSI B16.5	SATISFACTORY											
COD. COL. HEAT CODE	COLATA HEAT	POS. ITEM	MATERIALE MATERIAL	C %	SI %	Mn %	S %	P %	Cr %	Ni %	Mo %	TT %	Cu %	V %	Nb %	N %	Al %	C.E. %	ALTRI ELEMENTI OTHER ELEMENTS																			
																				10/32324	058	REINTEGRO C.TO DEPOSITO	40,00	W/N 150 RF 6" STD	A105	ASME/ANSI B16.5	SATISFACTORY											
																				10/39214	059	REINTEGRO C.TO DEPOSITO	20,00	W/N 150 RF 8" STD	A105	ASME/ANSI B16.5	SATISFACTORY											
																				10/72681	045	ASTM A105	0,185	0,250	1,070	0,007	0,010	0,070	0,050	0,020	0,015	0,150	0,003	0,002	0,000	0,026	0,395	
																				10/38778	046	ASTM A105	0,200	0,210	1,150	0,010	0,010	0,090	0,060	0,010	0,020	0,150	0,020	0,000	0,000	0,026	0,430	
																				10/71474	051	ASTM A105	0,195	0,230	1,080	0,010	0,013	0,110	0,060	0,010	0,025	0,200	0,026	0,001	0,000	0,031	0,420	
COD. COL. HEAT CODE	COLATA HEAT	POS. ITEM	MATERIALE MATERIAL	C %	SI %	Mn %	S %	P %	Cr %	Ni %	Mo %	TT %	Cu %	V %	Nb %	N %	Al %	C.E. %	ALTRI ELEMENTI OTHER ELEMENTS																			
																				76150	054	ASTM A105	0,185	0,190	0,920	0,022	0,015	0,090	0,050	0,010	0,005	0,190	0,001	0,001	0,000	0,011	0,374	
																				10/72782	056	ASTM A105	0,180	0,200	1,100	0,007	0,015	0,080	0,050	0,010	0,022	0,150	0,003	0,003	0,000	0,026	0,395	
																				10/32324	058	ASTM A105	0,190	0,220	1,140	0,009	0,009	0,110	0,070	0,010	0,018	0,160	0,000	0,000	0,000	0,028	0,419	
																				10/39214	059	ASTM A105	0,185	0,210	1,110	0,010	0,011	0,090	0,050	0,010	0,015	0,130	0,023	0,000	0,000	0,028	0,407	
																				COD. COL. HEAT CODE	COLATA HEAT	POS. ITEM	PROVETTA / TEST SPECIM. SIZE/SECT.	YIELD POINT Nmm2 >=0,2%	ROTTURA TENSILE STRENGTH Nmm2 >=	ALLUNGAMENTO ELONGATION % >=	CONTRAZIONE REDUCT. OF AREA % >=	DUREZZA HB HARDNESS HB	PIEGA BEND TEST	SCHIACCIAM. FLATTENING TEST	RESILLENZA / IMPACT TEST - JOULE/CM2 TPO / TYPE	FORMA SHAPE	SNERVAMENTO YIELD POINT Nmm2 >=1,0%					
10/72681	045	126,60	50,80	337,0	535,0	32,0	58,0	163,0 - 165,0	0,0	0,0	KV	20	86	82	88	1	0,0																					
10/38778	046	126,60	50,80	394,0	546,0	30,0	60,0	164,0 - 166,0	0,0	0,0	KV	20	88	88	83	1	0,0																					
10/71474	051	126,60	50,80	343,0	539,0	30,0	58,0	164,0 - 166,0	0,0	0,0	KV	20	90	84	90	1	0,0																					
76150	054	126,60	50,80	330,0	533,0	34,0	60,0	163,0 - 165,0	0,0	0,0	KV	20	83	86	82	1	0,0																					
10/72782	056	126,60	50,80	338,0	546,0	33,0	58,0	164,0 - 166,0	0,0	0,0	KV	20	90	90	86	1	0,0																					
COD. COL. HEAT CODE	COLATA HEAT	POS. ITEM	MATERIALE IN ACCORDO A MATERIAL IN ACCORDANCE TO	TRATTAMENTO TERMICO HEAT TREATMENT	FORNO FURNACE	ORIGINE ORIGIN																																
							10/32324	058	126,60	50,80	347,0	537,0	30,0	60,0	163,0 - 165,0	0,0	0,0	KV	20	86	87	87	1	0,0														
							10/39214	059	126,60	50,80	342,0	528,0	30,0	58,0	159,0 - 163,0	0,0	0,0	KV	20	89	87	89	1	0,0														
							10/72681	045	ASTM/ASME A 105/SA 105 M - 09	NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE	EUROPE																										
							10/38778	046	ASTM/ASME A 105/SA 105 M - 09	NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE	EUROPE																										
							10/71474	051	ASTM/ASME A 105/SA 105 M - 09	NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE	EUROPE																										
COD. COL. HEAT CODE	COLATA HEAT	POS. ITEM	MATERIALE IN ACCORDO A MATERIAL IN ACCORDANCE TO	TRATTAMENTO TERMICO HEAT TREATMENT	FORNO FURNACE	ORIGINE ORIGIN																																
							76150	054	ASTM/ASME A 105/SA 105 M - 09	NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE	EUROPE																										
							10/72782	056	ASTM/ASME A 105/SA 105 M - 09	NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE	EUROPE																										
							10/32324	058	ASTM/ASME A 105/SA 105 M - 09	NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE	EUROPE																										
							10/39214	059	ASTM/ASME A 105/SA 105 M - 09	NORMALIZED AT 920 C - COOLED IN STILL AIR	ELECTRIC FURNACE	EUROPE																										

Č.ext.obj. - External order No.:

0C0422

Číslo položky - Item number:

11

Č.obj.priř. - Consignee order No.:

2000015

Číslo zákazky výrobce - Manufacturer's works order number:

VA 124898/1/5 2213368

Číslo dopravného prostriedku - Transport No.:

TO150BK TO713YD

Číslo ložného listu - Loading Bill No.:

360373

Číslo avíza - Dispatch note:

3221147

Výrobok - Product:

**Rúry oceľové bezošvé, valcované za tepla - rúry pre potrubia pre
Seamless hot finished steel tubes - pipelines for combustible fluids**

Vonkajší priemer - Outside diameter: **88.900 mm**
Hrúbka steny - Wall thickness: **5.490 mm**
Dĺžka - Length: **6000.000 mm [-0 +100] mm**
Počet kusov - Number of pieces: **120**
Celková dĺžka - Total length: **725.00 m**
Celková hmotnosť - Total mass: **8312.00 kg**

Material - Material:

**B/PSL1 API Spec. 5L / ISO 3183 /2008/, Grade B ASME SA-106/SA-106M E10a /2011/,
Grade B ASTM A 53/A 53M-07 /2007/, Grade B ASME SA-53/SA-53M E10a /2011/,
Grade B ASTM A 106/A 106M-08 /2008/, P265GH - TC1 EN 10216-2+A2 /2007/,
X42/PSL1 API Spec. 5L / ISO 3183 /2008/**

Technické predpisy - Technical requirements/Demand:

**API Spec. 5L / ISO 3183 /2008/, ASME SA-106/SA-106M E10a /2011/, ASME SA-53/SA-53M E10a /2011/,
ASTM A 106/A 106M-08 /2008/, ASTM A 53/A 53M-07 /2007/, EN 10216-2+A2 /2007/**

Číslo tavby Cast number	Počet kusov Number of pieces	Dĺžka Length [m]	Hmotnosť Mass [kg]	Druh tavenia Steelmaking process
20746	120	725	8312	E

Druh ocele - Steel grade:

úplne uškľadená oceľ - fully killed steel

Úprava povrchu - Surface protection:

Bez úpravy povrchu (neolejované) - Without surface treatment (without oil)

Zákazník/Prijemca - Customer/Consignee:

**FERRO TUBI E DERIVATI S.R.L.
VIA GUIDO ROSSA 1
20061 CARUGATE
ITALY**

IL PRESENTE CERTIFICATO E' VALIDO PER

*Ferramenta Industriale
BONACINA S.R.L.
Via Santini*

FERRAMENTA INDUSTRIALE BONACINA SRL
Viale Europa 2/A - 24043 TREVIOLO (BG)
Tel. 035 201268 - Fax 035 201268
C.F. e P.IVA 00727710162

Miesto v Podbrezovej
Location vet

Dátum **01.03.2012**
Date

Vedúci kontrolného a atestačného oddelenia
Engineering inspection official

Ing. Vojtas Miroslav

ŽELEZIARNE PODBREZOVÁ, a.s., 976 81 Podbrezová, SLOVAKIA

Telefon/Phone: +421 48 645 40 70, 645 40 71, Fax: +421 48 645 40 72, www.steeltube.sk

ICO 31 562 141, IČ DPH/VAT N°: SK2020458704, Bankové spojenie/Bank account: Citibank (Slovakia) a.s., N° 2001940300/8130

Spoločnosť je zapísaná v Obchodnom registri Okresného súdu Banská Bystrica, oddiel Sa, vložka číslo 09/5

Chemické zloženie - Chemical composition:

Číslo tavby Cast number		C [%]	Mn [%]	Si [%]	P [%]	S [%]	Cu [%]	Cr [%]	Ni [%]	Al [%]	Mo [%]	Ti [%]	V [%]	Nb [%]
	Predpis - Requirements													
	min. max.	0.20	0.29 1.06	0.10 0.40	0.025	0.020	0.30	0.30	0.30	0.020	0.08	0.040	0.020	0.010
20746		0.15	0.51	0.22	0.010	0.006	0.17	0.03	0.07	0.025	0.01	0.001	0.006	<0.000

Číslo tavby Cast number		Exp.1	Exp.2
		[%]	[%]
		min.	max.
20746		0.150	0.060
20746		0.007	0.006

Exp.1 = V + Nb + Ti

Exp.2 = V + Nb

Výrobková analýza - Product analysis:

Číslo tavby Cast number		C	Mn	Si	P	S	Cu	Cr	Ni	Al	Mo	Ti	V	Nb
		[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]
20746	1	0.16	0.52	0.22	0.011	0.007	0.17	0.04	0.06	0.026	0.01	0.001	0.005	<0.001
20746	2	0.16	0.52	0.22	0.011	0.006	0.17	0.04	0.06	0.025	0.01	0.001	0.005	<0.001

Skúška ťahom - Tensile test: 20 °C

C. Nr	Číslo tavby Cast number	Vzorka č. Test No.	Rozmery Dimensions [mm]	Smer odboru vzorky Direction of the test piece	Medza klzu Yield point - Proof stress		Pevnosť v ťahu Tensile strength		Ťažnosť Elongation	
					Rt0,5 [MPa]		Rm [MPa]		Lo= 2" A5,65 [%]	
					min. max.		min. max.		min. max.	
1	20746	A008724/T2	12.31x5.44	L	290 ---		415 570		23.0 ---	
					393		484		35.8 34.4	

* Ťažnosť - Elongation : min. (1944*So**0.2)/(Rm**0.9)

Skúška rázom v ohybe Charpy - Charpy impact test:

C. Nr	Číslo tavby Cast number	Vzorka č. Test No.	Predpis Requirements min.-max. [J]	Jednotlivé hodnoty Individual values [J]	Priemerná hodnota Mean value [J]	Teplota skúšania Test temperature [°C]
1	20746	A008724/12	KV 27.0 - ---	148.2, 151.0, 156.6	151.9	-20
C. Nr	Vzorka č. Test No.	Rozmery Dimensions [mm]	Smer odboru vzorky Direction of the test piece			
1	A008724/12	10.00x5.00	L			

Skúška stlačením vyhovela.

Flattening test without objections.

Skúška rozširovaním vyhovela.

Flaring test without objections.

FERRAMENTA INDUSTRIALE BONACINA SRL
Viale Europa 2/G - 24046 TREVIOLO (BG)
Tel. 036 201208 - Fax 036 201268
C.F. e P. IVA 00727710162

Miesto v Podbrezovej
Location vet

Dátum 01.03.2012
Date

Vedúci kontrolného a atestačného oddelenia
Engineering inspection official

Ing. Vojtas Miroslav

ŽELEZIARNE PODBREZOVÁ, a.s. 976 81 Podbrezová, SLOVAKIA

Telefón/Phone: +421 48 645 40 70, 645 40 71, Fax: +421 48 645 40 72, www.oceloveny.sk, www.steeltube.sk

IČO 31 562 141, IČ DPH/VAT N°: SK2020458794, Bankové spojenie/Bank account: Citibank (Slovakia) a.s. N° 2001940300/8130

Spoločnosť je zapísaná v Obchodnom registri Okresného súdu Bratislava, oddiel Sa, vložka číslo 09/S

Skúška vodným tlakom vyhovela.
*Hydraulic pressure test without objections.***20.7 MPa 5.00 sec**Skúška vírivými prúdmi vyhovela
*Eddy current test without objections***STN EN 10246-3, E4H 100.00 %**Skúška vírivými prúdmi vyhovela
*Eddy current test without objections***ASTM E-309 100.00 %**

Systém kvality výrobcu bol podrobený špecifickému hodnoteniu pre materiály (Článok 4.3 a 7.5, Príloha I Smernice PED 97/23 EC). Certifikát vydalo notifikované miesto 0045 TÜV NORD Systems GmbH s platnosťou do 02/2014. Rozsah platnosti certifikátu zahŕňa predmetné výrobky.
The producer has a specific reviewed quality system for materials according to the Article 4.3 and 7.5, Annex I of the Directive PED 97/23 EC. The certificate with the validity till 02/2014 was issued by the Notified Body TÜV NORD Systems GmbH, Code 0045. The mentioned products belong to the certificate validity range.

Všetky výrobky vyhovujú vyššie uvedeným normám a požiadavkám v objednávke.**All products meet requirements of above mentioned standards and requirements specified in the order.****Vizuálna kontrola a rozmery vyhoveli (100 %).****Visual inspection and dimensional check without objections (100 %).**

Poznámky - Remarks

CHEMICAL PROPERTIES CONFORM TO GRADE B ACCORDING TO ASTM A795

FERRAMENTA INDUSTRIALE BONACINA SRL
Viale Europa 2/G - 24040 TREVIOLO (BG)
Tel. 035 201200 - Fax 035 201268
C. F. e P. IVA 00727710162

Miesto v Podbrezovej
Location vetDátum **01.03.2012**
DateVedúci kontrolného a atestačného oddelenia
Engineering inspection official**Ing. Vojtas Miroslav**

ŽELEZIARNE PODBREZOVÁ, a.s., 976 81 Podbrezová, SLOVAKIA

Telefon/Phone: +421 48 645 40 70, 645 40 71, Fax: +421 48 645 40 72, www.oceloveny.sk, www.steelhub.sk

IČO: 31 562 141, IČ DPH/VAT N°: SK2020458704, Bankové spojenie/Bank account: Citibank (Slovakia) a.s. N° 2001940300/8130

Spoločnosť je zapísaná v Obchodnom registri Okresného súdu Banská Bystrica, oddiel Sa, vložka číslo 69/S

Č.ext.obj. - External order No.:
0B0359

Číslo položky - Item number:
1

Č.obj.prij. - Consignee order No.:
002 OKRAM

Číslo zákazky výrobcu - Manufacturer's works order number:
114684/1/1 2113230

Číslo dopravného prostriedku - Transport No.:
BB836CI BB524YE

Číslo ložného listu - Loading Bill No.:
354375

Výrobok - Product:

Rúry oceľové bezošvé, valcované za tepla - rúry pre potrubia pre horľavé m
Seamless hot finished steel tubes - pipelines for combustible fluids

Vonkajší priemer - Outside diameter: **33.400 mm**
Hrúbka steny - Wall thickness: **3.380 mm**
Dĺžka - Length: **6000.000 mm [-0 +100] mm**
Počet kusov - Number of pieces: **88**
Celková dĺžka - Total length: **528.00 m**
Celková hmotnosť - Total mass: **1325.00 kg**

Materiál - Material:

**B/PSL1 API spec.5L/ISO 3183/2008/, X42/PSL1 API spec.5L/ISO 3183/2008/, P265GH - TC1 EN 10216-2+A2/2007/,
Grade B ASTM A 53 / A 53M/2007/, Grade B ASTM A 106/2008/, Grade B ASME SA-106/SA-106M/2010/,
Grade B ASME SA-53/SA-53M/2010/**

Technické predpisy - Technical requirements/Demand:

**EN 10216-2+A2:2007, ASTM A 53/A 53M-07, ASTM A106/A106M-08, ASME SA-106/SA-106M E10,
ASME SA-53/SA-53M E10, API spec. 5L/ISO 3183/08, ASTM A530/A530M-04a, ASME SEC.II PART A**

Číslo stavby Case number	Počet kusov Number of pieces	Dĺžka Length [m]	Hmotnosť Mass [kg]	Druh tavenia Steelmaking process
10639	88	528	1325	E

Druh ocele - Steel grade:

úplne ukľadená oceľ - fully killed steel

Úprava povrchu - Surface protection:

Bez úpravy povrchu (neolejované) - Without surface treatment (without oil)

Zákazník/Prijemca - Customer/Consignee:

**TS STEEL PIPE & FITTINGS S.r.l.
VIA F.L.H KENNEDY, snc
24060 BAGNATICA (BG)
ITALY**

DOCUMENTO CERTIFICATO E' VALIDO PER

**Ferramenta Industriale
BONACINA s.r.l.
Bivio Santini**

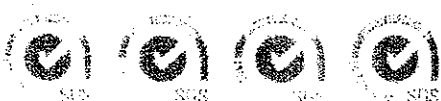
**FERRAMENTA INDUSTRIALE BONACINA SRL
Viale Europa 2/3 - 24043 TREVIOLO (BG)
Tel. 035 2112800 - Fax 035 201268
C.F. e P. IVA 00727710162**

Miesto v Podbrezovej
Location **sna**

Dátum **01.03.2011**
Date

Vedúci kontrolného a atestačného oddelenia
Engineering inspection official

Ing. Vojtas Miroslav



ŽELEZIARNE PODBREZOVÁ, a.s., 976 81 Podbrezová, SLOVAKIA

Telefón/Phone: +421 48 645 40 70, 645 40 71, Fax: +421 48 645 40 72, www.ozelovenary.sk, www.steelube.sk

IČO 34 562 141, IČ DPH/VAT N: SK2020458704, Bankové spojenie/Bank account: Citibank (Slovakia) a.s. N° 2001940300/8130

Spoločnosť je zapísaná v Obchodnom registri Okresného súdu Banská Bystrica, oddiel Sa, vložka číslo 69/S

Chemické zloženie - Chemical composition:

Číslo tavby Cast number		C [%]	Mn [%]	Si [%]	P [%]	S [%]	Cu [%]	Cr [%]	Ni [%]	Al [%]	Mo [%]	Ti [%]	V [%]	Nb [%]
Predpis - Requirements														
	min.		0.29	0.10						0.020				
	max.	0.18	1.06	0.40	0.025	0.010	0.30	0.30	1.00		0.08	0.040	0.020	0.010
10639		0.15	0.49	0.23	0.013	0.006	0.18	0.04	0.06	0.023	0.01	0.001	0.003	0.001

Číslo tavby Cast number		Exp.1 [%]	Exp.2 [%]	Exp.3 [%]
	min.			
	max.	0.40	0.150	0.060
10639		0.26	0.005	0.004

Exp.1 = C + Mn/6 + (V+Mo+Cr)/5 + (Ni+Cu)/15

Exp.2 = V + Nb + Ti

Exp.3 = V + Nb

Výrobková analýza - Product analysis:

Číslo tavby Cast number		C [%]	Mn [%]	Si [%]	P [%]	S [%]	Cu [%]	Cr [%]	Ni [%]	Al [%]	Mo [%]	Ti [%]	V [%]	Nb [%]
10639	1	0.16	0.49	0.23	0.013	0.007	0.17	0.05	0.06	0.024	0.02	0.002	0.003	<0.001
10639	2	0.16	0.50	0.23	0.013	0.008	0.17	0.05	0.06	0.023	0.02	0.002	0.003	<0.001

Skúška ťahom - Tensile test: 20 °C

Číslo tavby Cast number	Vzorka č. Test No.	Rozmery Dimensions [mm]	Směr odběru vzorky Direction of the test piece	Medza klzu Yield point - Proof stress	Pevnosť v ťahu Tensile strength	Ťažnosť Elongation
				Rt0,5 [MPa]	Rm [MPa]	Lo= A5,65 [%] Lo= 2" [%]
C. Nr	Predpis - Requirements:			min. max.	290 ---	415 570
1	10639	A006224/11	12.41x3.42	L	434	503
						23.0 --- 34.3
						* --- 28.0

* Ťažnosť - Elongation : min. (1944*So**0.2)/(Rm**0.9)

Skúška stlačením vyhovela.
Flattening test without objections.

Skúška rozširovaním vyhovela.
Flaring test without objections.

Skúška ohybom vyhovela.
Bend test without objections.

Skúška vodným tlakom vyhovela.
Hydraulic pressure test without objections.

207.0 bar 5.00 sec

Skúška vírivými prúdmi vyhovela
Eddy current test without objections

STN EN 10246-3/E4H 100.00 %

Skúška vírivými prúdmi vyhovela
Eddy current test without objections

ASTM E-309 100.00 %

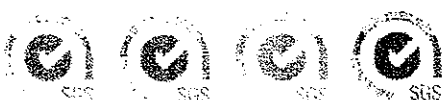
FERRAMENTA INDUSTRIALE BONACINA SRL
Viale Europa 2/G - 24043 TREVIOLO (BG)
Tel. 035 201266 - Fax 035 201268
C. F. e P. IVA 00727710162

Miesto v Podbrezovej
Location **SAB**

Dátum **01.03.2011**
Date

Vedúci kontrolného a atestačného oddelenia
Engineering inspection official

Ing. Vojtas Miroslav



ŽELEZIARNE PODBREZOVÁ, s.r.o. 976 81 Podbrezová SLOVAKIA

Telefón/Phone: +421 48 645 40 70, 645 40 71, Fax: +421 48 645 40 72, www.oceloverury.sk, www.steeltube.sk

IČO: 31 562 141, IČ DPH/VAT N°: SK2020458704, Bankové spojenie/Bank account: Citibank (Slovakia) a.s. N° 2001940300/8130

Spoločnosť je zapísaná v Obchodnom registri Okresného súdu Banská Bystrica, oddiel Sa, vložka číslo 69/S

Potvrďujeme, že minimálne hodnoty medze klzu za zvýšenej teploty sa zhodujú s minimálnymi hodnotami medze klzu pre všetky zvýšené teploty, ktoré sú predpísané normou ASTM A520 tabuľka I.

We certify that min. hot yield point values are in compliance with the min. hot yield point values for all the elevated temperatures prescribed by ASTM A520 table N.1

Systém kvality výrobcu bol podrobený špecifickému hodnoteniu pre materiály (Článok 4.3 a 7.5, Príloha I Smernice PED 97/23 EC). Certifikát vydalo notifikované miesto 0045 TÜV NORD Systems GmbH s platnosťou do 02/2014. Rozsah platnosti certifikátu zahŕňa predmetné výrobky.
The producer has a specific reviewed quality system for materials according to the Article 4.3 and 7.5, Annex I of the Directive PED 97/23 EC. The certificate with the validity till 02/2014 was issued by the Notified Body TÜV NORD Systems GmbH, Code 0045. The mentioned products belong to the certificate validity range.

NACE MR 01-75-2003, HRC max.22.

Všetky výrobky vyhovujú vyššie uvedeným normám a požiadavkám v objednávke.

All products meet requirements of above mentioned standards and requirements specified in the order.

Vizuálna kontrola a rozmery vyhoveli (100 %).

Visual inspection and dimensional check without objections (100 %).



FERRAMENTA INDUSTRIALE BONACINA SRI
Via Europa 2/G - 24040 TREVIOLO (BG)
Tel: 035 201266 - Fax 035 201268
C. F. e P. IVA 06727710162

Miesto v Podbrezovej
Location **sna**

Dátum **01.03.2011**
Date

Vedúci kontrolného a atestačného oddelenia
Engineering inspection official

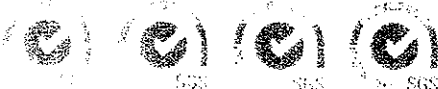
Ing. Vojtas Miroslav

ŽELEZIARNE PODBREZOVÁ, a.s., 976 81 Podbrezová, SLOVAKIA

Telefón/Phone: +421 48 645 40 70, 645 40 71, Fax: +421 48 645 40 72, www.ozeloverny.sk, www.steelcube.sk

IČO 31 562 141, IČ DPH/VAT N°: SK2020458704, Bankové spojenie/Bank account: Citibank (Slovakia) a.s. N° 1001940300/6130

Spoločnosť je zapísaná v Obchodnom registri Okresného súdu Banská Bystrica, oddiel Sa, vložka číslo 69/S



Č.ext.obj. - External order No.:
0B0974

Číslo položky - Item number:
1

Č.obj.prij. - Consignee order No.:
1000057

Číslo zákazky výrobcu - Manufacturer's works order number:
Dv 116938/1/3 2123412

Číslo dopravného prostriedku - Transport No.:
LV338BF LV641YA

Číslo ložného listu - Loading Bill No.:
357369

Číslo aviza - Dispatch note:
3124279

Výrobok - Product:

**Rúry oceľové bezošvé, valcované za tepla - rúry pre potrubia pre horľavé
Seamless hot finished steel tubes - pipelines for combustible fluids**

Vonkajší priemer - Outside diameter: **21.300 mm**
Hrúbka steny - Wall thickness: **2.770 mm**
Dĺžka - Length: **6000.000 mm [-0 +100] mm**
Počet kusov - Number of pieces: **1098**
Celková dĺžka - Total length: **6589.00 m**
Celková hmotnosť - Total mass: **8464.00 kg**

Materiál - Material:

**B/PSL1 API Spec. 5L / ISO 3183 /2008/, Grade B ASTM A 53/A 53M-07 /2007/,
Grade B ASME SA-53/SA-53M E10 /2010/, Grade B ASTM A 106/A 106M -08 /2008/,
Grade B ASME SA-106/SA-106M E10 /2010/**

Trieda - Class: **PSL1**

Technické predpisy - Technical requirements/Demand:

**API Spec. 5L / ISO 3183 /2008/, ASME SA-106/SA-106M E10 /2010/, ASME SA-53/SA-53M E10 /2010/,
ASTM A 106/A 106M -08 /2008/, ASTM A 53/A 53M-07 /2007/**

Číslo tavby Cast number	Počet kusov Number of pieces	Dĺžka Length [m]	Hmotnosť Mass [kg]	Druh tavenia Steelmaking process
14356	1098	6589	8464	E

Druh ocele - Steel grade:

úplne upravená oceľ - fully killed steel

Úprava povrchu - Surface protection:

Bez úpravy povrchu (neolejované) - Without surface treatment (without oil)

Zákazník/Prijemca - Customer/Consignee:

**FERRO TUBI E DERIVATI S.R.L.
VIA GUIDO ROSSA 1
20061 CARUGATE
ITALY**

IL PRESENTE CERTIFICATO E' VALIDO PER

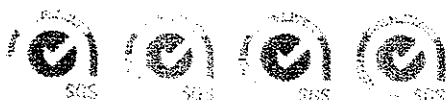
FERRAMENTA INDUSTRIALE BONACINA SRL
Viale Europa 103 - 20120 TREVIOLO (BG)
Tel. 035 201200 - Fax 035 201268
C. F. e P. IVA 03727710162

Miesto v Podbrezovej
Location Koš

Dátum **06.09.2011**
Date

Vedúci kontrolného a atestačného oddelenia
Engineering inspection official

Ing. Vojtas Miroslav



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Telefón/Phone - +421 48 645 40 70, 645 40 71. Fax: +421 48 645 40 72. www.zelezniarska.sk, www.steelpipe.sk

IČO 31 562 141, IČ DPH/VAT N°: SK2020453704. Bankové spojenie/Bank account: Citibank (Slovakia) a.s. N° 2001940300/8130

Spoločnosť je zapísaná v Obchodnom registri Okresného súdu Ranská Bystrica, oddiel Sa, vložka číslo 09/S

Chemické zloženie - Chemical composition:

Číslo trávby Cast number		C [%]	Mn [%]	Si [%]	P [%]	S [%]	Cu [%]	Cr [%]	Ni [%]	Mo [%]	Ti [%]	V [%]	Nb [%]	Exp.1 [%]
	Predpis - Requirements													
	min.		0.29	0.10										
	max.	0.28	1.06		0.030	0.030	0.40	0.40	0.40	0.15		0.080		0.150
14356		0.15	0.45	0.23	0.012	0.008	0.20	0.04	0.07	0.01	0.002	0.002	0.000	0.004

Exp.1 = V + Nb + Ti

Číslo trávby Cast number		Exp.2 [%]
	min. max.	
		0.060
14356		0.002

Exp.2 = V + Nb

Výrobková analýza - Product analysis:

Číslo trávby Cast number		C [%]	Mn [%]	Si [%]	P [%]	S [%]	Cu [%]	Cr [%]	Ni [%]	Mo [%]	Ti [%]	V [%]	Nb [%]
14356	1	0.16	0.46	0.23	0.012	0.010	0.20	0.05	0.07	0.01	0.001	0.002	0.001
14356	2	0.16	0.46	0.23	0.012	0.010	0.19	0.05	0.07	0.01	0.001	0.001	<0.001

Skúška ťahom - Tensile test: 20 °C

C. Nr	Číslo trávby Cast number	Vzorka č. Test No.	Rozmery Dimensions [mm]	Smer odberu vzorky Direction of the test piece	Medza klzu Yield point - Proof stress	Pevnosť v ťahu Tensile strength	Ťažnosť Elongation
					ReH [MPa]	Rm [MPa]	Lo= 2" [%]
					min. max.		
					Predpis - Requirements:		
					245	415	30.0
					---	---	---
1	14356	A039393/11	21.30x2.63	L	422	514	47.0
2	14356	A039394/11	21.28x3.10	L	413	497	48.0
3	14356	A039395/11	21.29x3.11	L	411	496	48.2

Skúška ohybom vyhovela.
Bend test without objections.

Skúška vodným tlakom vyhovela. **17.2 MPa 5.00 sec**
Hydraulic pressure test without objections.

Výrobky spĺňajú základné požiadavky na materiály pre tlakové zariadenia uvedené v Prílohe I Smernice pre tlakové zariadenia (PED) 97/23 EC.
The products are in compliance with the material basic requirements according to the Pressure Equipment Directive (PED) 97/23 EC, Annex I.

Všetky výrobky vyhovujú vyššie uvedeným normám a požiadavkám v objednávke.
All products meet requirements of above mentioned standards and requirements specified in the order.

Vizuálna kontrola a rozmery vyhoveli (100 %).
Visual inspection and dimensional check without objections (100 %).

Poznámky - Remarks

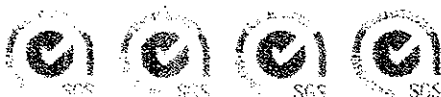
FERRAMENTA INDUSTRIALE DONACINA SRL
Viale Europa 210 - 34148 TREVIOLO (BG)
Tel. 035 201255 - Fax 035 201268
C.F. e P. IVA 06727710162

Miesto v Podbrezovej
Location **koš**

Dátum **06.09.2011**
Date

Vedúci kontrolného a zmeračného oddelenia
Engineering inspection official

Ing. Vojtas Miroslav



ŽELEZIARNE PODBREZOVÁ, a.s., 976 81 Podbrezová, SLOVAKIA
Telefón/Phone: +421 48 645 40 70, 645 40 71, Fax: +421 48 645 40 72, www.ocelevnary.sk, www.steelmebest
IČO 31 561 141, IČ DPH/VAT N°: SK2020458704. Bankové spojenie/Bank account: Citibank (Slovakia) a.s. N° 2001940300/8130
Spoločnosť je zapísaná v Obchodnom registri Okresného súdu Banská Bystrica, oddiel Se, vložka číslo 09/S

CHEMICAL PROPERTIES CONFORM TO GRADE B ACCORDING TO ASTM A795



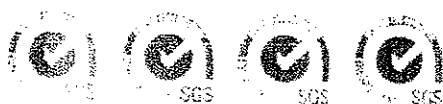
FERRAMENTA INDUSTRIALE BONACINA SRL
Viale Europa 2/C - 24048 TREVIOLO (BG)
Tel. 035 201268 - Fax 035 201268
C. P. e P. IVA 00727710162

Miesto v Podbrezovej
Location kott

Dátum 06.09.2011
Date

Vedúci kontrolného a atestačného oddelenia
Engineering inspection official

Ing. Vojtas Miroslav



ŽELEZIARNE PODBREZOVÁ, a.s. 976 81 Podbrezová, SLOVAKIA

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IČO 31 562 141, IČ DPH/VAT N°: SK2020458704, Bankové spojenie/Bank account: Citibank (Slovakia) a.s. N° 2001940300/8130

Spoločnosť je zapísaná v Obchodnom registri Okresného súdu Banská Bystrica, oddiel Sa, vložka číslo 69/S