

**MILL TEST CERTIFICATE - DIN 50049 3.1. B - EN 10204: 2004 / 3.1**

No.: 13666 Date: 03.10.2008	Manufacturer's mark :	Customer Order No.: 2084531 / 084 / 32	PL: 14550
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CUSTOMER: MO. MA. STEEL TRADING S.r.l
Piazzale G. Cesare, 14
20145 – MILANO
Vat nr.: IT 04803290966

Specifications: API 5L-04;ASTM A106-06; ASME SA 106-04; Spec. no 084/32 PED 97/23/EC + DIN 1629-84	Dimensions: 21.3 x 2.77 x 6 000+100/-0 mm Steel : Gr. B / X42 PSL 1 St 44.0
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Description: Hot rolled seamless steel pipes; marking by painting: T.M.K. –ARTROM, standard, steel grade, dimensions, 1.27 Kg/m, LENGTH (m), 2500 PSI, S, ITEM# 01, SR5BF-27J-M5C, heat no., mill inspector no. 5, technical control sign.

Heat No.: 25242

Quantity	Pcs	Length m	Theoretical Weight kg
	646	3876.0	4925

Ladle Chemical Analyse

C	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	N	V	CEV
0.15	0.58	0.007	0.012	0.24	0.11	0.06	0.02	0.16	0.022	0.001	0.001	0.008	0.002	0.28

Product Chemical Analyse

C	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	N	V
0.15	0.57	0.007	0.012	0.22	0.11	0.05	0.02	0.16	0.022	0.001	0.001	0.008	0.002
0.14	0.58	0.006	0.011	0.24	0.10	0.06	0.01	0.15	0.021	0.002	0.002	0.007	0.002

Mechanical Properties

TENSILE TEST (ASTM A370) – at room temperature- Test Specimen full		Yield strength 0.5%EUL MPa	UTS MPa	Elongation %			
Dimension – Specimen (mm) 1. 21.35 x 2.80 / 2. 21.30 x 2.85		1. 367	481	35			
Section – Specimen (mm ²) 1. 163.1 / 2. 165.1							
Length - Specimen (Lo) (mm) 1. 50.8 / 2. 50.8							

Hydraulic test pressure (ASTM A530): 2500 PSI for 5 sec Bending test (ASTM A106 point 11): OK Flattening test (ASTM A530): OK	Charpy V- Notch (ASTM A 370) Longitudinal 2.5 x10 [mm] 1. 31 (28; 32; 32) J (- 5 ⁰ C) 2. 31 (32; 32; 28) J (- 5 ⁰ C)	Process of melting – electric arc furnace, fully killed Hardness BHN: 1. 138- 143-141-138 2. 143- 141-138-138 Hardness HRC max 22 (acc to NACE MR01.75)
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Visual inspection and dimensional check : OK
“ NO WELD REPAIR ON HEREBY CERTIFIED TUBES “

QUALITY DEPARTMENT MANAGER

Dipl. Eng. Silviu Barbulescu

MILL INSPECTOR

Eng. Marius Burlacu

THIS IS FOR CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED WITH THE ORDERED SPECIFICATION AND THAT INFORMATION IS CORRECT, THEY MEET THE SPECIFICATION'S REQUIREMENTS AND CONTAINED THE RECORDS OF THE COMPANY.

HM
**INSPECTION CERTIFICATE
(MILL TEST CERTIFICATE)**

CHARM MING VIETNAM CO.,LTD.

Saigon-Linh Trung Export Processing Zone

Thu Duc District - Ho Chi Minh City, VietNam

TEL: 84-8-8974885

FAX: 84-8-8974894

Purchaser : FAD INTERNATIONAL S.R.L.

Order No : # 1/ 0723

Specification : ASTM A106 Gr.B-97a

For Raw

Material : ASTM A234 WPB-00/ASME SA234 -98

Job No : FAD0111094

Specification : ASME/ANSI B16.9-1993

Certificate No : Q020105094 - 07

For Inspection : DIN 50049/3.1B-EN 10204 3.1B

Date : Jan.05, 2002

Product & Size(Inch)										Heat No.	Quantity	Heat No.	Raw Meterial Mfg	Certifcate No.		
27	CON RED	1x1/2		STD	267			50		J1L7267		SUMITOMO		BYYJ1387		
28	CON RED	1x3/4		STD	267			50		J1L7267		SUMITOMO		BYYJ1387		
29	CON RED	1-1/2x1		STD	491			100		J1K6491		SUMITOMO		BYYJ1389		
30	CON RED	2x1		STD	096			100		J0LA096		SUMITOMO		BYYJ5526		
31	CON RED	2x1-1/2		STD	125			100		J1L3125		SUMITOMO		BYYJ7848		
Spe.	Chemical Composition %												Tension Test		HARD NESS TEST	
	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	CE		Yield Strength	Tensile Strength	Elongation	
	X100	X100	X100	X1000	X1000	X100	X100	X100	X100	X1000	X100		P.S.I	P.S.I	%	H.B
MIN		10	29										35000	60000	30	
MAX	30		106	50	58	40	40	40	15	80	42			85000		197
27	17	20	63	16	5	1	2	6	1	0	29		50900	71800	46	134
28	17	20	63	16	5	1	2	6	1	0	29		50900	71800	46	134
29	19	20	68	13	7	1	2	6	1	0	32		46000	70300	55	131
30	19	22	56	15	8	2	2	5	0	0	30		45000	69800	60	134
31	18	21	65	14	6	1	2	6	0	0	30		48300	72200	57	133
	Visual Examination				Dimensional Inspection				Heat Treatment							
	Good				Good				S.R 650°C x 0.5H							

$$CE = C + Mn/6 + (Cr + Mo + V) / 5 + (Ni + Cu) / 15$$

We hereby certify that the products described here in have been manufactured and tested in accordance
With specifications and also the purchaser's requirements concerned.



Quality Assurance Section / Composer
HAN HUNG



CERTIFICATO D' ISPEZIONE

Inspection certificate - Abnahmeprüfzeugnis - Certificat de réception - **EN 10204 : 2004 3.1 - ASME B 16.9 - 2001**

CERT. N°	Pag.
7648	5

RIF. D.D.T.		Cliente - Customer		Ordine del Cliente - Customer's order								Norma di collaudo - Test specification									
Numero	Data			Bestellung - Commande du Client								Abnahmenorme - Specification									
3712	5/04/2007	FAD INTERNATIONAL SRL		70173								ASTM A 234/A 234M-04 WPB									
Posizione Item Stellung Poste	Dimensione dei raccordi / Acciaio Dimensions of fittings / Steel Fittingsabmessungen / Stahl Dimensions des raccords / Acier								Quantità Quantity Mengé Quantité	DIR. L T	UM mm²	Snervamento Yield Point Streckgrenze limit.apparent. d'elasticité	Rottura Tensile Strength Zugfestigkeit Rupture	Allungamento Elongation Dehnung Allongement	Durezza Hardness Härte - Duréte	Resilienza- Impact test Kerbschlagzähigkeit - Resilience KV					
N°															Tipo Type Typ Type	Otten. Result. Ermitt. Obtenu	Temp. °C	L T	Ottenuto Result Ermittelt Obtenu Joules		
670	R.C. 1.1/2" x 1" ISO WPB								6		MPA	330,0	460,0	30,0	HB	140					
680	R.C. 2" x 3/4" STD WPB								1		MPA	317,0	472,0	36,0	HB	140					
690	R.C. 2" x 1" ISO WPB								4		MPA	345,0	520,0	32,0	HB	157					
700	R.C. 3" x 1.1/2" ISO WPB								2		MPA	345,0	495,0	35,0	HB	150					
710	R.C. 3" x 1" STD WPB								3		MPA	348,0	498,0	34,5	HB	150					
720	R.C. 4" x 1.1/2" ISO WPB								1		KSI	50,6	70,3	41,8	HB	146					
730	R.C. 4" x 2.1/2" ISO WPB								1		MPA	315,0	490,0	35,0	HB	148					
740	R.C. 6" x 4" ISO WPB								2		KSI	46,3	68,5	37,0	HB	150					
750	R.E. 1.1/2" x 1" STD WPB								13		MPA	345,0	495,0	35,0	HB	150					
760	R.E. 2" x 3/4" STD WPB								2		MPA	326,0	520,0	31,0	HB	156					

Analisi chimica di colata - Ladle analysis - Schmelzanalyse - Analyse chimique de coulée - Check analysis

Posiz. Item Stellung Poste	Colata Heat Schmelze Coulée N°	C %	Mn %	Si %	P %	S %	Ni %	Cr %	Mo %	Cu %	V %	Al %	CE %	Ti %	N %	Nb %	Trattamento- Heat treatment			
																	NORMALIZZAZIONE/NORMALIZING A/AT 900°C.-			
670	041	,180	,530	,270	,020	,021	,003	,012	,030	,017	,005									
680	Z68	,150	,650	,170	,010	,006	,040	,040	,020	,080	,010									
690	276	,210	,590	,280	,016	,011	,020	,020	,010	,020	,004									
700	1256	,200	,600	,240	,021	,007	,030	,020	,010	,010	,040	,001								
710	9360	,200	,500	,290	,008	,006	,040	,030	,010	,040	,001									
720	6D7233	,120	1,280	,250	,017	,004	,020	,050	,010	,030	,001									
730	655	,220	,460	,260	,015	,011	,040	,030	,020	,040	,002									
740	5B0722	,110	1,310	,220	,013	,005	,010	,080	,010	,010	,001									
750	5G-5G6945	,200	,500	,220	,009	,035	,060	,030	,015	,160	,002	,300								
760	5L6907	,190	,550	,230	,008	,003	,030	,050	,010	,030	,010	,290	,005							

LEGENDA / TRANSLATION: RC=CONCENTRIC REDUCER RE=ECCENTRIC REDUCER TEE=TEE CURVA=ELBOW FONDELLO=CAP CROCE=CROSS TUBO=PIPE

Melissa Mazzoni

Data - Date
31/07/2007



CERTIFICATO D' ISPEZIONE

Inspection certificate - Abnahmeprüfzeugnis - Certificat de réception - **EN 10204 : 2004 3.1 - ASME B 16.9 - 2003**

CERTIFICATO D' ISPEZIONE										CERT. N°		Pag.									
RIF. D.D.T.		Cliente - Customer				Ordine del Cliente - Customer's order					Norma di collaudo - Test specification										
Numero	Data	FAD INTERNATIONAL SPA				Bestellung - Commande du Client					Abnahmenorme - Specification										
134	10/01/2011	100727+100728+110004+MANC.DDT 11513										ASTM A 234/A 234M-07 ADD.09 WPB									
Posizione Item Stellung Poste	Dimensione dei raccordi / Acciaio Dimensions of fittings / Steel Fittingsabmessungen / Stahl Dimensions des raccords / Acier										Trazione - Tension - Zugversuch - Traction										
											Quantità Quantity Menge Quantité	DIR. L T	UM mm ²	Snervamento Yield Point Streckgrenze limit.apparent. d'elasticité	Rottura Tensile Strength Zugfestigkeit Rupture	Allungamento Elongation Dehnung Allongement	Durezza Hardness Härte - Duréte	Resilienza- Impact test Kerbschlagzähigkeit - Resilience KV			
N°											Tipo Type Typ Type	Otten. Result. Ermitt. Obtenu	Temp. °C	L T	Ottenuto Result Ermittelt Obtenu Joules						
10	CURVA 3" ISO 45° LR WPB									1	MPA	304,0	455,0	41,0	HB	138					
20	CURVA 6" ISO 45° LR WPB									5	MPA	311,0	455,0	39,5	HB	136					
30	CURVA 3" ISO 90° LR WPB									4	MPA	309,0	468,0	39,0	HB	142					
40	CURVA 4" ISO 90° LR WPB									1	MPA	290,0	455,0	40,5	HB	136					
50	CURVA 6" ISO 90° LR WPB									5	MPA	300,0	460,0	38,5	HB	140					
60	R.C. 5" x 4" ISO WPB									6	MPA	310,0	455,0	30,0	HB	138					
70	R.C. 6" x 5" ISO WPB									5	KSI	45,3	69,0	38,0	HB	133					
ÁG	CURVA 3" ISO 45° LR WPB									5	MPA	304,0	455,0	41,0	HB	138					
ÁG	CURVA 1.1/2" STD 45° LR WPB									5	MPA	317,0	469,0	40,0	HB	142					
ÁG	CURVA 3" ISO 90° LR WPB									8	MPA	309,0	468,0	39,0	HB	142					

Analisi chimica di colata - Ladle analysis - Schmelzanalyse - Analyse chimique de coulée - Check analysis

Posiz. Item Stellung Poste	Colata Heat Schmelze Coulée N°	C %	Mn %	Si %	P %	S %	Ni %	Cr %	Mo %	Cu %	V %	Al %	CE %	Ti %	N %	Nb %	L - LONGITUDINAL T - TRANSVERSE					Trattamento- Heat treatment				
																	NORMALIZZAZIONE/NORMALIZING A/AT 900°C.-					Note - Remarks - Anmerkung - Notes				
10	112A	,160	,790	,180	,008	,003	,030	,040	,020	,070	,010		,312					,002								
20	4323	,140	,810	,190	,007	,005	,030	,020	,010	,050	,010		,288					,001								
30	012F	,170	,700	,160	,010	,005	,030	,020	,020	,060	,010		,303					,002								
40	4624	,200	,490	,240	,011	,008	,020	,060	,010	,020	,010		,300					,001								
50	3914	,210	,490	,230	,008	,004	,020	,030	,010	,040	,010		,306					,002								
60	277	,170	,530	,290	,014	,024	,010	,030	,020	,010	,001		,270													
70	7K3549	,110	1,290	,230	,011	,007	,020	,110	,010	,050	,001		,354													
ÁG	112A	,160	,790	,180	,008	,003	,030	,040	,020	,070	,010		,312					,002								
ÁG	375C	,210	,640	,200	,014	,007	,020	,040	,010	,010	,010		,330													
ÁG	012F	,170	,700	,160	,010	,005	,030	,020	,020	,060	,010		,303					,002								

LEGENDA / TRANSLATION: RC=CONCENTRIC REDUCER RE=ECCENTRIC REDUCER TEE=TEE CURVA=ELBOW FONDELLO=CAP CROCE=CROSS TUBO=PIPE

This certificate is issued by a computerized system and is valid without stamp and signature.

Quality Assistant
Germana Capra

Data - Date
25/01/2011



CERTIFICATO D' ISPEZIONE

Inspection certificate - Abnahmeprüfzeugnis - Certificat de réception - **EN 10204 : 2004 3.1 - ASME B 16.9 - 2003**

RIF. D.D.T. Numero Data		Cliente - Customer 134 10/01/2011 FAD INTERNATIONAL SPA		Ordine del Cliente - Customer's order Bestellung - Commande du Client 100727+100728							Norma di collaudo - Test specification Abnahmenorme - Specification ASTM A 234/A 234M-07 ADD.09 WPB						
Posizione Item Stellung Poste	Dimensione dei raccordi / Acciaio Dimensions of fittings / Steel Fittingsabmessungen / Stahl Dimensions des raccords / Acier	Quantità Quantity Menge Quantité	DIR. L T	Trazione - Tension - Zugversuch - Traction					Durezza Hardness Härte - Duréte	Resilienza- Impact test Kerbschlagzähigkeit - Resilience KV					Ottenuto Result Ermittelt Obtenu Joules		
				UM mm ²	Snervamento Yield Point Streckgrenze limit.apparent. d'elasticité	Rottura Tensile Strength Zugfestigkeit Rupture	Allungamento Elongation Dehnung Allongement	Tipo Type Typ Type		Otten. Result. Emitt. Obtenu	Temp. °C	L T					
ÄGJ	CURVA 4" ISO 90° LR WPB	1		MPA	290,0	455,0	40,5	HB	136								
ÄGJ	CURVA 4" ISO 90° LR WPB	9		MPA	320,0	465,0	39,0	HB	140								
ÄHE	CURVA 2" STD 90° LR WPB	2		MPA	331,0	499,0	26,9	HB	144								
ÄHG	R.C. 3" x 1.1/4" STD WPB	1		MPA	350,0	475,0	34,5	HB	144								
ÄHH	R.C. 3" x 2" STD WPB	1		MPA	305,0	475,0	34,5	HB	145								
ÄH	R.C. 3" x 2.1/2" ISO WPB	1		KSI	52,0	74,0	58,6	HB	154								
ÄH	R.C. 4" x 2.1/2" ISO WPB	2		MPA	330,0	450,0	32,0	HB	137								
ÄH	R.C. 8" x 6" ISO WPB	1		KSI	48,4	68,9	42,6	HB	137								
ÄH	R.C. 8" x 6" ISO WPB	4		KSI	49,5	70,6	43,5	HB	146								
ÄH	R.C. 1" x 1/2" STD WPB	3		N	335,0	460,0	32,0	HB	142								

Analisi chimica di colata - Ladle analysis - Schmelzanalyse - Analyse chimique de coulée - Check analysis

Posiz. Item Stellung Poste	Colata Heat Schmelze Coulée N°	C %	Mn %	Si %	P %	S %	Ni %	Cr %	Mo %	Cu %	V %	Al %	CE %	Ti %	N %	Nb %	Trattamento- Heat treatment NORMALIZZAZIONE/NORMALIZING A/AT 900°C.-	
																	Note - Remarks - Anmerkung - Notes -VISUAL/DIMENSIONAL CHECK WITH SATISFACTORY RESULT -THE PRODUCTS COMPLY WITH ORDER REQUIREMENTS .	
ÄGJ	4624	,200	,490	,240	,011	,008	,020	,060	,010	,020	,010		,300			,001		
ÄGJ	3847	,190	,510	,200	,010	,013	,020	,020	,010	,010	,002		,283			,002		
ÄHE	46730	,163	1,079	,251	,009	,001	,030	,087	,007	,057	,001	,025	,368	,017	,004	,002		
ÄHG	8A0423	,160	,650	,220	,006	,006	,040	,020	,030	,070	,010		,288					
ÄHH	7B1523	,160	,650	,220	,006	,006	,040	,020	,030	,070	,010		,288					
ÄH	1K0818	,160	1,150	,210	,018	,003	,030	,040	,010	,020	,001		,365					
ÄH	1675	,180	,470	,220	,010	,031	,010	,010	,020	,010	,003		,266					
ÄH	7B2191	,110	1,250	,270	,013	,004	,020	,110	,010	,020	,001		,345					
ÄH	7B2103	,110	1,290	,280	,009	,003	,020	,130	,010	,040	,001		,357					
ÄH	8K-8K5579	,189	,463	,237	,014	,010	,011	,035	,006	,030	,004		,278					
Inspector																		
Quality Assistant																	Data - Date Germana Capra 25/01/2011	

LEGENDA / TRANSLATION: RC=CONCENTRIC REDUCER RE=ECCENTRIC REDUCER TEE=TEE CURVA=ELBOW FONDELLO=CAP CROCE=CROSS TUBO=PIPE

This certificate is issued by a computerized system and is valid without stamp and signature.



CERTIFICATO D' ISPEZIONE

Inspection certificate - Abnahmeprüfzeugnis - Certificat de réception - **EN 10204 : 2004 3.1 - ASME B 16.9 - 2003**

RIF. D.D.T. Numero Data 134 10/01/2011		Cliente - Customer FAD INTERNATIONAL SPA		Ordine del Cliente - Customer's order Bestellung - Commande du Client 100727+100728							Norma di collaudo - Test specification Abnahmenorme - Specification ASTM A 234/A 234M-07 ADD.09 WPB						
Posizione Item Stellung Poste	Dimensione dei raccordi / Acciaio Dimensions of fittings / Steel Fittingsabmessungen / Stahl Dimensions des raccords / Acier	Quantità Quantity Menge Quantité	DIR. L T	Trazione - Tension - Zugversuch - Traction					Durezza Hardness Härte - Duréte	Resilienza- Impact test Kerbschlagzähigkeit - Resilience KV					Ottenuto Result Ermittelt Obtenu Joules	L	
				UM mm ²	Snervamento Yield Point Streckgrenze limit.apparent. d'elasticité	Rottura Tensile Strength Zugfestigkeit Rupture	Allungamento Elongation Dehnung Allongement	Tipo Type Typ		Otten. Result. Emitt. Obtenu	Temp. °C	L T					
ÁJ	R.C. 1.1/2" x 1" STD WPB	3		MPA	325,0	455,0	32,0	HB	137								
Á€	R.C. 2" x 1" STD WPB	2		KSI	49,7	70,1	59,0	HB	146								
ÁG	R.E. 2.1/2" x 1.1/2" ISO WPB	2		KSI	52,2	72,8	63,0	HB	152								
ÁH	R.E. 3" x 2" STD WPB	1		MPA	308,0	441,0	40,0	HB	134								
ÁI	R.E. 6" x 3" ISO WPB	1		MPA	311,0	492,0	36,0	HB	148								
ÁÍ	R.E. 8" x 5" ISO WPB	1		KSI	51,2	67,2	42,2	HB	140								
280	TEE 2" SCH 160 WPB	1		MPA	440,0	525,0	30,0	HB	156							L	
290	R.E. 4" x 3" ISO WPB	1		PSI	68200,0	80200,0	28,0	HB	166								

Analisi chimica di colata - Ladle analysis - Schmelzanalyse - Analyse chimique de coulée - Check analysis

Posiz. Item Stellung Poste	Colata Heat Schmelze Coulée Nº	C %	Mn %	Si %	P %	S %	Ni %	Cr %	Mo %	Cu %	V %	Al %	CE %	Ti %	N %	Nb %	Trattamento- Heat treatment NORMALIZZAZIONE/NORMALIZING A/AT 900°C.-	
																	Note - Remarks - Anmerkung - Notes -VISUAL/DIMENSIONAL CHECK WITH SATISFACTORY RESULT -THE PRODUCTS COMPLY WITH ORDER REQUIREMENTS .	Inspector
ÁJ	9J-9J3930	,195	,443	,215	,014	,013	,010	,030	,060	,029	,004		,290			,006		
Á€	4C6167	,110	1,230	,280	,012	,002	,030	,080	,010	,020	,003		,337					
ÁG	4D6253	,190	,570	,200	,019	,005	,020	,050	,010	,020			,290					
ÁH	0D6540	,120	,770	,190	,011	,002	,030	,030	,010	,060	,010		,264			,001		
ÁI	2J8375	,200	,460	,220	,015	,014	,040	,040	,020	,110	,010	,020	,300			,001		
ÁÍ	1J0186	,100	1,240	,260	,020	,009	,020	,060	,010	,010	,001		,323					
280	7D5176	,150	,670	,200	,013	,005	,030	,020	,020	,050	,001		,275					
290	1I3312	,130	,920	,220	,010	,004	,010	,020	,020	,010	,002		,293			,001		

LEGENDA / TRANSLATION: RC=CONCENTRIC REDUCER RE=ECCENTRIC REDUCER TEE=TEE CURVA=ELBOW FONDELLO=CAP CROCE=CROSS TUBO=PIPE

This certificate is issued by a computerized system and is valid without stamp and signature.

Quality Assistant
Germana Capra

Data - Date
25/01/2011



RACCORDERIA FORGIATA E DERIVAZIONI
FORGED STEEL FITTINGS AND OUTLETS

CERTIFICATO DI COLLAUDO / TEST CERTIFICATE



Cliente/Customer FAD INTERNATIONAL SRL Certific. N. CTCERT200200000829
 Ordine cliente/Customer order n. 2.0439 DEL 21/05/2002 Data/Date 02/07/2002
 Documento di trasporto DTVEND200200000776

Lista/Job 1274

Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date	Steel Mill	Certificate number
13	2	E-ZI	34133	90DEG ELBOWS 1 3000 NPT EPG	ASTM A105N-98	RIVA ACCIAIO SPA	7384/01
		ANALISI CHIMICA DI ACCIAIERIA		C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% CE%	TRATTAMENTO TERMICO / HEAT TREATMENT		
		STEEL MILL CHEMICAL ANALYSIS	0,180 0,940 0,019	0,011 0,270 0,130	0,070 0,010 0,010 0,250 0,000 0,000 0,003	0,390	NORMALIZZATO A 920°C E RAFFREDDATO IN ARIA CALMA
		Snervamento	Rottura	Al% Con% Durezza	Resilienza	Prova idraulica	Pieg.
		CARATTERISTICHE MECCANICHE	Yeld str.	Ten.Str.	El% Red.of. Hardness	Impact test	val.J/cm(2)
		MECHANICAL PROPERTIES	N/mm(2) 344	N/mm(2) 520	31,20 65,10 HB 147	H.Test	B.Test
							0
Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date	Steel Mill	Certificate number
14	2	MF-DF	73684	TEES 1/2 3000 NPT EPG	ASTM A105N-98	RIVA ACCIAIO SPA	2504/02
		ANALISI CHIMICA DI ACCIAIERIA		C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% CE%	TRATTAMENTO TERMICO / HEAT TREATMENT		
		STEEL MILL CHEMICAL ANALYSIS	0,200 1,010 0,013	0,008 0,180 0,110	0,060 0,020 0,015 0,160 0,000 0,000 0,002	0,410	NORMALIZZATO A 920°C E RAFFREDDATO IN ARIA CALMA
		Snervamento	Rottura	Al% Con% Durezza	Resilienza	Prova idraulica	Pieg.
		CARATTERISTICHE MECCANICHE	Yeld str.	Ten.Str.	El% Red.of. Hardness	Impact test	val.J/cm(2)
		MECHANICAL PROPERTIES	N/mm(2) 329	N/mm(2) 532	31,50 55,80 HB 146	H.Test	B.Test
							0
Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date	Steel Mill	Certificate number
15	30	FM-LP	72543	RED TEES 1X1/2 3000 NPT EPG	ASTM A105N-98	RIVA ACCIAIO SPA	37200/01
		ANALISI CHIMICA DI ACCIAIERIA		C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% CE%	TRATTAMENTO TERMICO / HEAT TREATMENT		
		STEEL MILL CHEMICAL ANALYSIS	0,195 0,880 0,022	0,010 0,200 0,100	0,050 0,010 0,009 0,150 0,000 0,000 0,002	0,380	NORMALIZZATO A 920°C E RAFFREDDATO IN ARIA CALMA
		Snervamento	Rottura	Al% Con% Durezza	Resilienza	Prova idraulica	Pieg.
		CARATTERISTICHE MECCANICHE	Yeld str.	Ten.Str.	El% Red.of. Hardness	Impact test	val.J/cm(2)
		MECHANICAL PROPERTIES	N/mm(2) 316	N/mm(2) 510	32,80 57,10 HB 142	H.Test	B.Test
							0
Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date	Steel Mill	Certificate number
16	1	IM-FJ	443327	COUPLINGS 1 3000 NPT	ASTM A182 F304L		
		ANALISI CHIMICA DI ACCIAIERIA		C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% CE%	TRATTAMENTO TERMICO / HEAT TREATMENT		
		STEEL MILL CHEMICAL ANALYSIS	0,011 1,110 0,027	0,026 0,400 18,420	9,150 0,000 0,000 0,000 0,000 0,055 0,000	0,000	SOLUBILIZZATO A 1050°C E TEMPRATO IN ACQUA
		Snervamento	Rottura	Al% Con% Durezza	Resilienza	Prova idraulica	Pieg.
		CARATTERISTICHE MECCANICHE	Yeld str.	Ten.Str.	El% Red.of. Hardness	Impact test	val.J/cm(2)
		MECHANICAL PROPERTIES	N/mm(2) 249	N/mm(2) 581	52,00 75,00 HB 140	H.Test	B.Test
							0

I risultati delle analisi chimiche sono la corretta trascrizione del certificato di colata emesso dall'acciaieria o dal laboratorio che li ha rilevati.

The results of chical analysis is a true and correct copy of the will certificate
issue by the steel will, or by the laboratory which has determined it.

RACCORDI SECONDO /FITTINGS IN ACC.TO ANSI-ASME B16.11-1996 / BS 3799

MSS SP-25 / ANSI-ASME B1.20.1
MSS SP-83 / NACE MR.01.75-2000

Certificato secondo / Certificate acc. to:EN 10204/3.1B - DIN 50049/3.1B

ENTE COLLAUDO / INSPECTOR



QUALITY SYSTEM MANAGER

A.CANNATA



RACCORDERIA FORGIATA E DERIVAZIONI
FORGED STEEL FITTINGS AND OUTLETS

CERTIFICATO DI COLLAUDO / TEST CERTIFICATE



Cliente/Customer

FAD INTERNATIONAL SRL

Certific. N. CTCERT200600001553

Ordine cliente/Customer order n.

60676 DEL 29/09/06

Data/Date 31/10/2006

Documento di trasporto

DTVEND200600001422

Lista/Job 2778																							
Item	Quantity	Heat code	Heat Number	Description										Type and mat. specific./year date				Steel Mill			Certificate number		
8	14	FC-6	06/78507	45DEG ELBOWS 2 3000 SW										ASTM A105N-03				RIVA ACCIAIO SPA		1485/06			
				ANALISI CHIMICA DI ACCIAIERIA	C%	Mn%	P%	S%	Si%	Cr%	Ni%	Mo%	Ti%	Cu%	Nb%	Co%	V%	N%	CE%	TRATTAMENTO TERMICO / HEAT TREATMENT			
				STEEL MILL CHEMICAL ANALYSIS	0,200	0,890	0,014	0,005	0,200	0,100	0,060	0,010	0,019	0,160	0,000	0,000	0,000	0,390	Forno Elettrico - Normalizzato a 920°C e raffreddato in aria calma				
					Snervamento			Rottura			Al%	Con%	Durezza		Resilienza				Prova idraulica	Pieg.	Visual and dimensional check		
				CARATTERISTICHE MECCANICHE	Yeld str.			Ten.Str.			El%	Red.of.	Hardness		Impact test	val.J/cm(2)			H.Test	B.Test	**OK**		
				MECHANICAL PROPERTIES	N/mm(2)	319		N/mm(2)	515		32,50	56,70	HB 137		47.4	49.1	44.8	-46°C			0		
9	528	P-5Q	06/78652	90DEG ELBOWS 1.1/2 3000 NPT EPG										ASTM A105N-03				RIVA ACCIAIO SPA		5888/06			
				ANALISI CHIMICA DI ACCIAIERIA	C%	Mn%	P%	S%	Si%	Cr%	Ni%	Mo%	Ti%	Cu%	Nb%	Co%	V%	N%	CE%	TRATTAMENTO TERMICO / HEAT TREATMENT			
				STEEL MILL CHEMICAL ANALYSIS	0,185	0,890	0,011	0,009	0,210	0,080	0,050	0,010	0,020	0,160	0,000	0,000	0,016	0,000	0,370	Forno Elettrico - Normalizzato a 920°C e raffreddato in aria calma			
					Snervamento			Rottura			Al%	Con%	Durezza		Resilienza				Prova idraulica	Pieg.	Visual and dimensional check		
				CARATTERISTICHE MECCANICHE	Yeld str.			Ten.Str.			El%	Red.of.	Hardness		Impact test	val.J/cm(2)			H.Test	B.Test	**OK**		
				MECHANICAL PROPERTIES	N/mm(2)	310		N/mm(2)	501		36,20	61,00	HB<187		49		-46°C			0			
10	84	P-20	36282	90DEG ELBOWS 2 6000 SW										ASTM A105N-03				RIVA ACCIAIO SPA		3057/05			
				ANALISI CHIMICA DI ACCIAIERIA	C%	Mn%	P%	S%	Si%	Cr%	Ni%	Mo%	Ti%	Cu%	Nb%	Co%	V%	N%	CE%	TRATTAMENTO TERMICO / HEAT TREATMENT			
				STEEL MILL CHEMICAL ANALYSIS	0,190	0,930	0,014	0,010	0,240	0,150	0,070	0,020	0,019	0,180	0,002	0,000	0,013	0,000	0,400	Forno Elettrico - Normalizzato a 920°C e raffreddato in aria calma			
					Snervamento			Rottura			Al%	Con%	Durezza		Resilienza				Prova idraulica	Pieg.	Visual and dimensional check		
				CARATTERISTICHE MECCANICHE	Yeld str.			Ten.Str.			El%	Red.of.	Hardness		Impact test	val.J/cm(2)			H.Test	B.Test	**OK**		
				MECHANICAL PROPERTIES	N/mm(2)	329		N/mm(2)	500		36,30	58,00	HB 148		49.9	51.3	50				0		
11	2	672079	672079	90DEG ELBOWS 1/2 3000 SW										ASTM A182 F316/316L-04a				COGNE		009510/06			
				ANALISI CHIMICA DI ACCIAIERIA	C%	Mn%	P%	S%	Si%	Cr%	Ni%	Mo%	Ti%	Cu%	Nb%	Co%	V%	N%	CE%	TRATTAMENTO TERMICO / HEAT TREATMENT			
				STEEL MILL CHEMICAL ANALYSIS	0,016	1,810	0,029	0,025	0,380	16,700	10,070	2,020	0,000	0,440	0,000	0,120	0,000	0,078	0,000	SOLUBILIZZATO A 1050°C E TEMPRATO IN ACQUA			
					Snervamento			Rottura			Al%	Con%	Durezza		Resilienza				Prova idraulica	Pieg.	Visual and dimensional check		
				CARATTERISTICHE MECCANICHE	Yeld str.			Ten.Str.			El%	Red.of.	Hardness		Impact test	val.J/cm(2)			H.Test	B.Test	**OK**		
				MECHANICAL PROPERTIES	N/mm(2)	320		N/mm(2)	560		49,00	77,00	HB 198		247	245	248	20°C			0		

I risultati delle analisi chimiche sono la corretta trascrizione del certificato di colata emesso dall'acciaieria o dal laboratorio che li ha rilevati.

The results of chemical analysis are a true and correct copy of the mill certificate

issue by the steel mill, or by the laboratory which has determined them.

RACCORDI SECONDO /FITTINGS IN ACC.TO

ASME B16.11-01, ASME B1.20.1-83, ASME B31.1-04,

BS 3799-74, NACE MR.01.75 rev.2003,

MSS SP-25, MSS SP-83, MSS SP-95, MSS SP-97

ASTM A153/A153M-03, ASTM B633-01

Certificato secondo / Certificate acc. to: EN 10204/3.1 - DIN 50049/3.1

ENTE COLLAUDO / INSPECTOR



C. QUALITA'/QUALITY CONTROL

M.E.G.A.

CERTIFICATO DI COLLAUDO
TEST CERTIFICATE
CERTIFICAT DE CONTROLE

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

CLIENTE
Customer
Client

FAD INTERNATIONAL srl

VIA EURIPIDE, 13
20041 - AGRATE BRIANZA (MI)

CERTIFICATO N. 238083 FOGLIO 2
Certificate N.
Certificat N.

DATA / Date 01/08/03

COMMESA
Job N.
Confirmation de commande

70416

ORDINE
Purchase order
Commande

3/0494

PROVA Test Epreuve	MATERIALE Steel quality / Matière	COLATA Heat / Coulée	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	A1	CE
BUCU	ASTM A105N/01	11436	0.182	0.241	0.859	0.007	0.014	00.09	00.13	0.027	0.000	0.256	0.000	0.025	0.374
BUFS	A182/01 F304/304L	791228	0.027	0.730	1.590	0.030	0.029	18.40	08.25	0.190	0.000	0.240	0.000	0.090	0.000
CBRT	A182/01 F304/304L	409760	0.015	0.640	1.630	0.020	0.024	18.15	08.20	0.000	0.000	0.000	0.000	0.080	0.000
CLLL	ASTM A105N/01	V79579	0.200	0.250	0.900	0.010	0.013	00.07	00.10	0.040	0.000	0.190	0.005	0.030	0.392
CRLO	A182/01 F304/304L	004595	0.019	0.650	1.700	0.023	0.026	18.00	08.20	0.000	0.000	0.000	0.000	0.100	0.000
CULR	ASTM A105/01	30910	0.180	0.160	0.950	0.011	0.009	00.08	00.11	0.033	0.000	0.260	0.000	0.000	0.385
DBS9	ASTM A105N/01	78980	0.185	0.190	0.920	0.007	0.008	00.06	00.05	0.000	0.017	0.140	0.021	0.021	0.367

PROVA Test Epreuve	PROVETTA Test specimen / Epreouvette		SNERVAMENTO N/mm ² Yield point	ROTTURA N/mm ² Tensile strength	ALLUNGAMENTO % ≥ Elongation	CONTRAZIONE % ≥ Reduction of area	DUREZZA HB Hardness	PIEGA Bend test Pliage	SCHIACC. Flatt. test Aplatisse.	RESILIANZA Impact test / Résilience			
	SEZIONE Section / Sect.	LUNGHEZZA Length / Longeur								UNITÀ MIS. Unit system	T. °C Type Test temp	VALORE / Value / Données	
BUCU	1	60.1	35.0	306.0	518.0	30.2	66.8	149-152	J	KV	20	46-50-50	
BUFS	1	122.6	50.0	314.0	586.0	51.8	69.4	170-174					
CBRT	1	59.7	35.0	292.6	617.7	57.8	75.1	200-203	J	KV	0	40-42-62	
CLLL	1	118.2	50.0	297.9	499.2	32.0	62.2	143-146	J	KV	0	180-188-188	
CRLO	1	122.7	50.0	488.0	674.0	50.0	71.5	205-207	J	KV	20	46-50-48	
CULR	1	31.0	25.0	317.0	504.0	28.0	71.5	147-149	J	KV	0	46-56-58	
DBS9	1	119.2	50.0	324.8	512.6	28.5	57.0	146-150	J	KV	0		

PROVA Test Epreuve	NOTE / Remarks / Notes								FORMA Shape / Forme : 1 = Ø 2 = □				
BUCU	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.08.02 ISMA*209583 MEGA*Nb=.001*B=.0005%											
BUFS	ELECT. FURN. -SOLUT. ANNEALED at 1050 C min-WATER QUENCHED	/CERT.25581.01 RODACCIAI*209574 MEGA*N:0,093%											
CBRT	ELECT. FURN. -SOLUT. ANNEALED at 1050 C min-WATER QUENCHED	/CERT.10995.02 VALBRUNA*209656 MEGA*N:0,062%											
CLLL	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/336.02ISMA*209819 MEGA*Nb:,002*B:,0003%Ca=,01											
CRLO	ELECT. FURN. -SOLUT. ANNEALED at 1050 C min-WATER QUENCHED	/659.00 AVEG*117738 MEGA*N:0,08%											
CULR	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.473.02 ISMA*209896 MEGA*Nb:0,000*											
DBS9	ELECT. FURNACE-NORMALIZED AT 900 C COOLED IN STILL AIR.	/CERT.07.03 EVASI*209906 MEGA*Nb:0,000*											

PROVA Test Epreuve	POS. Item Pos.	QUANTITÀ Quantity Quantité	CODICE CLIENTE Customer code Code client	DESCRIZIONE / Description / Description	VISUAL AND DIMENSIONAL
BUCU	001	3	RIF.30558	MEGALET Sch.160 A/SA105N 2 X5-8	OK
BUCU	002	3	RIF.30558	MEGALET Sch.160 A/SA105N 2 X5-8	OK
BUFS	019	2	RIF.30557	COUPLING S. 6000 NPT 304L 3/4	OK
CBRT	020	2	RIF.30557	COUPLING S. 6000 NPT 304L 1	OK
CLLL	014	10	RIF.30554	TEE S. 3000 NPT A105N hot-d 1.1/2x1	OK
CRLO	021	4	RIF.30557	R. HEAD PLUG NPT 304L 3/4	OK
CULR	003	6	RIF.30558	MEGALET Sch.160 A/SA105N 2 X24	OK
DBS9	010	15	RIF.30554	45 DEG. ELBOW S. 3000 NPT A105N hot-d 2	OK

NOTE / Remarks / Notes	ENTE UFFICIALE DI COLLAUDO Inspection Authority Service Inspection Officiel	CAPO COLLAUDO Chief Inspection DPT Responsable assurance qualité
		DOC. CERT. M.E.G.A. APPIANI SERGIO

 I.M.L. INDUSTRIA MECCANICA LIGURE SPA 16036 RECCO (GE) - Italy Via dei Giustiniani, 18 Cod. Fisc. e Part. IVA: 02236760100 Tel. 0185 - 720201/6 - Fax 0185 - 720209 P.O. Box 95 - Telex 270053 IML		CLIENTE: Spett. FAD FLANGE ACCIAIO E DERIVATI SPA <small>Customer Besteller</small> VIA MOIA 78/82 20047 BRUGHERIO MI <small>Customer's Order Bestell Nr.</small> ORDINE N. 1/2350T MOD 1 DEL 12/03/92 NS. 620 SALDO+3013 IN CONTO		CERTIFICATO DI COLLAUDO - UNI EU21 <small>TEST CERTIFICATE</small> <input type="checkbox"/> 3.1B <input type="checkbox"/> CMTR VERBALE DI COLLAUDO - UNI EU21 <small>INSPECTION REPORT 3.1C</small> <input checked="" type="checkbox"/> ATTESTATO DI CONTROLLO - UNI EU21 <small>WORK REPORT</small> Nº. 93225 DATA/Date/Den 25/03/92																
<small>TÜV - BAYERN Homologation MP3/3652 - 22.07.1987</small> <small>STOOMWEZEN Homologation AH/MC/STW/84/0554 8/2/85</small>		<small>AVVISO SPED/Packing list</small> Nº. 920870 DATA/Date/Den 24/03/92																		
DESCRIZIONE E QUALITÀ DEL MATERIALE - Material Description & Specifications - Prüfgegenstand und Werkstoff <small>FORGED STAINLESS STEEL FITTINGS TO ANSI B16.11-1991 in ASME SA-ASTM A 182-90a Gr.F316L SOLUTION H.T. at 1050°C/WQ in accordance with NACE Specification No. MRO175-90 (HRC 22 max)</small>						CARATTERIST. MECC.: VALORI RICHIESTI - Mechanical Requirements - Anforderungen <small>(*) >>> 490 > 210 > 35 > 50</small>														
ANALISI CHIMICA - Ladle Analysis - Schmelzenanalyse						PROVE MECCANICHE: VALORI OTTENUTI - Mechanical Tests Result - Ergebnis der Prüf														
ITEM	COLATA N. Heat N. Schmelze	CODE	C %	Mn	Si	Cr	Ni	Mo	S	P		Y.S.	1%	Rm/U.T.S.	Rp 0.2% YP	A Elong.	Z Reduc.			
0004	31682		.024	1.63	.51	17.12	11.11	2.02	.026	.025		268	550	240	63	76				
0005	15624		.020	1.74	.36	16.86	11.12	2.05	.020	.021		302	587	248	60	73				
0017	000218		.014	1.65	.45	16.78	11.30	2.08	.020	.026		246	530	210	55	75				
0018	000852		.013	1.70	.39	16.71	11.11	2.10	.025	.024		358	530	315	60	76				
0020	970576 93E		.019	1.76	.43	16.89	11.05	2.17	.025	.024		280	560	250	56	78				
0021	13064		.030	1.54	.52	16.53	11.05	2.03	.020	.023		310	595	275	62	73				
0024	000643		.013	1.68	.43	16.81	11.06	2.10	.016	.026		290	538	253	59	73				
0038	13064		.030	1.54	.52	16.53	11.05	2.03	.020	.023		310	595	275	62	73				
0040	254872 UL2		.017	1.15	.33	16.88	11.00	2.05	.019	.014		290	600	252	51	74				
0041	475715		.020	1.66	.48	16.20	10.25	2.08	.028	.031		408	659	375	50	73				
ITEM	QUANTITY																			
0004	N.	4.00	COUPLINGS S.W. 3000LBS 1/2																	
0005	N.	2.00	RED. COUPLINGS S.W. 3000LBS 1.1/2X3/4																	
0017	N.	182.00	90° ELBOWS S.W. 3000LBS 1/2																	
0018	N.	15.00	90° ELBOWS S.W. 3000LBS 1																	
0020	N.	6.00	45° ELBOWS S.W. 3000LBS 1/2																	
0021	N.	5.00	45° ELBOWS S.W. 3000LBS 1.1/2																	
0024	N.	4.00	EQUAL TEES S.W. 3000LBS 1.1/2																	
0038	N.	10.00	COUPLINGS S.W. 3000LBS 1.1/2																	
0040	N.	78.00	UNIONS S.W. 3000LBS 1/2																	
0041	N.	10.00	UNIONS S.W. 3000LBS 1.1/4																	
NOTE	MATERIAL & MANUFACT.: E. furnace -- Forging in acc. to Sect. 4.4 --																			
Remarks	Check of dim/surface imperfection:OK"THE FITTINGS MEET SPECIFIED REQUIREM."																			
Anmerkung	(*) Mechanical req. modified as per "MDS L181 & C.007" that is over the min. Std.																			
IL CAPO REP. COLLAUDO I.M.L. (R. CAVAGLIERI) <small>Chief Inspection Rep.</small> <small>Der Weitssachverstandige</small> 																				

 I.M.L. INDUSTRIA MECCANICA LIGURE SPA 16036 RECCO (GE) - Italy Via dei Giustiniani, 18 Cod. Fisc. e Part. IVA: 02236760100 Tel. 0185 - 720201/6 - Fax 0185 - 720209 P.O. Box 95 - Telex 270053 IML			CLIENTE: Spett. FHD FLANGE ACCIAIO E DERIVATI SPA <small>Customer Besteller</small> VIA MOIA 78/82 20047 BRUGHERIO MI <small>Customer's Order Bestell Nr.</small> <small>ORDINE N. A 1/2 FAX DEL 18 11 91 OUR REF. 91/3013</small>										CERTIFICATO DI COLLAUDO - UNI EU21 <small>TEST CERTIFICATE</small> <input type="checkbox"/> 3.1B <input type="checkbox"/> CMTR <small>VERBALE DI COLLAUDO - UNI EU21 INSPECTION REPORT 3.1C</small> <input checked="" type="checkbox"/> ATTESTATO DI CONTROLLO - UNI EU21 <small>WORK REPORT</small> N°. 94457 DATA/Date/Den 6/05/92 N°. 921454 DATA/Date/Den 30/04/92						
DESCRIZIONE E QUALITÀ DEL MATERIALE - Material Description & Specifications - Prüfgegenstand und Werkstoff <small>FORGED STAINLESS STEEL FITTINGS TO ANSI B16.11-1991 in ASME SA-ASTM A 182-90a Gr. F316L SOLUTION H.T. at 1050°C/WQ in accordance with ANALISI CHIMICA Ladle Analysis - Schmelzenanalyse - SPECIFICATION No. MR0175-90 (HRC 22 max)</small>															CARATTERIST. MECC.: VALORI RICHIESTI - Mechanical Requirements - Anforderungen <small>(*) >>> 490 > 210 > 35 > 50 > 240</small>				
ITEM	COLATA N. Heat N. Schmelze	CODE	C %	Mn	Si	Cr	Ni	Mo	S	P					Rm/U.T.S. N/mm ² (MPa)	Rp 0,2% YP N/mm ² (MPa)	A Elong.	Z Reduc.	
	0039	431447	.019	1.76	.43	16.89	11.05	2.17	.025	.024					280	560	250	56	78
ITEM	QUANTITY																		
0039	N.	1.00 EQUAL TEES S.W. 3000LBS 1/2																	
NOTE	MATERIAL & MANUFACT.: E. furnace -- Forging in acc. to Sect. 4.4.-													IL CAPO REP. COLLAUDO I.M.L. <small>(R. CAVAGLIERI)</small>					
Remarks	Check of dim/surface imperfection:OK "THE FITTINGS MEET SPECIFIED REQUIREM."													<small>Chief Inspection Off.</small>					
Anmerkung	(*) Mechanical req. modified as per "MDS L1S1 & C.007" that is over the min. Std.													<small>Der Werkstattverständige</small>					



RACCORDERIA FORGIATA E DERIVAZIONI
FORGED STEEL FITTINGS AND OUTLETS

CERTIFICATO DI COLLAUDO / TEST CERTIFICATE



Cliente/Customer

FAD INTERNATIONAL SRL

Certific. N. CTCERT200500001671

Ordine cliente/Customer order n.

50806 DEL 14/11/05

Data/Date 01/12/2005

Documento di trasporto

DTVEND200500001483

Lista/Job 3112

Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date												Steel Mill	Certificate number				
5	2	H56	509123	TEES 1/2 3000 SW	ASTM A182 F316/F316L-04a												TRATTAMENTO TERMICO / HEAT TREATMENT					
				ANALISI CHIMICA DI ACCIAIERIA	C%	Mn%	P%	S%	Si%	Cr%	Ni%	Mo%	Ti%	Cu%	Nb%	Co%	V%	N%	CE%	SOLUBILIZZATO A 1050°C E TEMPRATO IN ACQUA		
				STEEL MILL CHEMICAL ANALYSIS	0,028	1,310	0,023	0,026	0,610	16,580	11,070	2,040	0,000	0,000	0,000	0,000	0,022	0,000	Prova idraulica Pieg. Visual and dimensional check			
				CARATTERISTICHE MECCANICHE	Snervamento	Rottura			A1%	Con%	Durezza		Resilienza						H.Test	B.Test	**OK**	
				MECHANICAL PROPERTIES	Yeld str.	Ten.Str.			EI%	Red.of.	Hardness		Impact test	val.J/cm(2)								
					N/mm(2)	275	N/mm(2)	550													0	
Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date												Steel Mill	Certificate number				
6	6	FM-IH	IT-13453	TEES 1/2 3000 NPT EPG	ASTM A105N-03												LEALI SPA	HX 7044/04				
				ANALISI CHIMICA DI ACCIAIERIA	C%	Mn%	P%	S%	Si%	Cr%	Ni%	Mo%	Ti%	Cu%	Nb%	Co%	V%	N%	CE%	TRATTAMENTO TERMICO / HEAT TREATMENT		
				STEEL MILL CHEMICAL ANALYSIS	0,200	0,880	0,010	0,012	0,240	0,070	0,090	0,030	0,006	0,190	0,002	0,000	0,001	0,000	0,390	Forno elettrico - NORMALIZZATO A 920°C		
				CARATTERISTICHE MECCANICHE	Snervamento	Rottura			A1%	Con%	Durezza		Resilienza								Prova idraulica Pieg. Visual and dimensional check	
				MECHANICAL PROPERTIES	Yeld str.	Ten.Str.			EI%	Red.of.	Hardness		Impact test	val.J/cm(2)							H.Test B.Test	
					N/mm(2)	347	N/mm(2)	530													0	
Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date												Steel Mill	Certificate number				
7	1	FM-LP	IT-19011	RED TEES 1X3/4 3000 NPT EPG	ASTM A105N-03												LEALI SPA	AS04965/05				
				ANALISI CHIMICA DI ACCIAIERIA	C%	Mn%	P%	S%	Si%	Cr%	Ni%	Mo%	Ti%	Cu%	Nb%	Co%	V%	N%	CE%	TRATTAMENTO TERMICO / HEAT TREATMENT		
				STEEL MILL CHEMICAL ANALYSIS	0,200	0,890	0,009	0,010	0,270	0,090	0,090	0,020	0,009	0,170	0,000	0,000	0,000	0,000	0,388	Forno elettrico - NORMALIZZATO A 920°C		
				CARATTERISTICHE MECCANICHE	Snervamento	Rottura			A1%	Con%	Durezza		Resilienza								Prova idraulica Pieg. Visual and dimensional check	
				MECHANICAL PROPERTIES	Yeld str.	Ten.Str.			EI%	Red.of.	Hardness		Impact test	val.J/cm(2)							H.Test B.Test	
					N/mm(2)	350	N/mm(2)	536													0	
Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date												Steel Mill	Certificate number				
8	19	MFE8	78881	90DEG ELBOWS 1/2" 3000 SW	ASTM A105N-03												RIVA ACCIAIO SPA	39990/02				
				ANALISI CHIMICA DI ACCIAIERIA	C%	Mn%	P%	S%	Si%	Cr%	Ni%	Mo%	Ti%	Cu%	Nb%	Co%	V%	N%	CE%	TRATTAMENTO TERMICO / HEAT TREATMENT		
				STEEL MILL CHEMICAL ANALYSIS	0,200	0,900	0,021	0,019	0,210	0,100	0,060	0,010	0,008	0,170	0,000	0,000	0,003	0,000	0,390	Forno elettrico - NORMALIZZATO A 920°C		
				CARATTERISTICHE MECCANICHE	Snervamento	Rottura			A1%	Con%	Durezza		Resilienza								Prova idraulica Pieg. Visual and dimensional check	
				MECHANICAL PROPERTIES	Yeld str.	Ten.Str.			EI%	Red.of.	Hardness		Impact test	val.J/cm(2)							H.Test B.Test	
					N/mm(2)	320	N/mm(2)	517													0	

I risultati delle analisi chimiche sono la corretta trascrizione del certificato di colata emesso dall'acciaieria o dal laboratorio che li rilevali.

The results of chemical analysis are a true and correct copy of the mill certificate

issue by the steel mill, or by the laboratory which has determined them.

RACCORDI SECONDO /FITTINGS IN ACC.TO

ASME B16.11-01, ASME B1.20.1-83, ASME B31.1-04, BS 3799-74, NACE MR.01.75 rev.2003, MSS SP-25, MSS SP-83, MSS SP-95, MSS SP-97 ASTM A153/A153M-03, ASTM B633-01

Certificato secondo / Certificate acc. to: EN 10204/3.1 - DIN 50049/3.1

ENTE COLLAUDO / INSPECTOR



C. QUALITA'/QUALITY CONTROL



RACCORDERIA FORGIATA E DERIVAZIONI
FORGED STEEL FITTINGS AND OUTLETS

CERTIFICATO DI COLLAUDO / TEST CERTIFICATE



Cliente/Customer

FAD INTERNATIONAL Spa

Certific. N. CTCERT201100000123

Ordine cliente/Customer order n.

100728 DEL 04/01/11

Data/Date 28/01/2011

Documento di trasporto

DTVEND201100000120

						Lista/Job 15																									
Item	Quantity	Heat code	Heat Number	Description												Type and mat. specific./year date				Steel Mill			Steel mill cert. - forgemaster cert.								
FI	1	M16	980953	45DEG ELBOWS 3/4 3000 NPT												ASTM A182 F316-316L-09a							- 4878								
				ANALISI CHIMICA DI ACCIAIERIA												C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE%				TRATTAMENTO TERMICO / HEAT TREATMENT											
				STEEL MILL CHEMICAL ANALYSIS												0,021	1,680	0,032	0,023	0,360	16,550	10,100	2,050	0,000	0,000	0,000	0,130	0,000	0,035	0,000	SOLUBILIZZATO A 1050°C E TEMPRATO IN ACQUA
				CARATTERISTICHE MECCANICHE												Snervamento Rottura				AI% Con% Durezza Resilienza				Prova idraulica Pieg.			Visual and dimensional check				
				Yeld str. Ten.Str.												EI%	Red.of.	Hardness	Impact test	val.J/cm(2)				H.Test B.Test			**OK**				
				MECHANICAL PROPERTIES												N/mm(2)	358	N/mm(2)	592	53,00	73,10	HB 170					0				
		RACCORDI SECONDO/FITTINGS IN ACC.TO		ANSI/ASME B1.20.1-83, ASME B16.11-05, BS 3799-74, MSS SP-25																											
FI	1	P-3S	09/78727	90DEG ELBOWS 1.1/2 3000 NPT EPG												ASTM A105N-09				RIVA ACCIAIO SPA			15307 - 25/09								
				ANALISI CHIMICA DI ACCIAIERIA												C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE%				TRATTAMENTO TERMICO / HEAT TREATMENT											
				STEEL MILL CHEMICAL ANALYSIS												0,180	0,870	0,011	0,010	0,220	0,100	0,050	0,010	0,017	0,180	0,002	0,000	0,019	0,000	0,360	Forno Elettrico - Normalizzato a 900°C e raffreddato in aria calma
				CARATTERISTICHE MECCANICHE												Snervamento Rottura				AI% Con% Durezza Resilienza				Prova idraulica Pieg.			Visual and dimensional check				
				Yeld str. Ten.Str.												EI%	Red.of.	Hardness	Impact test	val.J/cm(2)				H.Test B.Test			**OK**				
				MECHANICAL PROPERTIES												N/mm(2)	303	N/mm(2)	491	28,00	52,00	HB 151	46 43 45	-46°C					0		
		RACCORDI SECONDO/FITTINGS IN ACC.TO		ANSI/ASME B1.20.1-83, ASME B16.11-05, BS 3799-74, MSS SP-25, ASME SA/A105N SEC. II PART A 2007 L.E., ASTM B 633-01																											
FJ	21	E-HE	09/77959	RED TEES 2X3/4 3000 NPT EPG												ASTM A105N-09				RIVA ACCIAIO SPA			8630 - 109								
				ANALISI CHIMICA DI ACCIAIERIA												C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE%				TRATTAMENTO TERMICO / HEAT TREATMENT											
				STEEL MILL CHEMICAL ANALYSIS												0,200	0,900	0,013	0,010	0,210	0,090	0,060	0,010	0,022	0,170	0,001	0,000	0,020	0,000	0,390	Forno Elettrico - Normalizzato a 900°C e raffreddato in aria calma
				CARATTERISTICHE MECCANICHE												Snervamento Rottura				AI% Con% Durezza Resilienza				Prova idraulica Pieg.			Visual and dimensional check				
				Yeld str. Ten.Str.												EI%	Red.of.	Hardness	Impact test	val.J/cm(2)				H.Test B.Test			**OK**				
				MECHANICAL PROPERTIES												N/mm(2)	321	N/mm(2)	517	33,60	54,90	HB 143	45.8 48.7 49.1	-46°C					0		
		RACCORDI SECONDO/FITTINGS IN ACC.TO		ANSI/ASME B1.20.1-83, ASME B16.11-05, BS 3799-74, MSS SP-25, ASME SA/A105N SEC. II PART A 2007 L.E., ASTM B 633-01																											

I risultati dell'analisi chimica sono la corretta trascrizione del certificato emesso dall'acciaieria.
 I risultati delle prove meccaniche sono la corretta trascrizione del certificato emesso dall'azienda che ha eseguito l'ultima trasformazione del materiale.
 Dichiariamo che il prodotto fornito è conforme alle normative sopraindicate ed ai requisiti dell'ordine.
 The results of the chemical analysis are a true and correct copy of the steel mill certificate.
 The results of the mechanical tests are the correct records of the certificate issued from the company that has executed the last transformation of the material.
 We state that the delivered product complies with the above standards and to the order's requirements.

ENTE COLLAUDO / INSPECTOR



Certificato secondo / Certificate acc. to: EN 10204/3.1 - DIN 50049/3.1

ANNUAL BOOK ASTM SEZ.1 VOL.01.01, 2010.

MATERIAL MANUFACTURER APPROVED by TUV RHEINLAND INDUSTRIE SERVICE GmbH ACCORDING TO P.E.D. 97/23/EC

ANNEX 1 POINT 4.3 & AD 2000 W0.

C. QUALITA'/QUALITY CONTROL



RACCORDERIA FORGIATA E DERIVAZIONI
FORGED STEEL FITTINGS AND OUTLETS

CERTIFICATO DI COLLAUDO / TEST CERTIFICATE



Cliente/Customer

FAD INTERNATIONAL Spa

Certific. N. CTCERT201100000123

Ordine cliente/Customer order n.

100728 DEL 04/01/11

Data/Date 28/01/2011

Documento di trasporto

DTVEND201100000120

Lista/Job 15

Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date	Steel Mill	Steel mill cert. - forgemaster cert.
GE	12	LSI	10/30247	RED TEES 3X1 3000 NPT EPG	ASTM A105N-09	RIVA ACCIAIO SPA	3422 - 2774
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0,200 1,120 0,012 0,007 0,210 0,090 0,050 0,010 0,018 0,150 0,000 0,000 0,002 0,000 0,420	Forno Elettrico - Normalizzato a 900°C e raffreddato in aria calma	
				CARATTERISTICHE MECCANICHE	Sfornamento Rottura Al% Con% Durezza Resilienza Impact test val.J/cm(2)	Prova idraulica Pieg. H.Test B.Test	Visual and dimensional check **OK**
				MECHANICAL PROPERTIES	Yeld str. Ten.Str. EI% Red.of. Hardness		
					N/mm(2) 381 N/mm(2) 539 30,00 58,00 HB 153	Impact test val.J/cm(2)	
					85 83 83 20°C		0
				RACCORDI SECONDO/FITTINGS IN ACC.TO	ANSI/ASME B1.20.1-83, ASME B16.11-05, BS 3799-74, MSS SP-25, ASME SA/A105N SEC. II PART A 2007 L.E., ASTM B 633-01		
GF	4	E-HI	09/79533	TEES 2 3000 NPT EPG	ASTM A105N-09	RIVA ACCIAIO SPA	20566 - 158
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0,180 0,890 0,013 0,005 0,240 0,160 0,080 0,020 0,009 0,200 0,002 0,000 0,001 0,000 0,380	Forno Elettrico - Normalizzato a 900°C e raffreddato in aria calma	
				CARATTERISTICHE MECCANICHE	Sfornamento Rottura Al% Con% Durezza Resilienza Impact test val.J/cm(2)	Prova idraulica Pieg. H.Test B.Test	Visual and dimensional check **OK**
				MECHANICAL PROPERTIES	Yeld str. Ten.Str. EI% Red.of. Hardness		
					N/mm(2) 310 N/mm(2) 498 33,10 58,70 HB 158	Impact test val.J/cm(2)	
					51.2 47.2 48.4 -46°C		0
				RACCORDI SECONDO/FITTINGS IN ACC.TO	ANSI/ASME B1.20.1-83, ASME B16.11-05, BS 3799-74, MSS SP-25, ASME SA/A105N SEC. II PART A 2007 L.E., ASTM B 633-01		
GG	22	CS-FR	158849	HEX BUSHINGS 3/4X1/2 3/6000 NPT EPG	ASTM A105N-09		
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0,190 0,920 0,011 0,020 0,250 0,090 0,090 0,020 0,000 0,280 0,002 0,000 0,002 0,000 0,389	Forno Elettrico - Normalizzato a 900°C e raffreddato in aria calma	
				CARATTERISTICHE MECCANICHE	Sfornamento Rottura Al% Con% Durezza Resilienza Impact test val.J/cm(2)	Prova idraulica Pieg. H.Test B.Test	Visual and dimensional check **OK**
				MECHANICAL PROPERTIES	Yeld str. Ten.Str. EI% Red.of. Hardness		
					N/mm(2) 369 N/mm(2) 530 35,30 68,60 HB 168	Impact test val.J/cm(2)	
					151 102 31 -50°C		0
				RACCORDI SECONDO/FITTINGS IN ACC.TO	ANSI/ASME B1.20.1-83, ASME B16.11-05, BS 3799-74, MSS SP-25, ASME SA/A105N SEC. II PART A 2007 L.E., ASTM B 633-01		

I risultati dell'analisi chimica sono la corretta trascrizione del certificato emesso dall'acciaieria.

I risultati delle prove meccaniche sono la corretta trascrizione del certificato emesso dall'azienda che ha eseguito l'ultima trasformazione del materiale.

Dichiariamo che il prodotto fornito è conforme alle normative sopraindicate ed ai requisiti dell'ordine.

The results of the chemical analysis are a true and correct copy of the steel mill certificate.

The results of the mechanical tests are the correct records of the certificate issued from the company that has executed the last transformation of the material.

We state that the delivered product complies with the above standards and to the order's requirements.

Certificato secondo / Certificate acc. to: EN 10204/3.1 - DIN 50049/3.1

ANNUAL BOOK ASTM SEZ.1 VOL.01.01, 2010.

MATERIAL MANUFACTURER APPROVED by TUV RHEINLAND INDUSTRIE SERVICE GmbH ACCORDING TO P.E.D. 97/23/EC

ANNEX 1 POINT 4.3 & AD 2000 W0.

ENTE COLLAUDO / INSPECTOR



C. QUALITA'/QUALITY CONTROL



RACCORDERIA FORGIATA E DERIVAZIONI
FORGED STEEL FITTINGS AND OUTLETS

CERTIFICATO DI COLLAUDO / TEST CERTIFICATE



Cliente/Customer

FAD INTERNATIONAL Spa

Certific. N. CTCERT201100000123

Ordine cliente/Customer order n.

100728 DEL 04/01/11

Data/Date 28/01/2011

Documento di trasporto

DTVEND201100000120

Lista/Job 15																			
Item	Quantity	Heat code	Heat Number	Description										Type and mat. specific./year date	Steel Mill				Steel mill cert. - forgemaster cert.
GH	8	FM-OP	09/76033	HEX BUSHINGS 1X1/2 3/6000 NPT EPG										ASTM A105N-09	RIVA ACCIAIO SPA				12057 - 01
		ANALISI CHIMICA DI ACCIAIERIA		C%	Mn%	P%	S%	Si%	Cr%	Ni%	Mo%	Ti%	Cu%	Nb%	Co%	V%	N%	CE%	TRATTAMENTO TERMICO / HEAT TREATMENT
		STEEL MILL CHEMICAL ANALYSIS		0,195	1,010	0,015	0,010	0,220	0,150	0,060	0,010	0,012	0,190	0,001	0,000	0,015	0,000	0,410	Forno Elettrico - Normalizzato a 900°C e raffreddato in aria calma
		CARATTERISTICHE MECCANICHE		Sforzamento		Rottura				Al%	Con%	Durezza		Resilienza		Prova idraulica	Pieg.		Visual and dimensional check
				Yeld str.		Ten.Str.				EI%	Red.of.	Hardness		Impact test	val.J/cm(2)	H.Test	B.Test		**OK**
		MECHANICAL PROPERTIES		N/mm(2)	325	N/mm(2)	526		32,10	57,00	HB 157		45,1	-46°C					0
	RACCORDI SECONDO /FITTINGS IN ACC.TO			ANSI/ASME B1.20.1-83, ASME B16.11-05, BS 3799-74, MSS SP-25, ASME SA/A105N SEC. II PART A 2007 L.E., ASTM B 633-01															
G	1	MF651	09/78539	HEX BUSHINGS 2X1 3/6000 NPT EPG										ASTM A105N-09	RIVA ACCIAIO SPA				28422 - 4850
		ANALISI CHIMICA DI ACCIAIERIA		C%	Mn%	P%	S%	Si%	Cr%	Ni%	Mo%	Ti%	Cu%	Nb%	Co%	V%	N%	CE%	TRATTAMENTO TERMICO / HEAT TREATMENT
		STEEL MILL CHEMICAL ANALYSIS		0,185	0,900	0,008	0,009	0,200	0,070	0,040	0,010	0,019	0,120	0,001	0,000	0,023	0,000	0,360	Forno Elettrico - Normalizzato a 900°C e raffreddato in aria calma
		CARATTERISTICHE MECCANICHE		Sforzamento		Rottura				Al%	Con%	Durezza		Resilienza		Prova idraulica	Pieg.		Visual and dimensional check
				Yeld str.		Ten.Str.				EI%	Red.of.	Hardness		Impact test	val.J/cm(2)	H.Test	B.Test		**OK**
		MECHANICAL PROPERTIES		N/mm(2)	306	N/mm(2)	497		33,90	58,50	HB 143		47,1	49,6	48,2	-46°C			0
	RACCORDI SECONDO /FITTINGS IN ACC.TO			ANSI/ASME B1.20.1-83, ASME B16.11-05, BS 3799-74, MSS SP-25, ASME SA/A105N SEC. II PART A 2007 L.E., ASTM B 633-01															
G	1	MF45	08/76838	HEX BUSHINGS 2X1.1/2 3/6000 NPT EPG										ASTM A105N-09	RIVA ACCIAIO SPA				983 - 4643
		ANALISI CHIMICA DI ACCIAIERIA		C%	Mn%	P%	S%	Si%	Cr%	Ni%	Mo%	Ti%	Cu%	Nb%	Co%	V%	N%	CE%	TRATTAMENTO TERMICO / HEAT TREATMENT
		STEEL MILL CHEMICAL ANALYSIS		0,200	0,870	0,008	0,008	0,240	0,080	0,040	0,010	0,017	0,170	0,002	0,000	0,019	0,000	0,380	Forno Elettrico - Normalizzato a 900°C e raffreddato in aria calma
		CARATTERISTICHE MECCANICHE		Sforzamento		Rottura				Al%	Con%	Durezza		Resilienza		Prova idraulica	Pieg.		Visual and dimensional check
				Yeld str.		Ten.Str.				EI%	Red.of.	Hardness		Impact test	val.J/cm(2)	H.Test	B.Test		**OK**
		MECHANICAL PROPERTIES		N/mm(2)	309	N/mm(2)	502		33,50	57,80	HB 142		42,5	45,4	40,6	-46°C			0
	RACCORDI SECONDO /FITTINGS IN ACC.TO			ANSI/ASME B1.20.1-83, ASME B16.11-05, BS 3799-74, MSS SP-25, ASME SA/A105N SEC. II PART A 2007 L.E., ASTM B 633-01															

I risultati dell'analisi chimica sono la corretta trascrizione del certificato emesso dall'acciaieria.

I risultati delle prove meccaniche sono la corretta trascrizione del certificato emesso dall'azienda che ha eseguito l'ultima trasformazione del materiale.

Dichiariamo che il prodotto fornito è conforme alle normative sopraindicate ed ai requisiti dell'ordine.

The results of the chemical analysis are a true and correct copy of the steel mill certificate.

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Certificato secondo / Certificate acc. to: EN 10204/3.1 - DIN 50049/3.1

ANNUAL BOOK ASTM SEZ.1 VOL.01.01, 2010.

MATERIAL MANUFACTURER APPROVED by TUV RHEINLAND INDUSTRIE SERVICE GmbH ACCORDING TO P.E.D. 97/23/EC

ANNEX 1 POINT 4.3 & AD 2000 W0.

ENTE COLLAUDO / INSPECTOR



C. QUALITA'/QUALITY CONTROL



RACCORDERIA FORGIATA E DERIVAZIONI
FORGED STEEL FITTINGS AND OUTLETS

CERTIFICATO DI COLLAUDO / TEST CERTIFICATE



Cliente/Customer

FAD INTERNATIONAL Spa

Certific. N. CTCERT201100000123

Ordine cliente/Customer order n.

100728 DEL 04/01/11

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Documento di trasporto

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Lista/Job 15

Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date												Steel Mill	Steel mill cert. - forgemaster cert.		
I H	1	FA-EWZ	77961	UNIONS 1.1/2 3000 NPT EPG	ASTM A105N-09												RIVA ACCIAIO SPA	7024 - 10485		
				ANALISI CHIMICA DI ACCIAIERIA	C%	Mn%	P%	S%	Si%	Cr%	Ni%	Mo%	Ti%	Cu%	Nb%	Co%	V%	N%	CE%	TRATTAMENTO TERMICO / HEAT TREATMENT
				STEEL MILL CHEMICAL ANALYSIS	0,190	0,900	0,011	0,008	0,210	0,090	0,060	0,010	0,023	0,170	0,001	0,000	0,016	0,000	0,380	Forno Elettrico - Normalizzato a 900°C e raffreddato in aria calma
				CARATTERISTICHE MECCANICHE	Sfornamento	Rottura				A1%	Con%	Durezza		Resilienza			Prova idraulica	Pieg.		Visual and dimensional check
				MECHANICAL PROPERTIES	Yeld str.	Ten.Str.			EI%	Red.of.	Hardness		Impact test	val.J/cm(2)			H.Test	B.Test		**OK**
				RACCORDI SECONDO / FITTINGS IN ACC.TO	N/mm(2)	313	N/mm(2)	512		33,00	55,00	HB 151	50 47,8 45	-46°C						0
					ANSI/ASME B1.20.1-83, ASME SA/A105N SEC. II PART A 2007 L.E., ASTM B 633-01, MSS SP-83, MSS SP-25															
Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date												Steel Mill	Steel mill cert. - forgemaster cert.		
11	16	E-EH	08/72758	SQUARE PLUGS 1.1/2 3/6000 NPT	ASTM A105N-09												RIVA ACCIAIO SPA	28649		
				----->ordine 110035-----																
				ANALISI CHIMICA DI ACCIAIERIA	C%	Mn%	P%	S%	Si%	Cr%	Ni%	Mo%	Ti%	Cu%	Nb%	Co%	V%	N%	CE%	TRATTAMENTO TERMICO / HEAT TREATMENT
				STEEL MILL CHEMICAL ANALYSIS	0,180	0,920	0,012	0,005	0,190	0,120	0,050	0,010	0,020	0,170	0,001	0,000	0,020	0,000	0,380	Forno Elettrico - Normalizzato a 900°C e raffreddato in aria calma
				CARATTERISTICHE MECCANICHE	Sfornamento	Rottura			EI%	Con%	Durezza		Resilienza			Prova idraulica	Pieg.		Visual and dimensional check	
				MECHANICAL PROPERTIES	Yeld str.	Ten.Str.			Red.of.	Hardness		Impact test	val.J/cm(2)			H.Test	B.Test		**OK**	
				RACCORDI SECONDO / FITTINGS IN ACC.TO	N/mm(2)	328	N/mm(2)	490		35,50	64,00	HB 144	61	20°C						0
					ANSI/ASME B1.20.1-83, ASME B16.11-05, BS 3799-74, MSS SP-25, ASME SA/A105N SEC. II PART A 2007 L.E.															

I risultati dell'analisi chimica sono la corretta trascrizione del certificato emesso dall'acciaieria.

I risultati delle prove meccaniche sono la corretta trascrizione del certificato emesso dall'azienda che ha eseguito l'ultima trasformazione del materiale.

Dichiariamo che il prodotto fornito è conforme alle normative sopraindicate ed ai requisiti dell'ordine.

The results of the chemical analysis are a true and correct copy of the steel mill certificate.

The results of the mechanical tests are the correct records of the certificate issued from the company that has executed the last transformation of the material.

We state that the delivered product complies with the above standards and to the order's requirements.

Certificato secondo / Certificate acc. to: EN 10204/3.1 - DIN 50049/3.1

ANNUAL BOOK ASTM SEZ.1 VOL.01.01, 2010.

MATERIAL MANUFACTURER APPROVED by TUV RHEINLAND INDUSTRIE SERVICE GmbH ACCORDING TO P.E.D. 97/23/EC ANNEX 1 POINT 4.3 & AD 2000 W0.

ENTE COLLAUDO / INSPECTOR



C. QUALITA'/QUALITY CONTROL



RACCORDERIA FORGIATA E DERIVAZIONI
FORGED STEEL FITTINGS AND OUTLETS

CERTIFICATO DI COLLAUDO / TEST CERTIFICATE



Cliente/Customer

FAD INTERNATIONAL Spa

Certif. N. CTCERT201100000034

Ordine cliente/Customer order n.

100728 DEL 04/01/11

Data/Date 13/01/2011

Documento di trasporto

DTVEND201100000031

Lista/Job 15

Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date	Steel Mill	Steel mill cert. - forgemaster cert.
1	3	FM-OP	09/76033	HEX BUSHINGS 1X1/2 3/6000 NPT ITEM 10	ASTM A105N-09	RIVA ACCIAIO SPA	12057 - 01
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0,195 1,010 0,015 0,010 0,220 0,150 0,060 0,010 0,012 0,190 0,001 0,000 0,015 0,000 0,410	Forno Elettrico - Normalizzato a 900°C e raffreddato in aria calma a	
					Snervamento Rottura Al% Con% Durezza Resilienza	Prova idraulica Pieg.	Visual and dimensional check
				CARATTERISTICHE MECCANICHE	Yeld str. Ten.Str. EI% Red.of. Hardness Impact test val.J/cm(2)	H.Test B.Test	**OK**
				MECHANICAL PROPERTIES	N/mm(2) 325 N/mm(2) 526 32,10 57,00 HB 157 45.1 -46°C	0	
				RACCORDI SECONDO /FITTINGS IN ACC.TO	ANSI/ASME B1.20.1-83, ASME B16.11-05, BS 3799-74, MSS SP-25, ASME SA/A105N SEC. II PART A 2007 L.E.		
Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date	Steel Mill	Steel mill cert. - forgemaster cert.
2	2	ML-EU	08/74333	UNIONS 1/2 3000 SW ITEM 11	ASTM A105N-09	RIVA ACCIAIO SPA	24868 - 10055
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0,195 0,980 0,014 0,009 0,250 0,110 0,050 0,010 0,017 0,180 0,000 0,000 0,002 0,000 0,398	Forno Elettrico - Normalizzato a 900°C e raffreddato in aria calma a	
					Snervamento Rottura Al% Con% Durezza Resilienza	Prova idraulica Pieg.	Visual and dimensional check
				CARATTERISTICHE MECCANICHE	Yeld str. Ten.Str. EI% Red.of. Hardness Impact test val.J/cm(2)	H.Test B.Test	**OK**
				MECHANICAL PROPERTIES	N/mm(2) 356 N/mm(2) 576 28,80 53,00 HB 151	0	
				RACCORDI SECONDO /FITTINGS IN ACC.TO	ASME SA/A105N SEC. II PART A 2007 L.E., MSS SP-83, MSS SP-25		
Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date	Steel Mill	Steel mill cert. - forgemaster cert.
3	1	RL-SY	10/72870	RED COUPLINGS 1"X1/2" 3000 NPT ITEM 12	ASTM A105N-09	RIVA ACCIAIO SPA	31987
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0,185 0,960 0,009 0,009 0,210 0,070 0,050 0,010 0,017 0,160 0,002 0,000 0,018 0,000 0,370	Forno Elettrico - Normalizzato a 900°C e raffreddato in aria calma a	
					Snervamento Rottura Al% Con% Durezza Resilienza	Prova idraulica Pieg.	Visual and dimensional check
				CARATTERISTICHE MECCANICHE	Yeld str. Ten.Str. EI% Red.of. Hardness Impact test val.J/cm(2)	H.Test B.Test	**OK**
				MECHANICAL PROPERTIES	N/mm(2) 319 N/mm(2) 514 32,50 56,80 HB 146 48.8 45.7 46.8 -46°C	0	
				RACCORDI SECONDO /FITTINGS IN ACC.TO	ANSI/ASME B1.20.1-83, ASME B16.11-05, BS 3799-74, MSS SP-25, ASME SA/A105N SEC. II PART A 2007 L.E.		

I risultati dell'analisi chimica sono la corretta trascrizione del certificato emesso dall'acciaieria.

I risultati delle prove meccaniche sono la corretta trascrizione del certificato emesso dall'azienda che ha eseguito l'ultima trasformazione del materiale.

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The results of the mechanical tests are the correct records of the certificate issued from the company that has executed the last transformation of the material.

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Certificato secondo / Certificate acc. to: EN 10204/3.1 - DIN 50049/3.1

ANNUAL BOOK ASTM SEZ.1 VOL.01.01, 2010.

MATERIAL MANUFACTURER APPROVED by TUV RHEINLAND INDUSTRIE SERVICE GmbH ACCORDING TO P.E.D. 97/23/EC
ANNEX 1 POINT 4.3 & AD 2000 W0.

ENTE COLLAUDO / INSPECTOR



C. QUALITA'/QUALITY CONTROL



RACCORDERIA FORGIATA E DERIVAZIONI
FORGED STEEL FITTINGS AND OUTLETS

CERTIFICATO DI COLLAUDO / TEST CERTIFICATE



Cliente/Customer	FAD INTERNATIONAL Spa	Certif. N.	CTCERT201100000034
Ordine cliente/Customer order n.	100728 DEL 04/01/11	Data/Date	13/01/2011
Documento di trasporto	DTVEND201100000031		

Lista/Job 15

Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific/year date	Steel Mill	Steel mill cert. - forgemaster cert.
4	5	004032	004032	TEES 1/2 3000 SW ITEM 14	ASTM A182 F316-316L-09a	UGINE	80796531 - 117
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0,015 1,290 0,032 0,022 0,560 16,610 11,060 2,030 0,000 0,000 0,000 0,000 0,033 0,000	SOLUBILIZZATO A 1050°C E TEMPRATO IN ACQUA	
				CARATTERISTICHE MECCANICHE	Snervamento Rottura Al% Con% Durezza Resilienza Impact test val.J/cm(2)	Prova idraulica Pieg. H.Test B.Test	Visual and dimensional check **OK**
				MECHANICAL PROPERTIES	Yeld str. Ten.Str. El% Red.of. Hardness Impact test val.J/cm(2)		
				RACCORDI SECONDO /FITTINGS IN ACC.TO	N/mm(2) 287 N/mm(2) 566 57,00 73,00 HB 156 202 205 203 20°C 0		
				ASME B16.11-05, BS 3799-74, MSS SP-25			
Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific/year date	Steel Mill	Steel mill cert. - forgemaster cert.
5	1	PA-DX	886531	RED COUPLINGS 1X1/2 3000 NPT ITEM 71---->ordine 100677<----	ASTM A182 F316-316L-09a	OLARRA	527,568
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0,018 1,770 0,031 0,028 0,560 17,800 12,250 2,000 0,000 0,000 0,000 0,100 0,000 0,050 0,000	SOLUBILIZZATO A 1050°C E TEMPRATO IN ACQUA	
				CARATTERISTICHE MECCANICHE	Snervamento Rottura Al% Con% Durezza Resilienza Impact test val.J/cm(2)	Prova idraulica Pieg. H.Test B.Test	Visual and dimensional check **OK**
				MECHANICAL PROPERTIES	Yeld str. Ten.Str. El% Red.of. Hardness Impact test val.J/cm(2)		
				RACCORDI SECONDO /FITTINGS IN ACC.TO	N/mm(2) 329 N/mm(2) 627 53,00 74,00 HB 183 0		
				ANSI/ASME B1.20.1-83, ASME B16.11-05, BS 3799-74, MSS SP-25			
Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific/year date	Steel Mill	Steel mill cert. - forgemaster cert.
6	1	AV-OQ	423332	CAPS 1.1/2 3000 NPT ITEM 75	ASTM A182 F304/304L-09a	ACCIAIERIE VALBRUNA SPA	MEST921521
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0,020 1,760 0,026 0,029 0,560 18,340 8,060 0,000 0,000 0,000 0,000 0,000 0,088 0,000	SOLUBILIZZATO A 1050°C E TEMPRATO IN ACQUA	
				CARATTERISTICHE MECCANICHE	Snervamento Rottura Al% Con% Durezza Resilienza Impact test val.J/cm(2)	Prova idraulica Pieg. H.Test B.Test	Visual and dimensional check **OK**
				MECHANICAL PROPERTIES	Yeld str. Ten.Str. El% Red.of. Hardness Impact test val.J/cm(2)		
				RACCORDI SECONDO /FITTINGS IN ACC.TO	N/mm(2) 322 N/mm(2) 620 57,00 68,00 HB 181 236 230 233 20°C 0		
				ANSI/ASME B1.20.1-83, ASME B16.11-05, BS 3799-74, MSS SP-25			

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I risultati delle prove meccaniche sono la corretta trascrizione del certificato emesso dall'azienda che ha eseguito l'ultima trasformazione del materiale.

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The results of the mechanical tests are the correct records of the certificate issued from the company that has executed the last transformation of the material.

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Certificato secondo / Certificate acc. to: EN 10204/3.1 - DIN 50049/3.1

ANNUAL BOOK ASTM SEZ.1 VOL.01.01, 2010.

MATERIAL MANUFACTURER APPROVED by TUV RHEINLAND INDUSTRIE SERVICE GmbH ACCORDING TO P.E.D. 97/23/EC
ANNEX 1 POINT 4.3 & AD 2000 W0.

ENTE COLLAUDO / INSPECTOR



C. QUALITA'/QUALITY CONTROL



ZINCHITALIA
S.p.A.

Uffici e stabilimento :
 Via G. Mazzini , 210/214 - 25020 Alfianello (BS)
 Tel. +39 030 9933.1
 Fax +39 030 9933.290
 Codice Fiscale e Reg. Impr. 01158320299 - R.E.A. 1871945
 Partita iva 02045470420 - Cap. Soc. € 1.000.000,00 i.v.
 internet : www.zinchitalia.it - e-mail : info@zinchitalia.it

Spett.le **MOMA SRL**
PIAZZALE GIULIO CESARE N.14
20145 MILANO

Alfianello, 06 11 09

OGGETTO: ATTESTATO DI CONFORMITA' ALL'ORDINAZIONE 2.1 – norma ASTM A53
REF: CERTIFICATE OF COMPLIANCE TO P.O. NUMBER 2.1. TO ASTM A53

Attestato n°	C 24
Certificate of compliance no	P
	L

Rif. ORD	906/37	Del	24 05 09
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Rif. ns. d.d.t. N°	1675	Del	02 11 09
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DESCRIZIONE PRODOTTI
PRODUCTS DESCRIPTION

TUBI API ZINCATI LISCI
 API GALVANIZED PIPES

60,3 x 3,91 x 6000 n° 124 Heat 27326 + n° 43 Heat 27309 + 33,4 x 3,38 x 6000 n° 202 Heat 27340 +

26,7 x 2,87 x 6000 n° 239 Heat 27330

Siamo ad Attestare che il materiale
 We hereby certify that the materials

X

inviatoci in conto lavorazione
 sent to us in account for manufacture
 ordinatoci con documento richiamato e sopra descritto
 booked by the above mentioned referenced document

X

Zincato
 galvanized
 Prodotto
 produced

in conformità alle seguenti norme di settore
 in compliance to the following norms

Specifica (norma)	ZINCATURA ASTM A 53
-------------------	---------------------

Distinti Saluti

ZINCHITALIA S.p.A.



S.C. T.M.K. - ARTROM S.A.

Draganesti Street , No. 30, 230119, SLATINA, OLT, ROMANIA
 Tel: +40-249-436862,434640,434641; Fax: +40-249-434330; 437288 ; 431144
 E-mail: office.slatina@tmk-artrom.ro; www.tmk-artrom.ro
 J 28/9/1991; VAT No: RO 1510210/1992;
 Subscribed Share Capital: 291.790.747, 94 lei
 Paid Share Capital: 291. 476.491, 26 lei

MILL TEST CERTIFICATE - DIN 50049 3.1. B - EN 10204: 2004 / 3.1

No.: 7522	Manufacturer's mark :		Customer Order No.:	PL: 12865
Date: 01.09.2009			2095348 / 0906 /31	

CUSTOMER: MOMA. S.r.l Piazzale G. Cesare, 14 I-20145 – MILANO Vat nr.: IT 04803290966
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Specifications: API 5L/3183 -08;ASTM A106-07; ASME SA 106-07; Spec. no 0906/31; 10/06/09 PED 97/23/EC + DIN 1629-84	Dimensions: 60.3 x 3.91 x 6 000+100/-0 mm Steel : Gr. B / X42 PSL 1 St 44.0
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Description: Hot rolled seamless steel pipes; marking by labeling

Heat No.: 27326	Quantity	Pcs	Length m	Theoretical Weight kg
		124	744.0	4135

Ladle Chemical Analyse

C	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	N	V
0.13	0.55	0.005	0.008	0.20	0.08	0.03	0.01	0.14	0.021	0.001	0.001	0.009	0.001

$$CE=C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15=0.25$$

Product Chemical Analyse

C	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	N	V
0.12	0.54	0.003	0.009	0.20	0.09	0.04	0.01	0.14	0.021	0.001	0.001	0.009	0.001
0.13	0.53	0.003	0.008	0.21	0.09	0.04	0.01	0.14	0.020	0.001	0.001	0.008	0.001

Mechanical Properties

TENSILE TEST (ASTM A370) – at room temperature- Test Specimen Strip - Longitudinal	Yield strength 0.5%EUL MPa	UTS MPa	Elongation %
Dimension – Specimen (mm) 19.10 x 3.90	370	481	34
Section – Specimen (mm ²) 74.50			
Length - Specimen (Lo) (mm) 50.8			

Hydraulic test pressure (ASTM A530): 2970 PSI for 5 sec Bending test (ASTM A106 point 11): OK Heat treatment: normalised during hot rolling process	Charpy V- Notch / (ASTM A 370) Longitudinal 2.5 x10 [mm] 29 (30; 28; 30) J (- 5° C)	Process of melting – electric arc furnace, fully killed Hardness HRB: 78- 79-78.5-78 Hardness HRC max 22 (acc to NACE MR01.75)
---	--	--

Visual inspection and dimensional check : OK
 " NO WELD REPAIR ON HEREBY CERTIFIED TUBES "

QC & LABORATORIES CHIEF

Dipl. Eng. Silviu Barbulescu

MILL INSPECTOR

Eng. Marius Burlacu

THIS IS FOR CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED WITH THE ORDERED SPECIFICATION AND THAT INFORMATION IS CORRECT, THEY MEET THE SPECIFICATION'S REQUIREMENTS AND CONTAINED THE RECORDS OF THE COMPANY.



ZINCHITALIA
S.p.A.

Uffici e stabilimento :
Via G. Mazzini , 210/214 - 25020 Alfianello (BS)
Tel. +39 030 9933.1
Fax +39 030 9933.290
Codice Fiscale e Reg. Impr. 01158320299 - R.E.A. 1871945
Partita iva 02045470420 - Cap. Soc. € 1.000.000,00 i.v.
internet : www.zinchitalia.it - e-mail : info@zinchitalia.it

Spett.le **MOMA SRL**
PIAZZALE GIULIO CESARE N.14
20145 MILANO
Fax 030 2190428

Alfianello, 12 03 09

OGGETTO: ATTESTATO DI CONFORMITA' ALL'ORDINAZIONE 2.1 – norma ASTM A53
REF: CERTIFICATE OF COMPLIANCE TO P.O. NUMBER 2.1. TO ASTM A53

Attestato n°	C 15
Certificate of compliance no	P
	L

Rif. ORD	906/37	Del	24 06 09
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Rif. ns. d.d.t. N°	1465	Del	08 10 09
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DESCRIZIONE PRODOTTI
PRODUCTS DESCRIPTION

TUBI API ZINCATI LISCI
API GALVANIZED PIPES

48,3 x 3,68 x 6000 n° 387 Heat 27344 + n° 665 Heat 27345 + 48,3 x 5,08 x 6000 n° 98 Heat 27231

Siamo ad Attestare che il materiale
We hereby certify that the materials

X

inviatoci in conto lavorazione
sent to us in account for manufacture
ordinatoci con documento richiamato e sopra descritto
booked by the above mentioned referenced document

X

Zincato
galvanized
Prodotto
produced

in conformità alle seguenti norme di settore
in compliance to the following norms

Specifica (norma)	ZINCATURA ASTM A 53
-------------------	---------------------

Distinti Saluti

ZINCHITALIA S.p.A.



Draganesti Street , No. 30, 230119, SLATINA, OLT, ROMANIA
 Tel: +40-249-436862,434640,434641; Fax: +40-249-434330; 437288 ; 431144
 E-mail: office.slatina@tmk-artrom.ro; www.tmk-artrom.ro
 J 28/9/1991; VAT No: RO 1510210/1992;
 Subscribed Share Capital: 291.790.747, 94 lei
 Paid Share Capital: 291. 476.491, 26 lei

MILL TEST CERTIFICATE - DIN 50049 3.1. B - EN 10204: 2004 / 3.1

No.: 7514	Manufacturer's mark : 	Customer Order No.: 2095403 / 0906 /37	PL: 12862
Date: 01.09.2009			

CUSTOMER: MOMA. STEEL TRADING S.r.l
 Piazzale G. Cesare, 14
 I-20145 – MILANO
 Vat nr.: IT 04803290966

Specifications: API 5L/ISO 3183-08; ASTM A106-06; ASME SA 106-07; ASTM A53-07 PED 97/23/EC + DIN 1629-84	Dimensions: 48.3 x 3.68 x 6 000+100/-0 mm Steel : Gr. B / X42 PSL 1 St 44.0
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Description: Hot rolled seamless steel pipes; marking by labeling

Heat No.: 27345	Pcs	Length m	Theoretical Weight kg
	182	1092.0	4470

Ladle Chemical Analyse

C	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	N	V	CEV
0.11	0.42	0.003	0.009	0.19	0.05	0.02	0.01	0.15	0.022	0.001	0.002	0.008	0.001	0.21

Product Chemical Analyse

C	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	N	V
0.11	0.42	0.001	0.011	0.21	0.06	0.03	0.01	0.16	0.023	0.001	0.001	0.007	0.001
0.12	0.41	0.001	0.011	0.20	0.07	0.03	0.01	0.16	0.024	0.001	0.001	0.008	0.001

Mechanical Properties

TENSILE TEST (ASTM A370) – at room temperature– Test Specimen Strip - Longitudinal		Yield strength 0.5%EUL MPa	UTS MPa	Elongation %			
Dimension – Specimen (mm) 19.20 x 3.65		350	472	33			
Section – Specimen (mm ²) 70.10							
Length - Specimen (Lo) (mm) 50.8							

Heat treatment: normalised during hot rolling process Hydraulic test pressure (ASTM A530): 2970 PSI for 5 sec Bending test (ASTM A106 point 11): OK	Charpy V- Notch / (ASTM A 370) Longitudinal 2.5 x10 [mm] 33 (34; 32; 32) J (- 5 ⁰ C)	Process of melting – electric arc furnace, fully killed Hardness HRB: 77- 78-77-77 Hardness HRC max 22 (acc to NACE MR01.75)
---	--	--

Visual inspection and dimensional check : OK
 " NO WELD REPAIR ON HEREBY CERTIFIED TUBES "

QC & LABORATORIES CHIEF

Dipl. Eng. Silviu Barbulescu

MILL INSPECTOR

Eng. Marius Burlacu

THIS IS FOR CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED WITH THE ORDERED SPECIFICATION AND THAT INFORMATION IS CORRECT, THEY MEET THE SPECIFICATION'S REQUIREMENTS AND CONTAINED THE RECORDS OF THE COMPANY.

A07	Ordine - Order - Bestellung 100560 p.1	del - of - vom 5/10/10	A10	N.conferma - order confirmation - Auftragsbestätigung 30/003251-01	del - of - vom 5/10/10	A11	Bolla - Delivery note - Lieferschein	del - of - vom	A12	Fattura - Invoice - Rechnung	del - of - vom
B01 Tubi di acciaio saldati longitudinalmente ERW - Longitudinally welded steel tubes ERW - HF Geschw.Stahl											
B01	Norma di esecuzione - Standard specification - Ausführung EN 10217-1	B02	Acciaio - Steel grade - Stahlgüte P235TR1	B02	Norma acciaio - Steel standard - Stahlnorm EN 10217/1	B04	Stato dei tubi - State of the tubes - Zustand der Rohre Saldati - Welded - Geschweisst				
B06	Punzonatura - Punching - Stahlstempelung EN 10217 P235TR1 EW WI TCB	DIN 2458 ST 37.0 WB WI TCB	B02	Marcatura - Marking - Markierung							

B08 Nº tubi Tubes Nº Stückzahl	B09 - B10 - B11 Dimensioni Size Abmessung	B12 Kg	B14 mt	B15 - B16 Codice Code	Colata Heat Schmelze	Nº prova Test n° Probe Nr.	Prove meccaniche - Mechanical Test - Mechanische Werte				Analisi chimica - Chemical Composition - Schmelzeanalyse															
							C01 M W CO2	C11 Re N/mm²	C12 Rm N/mm²	C13 A %	C40-C43 KV	C71 C %	C72 Mn %	C73 Si %	C74 P %	C75 S %	C76 Al %	C77 Cr %	C78 Ni %	C79 Mo %	C80 Cu %	C81 V %	C82 Sn %	C83 Nb %	C84 N %	C85 CEV %
							C02 L T CO2	min.	min.	min.	min.	max.	max.	max.	max.	max.	max.	min.								
							C03 20°	235,0	360/500	25,00		0,160	1,200	0,350	0,025	0,020										
							/																			
							/																			
40	168,3x4,00x6000		240,000		R011905	01	M L	284,2	384,7	37,00		0,063	0,408	0,008	0,012	0,015	0,052									

C01 M=Materiale base - Base material - Ausgangsmaterial W=Saldatura - Weld - Schweißung C02 L=Longitudinale - Longitudinal - Longitudinal T=Trasversale - Transverse - Quer C03(*) Temperatura di prova - Test temperature - Prüftemperature

PROVE - TEST - RING

C60 Prova di allargamento - Drift expanding test - Aufweitversuch

RISULTATO - RESULT - ERGEBNIS

Soddisfacente - Satisfactory - bestanden

C61 Prova di schiacciamento - Flattening test - Ringfallversuch

Soddisfacente - Satisfactory - bestanden

D01 Controllo visivo e dimensionale - Visual and dimensional inspection - Besichtigung und Maßkontrolle

Soddisfacente - Satisfactory - bestanden

D02 Prova idraulica di tutti i tubi
Hydraulic test of all tubes
Kaltwasserprobdrück auf alle Rohre

Pressione di prova - Test pressure - Probedruck
70 bar

Soddisfacente - Satisfactory - bestanden

D03

D04 Controllo NDT di tutti i tubi con ultrasuoni in accordo alla SEP 1917/EN 10246-8 LEVEL U3
NDT on all tubes with ultrasonic test according to SEP 1917/EN 10246-8 LEVEL U3
Zerstörungsfrei Prüfung alle Rohre mit Ultraschall SEP 1917/EN 10246-8 LEVEL U3

Soddisfacente - Satisfactory - bestanden

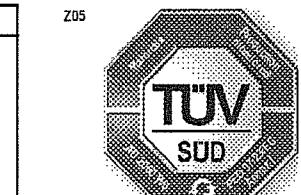
ULTERIORI REQUISITI - FURTHER QUALIFICATIONS - WEITERE ANFORDERUNGEN

D51

Z01 I risultati sono conformi alla norma di riferimento - The requirements comply with the standard required - Die Ergebnisse sind laut Norm

In accordo alla direttiva 97/23/CE (PED) Allegato 1, paragrafo 4.3 - According to Directive 97/23/CE (PED) Annex 1, Paragraph 4.3 - Gemäss TL-Richtlinie DGRL 97/93/EC-Anhang 1, Absatz 4.3

Controllo di procedura a cura del TUEV BAYER SACHSEN - Test procedure by TUEV BAYER SACHSEN - fahrtensprüfung durch TUEV BAYER SACHSEN - (MP4/6211 vom 09.06.1992 - 1310B04 del 20.04.2004)



Z04



0036-CPD-11-2007

Z02 *A. Merante* Abele Merante

C01 M-Materiale base - Base material - Ausgangsmaterial W=Sakura - Weiß - Schweissung C02 L=longitudinal - Longitudinal - Longitudinal T=Transversale - Transverse - Quer C03(*) Temperatura di prova - Test temperature - PrüfTemperatur

PROVE - TEST - RING		RISULTATO - RESULT - ERGEBNIS
C60	Prova di allargamento - Drift expanding test - Aufweitversuch	Soddisfacente - Satisfactory - bestanden
C61	Prova di schiacciamento - Flattening test - Ringfaltversuch	Soddisfacente - Satisfactory - bestanden
D01	Controllo visivo e dimensionale - Visual and dimensional inspection - Besichtigung und Maßkontrolle	Soddisfacente - Satisfactory - bestanden
D02		
D03	Controllo NDT di tutti i tubi con Eddy Current in accordo alla SEP 1925/EN10246-1 NDT Test on all tubes with Eddy Current test in according to SEP 1925/EN10246-1 Zerstörungsfrei Pruefung alle Rohre mit Wirbelstromprüfung nach SEP 1925/EN10246-1	Soddisfacente - Satisfactory - bestanden
D04	Controllo NDT di tutti i tubi con ultrasuoni in accordo alla SEP 1917/EN 10246-8 LEVEL U3 NDT on all tubes with ultrasonic test according to SEP 1917/EN 10246-8 LEVEL U3 Zerstörungsfrei Prüfung alle Rohre mit Ultraschall SEP 1917/EN 10246-8 LEVEL U3	Soddisfacente - Satisfactory - bestanden

III. TEBIORI REQUISITI - FURTHER QUALIFICATIONS - WEITERE ANFORDERUNGEN

D51

The image shows two quality certification marks. On the left is the TÜV SUD logo, which consists of a black octagonal border containing a shield-shaped emblem. Inside the shield, the word "TÜV" is written vertically above "SUD". Below the shield is a small circular emblem featuring a stylized figure. On the right is the CE mark, which is a black "C" and "E" symbol joined together.

Z01

I risultati sono conformi alla norma di riferimento - The requirements comply with the standard required - Die Ergebnisse sind den Normen

-in accordo alla direttiva 97/73/CE (PED); Allegato 1, paragrafo 4.3 - According to Directive 97/73/CE (PED) Annex 1, paragraph 4.3 - Gemäß RL-Richtlinie DGTR 97/73/EG, Anhang 1, Absatz 4.3

Z02 |  Abele Mercante

A01

TECNOTUBI S.p.A.

Via Mazzini 210/214
I - 25020 ALFIANELLO (BS)
Tel. 030/9933.1 - fax 030/9933290

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

A02
Certificato di controllo - Inspection certificate
Abnahmeprüfzeugnis
3.1
In accordo - according to - laut
EN 10204

A03 N. certificato - Certificate N. - Prüf Nr.
12655/I/10
Z02 Data - Date - Datum
28/09/10
A05 Redattore documento - Drawer of the document
Aussteller der Bescheinigung
Ufficio Qualità - Quality Dept - Qual.Abt.

A06 Cliente - Customer - Besteller
FAD INTERNATIONAL S.P.A.
VIA MONZA, 146
20060 GESSATE MI

A07 Ordine - Order - Bestellung 100494 p.3	del - of - vom 29/07/10	A10 N.conferma - order confirmation - Auftragsbestätigung 30/002632-03	del - of - vom 29/07/10	A11 Bolla-Deliverynote-Lieferschein 4060/20	del - of - vom 28/09/10	A12 Fattura - Invoice - Rechnung 3571	del - of - vom 28/09/10
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B01 Tubi di acciaio saldati longitudinalmente ERW - Longitudinally welded steel tubes ERW - HF Geschw.Stahl	A08 Commessa N° - Work N° - Werks Nr. MA2010000253
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B01 Norma di esecuzione - Standard specification - Ausführung UNI 7091	B02 Acciaio - Steel grade - Stahlgüte S355JR (FE510B)	B02 Norma acciaio - Steel standard - Stahlnorm EN 10025	B04 Stato dei tubi - State of the tubes - Zustand der Rohre Saldati - Welded - Geschweisst
B06 Punzonatura - Punching - Stahlstempelung DIN 2458 ST 52.0 WB WI TCB	B02 Marcatura - Marking - Markierung		

								Prove meccaniche - Mechanical Test - Mechanische Werte																Analisi chimica - Chemical Composition - Schmelzeanalyse															
B08 N° tubi Tubes N° Stückzahl	B09 - B10 - B11 Dimensioni Size Abmessung	B12 Kg	B14 mt	B15 - B16 Codice Code	Colata Heat Schmelze	N° prova Test n° Probe Nr.	C01 M W	C11 Re N/mm²	C12 Rm N/mm²	C13 A %	C40-C43 KV	C71 C %	C72 Mn %	C73 Si %	C74 P %	C75 S %	C76 Al %	C77 Cr %	C78 Ni %	C79 Mo %	C80 Cu %	C81 V %	C82 Sn %	C83 Nb %	C84 N %	C85 CEV													
							C02 L T	C02 min.	C02 min.	C02 min.	C03 L T	355,0 20°	470/630	22,00		0,270	1,700	0,600	0,045	0,045																			
							/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/									
38	114,3x3,20x6000	1960	228,000		A1/1808744	01	M L	414,4	526,3	31,80		0,126	1,403	0,025	0,007	0,004	0,031													0,020									

C01 M=Materiale base - Base material - Ausgangsmaterial W=Saldatura - Weld - Schweißung C02 L=Longitudinale - Longitudinal - Longitudinal T=Trasversale - Transverse - Quer C03(*) Temperatura di prova - Test temperature - Prüftemperatur

PROVE - TEST - RING

C60 Prova di allargamento - Drift expanding test - Aufweitversuch

RISULTATO - RESULT - ERGEBNIS

Soddisfacente - Satisfactory - bestanden

C61 Prova di schiacciamento - Flattening test - Ringfaltversuch

Soddisfacente - Satisfactory - bestanden

D01 Controllo visivo e dimensionale - Visual and dimensional inspection - Besichtigung und Maßkontrolle

Soddisfacente - Satisfactory - bestanden

D02

D03 Controllo NDT di tutti i tubi con Eddy Current in accordo alla SEP 1925/EN10246-1
NDT Test on all tubes with Eddy Current test in according to SEP 1925/EN10246-1
Zerstoerungsfrei Pruefung alle Rohre mit Wirbelstromprüfung nach SEP 1925/EN10246-1

Soddisfacente - Satisfactory - bestanden

D04 Controllo NDT di tutti i tubi con ultrasuoni in accordo alla SEP 1917/EN 10246-8 LEVEL U3
NDT on all tubes with ultrasonic test according to SEP 1917/EN 10246-8 LEVEL U3
Zerstörungsfrei Prüfung alle Rohre mit Ultraschall SEP 1917/EN 10246-8 LEVEL U3

Soddisfacente - Satisfactory - bestanden

ULTERIORI REQUISITI - FURTHER QUALIFICATIONS - WEITERE ANFORDERUNGEN

D51



Z05

Z04



0036-CPD-11-2007

I risultati sono conformi alla norma di riferimento - The requirements comply with the standard required - Die Ergebnisse sind laut Norm

In accordo alla direttiva 97/23/CE (PED) Allegato 1, paragrafo 4.3 - According to Directive 97/23/CE (PED) Annex 1, Paragraph 4.3 - Gemäß TL-Richtlinie DGRL 97/93/EC-Anhang 1, Absatz 4.3

Controllo di procedura a cura del TUEV BAYER SACHSEN - Test procedure by TUEV BAYER SACHSEN-Verfahrensprüfung durch TUEV BAYER SACHSEN - (MP4/6211 vom 09.06.1992 - 1310804 del 20.04.2009)

Z02

Abele Merante

A01

TECNOTUBI S.p.A.

Via Mazzini 210/214
I - 25020 ALFIANELLO (BS)
Tel. 030/9933.1 - fax 030/9933290

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

A02
Certificato di controllo - Inspection certificate
Abnahmeprüfzeugnis
3.1
In accordo - according to - laut
EN 10204

A03 N. certificato - Certificate N. - Pruf N.
1931/I/09
Z02 Data - Date - Datum
29/07/09
A05 Redattore documento - Originator of the document
Aussteller der Bescheinigung
Ufficio Qualità - Quality Dept - Qual.Abt.

A06
Cliente - Customer - Besteller
FAD INTERNATIONAL SRL
VIA EURIPIDE 13
20041 AGRATE BRIANZA MI

A07 Ordine - Order - Bestellung 90476 478 p.1	del - of - vom 2/07/09	A10 N.conferma - order confirmation - Auftragsbestätigung 29/002255-01	del - of - vom 2/07/09	A11 Bolla - Delivery note - Lieferschein 2782/20	del - of - vom 23/07/09	A12 Fattura - Invoice - Rechnung 2564	del - of - vom 23/07/09
B01 Tubi di acciaio saldati longitudinalmente ERW - Longitudinally welded steel tubes ERW - HF Geschw.Stair						A08 Commessa N° - Works N° - Werks N° MA2009000348	
B01 Norma di esecuzione - Standard specification - Ausführung EN 10217-1		B02 Acciaio - Steel grade - Stahlgüte P235TR1		B02 Norma acciaio - Steel standard - Stahlnorm EN 10217/1		B04 Stato dei tubi - State of the tubes - Zustand der Rohre Saldati - Welded - Geschweißt	
B06 Colata 09C501	B06 Punzonatura EN 10217 P235TR1 EW WI TCB	B06 Punzonatura DIN 2458 ST 37.0 WB WI TCB		B02 Marcatura			

								Prove meccaniche - Mechanical Test - Mechanische Werte										Analisi chimica - Chemical Composition - Schmelzeanalyse										
B08 N° tubi Tubes N° Stückzahl	B09 - B10 - B11 Dimensioni Size Abmessung	B12 Kg	B14 mt	B15 - B16 Codice Code	Colata Heat Schmelze	N° prova Test n° Probe n°	C01 M W Re N/mm²	C11 Rm N/mm²	C12 A %	C13 KV	C40-C43 L T	C71 C %	C72 Mn %	C73 Si %	C74 P %	C75 S %	C76 Al %	C77 Cr %	C78 Ni %	C79 Mo %	C80 Cu %	C81 V %	C82 Sn %	C83 Nb %	C84 N %	C85 CEV %		
							C02 min.	max.	min.	min.	C03 235,0 20°	350/500	25,00	0,160	1,200	0,350	0,025	0,020										
148	88,9x3,30x6000	6420	888,000	501	A1/1811550	01	M L	276,2	406,9	41,30		0,103	0,792	0,020		0,001	0,043											

C01 M=Materiale base - Base material - Ausgangsmaterial W=Saldatura - Weld - Schweißung C02 L=Longitudinale - Longitudinal - Longitudinal T=Trasversale - Transverse - Quer C03(*) Temperatura di prova - Test temperature - Prüftemperatur

PROVE - TEST - RING

c60 Prova di allargamento - Drift expanding test - Aufweitversuch

RISULTATO - RESULT - ERGEBNIS

Soddisfacente - Satisfactory - befriedigend

c61 Prova di schiacciamento - Fletting test - Ringfaltversuch

Soddisfacente - Satisfactory - befriedigend

d01 Controllo visivo e dimensionale - Visual and dimensional inspection - Besichtigung und Ausmessung

Soddisfacente - Satisfactory - befriedigend

d02

d03 Controllo NDT di tutti i tubi con Eddy Current in accordo alla SEP 1925/EN10246-1

Soddisfacente - Satisfactory - befriedigend

NDT Test on all tubes with Eddy Current test in according to SEP 1925/EN10246-1

Zerstoerungsfrei Pruefung alle Rohre mit Wirbelstromprüfung nach SEP 1925/EN10246-1

d04 Controllo NDT di tutti i tubi con ultrasuoni in accordo alla SEP 1917/EN 10246-8 LEVEL U3

Soddisfacente - Satisfactory - befriedigend

NDT Test on all tubes with ultrasonic test according to SEP 1917/EN 10246-8 LEVEL U3

Zerstoerungsfrei Pruefung alle Rohre mit Ultrasaltest SEP 1917/EN 10246-8 LEVEL U3

ALTRI TEST - OTHER PRODUCT TEST - ANDERE PRÜFUNGEN AM ERZEUGNIS

d51

Z05



Z04



0036-CPD-11-2007

I risultati sono conformi alla norma di riferimento - The requirements comply with the standard required - Die Ergebnisse sind laut standard

In accordo alla direttiva 97/23/CE (PED),Allegato 1,paragrafo 4.3 - According to Directive 97/23/CE (PED) Annex 1,Paragraph 4.3 - Gemäß TL-Richtlinie DGRL 97/93/EC-Anhang 1,Absatz 4.3

Controllo di procedura a cura del TUEV BAYER SACHSEN - Test procedure by TUEV BAYER SACHSEN-Verfahrensprüfung durch TUEV BAYER SACHSEN - (MP4/6211 vom 09.06.1992 - 1310804 del 20.04.2009)

Z02

Abele Merante

Abele Merante

**S.C. T.M.K. - ARTROM S.A.**

Draganesti Street , No. 30, 230119, SLATINA, OLT, ROMANIA

Tel: +40-249-436862,434640,434641; Fax: +40-249-434330; 437288 ; 431144

E-mail: office.slatina@tmk-artrom.ro; www.tmk-artrom.ro

J 28/9/1991; VAT No: RO 1510210/1992;

Subscribed Share Capital: 291.790.747, 94 lei

Paid Share Capital: 291.476.491, 26 lei

MILL TEST CERTIFICATE - DIN 50049 3.1. B - EN 10204: 2004 / 3.1

No.: 3063 Date: 12.03.2009	Manufacturer's mark :	Customer Order No.: 2095083 / 0902 / 14	PL: 11100
CUSTOMER: Moma Steel Trading Srl Piazzale G. Cesare, 15 I- 20145 Milano VAT nr.: IT 04803290966			
Specifications: API 5L-08; ASTM A106-06; ASME SA 106-07; ASTM A53-06;ASME SA53-07 PED 97/23/EC + DIN 1629-84		Dimensions: 60.3 x 3.91 x 6 000+100/-0 mm Steel : Gr. B / X42 PSL 1 St 44.0	
Description: Hot rolled seamless steel pipes; marking by painting: T.M.K. –ARTROM, standard, steel grade, dimensions, 5.44 Kg/m, LENGTH (m), 2970 PSI, SMLS, heat no., LOT, mill inspector no. 5, technical control sign.			
Heat No.: 26709			
Quantity	Pcs	Length m	Theoretical Weight kg
	610	3660.0	20680

Ladle Chemical Analyse

C	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	N	V
0.11	0.47	0.005	0.009	0.23	0.07	0.05	0.02	0.20	0.025	0.001	0.001	0.009	0.002

Nb+V+Ti=0.004

Product Chemical Analyse

C	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	N	V
0.11	0.48	0.006	0.009	0.22	0.08	0.04	0.01	0.20	0.025	0.002	0.001	0.008	0.002
0.12	0.47	0.005	0.008	0.23	0.07	0.05	0.01	0.19	0.023	0.002	0.001	0.009	0.002

Mechanical Properties

TENSILE TEST (ASTM A370) – at room temperature- Test Specimen Strip-longitudinal		Yield strength 0.5%EUL MPa	UTS MPa	Elongation %			
Dimension – Specimen (mm) 1. 19.20 x 3.90 / 2. 19.15 x 3.95		340	458	32			
Section – Specimen (mm ²) 1. 74.88 / 2. 75.64							
Length - Specimen (Lo) (mm) 1. 50.8 / 2. 50.8							

Hydraulic test pressure (ASTM A530): 2970 PSI for 5 sec Bending test (ASTM A106 point 11): OK	Charpy V- Notch (ASTM A 370) Longitudinal 2.5 x10 [mm] 1. 28 (24; 28; 32) J (- 5 ⁰ C) 2. 33 (34; 32; 32) J (- 5 ⁰ C)	Process of melting – electric arc furnace, fully killed Hardness HRB: 1. 75- 76-75 2. 76- 75-76-75 Hardness HRC max 22 (acc to NACE MR01.75)
--	--	---

Visual inspection and dimensional check : OK
 " NO WELD REPAIR ON HEREBY CERTIFIED TUBES "

QC & LABORATORIES CHIEF

Dipl. Eng. Silviu Barbulescu

MILL INSPECTOR

Eng. Marius Burlacu

THIS IS FOR CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED WITH THE ORDERED SPECIFICATION AND THAT INFORMATION IS CORRECT, THEY MEET THE SPECIFICATION'S REQUIREMENTS AND CONTAINED THE RECORDS OF THE COMPANY.

**MILL TEST CERTIFICATE - DIN 50049 3.1. B - EN 10204: 2004 / 3.1**

No.: 11498 Date: 27.08.2008	Manufacturer's mark :	Customer Order No.: 2084531 / 084 / 32	PL: 13730
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CUSTOMER: MO. MA. S.r.l Piazzale G. Cesare, 14 20145 – MILANO Vat nr.: IT 04803290966
--

Specifications: API 5L-04;ASTM A106-06; ASME SA 106-04; Spec. no 084/32 PED 97/23/EC + DIN 1629-84	Dimensions: 48.3 x 3.68 x 6 000+100/-0 mm Steel : Gr. B / X42 PSL 1 St 44.0
--	---

Description: Hot rolled seamless steel pipes; marking by painting: T.M.K. –ARTROM, standard, steel grade, dimensions, 4.05 Kg/m, LENGTH (m), 2500 PSI, S, ITEM# 07, SR5BF-27J-M5C, heat no., mill inspector no. 5, technical control sign.

Heat No.: 25392	Quantity	Pcs	Length m	Theoretical Weight kg
		229	1374.0	5870

Ladle Chemical Analyse															
C	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	N	V	CEV	
0.10	0.50	0.009	0.013	0.25	0.11	0.06	0.02	0.24	0.022	0.001	0.001	0.007	0.002	0.22	

Product Chemical Analyse															
C	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	N	V	CEV	
0.11	0.50	0.007	0.013	0.24	0.11	0.06	0.01	0.24	0.022	0.002	0.001	0.007	0.002		
0.10	0.51	0.009	0.011	0.25	0.10	0.06	0.01	0.22	0.021	0.001	0.001	0.006	0.002		

Mechanical Properties															
TENSILE TEST (ASTM A370) – at room temperature- Test Specimen Strip - Longitudinal				Yield strength 0.5%EUL MPa		UTS MPa		Elongation %							
Dimension – Specimen (mm) 19.15 x 3.80				354		460		34							
Section – Specimen (mm ²) 72.8															
Length - Specimen (Lo) (mm) 50.8															

Hydraulic test pressure (ASTM A530): 2500 PSI for 5 sec Bending test (ASTM A106 point 11): OK	Charpy V– Notch / (ASTM A 370) Longitudinal 2.5 x10 [mm] 28 (28; 30; 26) J (- 5° C)	Process of melting – electric arc furnace, fully killed Hardness BHN: 133- 135-131-133 Hardness HRC max 22 (acc to NACE MR01.75)
--	--	--

Visual inspection and dimensional check : OK
“ NO WELD REPAIR ON HEREBY CERTIFIED TUBES “

QUALITY DEPARTMENT MANAGER
Dipl. Eng. Silviu Barbulescu

MILL INSPECTOR
Eng. Marius Burlacu

THIS IS FOR CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED WITH THE ORDERED SPECIFICATION AND THAT INFORMATION IS CORRECT, THEY MEET THE SPECIFICATION'S REQUIREMENTS AND CONTAINED THE RECORDS OF THE COMPANY.

**MILL TEST CERTIFICATE - DIN 50049 3.1. B - EN 10204: 2004 / 3.1**

No.: 11496 Date: 27.08.2008	Manufacturer's mark :	Customer Order No.: 2084531 / 084 / 32	PL: 13730
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CUSTOMER: MO. MA. S.r.l Piazzale G. Cesare, 14 20145 – MILANO Vat nr.: IT 04803290966
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Specifications: API 5L-04;ASTM A106-06; ASME SA 106-04; Spec. no 084/32 PED 97/23/EC + DIN 1629-84	Dimensions: 33.4 x 3.38 x 6 000+100/-0 mm Steel : Gr. B / X42 PSL 1 St 44.0
--	---

Description: Hot rolled seamless steel pipes; marking by painting: T.M.K. –ARTROM, standard, steel grade, dimensions, 2.50 Kg/m, LENGTH (m), 2500 PSI, S, ITEM# 05, SR5BF-27J-M5C, heat no., mill inspector no. 5, technical control sign.

Heat No.: 25575	Quantity	Pcs	Length m	Theoretical Weight kg
		506	3036.0	7857

Ladle Chemical Analyse															
C	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	N	V	CEV	
0.13	0.58	0.009	0.014	0.20	0.10	0.07	0.03	0.22	0.023	0.001	0.001	0.009	0.002	0.27	

Product Chemical Analyse															
C	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	N	V	CEV	
0.13	0.57	0.009	0.014	0.21	0.09	0.07	0.02	0.21	0.023	0.001	0.002	0.009	0.002		
0.14	0.58	0.007	0.013	0.20	0.10	0.06	0.02	0.22	0.021	0.001	0.002	0.008	0.001		

Mechanical Properties

TENSILE TEST (ASTM A370) – at room temperature- Test Specimen Strip - Longitudinal		Yield strength 0.5%EUL MPa	UTS MPa	Elongation %
Dimension – Specimen (mm) 1. 18.95 x 3.35 / 2. 19.0 x 3.37		1. 343	467	31
Section – Specimen (mm ²) 1. 63.5 / 2. 64.0		2. 341	466	31
Length - Specimen (Lo) (mm) 1. 50.8 / 2. 50.8				

Hydraulic test pressure (ASTM A530): 2500 PSI for 5 sec Bending test (ASTM A106 point 11): OK	Charpy V- Notch / (ASTM A 370) Longitudinal 2.5 x10 [mm] 1. 27 (28; 30; 24) J (- 5 ⁰ C) 2. 28 (26; 28; 30) J (- 5 ⁰ C)	Process of melting – electric arc furnace, fully killed Hardness BHN: 1. 129- 131-133-131 2. 133- 131-133-131 Hardness HRC max 22 (acc to NACE MR01.75)
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Visual inspection and dimensional check : OK
“ NO WELD REPAIR ON HEREBY CERTIFIED TUBES “

QUALITY DEPARTMENT MANAGER

Dipl. Eng. Silviu Barbulescu

MILL INSPECTOR

Eng. Marius Burlacu



FAD FLANGE ACCIAIO & DERIVATI s.p.a.

20047 - brugherio - milano
stabilimento, via moia 78/82 tel. 039-2873310 (r.a.) telefax 039-2873322
www.fadflange.it - e-mail: fadflang@tin.it

SEDE LEGALE: VIA MOIA, 78/82 - 20047 BRUGHERIO - C.C.I.A.A 0975057
CAPITALE SOCIALE / SHARE EQUITY € 670.800 - COD. FISC. 03840080158
PARTITA IVA / V.A.T. No. IT 00763980968 - N. MECCANOGRAFICO MI 100012

CERTIFICATO PROVE MATERIALI N. 204/11

/ 1

Test certificate - Certificat d'épreuves - Werksabnahmzeugniss

EN 10204 / 3.1.

CLIENTE / Customer - Client - Kunde

FAD INTERNATIONAL SPA

VIA MONZA, 146
20060 GESSATE

DATA / Date / Date / Datum 24/01/2011

COMMESMA / Mill order / Comf. de commande / Komm 33519

ORDINE / Order / Commande / Auftrag 100728 BALLESTRA

D.D.T. / Delivery note / Bulletin de livraison / Lieferschein 204

CODICE Line code Code Kode	COLATA Heat Coulé Schmelze	CERTIFICATO ORIGINE Certificate of origin Certificat d'usine Werkszuggniss	NORMA / MAT. Standard / Material Norme / Matériel Standard / Werkstoff	DESCRIZIONE Description Description Gegenstand						POS.ORD. Item order Pos. de comm. Auftragslabe	QUANTITA' Quantity Quantité Stückzahl	POSIZ. Item Pos. Pos.
70171	RIVA	F.FLG.ASME B16.5	A/SA105-05 *BL	150	1.1/2"	.	RF	68	1	1		
35649	RIVA	F.FLG.ASME B16.5	A/SA105-05 *LJ *(1)	150	1/2"	.	.	72	14	2		
01872	NIC	F.FLG.ASME B16.5	A/SA105-05 *LJ *(1)	150	2.1/2"	.	.	71	1	3		
773	NIC	F.FLG.ASME B16.5	A/SA105-05 *LJ *(1)	150	4"	.	.	72	10	4		
79594	RIVA	F.FLG.ASME B16.5	A/SA105-05 *SO	150	1/2"	.	RF	69	4	5		
79593	RIVA	F.FLG.ASME B16.5	A/SA105-05 *SO	150	1"	.	RF	6:	3	6		
70171	RIVA	F.FLG.ASME B16.5	A/SA105-05 *SO	150	1.1/2"	.	RF	6;	1	7		

*(1) GALV ELETTROLITICA

CODICE Line code Code Kode	COLATA Heat Coulé Schmelze	ANALISI CHIMICA / Chemical analysis / Analyse chimique / Chemische zusammensetzung													
		C %	Mn %	P %	S %	Si %	Cr %	Ni %	Mo %	Ti %	Cu %	Nb %	N %	V %	CE %
70171		0,190	0,910	0,009	0,008	0,250	0,080	0,050	0,010	0,021	0,150	0,001	0,000	0,017	0,380 Al= 0,027
35649		0,185	0,960	0,014	0,010	0,210	0,130	0,060	0,010	0,018	0,170	0,002	0,000	0,013	0,390
01872		0,200	0,970	0,016	0,007	0,270	0,010	0,010	0,010	0,000	0,010	0,010	0,000	0,001	0,367
773		0,220	1,030	0,019	0,006	0,290	0,021	0,002	0,001	0,000	0,002	0,000	0,000	0,001	0,396
79594		0,190	0,920	0,010	0,010	0,220	0,080	0,040	0,010	0,019	0,120	0,001	0,000	0,022	0,370 Al= 0,028
79593		0,190	0,890	0,011	0,008	0,230	0,150	0,050	0,020	0,021	0,150	0,001	0,000	0,017	0,380 Al= 0,028
70171		0,190	0,910	0,009	0,008	0,250	0,080	0,050	0,010	0,021	0,150	0,001	0,000	0,017	0,380 Al= 0,027

CARATTERISTICHE MECCANICHE / Mechanical test - Épreuves mécaniques - Mechanische eigenschaften																	
CODICE Line code Code Kode	COLATA Heat Coulé Schmelze	MPA	MPA	ALL. %	CONTRAZIONE	HB	HRC	RESILIANZA						1	2	3	4
		ROTTURA	SNERVAMENTO	ELONGATION	REDUCTION OF AREA	DUREZZA	DUREZZA	IMPACT TEST	RESILIENCE	KERBSCHLAGZÄHIGKEIT							
70171		519,0	323,0	32,5	68,5	169	171	10/10 KV	0°C	61 73 59 J				A	A	X	X
35649		520,0	340,0	32,5	62,5	167	165	10/10 KV	0°C	62 60 75 J				A	A	X	X
01872		500,0	300,0	30,0	62,0	165	168	10/10 KV	0°C	66 65 72 J				A	A	X	X
773		529,0	335,0	32,5	66,5	160	163	10/10 KV	0°C	84 64 73 J				A	A	X	X
79594		519,0	314,0	32,0	68,0	163	165	10/10 KV	0°C	54 60 66 J				A	A	X	X
79593		517,0	334,0	31,5	68,0	162	164	10/10 KV	0°C	63 60 68 J				A	A	X	X
70171		519,0	323,0	32,5	68,5	169	171	10/10 KV	0°C	61 73 59 J				A	A	X	X

(1) PRODUZIONE ACCIAIO
Steel production
Production acier
Stahl produktion

{ A - CALMATO E ELABORATO AL FORNO ELETTRICO / Killed steel made by electric furnace / Acier calme produit au four électrique / Beruhigt stahl ausgearbeitet im elektrofen.

B - ELABORATO AL FORNO ELETTRICO / Made by electric furnace / Produit au four électrique / Ausgearbeitet im elektrofen.

(2) TRATT. TERMICO
Heat treatment
Traitement thermique
Wärmebehandlung

{ A - NORMALIZZATO / Normalized / Normalisé / Normalgeglüht
B - NORMALIZZATO E RINVENUTO / Normalized and tempered / Normalisé et revenu / Normalisiert angelassen
C - BONIFICATO / Quenched and tempered / Bonifié / Harten und anlassen
D - SOLUBIZZATO / Solution treat and quench / Solubilisé / Lösungsgeglüht

(3) X - CERTIFICATO SECONDO ASME SA II ED.: 07 AD.: _____

5 CE = C + Mn + Cr+Mo+V + Cu+Ni
6 5 15

NACE MR 01-75 ED: 03

(4) X - CONTROLLO VISIVO E DIMENSIONALE SODDISFALENTE / Satisfactory visual and dimensional check / Inspection et contrôle dimensionnel satisfaisant / Besichtigung und massokontrolle bestanden.

- I VALORI DELLE ANALISI CHIMICHE SONO RICAVATI DAL CERTIFICATO DI FERRERIA / Chemical analysis values are taken from mill certificate / Le valeur du certificat ont été obtenus par le certificat d'usine / Dei werte des zeugnisses sind vom original werksabnahmzeugniss erhalten.

RESP. CONTROLLO CERTIFICATI
Issued by
Cert. contrôlé
Zeugnissprüfungsamt

ENTE UFFICIALE DI COLLAUDO
Inspection authority
Service inspection officiel
Abnahme verein

CAPO COLLAUDO
Chief inspector
Chef de la reception
Chef abnahmabeitung