

R.T.I. S.p.A
SEDE LEGALE E AMMINISTRATIVA
Via Ambrosoli, 2/A
20090 RODANO MILLEPINI (MI)
Tel: +39.02.95328610 r.a. Fax: +39.02.95328611
C.F. 00659860191 – P.IVAV.A.T.(IT) 10003740155

Rodano, 28/12/2012

Oggetto: CERTIFICATI MATERIALI

<u>CARTIFICATE OF MATERIAL</u>

 Nostra Commessa:
 62010/1
 Del
 13/09/2012

 Vostro Num.Ordine:
 122056
 Del
 13/09/2012

Con la presente Vi trasmettiamo copia conforme all'originale dei certificati relativi all'ordine sopra menzionato. Please find enclosed copy of the certificate conforming to the original relevant the abova mentioned order.

Spett.le

DESMET BALLESTRA S.P.A.

VIA PIERO PORTALUPPI, 17

Locailtà MILANO CAP 20138 Prov. MI

Saldo/Balance	Acc./Part.delivery
V	,
Х	

	RIEPILOGO POSIZIONI / SUMMARY POSITIONS							RIEPILOGO CERTIFICATI / SUMMARY CERTIFICATES			
Vs. Pos.	ARTICOLO / ITEM DESCRIZIONE / Description Otà consegnata / Oty delivered Vs. Riferimento		Vs. Riferimento	Num. bolla di consegna	File RTI Colata/ H		Num. Certificato / Certficate numeber	Note			
		1	1				11				
	AL0105	COPPER TUBING PVC COVERED 6MMODX1MM W.T. SUPPLIED IN COILS MTS.50 EACH	550		B 1/5276 del 31/10/2012		CONFORMITY	28125			
	AL0120	COPPER TUBING PVC COVERED 12MMODX1MM W.T. SUPPLIED IN COILS MTS.50 EACH	50		B 1/5276 del 31/10/2012		CONFORMITY	28125			
	AL0195NC	SEAMLESS TUBING A269/213 TP316/316L 12MMOD X 1MM W.T. SUPPLIED IN BARS 5 TO 7 MTS. CONFORMING TO NACE MR 01-75	137,99		B 1/5276 del 31/10/2012		Y111162-L	CM5298			
	AL0195NC	SEAMLESS TUBING A269/213 TP316/316L 12MMOD X 1MM W.T. SUPPLIED IN BARS 5 TO 7 MTS. CONFORMING TO NACE MR 01-75	162,01		B 1/5276 del 31/10/2012		Y111162-L	CM5298			
	B-CM-ML6-NS8	BRASS MALE CONN.6MM TUBE OD X1/2NPT	57		B 1/5276 del 31/10/2012		CONFORMITY	28125			
	EHC2180	ST.ST.316 UNION TEE 12MMOD MOD.ETM12-316	3		B 1/5276 del 31/10/2012		1AB P453	81054421 T58258			
	EHC2180	ST.ST.316 UNION TEE 12MMOD MOD.ETM12-316	29		B 1/5276 del 31/10/2012		1AB P453	81054421 T58258			
	EHC2300	ST.ST.316 MALE STRAIGHT CONNECTOR 12MMODX1/4"NPT MOD.M12MSC1/4N-316	3		B 1/5276 del 31/10/2012		P453 P442	T58258 T58247			
	EHC2300	ST.ST.316 MALE STRAIGHT CONNECTOR 12MMODX1/4"NPT MOD.M12MSC1/4N-316	57		B 1/5276 del 31/10/2012		P453 P442	T58258 T58247			
	EHC2310	ST.ST.316 MALE STRAIGHT CONNECTOR 12MMODX1/2"NPT MOD.M12MSC1/2N-316	125		B 1/5276 del 31/10/2012		P410 P442	T58200 T58247			
	EHC2310	ST.ST.316 MALE STRAIGHT CONNECTOR 12MMODX1/2"NPT MOD.M12MSC1/2N-316	12		B 1/5276 del 31/10/2012		P410 P442	T58200 T58247			
	EPA0670	BRASS MALE STRAIGHT CONNECTOR 6MMMODX1/4"NPT MOD.FBMB6-1/4	122		B 1/5276 del 31/10/2012		CONFORMITY	28127			
	EPA0740	BRASS MALE STRAIGHT CONNECTOR 12MMODX1/2"NPT MOD.FBMB12-1/2	16		B 1/5276 del 31/10/2012		CONFORMITY	28127			



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Vs. Pos.	ARTICOLO / ITEM	DESCRIZIONE / Description	Qtà consegnata / Qty delivered	s. Riferimento	Num. bolla di consegna	File RTI	Colata/ Heat	Num. Certificato / Certficate numeber	Note				
	EPA0950	BRASS MALE STRAIGHT CONNECTOR 6MMODX1/4"BSPT MOD.F3BMB6-1/4	4		B 1/5276 del 31/10/2012		CONFORMITY	28127					
	EPA0950	BRASS MALE STRAIGHT CONNECTOR 6MMODX1/4"BSPT MOD.F3BMB6-1/4	16		B 1/5276 del 31/10/2012		CONFORMITY	28127					
	EPA1380	BRASS FEMALE STRAIGHT CONNECTOR 6MMODX1/4"NPT MOD.GBMB6-1/4	30		B 1/5276 del 31/10/2012		CONFORMITY	28127					
	EPA1850	BRASS UNION TEE 6MMOD MOD.JBMB6	6		B 1/5276 del 31/10/2012		CONFORMITY	28127					
	EPA2430	BRASS NUT + FERRULE 12MMOD MOD.BTMB12	10		B 1/5276 del 31/10/2012		CONFORMITY	28127					
	EUA0002	N12X1/1-50	50		B 1/5276 del 31/10/2012		CONFORMITY	28126					
	EUA0023	N6X1/1-50	50		B 1/5276 del 31/10/2012		CONFORMITY	28126					
	FLA0527	ST.ST.316 BAR STOCK BALL VALVE HY-PRO S.6000 PSI PTFE SEAT/PACKING 1/2"NPTF MOD. HPBYB8FF	10		B 1/5276 del 31/10/2012		P344 P361	T58120 T58143					
	FLA0527	ST.ST.316 BAR STOCK BALL VALVE HY-PRO S.6000 PSI PTFE SEAT/PACKING 1/2"NPTF MOD. HPBYB8FF	34		B 1/5276 del 31/10/2012		P344 P361	T58120 T58143					
	FLA0539	ST.ST.316 BAR STOCK BALL VALVE HY-PRO S.6000 PSI PTFE SEAL/PACKING 1/4"NPTF MOF. HPBYB4FF	9		B 1/5276 del 31/10/2012		P431 P456	T58239 T026968					
	FLA0539	ST.ST.316 BAR STOCK BALL VALVE HY-PRO S.6000 PSI PTFE SEAL/PACKING 1/4"NPTF MOF. HPRYR4FF	29		B 1/5276 del 31/10/2012		P431 P456	T58239 T026968					
	MANOM002	DN 2" ABS GAUGE 1/4"NPTM (REAR) 0-6 BAR/PSI	8		B 1/5276 del 31/10/2012		CONFORMITY	28125					
	MANOM006	MANOM.ABS-50MM-1/4NPT-POST-0-10 B/P	4		B 1/5276 del 31/10/2012		CONFORMITY	28125					
	RF1625003	CONIC UNION SERIES SERIES 3000 NPT F316L 1/2"	3		B 1/5276 del 31/10/2012		ABG	DEL/29063/05/212/2					
	RF1628001	HEX HEAD MALE PLUG NPT F316L 1/4"	6		B 1/5276 del 31/10/2012		DKP	DEL29674/09/212/1					
	RF1657003	PIPE NIPPLE SCH.80 L.100 NPT X NPT 316L D.1/2"	10		B 1/5276 del 31/10/2012		DFQ	DEL/29064/05/212/2					
	RF415Z003	COUPLING SERIES 3000 NPT A105 GALV. D.1/2"	3		B 1/5276 del 31/10/2012		H80	01013/001					
	RF415003	COUPLING SERIES 3000 NPT A105 D.1/2"	8		B 1/5276 del 31/10/2012		7738	49611					
	RF425Z003	CONIC UNION SERIES SERIES 3000 NPT A105 GALVANIZE 1/2"	5		B 1/5276 del 31/10/2012		ML-FW AC1214	1123/2012					
	RF425003	CONIC UNION SERIES SERIES 3000 NPT A105 1/2"	10		B 1/5276 del 31/10/2012		ML-FW AC1214	1123/2012					
	RF428Z001	HEAXAGONAL HEAD MALE PLUG NPT A105 GALV. D.1/4"	5		B 1/5276 del 31/10/2012		G79	20122035					
	RF428001	HEX HEAD PLUG S.6000 A105 D.1/4"NPT-M	20		B 1/5276 del 31/10/2012		G79 G79604	1123/2012					



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Vs. Pos.	ARTICOLO / ITEM		Qtà consegnata / Qty delivered	Vs. Riferimento	Num. bolla di consegna	File RTI	Colata/ Heat	Num. Certificato / Certficate numeber	Note		
	RF428001	HEX HEAD PLUG S.6000 A105 D.1/4"NPT-M	30		B 1/5276 del 31/10/2012		G79 G79604	1123/2012			
	RF428001	HEX HEAD PLUG S.6000 A105 D.1/4"NPT-M	18		B 1/5276 del 31/10/2012		G79604	2582/2012			
	RF434Z187	RED.HEX NIPPLE SERIES 3000 NPT A105 GALV. D.1/2" X D.1/4"	1		B 1/5276 del 31/10/2012		H07	01926/004			
	RF457Z003	PIPE NIPPLE SCH.80 L.100 NPT X NPT A106 GALV. D.1/2"	13		B 1/5276 del 31/10/2012		E80	02457/003			
	RF457003	PIPE NIPPLE SCH.80 L.100 NPT X NPT A106 D.1/2"	47		B 1/5276 del 31/10/2012		NPA	174230/4			
	RF457003	PIPE NIPPLE SCH.80 L.100 NPT X NPT A106 D.1/2"	2		B 1/5276 del 31/10/2012		14898	1123/2012			
	T0012B003XS	SMLS.PIPE A106.B D.1/2"XS	6		B 1/5276 del 31/10/2012		27952	1110			
	T010AP003XSZ	SMLS PIPE A106 GR.B HOT DEEP GALV. THREADED ENDS AS PER "NPT" COMPLETE WITH ONE COUPLING FOR EACH BAR D.1/2" SCH.80	6		B 1/5276 del 31/10/2012		74239K	50782/08			
	VN500001	LIGHT ALLOY AIR FILTER REGULATOR 5-40 PSI CONNECTIONS 1/4"NPTF MOD.R92	8		B 1/5276 del 31/10/2012		CONFORMITY	28125			
	VN500002	LIGHT ALLOY AIR FILTER REGULATOR 5-100 PSI CONNECTIONS 1/4"NPTF MOD.R97	4		B 1/5276 del 31/10/2012		CONFORMITY	28125			
	V20120161746094	EM591D3331312	4		B 1/5276 del 31/10/2012		CONFORMITY	28125			
	V20120161746094	EM591D3331312	16		B 1/5276 del 31/10/2012		CONFORMITY	28125			





SEDE LEGALE E AMMINISTRATIVA

Via Ambrosoli 2/a - 20090 Rodano Millepini MI Tel: +39 0295328610 r.a. Fax: +39 0295328611 C.F.: 00659860191 - P.Iva/V.A.T.: 10003740155

Messers

DESMET BALLESTRA S.P.A.

VIA PIERO PORTALUPPI, 17

20138 MILANO

MΙ

Rodano, 31 ottobre 2012

Ordine /P.O.NO.122056 Ddt.N./Bill NO.0005276 of 12/09/12 of 31/10/12

CERTIFICATO DI CONFORMITA' /CERTIFICATE OF COMPLIANCE NO. 0028125

Si certifica che il materiale sottoelencato, a fronte dell'ordine e Ddt sopra menzionati, ha superato positivamente i ns. controlli visivo/dimensionali e corrisponde esattamente a quanto richiesto.

We hereby certify that the below material of your P.O. and Bill mentioned in subject has been visually and dimensionally tested in our factory with positive results. The same is in total compliance with your request.

XCERT01







R.T.I. S.P.A.

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C.F.: 00659860191 - P.Iva/V.A.T.: 10003740155

Item	Description	Q.ty	U.M.
AL0105	TUBING RAME RIC. PVC	550,000	MT
	6MMX1MM MOD.RAMEPVC6X1 COLORE NERO		
AL0120	TUBING RAME RIC. PVC 12MMX1MM	50,000	MT
	MOD.RAMEPVC12X1 COLORE NERO		
AL0195NC	TUBING A 269 TP 316L SS 12MMX1 BARRA MOD.31612X1	162,010	MT
AL0195NC	NACE MR 01-75 TUBING A 269 TP 316L SS 12MMX1	137,990	MT
	BARRA MOD.31612X1 NACE MR 01-75		
B-CM-ML6-NS8	TERM.DIRITTO MASCHIO OTTONE 6MMODx1/2"NPT MOD.B-CM-ML6-NS8	57,000	PZ
MANOM002	MANOMETRO CON CASSA IN ABS DN 50mm DOPPIA SCALA 0/6 BAR+PSI	8,000	PZ
MANOM006	ATTACCO POSTERIORE OTTONE FIL. 1/4" MANOMETRO CON CASSA IN ABS DN 50mm	4,000	ת
MANONIO	DOPPIA SCALA 0/10 BAR+PSI	4,000	PZ
RF1625003	ATTACCO POSTERIORE OTTONE FIL. 1/4" BOCCHETTONI SEDE CONICA SERIE 3000	3,000	PZ
RF1628001	NPT F316L D.1/2" TAPPI TESTA ESAGONALE MASCHIO	6,000	PZ
RF1657003	NPT F316L D.1/4" NIPPLI TUBO SCH.80 L.100	10,000	PZ
RF415Z003	NPT X NPT 316L D.1/2" MANICOTTI SERIE 3000	3,000	PZ
RF415003	NPT A105 ZIN. D.1/2" MANICOTTI SERIE 3000	8,000	
	NPT A105 D.1/2"	•	
RF425Z003	BOCCHETTONI SEDE CONICA SERIE 3000 NPT A105 ZIN. D.1/2"	5,000	
RF425003	BOCCHETTONI SEDE CONICA SERIE 3000 NPT A105 D.1/2"	10,000	PZ
RF428Z001	TAPPI TESTA ESAGONALE MASCHIO NPT A105 ZIN. D.1/4"	5,000	PZ
RF428001	TAPPI TESTA ESAGONALE MASCHIO NPT A105 D.1/4"	18,000	PZ
RF428001	TAPPI TESTA ESAGONALE MASCHIO NPT A105 D.1/4"	30,000	PZ
RF428001	TAPPI TESTA ESAGONALE MASCHIO	20,000	PZ
RF434Z187	NPT A105 D.1/4" NIPPLI ESAGONALI RIDOTTI SERIE 3000	1,000	PZ
RF457Z003	NPT A105 ZIN. D.1/2" X D.1/4" NIPPLI TUBO SCH.80 L.100	13,000	PZ
RF457003	NPT X NPT A106 ZIN. D.1/2" NIPPLI TUBO SCH.80 L.100	2,000	PZ
RF457003	NPT X NPT A106 D.1/2" NIPPLI TUBO SCH.80 L.100	47,000	PZ
T0012B003XS	NPT X NPT A106 D.1/2" TUBI A106/B SENZA SALDATURA	6,000	
100122000	D.1/2" XS	0,000	
	CON PROTEZIONE ANTIRUGGINE MARCATURA VISIBILE A NORMA A530		

XCERTXP







SEDE LEGALE E AMMINISTRATIVA Via Ambrosoli 2/a - 20090 Rodano Millepini MI Tel: +39 0295328610 r.a. Fax: +39 0295328611 C.F.: 00659860191 - P.Iva/V.A.T.: 10003740155

Item	Description	Q.ty U.M.	
T010AP003XSZ	TUBI A106B SS ZINC.VM 1/2"NPT 80	6,000 MT	
VN500001	FILTRO RIDUTT. 0-40 PSI ALLUMINIO PARTI INTERNE INOX - MOD. R92	8,000 PZ	
VN500002	FILTRO RIDUTT. 0-100 PSI ALLUMINIO PARTI INTERNE INOX - MOD. R97 CONNESSIONI 1/4" NPT-F	4,000 PZ	
V20120161746094	EM591D3331312	16,000 PZ	
V20120161746094	EM591D3331312	4,000 PZ	
Cordiali saluti.		R.T.I. S.p.A.	
Best regards.		Doneda Massimo	

XCERTXP





INOXTUBE

13 ter, rue des Margats 77120 COULOMMIERS tél. : 01 64 65 10 00 fax. : 0164 65 85 20



CERTIFICAT DE CONTRÔLE ET DE CONFORMITE

CERTIFICAT DE CONTRÔLE DES PRODUITS PAR L'USINE (CCPU) Certificate of control and conformity / Abnahne prüfzeugnis

Selon NF EN 10204 3.1.B / DIN 50049 3.1B According to / Nach

N°:

Date:

Date / Datum

20/11/2012

Nr/No

CM5298

CLIENT:

Purchaser / Besteller

Nº de Commande: 39323/10

Nº d'AR :

Nº de bordereau de livraison:

28854

Order / Bestell

Works Nr / Werks Nr

Delivery document Nr / Lieferschein QUANTITE DE LIVRAISON

Kg

DIMENSIONS - DESIGNATIONS

RTI Spa

Size - désignation / Abmessung

Mètres / Meter

Delivery quantity / Liefermenge Nombre /Number

1

Tubes référence AL0195NC Tubes 12 x 1 en longueurs droites

504,00

137,943

NUANCE: Grade / Markenbezeich

316L SS HYPERTREMPE (1050°C / 5 Min)

MATIERE: Metal / Metall INOX - sulvant norme ASTM A213/A269-EN 10216-5-NACE

MR0175

ANALYSE SUR COULEE N°:

Y111162-L

N° LOT INOXTUBE:

N11206183

	Ladle analysis /	Schmelzanalyse		¥111162-L			JI INOXI OBE:	N11200183		
	С	Si	P	S	Mn	Ni	Cr		Mo	
LOT	0,027	0,36	0,04	0,005	1	10,06	16,56		2,06	

Mini

Maxi

Mini Maxi

CARACTERISTIQUES MECANIQUES

	Mecanical Characteristic							
	Rm N/mm²	Rp0,2 N/mm ²	ALLONGEMENT (%)	DURETE				
	U.T.S. / Zugfestigkeit	YS / Streckgrenze	Elongation / Bruchdehnung	Hardness / Harte				
1	580	280	50	70 HRB				

Ø ext.:

conforme

Aspect: Aspect / Zustand

conforme

Ø int.:

conforme

Courant de Foucault: Eddy carrent testing/Winbelprünfung

conforme

conforme

Epaisseur: Evasé:

Flaring test / Aufweitung

Pliage:

conforme conforme

conforme

Aplatissement: Flattening test/Ringfultversuch

Micrographie: Micro-section / Mikrosch liff Corrosion:

Corrosion / Korrosian Ressuage:

Bend test / Faltversuch Epreuve hydraulique: Hvdraulic test / Wasser probe

Concentricité:

Concentricity / Konzentrisität

Ultrasons: Ultrasonic testine/Ultraschalloriif and

NOUS ATTESTONS QUE LES PRODUITS LIVRES SONT CONFORMES AUX STIPULATIONS DE LA COMMANDE.

With the knowledge or result of acceptance's tests we certify that tha delivered products comply with the specification of the order and with the standards and rules to be appled.

lach einsicht der Ergebnisse aus, abnahmeprufungen an der lisferung bescheinigen wir das gelisferte erzeugnis len Versinbarungen bei der bestellung sowie den zur zeit gältigen normen und bestimmungen entspricht.

Nom Responsable AQ:

Décision: CONFORME

CERTIFICAT DE RECEPTION 3.1 Ugine Usine productrice **INSPECTION CERTIFICATE 3.1** LGITECH Hersteller Avenue Paul ABNAHMEPRUEFZEUGNIS 3.1 Manufacturer Girod Providing special steel solutions 73403 Ugine EN 10204 / 3.1 France Numéro / Nummer / Number Ordre de fab. / Auttrag / Prod. Order N° coulóe / Schmelzen Nr / Heat N° Nº lot MM / Chargen / Batch 81054421 000010 A1146FU16100 144024 1146FU1610 11-2 11-3 Marque d'usine Certification - Werkzeugnis - Certificate AD 2000-MERKBLATT WO/TRD100 Herstellerzeichen Pressure Equipment Directive 97/23/EC Supplier's Mark 97 ISO 9001 Poincon de l'expert ISO/TS 16949 ISO 9100 Prufstempe ISO 14001 99 ISO 9120 98 Inpector's stamp 96 UGIMA 316SX1 BARRE TOURNÉE POLIE HYPERTREMPÉ(E) H9ROND(E) 30,000MM LONG. 6,000M + 100, **MM000.0- MM000** UGIMA 316SX1 BARRE TOURNÉE POLIE HYPERTREMPÉ(E) H9ROND(E) 30,000MM LONG. 6,0C0M + 100,000MM -0.0 **Produit** UGIMA 316SX1 STAB GESCHÄLT POLIERT ABGESCHRECKT H9RUND 30,000MM LONG. 6,000M +100,000MM -0,000M Erzeugnisform **Product** UGIMA 316SX1 BAR TURNED POLISHED SOLUTION ANNEALED H9ROUND 30,000MM LONG. 6,000M +100,000MM -0, Client et/ou destinataire - Besteller und/oder Empfænger - Purchaser and/or Consigner N° de commande client - Kundebestellnummer - Purchase order number RAYMOND BARRE 37859 +38084 RF RD20 10 Norme de référence / Besugsnorm / Standard for reference ASTM A182/A182M-10 F316 12-2 Spécification client / Kundenspezifikation / Customer's specification MO11/2 20 14/10/2002 12-3 Nombre Profil Dimension Longueur Poids Stueckzahl Profile Ausmessung Laenge Gewicht Pieces Nbr Shape Dimension Length Weigh 21 18 RO 30,000 MM 21-1 6,000 21-2 747 KG Demandé / Vorschrift / Required 42 43 45 46 47 49 Mode Nº prélèvement % C % SI % MN % NI % CR % MO % CU % S d'élaboration Probenummer Min 0,0350 10,0000 16,0000 2.0000 0,0150 Erchmel zungsart Test number 0,0700 Max 1,0000 2,0000 14,0000 18,0000 3.0000 1,0000 0,0300 Melting process EAF + AOD 2RCL coulée/ Schmelzen / Heat 0,0570 0,3800 1,0780 10,5460 17,4760 2,0230 0.4930 0,0232 +CC 38 39A Produit / Erzeugnisform/ Product Demandé / Vorschrift / Required 50 52 53 54 55 70 71 72 73 74 75 % P % N % TI % CO % AL Min 0,0700 Max 0,0400 0,1000 0,7500 coulée/ Schmeizen / Heat 0,0273 0,0760 0,0020 0,1130 Produit / Erzeugnisform/ Product Demandé / Vorschrift / Required 76 77 78 79 81 80 82 83 85 86 87 Min Max coulée/ Schmelzen / Heat Produit / Erzeugnisform/ Product Nous déclarons que la fourniture citée est conforme aux exigences ducon rat et que après vérifications et Ugine le 14.12.2011 toutpoint, aux exigences spécifiées, aux normes et règlements applicables,sau<mark>t exceptions, réser</mark>ves <mark>ou</mark> dépogati la présentedéclaration de conformité : Document validé par signature électronique Produit fabriqué dans le respect du règleme L'agent Réceptionnaire de l'usine REACH Der Werksachverständige We declare that the mentioned product is in compliance with therequirements of the contract and that, alter check The work inspector it meetsin all respects the specified requirements and applicable standards and egulations, in thisdeclaration of conformity; Document validated by electronic signature. Man

<u> 040000537231</u>

Ugine Usine productrice Hersteller 🕝 🦼 Avenue Paul Girod Manufacturer

73403 Ugine

France

CERTIFICAT DE RECEPTION 3.1 INSPECTION CERTIFICATE 3.1 ABNAHMEPRUEFZEUGNIS 3.1

EN 10204 / 3.1

UGITECH

Providing special steel solutions



		1										
Numéro / Nummer / Number		Ordre de fab	. / Auftrag / F	Prod. Order	Nº co	ulée / Schme	lzen Nr / Hea	t N°	N., lot WM	1 / Chargen	/ Batch	<u>, </u>
81054421 000010	4	A1146	FU1610	0	11-1 144	1024		11-2	1146FL	J1610		11-3
			Limite d	'élasticité	RM	Along	gement	Striction	Dur	reté-Hae	rte-Hard	ness
24	90	T°C	B .	kgrenze Strength 1%	Zugfestigkeit Tensile		dehnung ngation , A4D	Einschnurung Red area	1 110	HV	HRB	HRC
	İ	°C	Mpa	Mpa	Мра	%	%	%	İ	İ		
	Min	20	205		515	30	30	50				
13	Max Min Max	20										
N° prélèvement 2RCL Probenummer Test number	120 L 1	20	257		589	54	56	76				
39B											.	
A l'état de Référence / treatment on te sample / Probestreifenbehandlung	est											
	14	25	26A	26B	27	28	89		30	88	100	37
Taux de corroyage				Rési	lience-K	erbschlag	gzaehigl	ceit-Note	h Tough	iness		
Forging ratio Verschmiedungsgrad 51,6		Type Form Type	T°C	Sens Richtung Direction	Min		eurs individe Einzelwerte dividual val	8	Mioyenne Mittelwerte Average	Se	pansion laté itliche Breit teral Expans	ung
	101	31	33	32	95			35	36			91
A l'état de livraison / Lieferzustan delivered			°C		J				J			
HYPERTREMPE 1050°C-1110°C TREMPE EAU	13					!						
A l'état de Référence / treatment on te sample / Probestreifenbehandlung	est											

RESISTANT A LA CORROSION INTERGRANULAIRE CONFORMEMENT A ASTM A262-02 PRACTICE A&E

PRODUIT GARANTI SANS RADIOACTIVITE ET CONTAMINATION PAR LE MERCURE

Quantité livrée / delivered quantity / gelieferte Quantitât

Nous déclarons que la fourniture citée est conforme aux exigences ducon toutpoint, aux exigences spécifiées, aux normes et règlements applicables, saut la présentedéclaration de conformité : Document validé par signa luri

Ugine la 14.12.2011

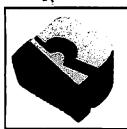
L'agent Réceptionnaire de l'usine

The work inspector

040000537231

We declare that the mentioned product is in compliance with herequirements of the it meets all respects the specified requirements and applicable standards and equilations, in this declaration of conformity; Document validated by electronic signature. Material man

Page 2/2



RAYMOND BARRÉ S.A.

ETS RAYMOND BARRÉ

17, rue de l'espérance - B.P. 29 **08800 HAUTES RIVIERES**

Tél.:

00 33 3 24 53 42 18

Fax.:

00 33 3 24 53 48 54

E-mail:

info@barefor.com

CERTIFICATE OF CONFORMITY

CUSTOMER	PARKER HANNIFIN	CERT. NUMBER	212/12
ORDER N°	7210958 OP 00008464 L.1	ADVICE NOTE N°	1202447
MATERIAL SPEC.	MO11/2	ADVISED DATE	03/08/2012
PRODUCT NUMBER		ADVISED QUANTITY	400

PART NUMBER	5204E	PART DESCRIPTION	TEE PIECE SIZE 8
MATERIAL	316	ORIGIN OF MATERIAL	UGITECH

HEAT TREATMENT	Hypertempered / Solution annealed	N.D.T. INFORMATION : Material free of mercury
H.C.T.	1AB	contamination during manufacture and handing in process.

CAS	T ANALYS	IS - Cast N	umber :	144024				
•	С	Mn	P	S	Si	Ni	Cr	Мо
Std.	0,035-0,070	2,00 max.	0,04 max.	0,015-0,030	1,00 max.	10,0-14,0	16,0-18,0	2,0-3,0
Act.	0,057	1,078	0,0273	0,0232	0,38	10,546	17,476	2,023
	N	Со	Cu					
Std.	0,07-0,10	0,75 max.	1,0 max.					
Act.	0,076	0,113	0,493					,

MEC	CHANICAL TEST RES	ULTS - Specification:		
	Yield (MPa)	U.T.S. (MPa)	El %	Redn of Area %
Std.	205 min.	515 min.	30	50

Std.	205 min.	515 min.	30	50
Act.	420	780	45	82

COMMENTS:

Hardness HB 195/210 HB

We certify that the supplies detailed hereon have been manufactured, inspected and tested and unless otherwise stated conform in all respects with the requirements of the contract or order.

INSPECTORATE

F. ZAS

03/08/2012

DATE

Signed

Ets Rayon, ...

H.C.T. 1AB
Checked & Approved by
Parker Hannifin IPDE

For and on Behalf of Ets Raymond BARRE Description BARRE



HI-TECH Special Steels Limited

Rotherham Road, Laughton Common, Dinnington, Sheffield S25 3RF Tel: Dinnington (01909) 564545 Fax No (01909) 550682

Registered in England No. 1921116

Customer

Parker Hannifin Manufacturing Ltd Riverside Road Pottington Business Park Barnstaple Devon EX31 1NP

TEST CERTIFICATE IN ACCORDANCE WITH BS EN 10204 3.1/ISO 10474 3.1

Certificate No.	T58258	Product	Stainless	steel bar	
Order No.	Consignment	Cast No.	228054	Specification	n 1.4404
Our Reference	Z98553/P40475	Quantity	324 Kgs	Size	22mm A/F Hex
Advice Note No.	C1456	Finish	Cold sized	i l	
Heat Treatment	Fully solution treated ar	nd water quenched	prior to col	d sizing	

Chemical Analysis

С	0.015	Si	0.385	Mn	1.328	S	0.0251	P	0.0296
Ni	10.087	Сг	16.539	Мо	2.117	Ti	,	Nb	
Со	0.103	Cu	0.502	N	0.038	W		Ca	
Sn		Та		٧		Al		Fe	

Mechanical Properties

Tensile Strength	821 Mpa	0.2% Proof Stress	741 Mpa
Reduction of Area	69,0%	Elongation	24,0%
Hardness	31 HRC	Impact Tests	

Special Conditions / Processing Details

In accordance with BS EN 10088-3 2005 1.4404

HCT No: P453

In accordance with MO11/1 Concession

Part No: 7610444302

Free from mercury and radioactive contamination ICC test to ASTM A262 'E' - Satisfactory

This material has been solution annealed and is free from grain boundary carbide precipitation Also conforming to ASTM A276/A479 Gr 316/316L

Manufacturers Test Cert No.

Concessions Agreed

"Certified that the whole of the supplied detailed hereon, unless otherwise stated*, are covered by the Sources Certificate of Conformity/Test Certificate referenced hereon, and has been subject to the Quality System requirements in accordance with the conditions of our BS EN ISO 9001 2008 registration, for lot traceable products".

"Certified that the supplies/services detailed hereon have been inspected and tested in accordance with the conditions, requirements of the contract of purchase order and unless otherwise noted/below, conform in all respects to the specification(s)/drawing(s) relevant thereto".

Checked & Approved by Parkeros Lannifin J.P. Controller 18-08-2012 11:49:14 Page 1 of 4

CERTIFICAT DE RECEPTION 3.1 Usine productrice Ugine INSPECTION CERTIFICATE 3.1 Avenue Paul Hersteller UGITECH ABNAHMEPRUEFZEUGNIS 3.1 Manufacturer Girod Providing special steal solutions 73403 Ugine France EN 10204 / 3.1 NF L 00-015 Certified material test report N° fot MM / Chargen / Batch Numero / Nummer / Number Ordre de fab. / Auftrag / Prod. Order N' coulée / Schmeizen Nr / Heat N' 81139260 000010 1227GV1300 A1227GV13000 228054 11-3 Marque d'usine Certification - Werkzeugnis - Certificate AD 2000-MERKBLATT W0/TRD100 Herstellerzeichen 97 Pressure Equipment Directive 97/23/EC Supplier's Mark ISO 9001 Poincon de l'expert ISO/TS 16949 ISO 9100 Prufstempe ISO 14001 99 ISO 9120 npector's stamp 96 UGIMA 4404HM WIRE ROLLED PICKLED SOLUTION ANNEALEDHEXAGONAL 25,000MM UGIMA 4404HM FIL LAMINÉ(E) DÉCAPÉ HYPERTREMPÉ(E)HEXAGONAL(E) 25,000MM Produit Erzeugnisform UGIMA 4404HM WALZDRAHT GEWALZT GEBEIZT LÖSUNGSGEGLÜHTSECHSKANT 25,000MM UGIMA 4404HM WIRE ROLLED PICKLED SOLUTION ANNEALEDHEXAGONAL 25,000MM Client et/ou destinataire - Besteller und/oder Emplænger - Purchaser and/or Consigner N° de commande ciient - Kundebestellnummer - Purchase order number 19516 HI-TECH SPECIAL STEELS LTD 2950008448 Norme de référence / Besugsnorm / Standard for reference ASME SA479 2007 Sect.II & add TYPE 316L ASTM A479/A479M-11 TYPE 316L EN 10088-1/3ED2005 1.4404 UNS 10th Edition S31603 **AISI 316L** 12.2 Specific Manuflant / Kundenspezifikation / Dustomer's specification SS-85 - ES 235 FOR ANALYSIS ONLY - 28 JUL.00 12-3 Dimension Longueur Stueckzahl Profile Ausmessung Læenge Gewicht Pieces Nbr Shape Dimension Length Weigh 18 25,000 MM 21-1 НΧ 4345 KG 44 47 49 Demandé / Vorschrift / Required 42 45 46 % CR % MO % S Mode N° prélévement % C % MN % NI % CU 1,2500 10,0000 16,5000 2,0000 0.0150 d'élaboration Probenummer Min 0,0300 0,7500 2,0000 13,0000 18,0000 2,5000 1,0000 0,0300 Erchmel zungsart Test number Max Melting process EAF + AOD 3TGF 0,0150 0,3850 1,3280 10,0870 16,5390 2,1170 0.5020 0,0251 + CC ЭÀ 39A Produit / Erzeugnisform/ Product Demandé / Vorschrift / Raquired 54 70 73 74 75 50 55 % P % N % CO Mla 0.0400 0.1000 Max coulée/ Schmelzen / Heat 0,0296 0,0380 Produit / Erzeugnisform/ Product 76 Demandé / Vorschrift / Required 78 79 RΛ 81 82 86 87 Min Max coulée/ Schmelzen / Heat Produit / Erzeugnisform/ Product The contents of the report are accurate and all test results andoperations performed by UGITECH or its subcontractors are in Ugine le 16,07,2012 compliancewith the material specification and the specific applicable material requirements of ASMENCA-1880 L'agent Réceptionnaire de l'usine Der Werksachverständige The contents of the report are accurate and all test results and operation The work inspector compliancewith the material specification and the specific appli

> Parker Hannilin 11 DE 18-08-2012 11:49:14 Page 2 of 4

1/1/12

Usine productrice Hersteiler Manufacturer Numéro / Nummer / 81139260 00 N° prélèvement Probenummer Test number	24 13 3TGF	gine 5 4 90 Min Max Min Max 1 L	INS ABI EN NF Ordre de let	PECTIC NAHME 10204 L 00-01 D. / Auftrag / I GV 1300 Limite d Stree	15 Certi Prod Order	TIFICAT ZEUGNI 	E 3.1 S 3.1 Saterial te soulée / Schme 8054			N° fot MM 1227G	pecial steel :	/ Batch	11-3 ness HRC
A l'état de Référence / t sample / Probestreifenb		est											
Taux de corroyage		14	25	26A	268 Rési	27 lience-Kr	28 erbschla	89 ozaehiok	29 keit-Noto	h Tough	88	100	37
Forging ratio Verschmledungsgrad	7,6	:	Type Form Type	T, C	Sons Richtung Direction	Min	Vale	gzacingi eurs Individe Enzelwerte dividual valu	relles	Moyenne Mittelwerte Average	Exp Se	ansion laté Hiche Breit eral Expans	ung
A l'état de livraison / delivered solution annealed		101 d / As 13	31	33 °C	32	95 J			35	36 J			91
A l'état de Référence / t sample / Probestreifenbe		ist 14					-						
ASTMA479-A47 FREE FROM WEI QUALITY MANU MATERIAL IS SO INTERGRANULA PROVISION OF COUNTRY OF M	LDS & WE JAL REV.E DLUTION A R CORRO 10 CFR PA	ELD REPA OF 22 N ANNEALE SION PEF ART 21 &	IRS/FREE OV.2009 D RASTM / 10 CFR	FROM N	TERCURY	CONTA	MINATIO	N/FREE F					S WORK 6
Quantité livrée / delive		-	97						Q:R	<u>.</u>		. ".	94.
The contents of the compliancewith the mate	report are accurial specification	rate and all to a and the spe	est results and cific applicab	doperations p le materialreq	erformed by prements of	GITECH ON II ASMENICA-3	s subcontract 800	ors are in	<i>J</i>	e le 16.07			79-
The contents of the compliance with the mate	report are accurated specification	rate and all to n and the spe	est result and cific applicab	doperations of le insternation	oformed by U	JG FECH or A	s sported	orsale V C	db	Aksachversta ork inspector		lufe	an



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TEMP 꼰

Special Testing Ltd

Bacon Lane, Sheffield S9 3NH Tel: 0114 244 1061 www.specialtesting.co.uk Fax: 0114 244 5566 Acc/Admin Fax: 0114 244 0444 Works

Test Certificate 215407

ROLLS ROYCE APPROVED LABORATORY AUTHENTICATION CODE 4F1BACDE405B

CUSTOMER

LAUGHTON COMMON, DINNINGTON HI-TECH SPECIAL STEELS LTD ALLOY & METAL WORKS, ROTHERHAM RD

SHEFFIELD S25 3RF

DATE RECEIVED 09 August 2012

CUAD				Approval No. 1119	11191		TEST DATE	11 A	11 August 2012	EST 1925
CUSTOMER ORDER NO PRD2558	PRD2558	TEST NUMBER 215407	215407	IDENTITY	P40475	CAST*	228054		ALL REQUIREMENTS	ALL REQUIREMENTS MIN UNLESS STATED
SPECIFICATION	BS EN10088-3:2005 (X2CrNiMo17-12-2) 1.4404	-2) 1.4404				TEST PIECE FROM)M+		22MM A/F HEX	
TENSILE: BS EN ISO 6892-1:2009 A224	2-1:2009 A224	0.29	0.2% PROOF	1.0% PROOF	UTS		ELONG ON	%	ROFA%	COMMENTS

END OF CERTIFICATE

Γ. **P45**

18-08-2012 11:49:14 Page 4 of 4

ROCKWELL C (MID RADIAL)

HARDNESS: BS EN ISO6508-1 2005

BRINELL (MID RADIAL)

HBW 10/3000 DESIGNATION

HRC

REQUIREMENTS

RESULTS 269 DESIGNATION

REQUIREMENTS

RESULTS

HARDNESS: BS EN ISO6506-1 2005

10.01mm SECTION

78.70mm² AREA SO

Mpa

RESULTS

741

789

821

50mm

24.0

69.0

ΧŽ

UNIT REQUIREMENTS

authenticated at www.specialtesting.co.uk with the code 4F1BACDE405B No copy is authentic without the embossed seal and signature. This certificate can be This certificate shall not be reproduced, except in

full, without the written approval of the laboratory.

REPRESENTING*

For and on behalf of

SPECIAL TESTING LTD A Member of the Special Steel Group of Companies

Kath Elliott

K. y. ella

Certification Officer

Test results do not in any way confer approval of the quality of manufacture of the material. All results are subject to uncertainty of measurement budgets, details available upon request, information marked * is supplied by the customer.



Special Steels Lim

Rotherham Road, Laughton Common, Dinnington, Sheffield S25 3RF Tel: Dinnington (01909) 564545 Fax No (01909) 550682

Customer

Registered in England No. 1921116

Parker Hannifin Manufacturing Ltd Riverside Road **Pottington Business Park Barnstaple** Devon EX31 1NP

TEST CERTIFICATE IN ACCORDANCE WITH BS EN 10204 3.1/ISO 10474 3.1

Certificate No.	T58247	Product	Stainless	steel bar		
Order No.	Consignment	Cast No.	224009	Specific	ation	1.4404
Our Reference	Z98490/P40461	Quantity	468KGS	Size	22mm A/F	
Advice Note No.	C1452	Finish	Linished			
Heat Treatment	Fully solution treated ar	d water quenched	prior to cole	d sizing		

Chemical Analysis

С	0.021	Si	0.386	Mn	0.318	S	0.027	Р	0.0315
Ni	10.117	Cr	16.568	Мо	2.04	Ti		Nb	
Co	0.132	Cu	0.52	N	0.039	W		Ca	
Sn		Та		٧		Al		Fe	

Mechanical Properties

Tensile Strength	817 M pa	0.2% Proof Stress	730 Mpa	
Reduction of Area	67.00%	Elongation	26.00%	·
Hardness	27 Hrc	Impact Tests		

Special Conditions / Processing Details

In accordance with BS EN 10088-3 2005 1,4404

HCT No: P442

In accordance with MO11/1 Concession

Part No: 7610444302

Free from mercury and radioactive contamination

ICC test to ASTM A262 'E' - Satisfactory

This material has been solution annealed and is free from grain boundary carbide precipitation Also conforming to ASTM A276/A479 Gr 316/316L

Manufacturers Test Cert No.

products".

Concessions Agreed

"Certified that the whole of the supplied detailed hereon, unless otherwise stated*, are covered by the Sources Certificate of Conformity/Test Certificate referenced

hereon have been inspected and tested in accordance with the conditions, requirements of the contract or purchase order and,unless otherwise noted below,conform in all

"Certified that the supplies/services detailed

hereon,and has been subject to the Quality System requirements in accordance with the conditions of our BS EN ISO 9001 2008 registration, for lot traceable ecked & Appresidents the specification (s)/drawing(s)

Parker Hannifin T

02-08-2012-07:18:06 Page 1 of 4 Quality Controller



OR TEMP

곡

9.97mm SECTION

78.07mm² AREA SQ

Mpa

RESULTS

730

778

817

50mm

26.0

67.0

N/A

REQUIREMENTS

RESULTS

UNIT REQUIREMENTS

Special Testing Ltd

Bacon Lane, Sheffield S9 3NH Tel: 0114 244 1061 www.specialtesting.co.uk Fax: 0114 244 0444 Works Fax: 0114 244 5566 Acc/Admin

Test Certificate 214177

ROLLS ROYCE APPROVED LABORATORY AUTHENTICATION CODE A7DB0E63418B Approval No. 11191

> ALLOY & METAL WORKS, ROTHERHAM RD HI-TECH SPECIAL STEELS LTD CUSTOMER

DATE RECEIVED TEST DATE

SHEFFIELD S25 3RF 24 July 2012 26 July 2012

LAUGHTON COMMON, DINNINGTON



COMMENTS	ROFA%	%	ELONG ON	UTS	1.0% PROOF	0.2% PROOF	1:2009 A224	TENSILE: BS EN ISO 6892-1:2009 A224
AF HEX	.875" / 22MM AF HEX	;	TEST PIECE FROM*				BS EN10088-3:2005 (X2CrNiMo17-12-2) 1.4404	SPECIFICATION
ALL REQUIREMENTS MIN UNLESS STATED	ALL REQUIRE		CAST* 224009	P40457/P40461	IDENTITY	TEST NUMBER 214177		CUSTOMER ORDER NO PRD2524

END OF CERTIFICATE

ROCKWELL C (MID RADIAL) HARDNESS: BS EN ISO6508-1 2005 BRINELL (MID RADIAL)

HBW 10/3000 DESIGNATION

N/A

DESIGNATION

REQUIREMENTS

RESULTS 257

HRC

Z/A

27

HARDNESS: BS EN ISO6506-1 2005

REPRESENTING* full, without the written approval of the laboratory authenticated at www.specialtesting.co.uk with the code A7DB0E63418B No copy is authentic without the embossed seal and signature. This certificate can be This certificate shall not be reproduced, except in SPECIAL TESTING LTD For and on behalf of A Member of the Special Steel Group of Companies Asst Testhouse Manager Liam Burdett

Test results do not in any way confer approval of the quality of manufacture of the material. All results are subject to uncertainty of measurement budgets, details available upon request. Information marked * is supplied by the customer.

CERTIFICAT DE RECEPTION 3.1 Ugine Usine productrice Avenue Paul INSPECTION CERTIFICATE 3.1 UGITECH Hersteller Girod ABNAHMEPRUEFZEUGNIS 3.1 Providing special steel solutions Manufacturer 73403 Ugine EN 10204 / 3.1 France NF L 00-015 Certified material test report Nº lot MM / Chargen / Batch Nº coulée / Schmelzen Nr / Heat Nº Numéro / Nummer / Number Ordre de fab. / Auftrag / Prod. Order 1227EJ8300 224009 81131385 000010 A1227EJ83000 11-3 Marque d'usine Certification - Werkzeugnis - Certificate Herstellerzeichen AD 2000-MERKBLATT WO/TRD100 97 Supplier's Mark Pressure Equipment Directive 97/23/EC ISO 9001 Poincon de l'expert ISO 9100 ISO/TS 16949 Prufstempe ISO 9120 96 ISO 14001 99 Inpector's stamp UGIMA 4404HM WIRE ROLLED PICKLED SOLUTION ANNEALEDHEXAGONAL 25,000MM UGIMA 4404HM FIL LAMINÉ(E) DÉCAPÉ HYPERTREMPÉ(E)HEXAGONAL(E) 25,000MM Produit UGIMA 4404HM WALZDRAHT GEWALZT GEBEIZT LÖSUNGSGEGLÜHTSECHSKANT 25,000MM Erzeugnisform UGIMA 4404HM WIRE ROLLED PICKLED SOLUTION ANNEALEDHEXAGONAL 25,000MM 6 Product Nº de commande client - Kundebestellnummer - Purchase order number Client et/ou destinataire - Besteller und/oder Empfænger - Purchaser and/or Consigner 9 2950008319 19516 HI-TECH SPECIAL STEELS LTD Norme de référence / Besugsnorm / Standard for reference ASTM A479/A479M-11 TYPE 316L ASME SA479 2007 Sect.II & add TYPE 316L UNS 10th Edition S31603 EN 10088-1/3ED2005 1.4404 AISI 316L 12-2 Spécification client / Kundenspezifikation / Customer's specification 12-3 SS-85 - ES 235 FOR ANALYSIS ONLY - 28 JUL.00 Poids Nombre Profil Dimension Longueur Stueckzahl Profile Ausmessung Laenge Gewicht Pieces Nbr Shape Dimension Length Weigh 25,000 MM 21-1 6704 KG 14 HX 21-2 48 49 43 46 47 42 Demandé / Vorschrift : Required % S % C % MN % NI % CR % MO % CU % SI Mode Nº prélèvement 0.0150 1,2500 10,0000 16,5000 Probenummer Min 2,0000 d'élaboration 2,0000 0,0300 0,0300 0,7500 13,0000 18,0000 2,5000 1.0000 Erchmel zungsart Test number Max Melting process EAF + AOD 3NFN 0,0210 0,3860 1,3180 10,1170 16,5680 2,0410 0.5200 coulée/ Schmelzen / Heat +CC38 39A Produit / Erzeugnisform/ Product 70 72 73 74 75 Demandé / Vorschrift / Required 50 51 52 53 54 55 % P % N % CO Min 0,1000 Max 0.0400 coulée/ Schmelzen / Heat 0,0315 0.0390 Produit / Erzeuonisform/ Product 84 87 76 77 78 79 80 81 82 83 85 Demandé / Vorschrift / Required Min Max coulóe/ Schmelzen / Heat Produit / Erzeugnisform/ Product Ugine le 30.06.2012 L'agent Réceptionnaire de l'usine Der Werksachverständige The contents of the report are accurate and all test results and peratoris de formed by BETCH The work inspector compliancewith the material specification and the specific appl 66-2 040000589607 Page, 1/2

Usine productrice

Hersteller Manufacturer Ugine Avenue Paul

Girod

73403 Ugine

France

CERTIFICAT DE RECEPTION 3.1 INSPECTION CERTIFICATE 3.1 ABNAHMEPRUEFZEUGNIS 3.1

UGITECH

Providing special steel solutions



EN 10204 / 3.1

NF L 00-015 Certified material test report

			L INL			1100		<u></u>	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~					
Numéro / Nummer / Number				. / Auftrag / F				uiée / Schmel	•		Nº lot MM	/ Chargen	/ Batch	
81131385 000010		4	A12278	EJ83000)	11-1	224	009		11-2	1227EJ	18300		11-3
_	T .			Limite d	'élasticité	F	м	Along	ement	Striction	Dur	eté-Hae	rte-Hardı	ness
24		90	T°C	1	kgrenze Strength , 1%		stigkeit nsile		gation A4D	Einschnurung Red area	НВ	HV	HRB	HRC
			°C	Мра	Мра	М	pa	%	%	%				
	Min		20	170	·		·	30	30	40				
13	Max Min Max		20						99					
N° prélèvement 3NFN Probenummer Test number	14	L	20	268		59	92	55	57	75				
398													!	
A l'état de Référence / treatment on t sample / Probestreifenbehandiung	est						•							
		14	25	26A	26B		27	28	89			88	100	37
Taux de corroyage					Rési	lienc	е-Ке	erbschlag	gzaehigl	ceit-Note	h Tough	ness		
Forging ratio Verschmiedungsgrad 77,6			Type Form Type	т∘с	Sens Richtung Direction		1in		eurs individu Einzelwerte dividual vale	3	Moyenne Mittelwerte Average	Se	pansion laté titliche Breiti teral Expans	ung
	1	101	31	33	32		95			35	36			91
A l'état de livraison / Lieferzustan delivered	nd / As			°C			j				J			
solution annealed		13		i										
A l'état de Rétérence / treatment on u sample / Probestreifenbehandlung	est									•				

ASTMA479-A479M 08-10A/ASMESA-479 ED .07 SECT.II 2010 NO ADD./QQ-S-763F/AMSQQ-S-763A/ASTMA276 8A-10 FREE FROM WELDS & WELD REPAIRS/FREE FROM MERCURY CONTAMINATION/FREE FROM CONTINUOUS CARBIDE NETWORK 6 QUALITY MANUAL REV.E OF 22 NOV.2009

MATERIAL IS SOLUTION ANNEALED

INTERGRANULAR CORROSION PER ASTM A262 PRACTICES A & E ACCEPTABLE

PROVISION OF 10 CFR PART 21 & 10 CFR PART 50 APP.B APPLY

COUNTRY OF MELT SOURCE: FRANCE

Quantité livrée / delivered quantity / gelieferte Quantität

The contents of the report are accurate and all test results compliance with the material specification and the specific applies

The contents of the report are accurate and all test result compliance with the material specification and the specific approximation and the specific appr

Ugine le 30.06.2012

L'agent Réceptionnaire de l'usine

Der Werksachverständige

040000589607 Page 2/2



HI-TFCH Special Steels Limited

Rotherham Road, Laughton Common, Dinnington, Sheffield S25 3RF Tel: Dinnington (01909) 564545 Fax No (01909) 550682

Registered in England No. 1921116

Customer

Parker Hannifin Manufacturing Ltd Riverside Road Pottington Business Park Barnstaple Devon EX31 1NP

TEST CERTIFICATE IN ACCORDANCE WITH BS EN 10204 3.1/ISO 10474 3.1

Certificate No.	T58200	Product	Stainless	steel bar	•
Order No.	Consignment	Cast No.	216052	Specification	n 1.4404
Our Reference	Z98230/P40412	Quantity	551 Kgs	Size	22mm A/F Hex
Advice Note No.	C1433	Finish	Cold sized	1	
Heat Treatment	Fully solution treated ar	d water quenched	prior to col	d sizing	

Chemical Analysis

С	0.021	Si	0.467	Mn	1.315	S	0.03	P	0.0275
Ni	10.094	Сг	16.555	Мо	2.031	Ti		Nb	
Со		Cu	0.518	N	0.038	W		Ca	
Sn		Ta		٧		ΑI		Fe	

Mechanical Properties

Tensile Strength	846 Mpa	0.2% Proof Stress	736 Mpa
Reduction of Area	69,0%	Elongation	24,0%
Hardness	24 HRC	Impact Tests	

Special Conditions / Processing Details

In accordance with BS EN 10088-3 2005 1.4404

HCT No: P410

In accordance with MO11/1 Concession

Part No: 7610444302

Free from mercury and radioactive contamination ICC test to ASTM A262 'E' - Satisfactory

This material has been solution annealed and is free from grain boundary carbide precipitation Also conforming to ASTM A276/A479 Gr 316/316L

Manufacturers Test Cert No.

Concessions Agreed

"Certified that the whole of the supplied detailed hereon, unless otherwise stated*, are covered by the Sources Certificate of Conformity/Test Certificate referenced hereon, and has been subject to the Quality System requirements in accordance with the conditions of our BS EN ISO 9001 2008 registration, for lot traceable products".

"Certified that the supplies/services detailed hereon have been inspected and tested in accordance with the conditions, requirements of the contract or purchase order and, unless otherwise notes below, conform in all respects to the specification(s)/drawing(s) relevant thereto".

Checked & Approved by Parkabe Hannifin III Controlle 23-06-2012 07:21:48 Page 1 of 4

CERTIFICAT DE RECEPTION 3.1 Ugine Usine productrice UGITECH INSPECTION CERTIFICATE 3.1 Avenue Paul Hersteller Providing special steel solutions ABNAHMEPRUEFZEUGNIS 3.1 Manufacturer Girod 73403 Ugine EN 10204 / 3.1 France NF L 00-015 Certified material test report N° fot MM / Chargen / Batch N° coulée / Schmeizen Nr / Heat N° Ordre de fab. / Auftrag / Prod. Order Numéro / Nummer / Number 216052 1226ZC2700 A1226ZC27000 11-3 81115520 000010 Marque d'usine Certification - Werkzeugnis - Certificate UGITEC Herstellerzeichen AD 2000-MERKBLATT W0/TRD100 97 Supplier's Mark Pressure Equipment Directive 97/23/EC Poincon de l'expert ISO 9001 ISO 9100 Prufstempe ISO/TS 16949 96 99 ISO 9120 98 Inpector's stamp ISO 14001 UGIMA 4404HM WIRE ROLLED PICKLED SOLUTION ANNEALEDHEXAGONAL 25,000MM UGIMA 4404HM FIL LAMINÉ(E) DÉCAPÉ HYPERTREMPÉ(E)HEXAGONAL(E) 25,000MM Produit UGIMA 4404HM WALZDRAHT GEWALZT GEBEIZT LÖSUNGSGEGLÜHTSECHSKANT 25,000MM Erzeuanisform UGIMA 4404HM WIRE ROLLED PICKLED SOLUTION ANNEALEDHEXAGONAL 25,000MM Product N° de commande client - Kundebesteilnummer - Purchase order number Client at/ou destinataire - Besteller und/oder Empfænger - Purchaser and/or Consigner 2950007902 10 HI-TECH SPECIAL STEELS LTD 19516 Norme de référence / Besugsnorm / Standard for reference ASTM A479/A479M-11 TYPE 316L ASME SA479 2007 Sect.II & add TYPE 316L UNS 10th Edition S31603 EN 10088-1/3ED2005 1.4404 **AISI 316L** 12.2 Specification client / Kundenspezifikation / Customer's specification 12-3 SS-85 - ES 235 FOR ANALYSIS ONLY - 28 JUL.00 Polds Longueur Dimension Profit Nombre Gewicht Laenge Ausmessung Profile Stueckzahl Weigh Dimension Length Pieces Nbr Shape 19489 KG 25,000 MM 21-2 18 47 48 45 46 42 Demandé / Vorschrift / Required % S % CR % MO % NI % C % SI % MN N° prélèvement Mode 1,2500 10,0000 16,5000 2,0000 0,0150 Min d'élaboration Probenummer 0.0300 2,0000 13,0000 18,0000 2,5000 1.0000 0,7500 0.0300 Мах Erchmel zungsart Test number Melting process 1,3150 10,0940 16,5550 2,0310 0,5180 0,0210 0,4670 3DC3 EAF + AOD coulée/ Schmelzen / Heat + CC Produit / Erzeugnisform/ Product 39A 38 74 75 71 72 73 54 50 5.1 52 Demandé / Vorschrift / Required % P % N Min 0,0400 0,1000 Max 0,0275 0,0380 coulee/ Schmelzen / Heat Produit / Erzeugnisform/ Product 84 80 83 76 77 Demandé / Vorschrift / Required Min Мах coulée/ Schmeizen / Heat Produit / Erzeugnisform/ Product The contents of the report are accurate and all test results and operations performed by LIGHTECH or its subconfectors are in Ugine le 25.05.2012 unliancewith the material specification and the specific applicable material L'agent Réceptionnaire de l'usine Der Werksachverständige The contents of the report are accurate and all test results and aleau 12/6/12 compliancewith the material specification and the specific applic 6 H040000574203 Page 1/2

23-06-2012 07:21:48 Page 2 of 4

Usine productrice Hersteller Manufacturer Numéro / Nummer / 81115520 00	24	gine 5	INSI ABN EN NE I	PECTIONAHME 10204 L 00-01 . / Auftreg / F 2C27000 Limite d' Strect	ON CERT PRUEFZ / 3.1 15 Certi Prod. Order	ECEPTICAT ZEUGNIS ified ma N° co 11-1 216 RM Zugfeetigket Tensile Mpa	E 3.1 S 3.1 Sterial Le Suite / Schme 5052 Along Brock	est repo deen Nr / Heat gement dethung ngation A4D % 30 99		UGITEC Providing sp N° lot MM 1226ZC Dur HB	ecial steal :	Balch	11-3 ness HRC
N° prélèvement Probenummer Test number 398	3DC3	1 L	20	263		597	52 ·	54	75				
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Verschmledungsgrad	d 77,6	101	Form Type 31	33 T°C	Richtung Direction 32	Min 95		Bnzelwerte idividual vali	9	Millelwerte Average 36	Se	itliche Breit Leral Expan	เกติ
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SPECIFICATION

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TEMP

TENSILE: BS EN ISO 6892-1:2009 A224

CUSTOMER ORDER NO

PRD2387

TEST NUMBER

210988

IDENTITY

P40412

CAST

TEST PIECE FROM

BS EN10088-3:2005 (X2CrNiMo17-12-2) 1.4404

Special Testing Ltd

Bacon Lane, Sheffield S9 3NH Tel: 0114 244 1061 www.specialtesting.co.uk Fax: 0114 244 0444 Works Fax: 0114 244 5566 Acc/Admin

Test Certificate 210988

AUTHENTICATION CODE BD7645D69CFD **ROLLS ROYCE APPROVED LABORATORY** Approval No. 11191

CUSTOMER

ALLOY & METAL WORKS, ROTHERHAM RD HI-TECH SPECIAL STEELS LTD LAUGHTON COMMON, DINNINGTON



216052	TEST DATE	DATE RECEIVED	SHEFFIELD S25 3RF
ALL REQUIREMEN	22 June 2012	20 June 20 - 2	

	7 24.0 69.0 N/A	ON % ROFA% CONN	0.875"/22MM A/F HEX	ALL REQUIREMENTS MIN UNLESS STATED	CEIVED 20 June 20 .2 TE 22 June 2012 ES
C.T. P410	l by	COMMENTS		MIN UNLESS STATED	EST 1925

END OF CERTIFICATE

DESIGNATION HBW 10/3000 DESIGNATION

REQUIREMENTS

RESULTS 257

HRC.

X X

24

ROCKWELL C (MID RADIAL) HARDNESS: BS EN ISO6508-1 2005 BRINELL (MID RADIAL)

HARDNESS: BS EN ISO6506-1 2005

10.00mm SECTION

78.54mm² AREA SQ

Mpa

RESULTS

736

814

846

50mm

REQUIREMENTS

RESULTS

Z

UNIT REQUIREMENTS

0.2% PROOF

1.0% PROOF

댕

ELONG

Test results do not in any way confer approval of the quality of manufacture of the material. All results are subject to uncertainty of measurement budgets, details available upon request information marked 'is supplied by the customer. REPRESENTING* full, without the written approval of the laboratory.

authenticated at www.specialtesting.co.uk with the code BD7645D69CFD No copy is authentic without the embossed seal and signature. This certificate can be This certificate shall not be reproduced, except in

For and on behalf of

SPECIAL TESTING LTD

A Member of the Special Steel Group of Companies

Kath Elliott

Ky Suga

Certification Officer

23-06-2012 07:21:48 Page 4 of 4



SEDE LEGALE E AMMINISTRATIVA Via Ambrosoli 2/a - 20090 Rodano Millepini MI Tel: +39 0295328610 r.a. Fax: +39 0295328611

CHNOSTEEL C.F.: 00659860191 - P.Iva/V.A.T.: 10003740155

Messers

DESMET BALLESTRA S.P.A.

VIA PIERO PORTALUPPI, 17

20138 MILANO

ΜI

Rodano, 31 ottobre 2012

ofP.O.NO. 122056 12/09/12 Bill NO. of 0005276 31/10/12

******************* CERTIFICATE OF CONFORMITY - INSTRUMENTATION FITTINGS/VALVES NO. 0028127 ********************

We certify that the Parker Instrumentation fittings supplied against your order have been manufactured and tested in accordance with the following :

1. Quality assurance

Quality assurance procedures conform fully with EN ISO 9001:2008. Formal quality approval is certified by Lloyds Register of Quality Assurance; approval certificate No. DNV 73760-2010-AQ-GBR-UKAS. In the production or testing of stainless steel components shipped against your order, non mercury was used in directly connected manometers, seals, pumps or glass thermometers; nor in such production or testing was mercury being handled in the immediate vicinity of such material. All markings have been applied by either low stress stamping or electro-chemical etching.

2. Materials

Material used conform to one or more of the following specifications : 316 Stainless steel bar stock : - BS970 PART 1 GRADE 316 S31 /

EN10088-3 Grade 1.4401 / DIN 17440 WERKSTOFF 1.4401/ASME SA479-316.

2.1.1 316L Stainless steel bar stock : - BS970 PART 1 GRADE 316 S11 / EN10088-3 Grade 1.4404 / DIN 17440 WERKSTOFF 1.4404/ASME SA479-316L

2.1.2 316 Stainless steel forgings : - BS970 PART 1 GRADE 316 S31 / EN10088-3 Grade 1.4401 / DIN 17440 WERKSTOFF 1.4401/ASME SA182-316.

2.2 Brass bar stock : BS2874 CZ121

> ASTM B16 ALLOY 360 ASTM B453 ALLOY 345

2.2.1 Brass forgings : BS2872 CZ122

ASTM B124 ALLOY 377

2.3 Carbon steel bar stock :

ASTM A108 2.3.1 Carbon steel forgings : ASTM A576 2 4 NES 833 PART 2

bronze) bar stock :

GRADE 1 2.4.1 High duty bronze (aluminium NES 833 PART 2

bronze) forgings:

GRADE 2 2.5 Monel (nickel copper alloy) BS3076 NA13

bar stock/forgings : 6% molybdenum stainless 2.6

steel bar stock/forgings : Parker Hannifin S.P.A.

R.T.I.SPA declares that the above certificate is copy conform to the original

XCERT03





ASTM B164

UNS S31254



SEDE LEGALE E AMMINISTRATIVA Via Ambrosoli 2/a - 20090 Rodano Millepini MI Tel: +39 0295328610 r.a. Fax: +39 0295328611 C.F.: 00659860191 - P.Iva/V.A.T.: 10003740155

Item	Description	Q.ty	U.M.
EHC2180	UNIONE A TEE	29,000	PZ
	12MMOD MOD.ETM12-316		
EHC2180	UNIONE A TEE	3,000	PZ
	12MMOD MOD.ETM12-316		
EHC2300	TERM. DIRITTO MASCHIO	57,000	PZ
	12MMODX1/4"NPT MOD.M12MSC1/4N-316		
EHC2300	TERM. DIRITTO MASCHIO	3,000	PZ
	12MMODX1/4"NPT MOD.M12MSC1/4N-316		
EHC2310	TERM. DIRITTO MASCHIO	12,000	PZ
	12MMODX1/2"NPT MOD.M12MSC1/2N-316		
EHC2310	TERM. DIRITTO MASCHIO	125,000	PZ
	12MMODX1/2"NPT MOD.M12MSC1/2N-316		
EPA0670	TERM. DIRITTO MASCHIO OTTONE	122,000	PZ
	6MMODX1/4"NPT MOD.FBMB6-1/4		
EPA0740	TERM. DIRITTO MASCHIO OTTONE	16,000	PZ
	12MMODX1/2"NPT MOD.FBMB12-1/2		
EPA0950	TERM. DIRITTO MASCHIO OTTONE	16,000	PZ
	6MMODX1/4"BSPT MOD.F3BMB6-1/4		
EPA0950	TERM. DIRITTO MASCHIO OTTONE	4,000	PZ
	6MMODX1/4"BSPT MOD.F3BMB6-1/4		
EPA1380	TERM. DIRITTO FEMMINA OTTONE	30,000	PZ
	6MMODX1/4"NPT MOD.GBMB6-1/4		
EPA1850	UNIONE A TEE OTTONE	6,000	PZ
	6MMOD MOD.JBMB6		
EPA2430	DADO CON ANELLO OTTONE	10,000	PZ
	12MMOD MOD.BTMB12		
FLA0527	VALVOLA SFERA SERIE HY-PRO 6000 PSI	34,000	PZ
	AISI 316 1/2"NPTF MOD. HPBYB8FF		
FLA0527	VALVOLA SFERA SERIE HY-PRO 6000 PSI	10,000	PZ
	AISI 316 1/2"NPTF MOD. HPBYB8FF		
FLA0539	VALVOLA SFERA MONOBLOCCO 6000 PSI	29,000	PZ
	PTFE PACKING/PTFE SEAT 316/316L		
	1/4"NPTF MOD. HPBYB4FF		
FLA0539	VALVOLA SFERA MONOBLOCCO 6000 PSI	9,000	PZ
	PTFE PACKING/PTFE SEAT 316/316L		
	1/4"NPTF MOD. HPBYB4FF		

Cordiali saluti. Best regards.

R.T.I. S.p.A. Doneda Massimo

XCERTXP







SEDE LEGALE E AMMINISTRATIVA Via Ambrosoli 2/a - 20090 Rodano Millepini MI Tel: +39 0295328610 r.a. Fax: +39 0295328611

CHNOSTEEL C.F.: 00659860191 - P.Iva/V.A.T.: 10003740155

Messers

DESMET BALLESTRA S.P.A.

VIA PIERO PORTALUPPI, 17

20138 MILANO MI

Rodano, 31 ottobre 2012

P.O.NO. 122056 of 12/09/12 Bill NO. 0005276 of 31/10/12

CONFORMANCE CERTIFICATE FOR MATERIAL SHIPPED NO. 0028126

In conformity with the original documentation enclosed, Parker Hannifin Spa Hereby certifies that material supplied as indicated above were manufactured in conformance with material and/or manufacturing specification indicated said purchase order.

If requested, component listed below are marked with traceable code number specified.

Parker Hannifin S.P.A.

R.T.I SPA declares that the above certificate is copy conform to the original.

XCERT02







SEDE LEGALE E AMMINISTRATIVA

Via Ambrosoli 2/a - 20090 Rodano Millepini MI Tel: +39 0295328610 r.a. Fax: +39 0295328611 C.F.: 00659860191 - P.Iva/V.A.T.: 10003740155

Description Q.ty U.M. Item

EUA0002 N12X1/1-50 50,000 MT N6X1/1-50 50,000 MT EUA0023

Cordiali saluti. R.T.I. S.p.A. Best regards. Doneda Massimo

XCERTXP







Rotherham Road, Laughton Common, Dinnington, Sheffield S25 3RF Tel: Dinnington (01909) 564545 Fax No (01909) 550682

Registered in England No. 1921116

Customer

David Paull (CNC) T/A DP Eng Ltd Jon Davey Drive Treleigh Ind Est Redruth TR16 4AX

TEST CERTIFICATE IN ACCORDANCE WITH BS EN 10204 3.1/ISO 10474 3.1

Certificate No.	T58120	Product Stainless steel bar
Order No.	Consignment	Cast No. 146099 Specification 1.4404
Our Reference	Z97374/P40337	Quantity 170 Kgs Size 1.25" A/F Hex
Advice Note No.	DP183	Finish Linished
Heat Treatment	Fully solution treated ar	nd water quenched prior to cold sizing

Chemical Analysis

С	0.021	Si	0.49	Mn	1.34	S	0.025	Р	0.0263
Ni	11.119	Cr	16.63	Мо	2.048	Ti		Nb	
Со		Cu		N	0.029	W		Ca	
Sn		Ta		٧		Al		Fe	

Mechanical Properties

Tensile Strength	657 Mpa	0.2% Proof Stress	521 Mpa
Reduction of Area	72,0%	Elongation	38,0%
Hardness	17 HRC	Impact Tests	

Special Conditions / Processing Details

In accordance with BS EN 10088-3 2005 1.4404

In accordance with MO19/1

HCT No: P344

Conforming to NACE MR0175/MR0103

Part No: 7711238202

Free from mercury and radioactive contamination

ICC test to ASTM A262 'E' - Satisfactory

Also conforming to ASTM A276/A479 Gr 316/316L & ASTM A182 F316/316L

Manufacturers Test Cert No.

Concessions Agreed

"Certified that the whole of the supplied detailed hereon, unless otherwise stated*, are covered by the Sources Certificate of Conformity/Test Certificate referenced hereon,and has been subject to the Quality System requirements in accordance with the conditions of our BS EN ISO 9001 2008 registration, for lot traceable products".

"Certified that the supplies/services detailed hereon have been inspected and tested in accordance with the conditions, requirements of the contract or purchase order and, unless otherwise noted below,conform in all respects to the specification(s)/drawing(s) relevant thereto".

Checked & Approved Parkero Lannifin Julity Controller 25-04-2012 17:02:14 Page 1

INSPECTION CERTIFICATE 3.1 Ugine Usine productrice **CERTIFICAT DE RECEPTION 3.1** UGITECH Avenue Paul Hersteller ABNAHMEPRUEFZEUGNIS 3.1 Girod Providing special steel solutions Manufacturer 73403 Ugine EN 10204 / 3.1 France N° lot MM / Chargen / Batch Ordre de fab. / Auftrag / Prod. Order N° coulée / Schmelzen Nr / Heat N' Numéro / Nummer / Number A1146JH04000 1146JH0400 146099 81050969 000010 11-2 Marque d'usine Certification - Werkzeugnis - Certificate Herstellerzeichen AD 2000-MERKBLATT W0/TRD100 Suppiler's Mark 97 Pressure Equipment Directive 97/23/EC ISO 9001 Poincon de l'expert ISO 9100 ISO/TS 16949 Prufstempe 99 ISO 9120 96 ISO 14001 inpector's stamp UGIMA 316LFG BAR ROLLED BLACK SOLUTION ANNEALEDHEXAGONAL 34,000MM LONG. 5,460M + 200,0 00MM -0,000MM UGIMA 316LFG BARRE LAMINÉ(E) NOIR(E) HYPERTREMPÉ(E)HEXAGONAL(E) 34,000MM LONG. 5,460M + 200,000M Produit UGIMA 316LFG STAB GEWALZT SCHWARZ ABGESCHRECKTSECHSKANT 34,000MM LONG. 5,460M + 200,000MM -0,000 Erzeugnisform UGIMA 316LFG BAR ROLLED BLACK SOLUTION ANNEALEDHEXAGONAL 34,000MM LONG. 5,460M + 200,000MM -0,00 Product N°de commande client - Kundebestellnummer - Purchase order number Client at/ou destinateire - Besteller und/oder Empfænger - Purchaser and/or Consigner HI-TECH SPECIAL STEELS LTD 9 2950005871 10 Norme de référence / Besugsnorm / Standard for reference EN 10088-3 ED 2005 1.4404 **AISI 316L** 12-2 Spécification client / Kundenspezifikation / Customer's specification 12-3 Poids Dimension Longueur Profil Nombre Gewicht Profile Ausmessung Laenge Stueckzahl Length Weigh Dimension Pieces Nbr Shape 7394 KG 22 34,000 MM 21-5,460 168 46 47 49 45 Demandé / Vorschrift / Required 42 43 % CR % MO % S % P % C % MN % NI % SI N° prélèvement Mode 2.0000 10,0000 16,5000 Probenummer Min d'élaboration 0.7500 2,0000 13,0000 18,0000 2,5000 0.0300 0.0450 0.0300 Erchmet zungsart Test number Max Melting process 0,0250 0.0210 0.4900 1,3400 11,1190 16,6300 2,0480 0.0263 EAF + AOD 2NHH coutée/ Schmelzen / Haat + CC 38 39A Produit / Erzeugnisform/ Product 52 73 75 51 Demandě / Vorschrift / Required 50 % N Min 0,1000 Max coulée/ Schmelzen / Heat 0,0290 Produit / Erzeugnisform/ Product 83 85 88 87 77 78 AΛ 81 82 Demandé / Vorschrift / Réquired Min Max coulée/ Schmelzen / Heat Produit / Erzeugnisform/ Product The contents of the report are accurate and all test results and operations performed by UGITECH of its subcontractors are in Ugine le 00.12.2011 compliancewith the material specification and the specific applicable material L'agent Réceptionnaire de l'usine Der Werksachverständige We declare that the mentioned product is in compliance with therequirements of the Me work inspector it meetsin all respects the specified requirements and applicable sta in thisdeclaration of conformity; Document validated by electronic signature. Material manufactured in the REACH regular **2** 040000534037 Page 1/2

Usine productrice Ugine Hereteller Avenue Paul Manufacturer Girod 73403 Ugine France Numéro / Nummer / Number 81050969 000010			CE AB EN	EN 10204 / 3.1							UGITECH Providing special steel sclutions N*lot MM / Chargen / Batch			
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N*prélèvement 2 Probenummer	NHH	Max 120 L	20	314	354	566	53		75	162				
Test number	į	1										•		
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Taux de corroyage		14	25	26A	26B Rési	27 ience-Ke	28 Prhachla	89 Ozaebiak	eit-Note	30 h Tough	88	100	37	
Forging ratio Verschmiedungsgrad			Type Form	т℃	Sens Rìchlung	Min	Vale	urs individu Bnzelwarte	relles	Moyenne Mittelwerte	Exj Se	pension laté Itliche Breit	ung	
42,	0	101	Туре 31	33	Direction 32	95	ine	dividual vale	ues 35	Average 36	Lai	eral Expans	slon 91	
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Quantité livrée / delivered			92	F					93				94	
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We declare that life men meetsin all respects the spen thisdeclaration of conformit	itioned productioned production of the productio	uct is in con rements and ent validated	opliance with the applicable state by electronic states.	ne requirement ne auto en drec signalure.Mate	s of the control platfor exce erial manufact	rack and that phreservation tured in the Ri	aiter chix ks ns or exceptio EACH regulati	and lysts ons as listed ion respect	The wo	rksachverstär rk inspector 10534037	ndige Page 2/2	ledes	an	

Special Testing Ltd

www.specialtesting.co.uk Bacon Lane, Sheffield S9 3NH Tel: 0114 244 1061 Fax: 0114 244 0444 Works Fax: 0114 244 5566 Acc/Admin

Test Certificate 205355

ROLLS ROYCE APPROVED LABORATORY AUTHENTICATION CODE 4DC5F2D1DB71

> HI-TECH SPECIAL STEELS LTD CUSTOMER

SHEFFIELD S25 3RF LAUGHTON COMMON. DINNINGTON ALLOY & METAL WORKS, ROTHERHAM RD

DATE RECEIVED 17 April 2012



© 4 8				Approval No 11191	11191		TEST DATE	18 /	18 April 2012	EST 1925
CUSTOMER ORDER NO PRD2090		NUMBER	TEST NUMBER 205355	IDENTITY	P40337	CAST	146099		ALL REQUIREMENTS	ALL REQUIREMENTS MIN UNLESS STATED
SPECIFICATION	BS EN10088-3 2005 (X2CrNiMo17-12-2) 1 4404	-				SIZE OF TEST PIECE	ECÆ		1 1/4" AF HEX	
TENSILE: BS EN ISO 6892-1:2009 A224	2-1:2009 A224	0.2	0.2% PROOF	1.0% PROOF	UTS		ELONG ON	%	ROFA%	COMMENTS

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25-04-2012 17:02:14 Page 4 of 4

HRBW HRC

Z A

ROCKWELL B

ROCKWELL C (MID RADIAL) HARDNESS: BS EN ISO6508-1 2005 BRINELL (MID RADIAL)

HBW 10/3000 DESIGNATION

Z/A

REQUIREMENTS

RESULTS

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17 95

DESIGNATION

REQUIREMENTS

RESULTS 214

HARDNESS: BS EN ISO6506-1 2005

10.02mm SECTION

78.85mm² Mpa

RESULTS

521

552

657

50mm

38 O

72.0

Z/A

AREA SQ UNIT REQUIREMENTS

OR TEMP

REPRESENTING full, without the written approval of the laboratory This certificate shall not be reproduced except in authenticated at www.specialtesting.co uk with the code 4DC5F2D1DB71 No copy is authentic without the embossed seal and signature. This certificate can be SPECIAL TESTING LTD A Member of the Special Steel Group of Companies For and on behalf of Certification Manager Steve Pearce



HI-TECH Special Steels Limited

Rotherham Road, Laughton Common, Dinnington, Sheffield S25 3RF Tel: Dinnington (01909) 564545 Fax No (01909) 550682

Registered in England No. 1921116

Customer

David Pault CNC T/A DP Eng Ltd Jon Davey Drive Treleigh Ind Est Redruth TR16 4AX

TEST CERTIFICATE IN ACCORDANCE WITH BS EN 10204 3.1/ISO 10474 3.1

Certificate No.	T58143	Product	Stainless	steel bar		-
Order No.	Consignment	Cast No.	151022	Specification	1	1.4404
Our Reference	Z97740/P40363	Quantity			41mm A/F Hex	
Advice Note No.	DP164	Finish	Linished	<u> </u>		
Heat Treatment	Fully solution treated ar	nd water quenched	prior to col	d sizing		

Chemical Analysis

С	0.015		0.5313	Mn	1.3302	S	0.0258	Р	0.0239
Ni	11.101	Cr	16.648	Мо	2.0306	Ti		Nb	
Со		Cu		N	0.028	W		Ca	
Sn		Та		V	 -	ΑI		Fe	

Mechanical Properties

Tensile Strength	615 Mpa	0.2% Proof Stress	492 Mpa	
Reduction of Area	73,0%	Elongation	43,0%	
Hardness	16 HRC	Impact Tests		

Special Conditions / Processing Details

In accordance with BS EN 10088-3 2005 1.4404

In accordance with MO19/1

Conforming to NACE MR0175/MR0103

Free from mercury and radioactive contamination

ICC test to ASTM A262 'E' - Satisfactory

Also conforming to ASTM A276/A479 Gr 316/316L & ASTM A182 F316/316L

Manufacturers Test Cert No.

Concessions Agreed

HCT No: P361

Part No: 7610828204

"Certified that the whole of the supplied detailed hereon, unless otherwise stated*, are covered by the Sources Certificate of Conformity/Test Certificate referenced hereon, and has been subject to the Quality System requirements in accordance with the conditions of our BS EN ISO 9001 2008 registration, for lot traceable products".

"Certified that the supplies/services detailed hereon have been inspected and tested in accordance with the conditions, requirements of the contract or purchase order and unless otherwise noted below, conform in all

respects to the specification(s)/drawing(s)

Checked & Approved by Parke 15-2012 10:29:28 Page 1 of 4

INSPECTION CERTIFICATE 3.1 Ugine Usine productrice CERTIFICAT DE RECEPTION 3.1 UGITECH Avenue Paul Hersteller Providing special steel solutions ABNAHMEPRUEFZEUGNIS 3.1 Girod Manufacturer 73403 Ugine EN 10204 / 3.1 France N°Iol MM / Chargen / Batch Ordre de fab. / Auftrag / Prod. Order N°coulée / Schmelzen Nr / Heat N° Numéro / Nummer / Number 1146LR9700 151022 81080957 000010 A1146LR97000 11-2 11-3 Marque d'usine Certification - Werkzeugnis - Certificate Herstellerzeichen UGITECH AD 2000-MERKBLATT W0/TRD100 97 Supplier's Mark Pressure Equipment Directive 97/23/EC Poinçon de l'expert ISO 9001 ISO 9100 ISO/TS 16949 Prufslempe ISO 14001 ISO 9120 Inpector's stamp 96 UGIMA 316LFG BAR ROLLED BLACK SOLUTION ANNEALEDHEXAGONAL 43,000MM LONG. 5,800M + 200,0 MM000.0- MM00 UGIMA 316LFG BARRE LAMINÉ(E) NOIR(E) HYPERTREMPÉ(E)HEXAGONAL(E) 43,000MM LONG. 5,800M + 200,000M Produit UGIMA 316LFG STAB GEWALZT SCHWARZ LÖSUNGSGEGLÜHTSECHSKANT 43,000MM LONG. 5,800M + 200,000MM -0,0 Erzeuanisform UGIMA 316LFG BAR ROLLED BLACK SOLUTION ANNEALEDHEXAGONAL 43,000MM LONG. 5,800M + 200,000MM -0,00 Product N°de commande client - Kundebestellnummer - Purchase order number Client et/ou destinateire - Besteller und/oder Empfænger - Purchaser and/or Consigner 2950006645 HI-TECH SPECIAL STEELS LTD 19516 Norme de référence / Besugsnorm / Standard for reference EN 10088-3 ED 2005 1.4404 **AISI 316L** 12-2 Spécification client / Kundenspezifikation / Customer's specification 12-3 Polds Dimension Longueur Profil Nombre Gewicht Laenge Profile Ausmessung Stueckzahl Longth Weigh Dimension Pieces No Shape 14512 KG HΧ 43,000 MM 21-22 196 49 46 43 Demandé / Vorschrift / Required 42 % P % N % CR % MO % S % C % SI N° prélèvement Mode 10,0000 16,5000 2,0000 Min ď élaboration Probenummer 2,0000 13,0000 18,0000 2,5000 0,0300 0.0450 0,0300 0.7500 Test number Max Erchmel zungsart Melting process 0.5313 1,3302 11,1010 16,6480 2,0306 0,0258 0,0239 2TMM 0.0150 EAF + AOD coulée/ Schmeizen / Heat + CC 38 39A Produit / Erzeugnisform/ Product 73 74 75 55 70 71 72 54 50 Demand& / Vorschrift / Required % N Min 0,1000 Max 0.0280 coulée/ Schmelzen / Heat Produit / Erzegonisform/ Product 76 77 Demande / Vorschrift / Required Min Max coulée/ Schmelzen / Heat The contents of the report are accurate and all test results and operations performed by UGITECH or its subcontractors are in Ugine le 29.02.2012 compliancewith the material specification and the specific applicable materials L'agent Réceptionnaire de l'usin 8/3/12 Der Werksachverständige ract and that, after checks and tests We declare that the mentioned product is in compliance with therequiren he work inspector it meetsin all respects the specified requirements and applicable's anderdy and regulations, except reseabilities of in this declaration of conformity; Document varidated by electronic eigneture, daterial manufactured in the BEAC it meetsIn all respects the specified requirements and applicable s 040000540876 Page 1/2

16-05-2012 10:29:28 Page 2 of 4

Usine productrice Hersteller Manufacturer Numéro / Nummer 81080957 Of		gine 5	CEF ABi EN	RTIFICA NAHME 10204 . / Auftreg / F R97000 Limite d Street	T DE R PRUEF2 / 3.1	N'con	ON 3.1 S 3.1 Idea / Schmer I 022 Along Barch	zen Nr / Heat perment detnung igsellon A4D		UGITEC Providing si N*tot MM 1146LF Dur HB	ecial sloot:	Batch	1 11-3 ness HRC
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The contents of th	e report ere acc	urate and all	92 test results an	doperations o	erformed by	UGITECH or II	s subcontrac	ors are in	93	- 1- 55 5-			94
compliancewith the mai	erial specification	on and the sp	ecific applicab	se materialred	virements of	ASME NCA-3	800		_ [e le 29.02 4 Réceptionn		•	
We declare that th it meetsin all respects to in this declaration of con-	e mentioned pro he specified requ formity; Docum	duct is in cor drements and rent validated	npliance with l applicable sta l by electronic		nts of the con gulations, ex- iterial manufa	lfacVand (ha cept reservati ctured in the	after check on or except REACH regula	s and tests. lons as listed stion respect		erkeachverste ork inspector		diete	an



Bacon Lane, Sheffield S9 3NH Special Testing Ltd

Fax: 0114 244 5566 Acc/Admin www.specialtesting.co.uk Tel: 0114 244 1061 Fax: 0114 244 0444 Works

Test Certificate 207400

ROLLS ROYCE APPROVED LABORATORY AUTHENTICATION CODE 71C2AC4EEBDF Approval No. 11191

CUSTOMER

ALLOY & METAL WORKS, ROTHERHAM RD HI-TECH SPECIAL STEELS LTD LAUGHTON COMMON, DINNINGTON

SHEFFIELD S25 3RF

DATE RECEIVED

*	

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CUSTOMER ORDER NO	PRD2299	TES	TEST NUMBER 207400	IDENTITY	P40363	CAST* 15	151022	ALL REQUIREM	ALL REQUIREMENTS MIN UNLESS STATED
SPECIFICATION	BS EN10088-3:2005	BS EN10088-3:2005 (X2CrNiMo17-12-2) 1.4404	104			TEST PIECE FROM		41MM A/F HEX	EX
TENSILE: BS EN ISO 6892-1:2009 A224	2-1:2009 AZZ4		0.2% PROOF	1.0% PROOF	UTS	ELONG ON	% NO	ROFA%	COMMENTS
OR TEMP SECTION	AREA SQ	UNIT REQUIREMENTS	NTS						
L RT 10.00mm	лт 78.54mm² Мра	Mpa RESULTS	LTS 429	466	615	50mm	n 43.0	73.0	N/A
HARDNESS: BS EN ISO6506-1 2005	506-1 2005		DESIGNATION	ON REQUIREMENTS	NTS RESULTS	TS			l k
BRINELL (MID RADIAL)			HBW 10/3000	00 N/A	181	_			1 ec

END OF CERTIFICATE

16-05-2012 10:29:28 Page 4 of 4

DESIGNATION

REQUIREMENTS Z

RESULTS

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HRC

ROCKWELL C (MID RADIAL) HARDNESS: BS EN ISO6508-1 2005

This certificate shall not be reproduced, except in full, without the written approval of the laboratory. No copy is authentic without the embossed seal and signature. This certificate can be authenticated at www.specialtesting.co.uk with the code 71C2AC4EEBDF

REPRESENTING

For and on behalf of

A Member of the Special Steel Group of Companies SPECIAL TESTING LTD

Janice Mooney

General Manager



Test results do not in any way confer approval of the quality of manufacture of the material. All results are subject to uncertainty of measurement budgets, details available upon request information marked. It is supplied by the customer.



Special Steels Limited

Rotherham Road, Laughton Common, Dinnington, Sheffield S25 3RF Tel: Dinnington (01909) 564545 Fax No (01909) 550682

Registered in England No. 1921116

Customer

David Paull CNC T/A DP Eng Ltd Jon Davey Drive Treleigh Ind Est Redruth TR16 4AX

TEST CERTIFICATE IN ACCORDANCE WITH BS EN 10204 3.1/ISO 10474 3.1

Certificate No.	T58239	Product	Stainless	steel bar	
Order No.	Consignment	Cast No.	215162	Specification	1.4404
Our Reference	Z98351/P40445	Quantity	523 Kgs	Size	41mm A/F Hex
Advice Note No.	DP178	Finish	Linished		
Heat Treatment	Fully solution treated ar	nd water quenched	prior to col	d sizing	

Chemical Analysis

С	0.012	Si	0.505	Mn	1.322	S	0.0241	P	0.026
Ni	11.109	Cr	16.646	Мо	2.037	Ti		Nb	
Co		Cu		N	0.027	W		Ca	
Sn		Та		٧		Al		Fe	

Mechanical Properties

Tensile Strength	625 Mpa	0.2% Proof Stress	472 Mpa	
Reduction of Area	76,0%	Elongation	41,0%	
Hardness	16 HRC	Impact Tests		

Special Conditions / Processing Details

In accordance with BS EN 10088-3 2005 1.4404

In accordance with MO19/1

Conforming to NACE MR0175/MR0103

Free from mercury and radioactive contamination

ICC test to ASTM A262 'E' - Satisfactory

Also conforming to ASTM A276/A479 Gr 316/316L & ASTM A182 F316/316L

Manufacturers Test Cert No.

Concessions Agreed

HCT No: P431

Part No: 7610828204

"Certified that the whole of the supplied detailed hereon, unless otherwise stated*, are covered by the Sources Certificate of Conformity/Test Certificate referenced hereon, and has been subject to the Quality System requirements in accordance with the conditions of our BS EN ISO 9001 2008 registration, for lot traceable products".

"Certified that the supplies/services detailed hereon have been inspected and tested in accordance with the conditions requirements of the contract or purchase order and unless otherwise neter below, conform in all respects to the specification(s)/drawing(s)

Checked & Approved Ap

INSPECTION CERTIFICATE 3.1 Ugine Usine productrice **CERTIFICAT DE RECEPTION 3.1** UGITECH Avenue Paul **Herstellor** ABNAHMEPRUEFZEUGNIS 3.1 hoveling spanial stept rollificati Girod Manufacture 73403 Ugine EN 10204 / 3.1 France N° fot MM / Chargen / Batch Numéro / Nummer / Number Ordre de fab. / Auftrag / Prod. Order N° coulée / Schmeizen Nr / Heat N 1226ZQ7500 215162 81108856 000010 A1226ZQ75000 11-3 Marque d'usine Certification - Werkzeugnis - Certificate Herstellerzeichen AD 2000-MERKBLATT W0/TRD100 97 Supplier's Mark Pressure Equipment Directive 97/23/EC Poincon de l'expert ISO 9001 ISO 9100 ISO/TS 16949 ruistempe ISO 14001 ISO 9120 96 68 inpector's stemp UGIMA 316LFG BAR ROLLED BLACK SOLUTION ANNEALEDHEXAGONAL 43,000MM LONG. 5,800M + 200,0 00MM -0,000MM UGIMA 316LFG BARRE LAMINÉ(E) NOIR(E) HYPERTREMPÈ(E)HEXAGONAL(E) 43,000MM LONG. 5,800M ± 200,000M Produit UGIMA 316LFG STAB GEWALZT SCHWARZ LÖSUNGSGEGLÜHTSECHSKANT 43,000MM LONG. 5,800M + 200,000MM -0,0 Erzeugnisform UGIMA 316LFG BAR ROLLED BLACK SOLUTION ANNEALEDHEXAGONAL 43,000MM LONG. 5,800M + 200,000MM -0,00 Product Client at/ou destinateire - Besteller und/oder Empleanger - Purchaser and/or Consigner 2950006978 10 HI-TECH SPECIAL STEELS LTD Norme de référence / Besuganorm / Standard for reference EN 10088-3 ED 2005 1.4404 AISI 316L 12-2 Spécification client / Kundenspezifikation / Customer's specification 12-3 Polds Dimension Longueue Profil Nombre Gewicht Laengo Ausmossung Stuectzahl Profile Welch Shape Places No 5.800 11658 KG <u>43,000 MM</u> 154 42 46 40 Demandé / Vorschrift / Required % CR % P % MO % S % C % SI % MN % NI N° prélèvement Mode 2.0000 10,0000 18,5000 Min d' elaboration Probenummer 2,0000 13,0000 18,0000 2,5000 0.0300 0.0450 0,0300 0,7500 Tast number Max Erchmel zungsart Melting process 0,0120 0,5050 1,3220 11,1090 16,6460 2,0370 0.0241 0.0260 EAF + AOD 3E8C coutée/ Schmelzen / Heat + CC 39A Produit / Erzeugnisform/ Product 38 54 55 70 74 75 53 Demandé / Vorschrift / Required 50 51 52 % N Min Max 0,1000 0.0270 coulée/ Schmelzen / Heat Produit / Erzeugnisform/ Product 86 87 79 80 82 Demandé / Vorschrift / Required Min Мах coulée/ Schmeizen / Heal Produit / Erzeugnisform/ Product The contents of the report are accurate and all test results and operations performed by UGITECH or its subcontractors are in Ugine le 09.05.2012 L'agent Réceptionnaire de l'usine Der Werksachverständige We declare that the mentioned product is in compliance with these The work inspector it meetsin all respects the specified requirements and applicable standards and requisit in thisdeclaration of conformity; Document validated by 040000575721 Page 1/2

Parker Hannin II DE 18-07-2012 14:17:27 Page 2 of 4

Hersteller Manufacturer	Ugine Avenue F Girod 73403 U France		CEI ABI	RTIFICA	T DE RI PRUEFZ	TIFICAT ECEPTIONI ZEUGNI	ON 3.1			UGITEC Previous s		editions	
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We declare that the t meetein all respects than a thisdeclaration of confe	mantioned pro specified requirely; Docum	duct is in our or or or or or or or or or or or or or	compliance with and applicable ted by anctron	theraquireme andarda a dr signalure M	ints of the cor equialicity, ex allers in anuto	strect and the cept reso vali chired in the	J, after check MB # 14 69 REA & (Liguis	s and fests. It no de list d at on respact.	10 THE V	Verksachverst vork inspector 100575721	6	علما	au 63



CUSTOMER ORDER NO

PRD2413

TEST NUMBER

213370

IDENTITY

P40445

TEST PIECE FROM

SPECIFICATION

BS EN100B8-3:2005 (X2CrNiMo17-12-2) 1.4404

OR TEMP

곡

10.03mm SECTION

79.01mm² AREA SO

Mpa

RESULTS

472

<u> 5</u>

625

50mm

41.0

76.0

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REQUIREMENTS N/A

RESULTS 203

UNIT REQUIREMENTS

0.2% PROOF

1.0% PROOF

STU

ELONG ON

8

R OF A %

COMMENTS

41MM AF HEX

TENSILE: BS EN ISO 6892-1:2009 A224

Special Testing Ltd

Bacon Lane. Sheffield S9 3NH Tel: 0114 244 1061 www.specialtesting.co.uk Fax: 0114 244 5566 Acc/Admin Fax: 0114 244 0444 Works

Test Certificate 213370

AUTHENTICATION CODE E744AAC16C8E ROLLS ROYCE APPROVED LABORATORY Approval No. 11191

CUSTOMER

HI-TECH SPECIAL STEELS LTD SHEFFIELD S25 3RF LAUGHTON COMMON, DINNINGTON ALLOY & METAL WORKS, ROTHERHAM RD

215162	TEST DATE	DATE RECEIVED
ALL REQUIREMEN	16 July 2012	16 July 2012
ALL REQUIREMENTS MIN UNLESS STATED	EST 1925	* [

ALL REQUIREMENTS M	215162	CAST.
16 July 2012	TEST DATE	
16 July 2012	DATE RECEIVED	

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DESIGNATION HBW 10/3000 DESIGNATION

REQUIREMENTS

RESULTS

HRC

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ROCKWELL C (MID RADIAL) HARDNESS: BS EN ISO6508-1 2005 BRINELL (MID RADIAL)

HARDNESS: BS EN ISO6506-1 2005

C.T. P43

No copy is authentic without the embossed seal and signature. This certificate can be This certificate shall not be reproduced, except in

REPRESENTING*

Information marked " is supplied by the customer

Test results do not in any way confer approval of the quality of manufacture of the material. All results are subject to uncertainty of measurement budgets, details available upon request

full, without the written approval of the laboratory

For and on behalf of

SPECIAL TESTING LTD A Member of the Special Steel Group of Companies

_iam Burdett

Asst Testhouse Manager





HI-TECH Special Steels Limited

Rotherham Road, Laughton Common, Dinnington, Sheffield S25 3RF Tel: Dinnington (01909) 564545 Fax No (01909) 550682

Registered in England No. 1921116

Customer

James Brown Ind Ltd Ty Coch Way Torfaen Cwmbran NP44 7HF

TEST CERTIFICATE IN ACCORDANCE WITH BS EN 10204 3.1/ISO 10474 3.1

Certificate No.	T026968	Product	Stainless	steel bar		
Order No.	Consignment	Cast No.	217099	Specification	າ	1.4404
Our Reference	S094479/P207964	Quantity	313 Kgs	Size	1.25" A/F Hex	
Advice Note No.	45291	Finish	Linished	•		
Heat Treatment	Fully solution treated and	water quenched	prior to col	d sizing		

Chemical Analysis

С	0.014	Si	0.523	Mn	1.307	S	0.0241	Р	0.0257
Ni	11.097	Cr	16.603	Мо	2.03	Ti		Nb	
Со		Cu		N	0.029	W		Ca	
Sn		Ta		٧		Al		Fe	

Mechanical Properties

Tensile Strength	657 Mpa	0.2% Proof Stress	521 Mpa
Reduction of Area	70,0%	Elongation	38,0%
Hardness	10 HRC	Impact Tests	

Special Conditions / Processing Details

In accordance with BS EN 10088-3 2005 1.4404

In accordance with MO19/1

Conforming to NACE MR0175/MR0103

Free from mercury and radioactive contamination

ICC test to ASTM A262 'E' - Satisfactory

Also conforming to ASTM A276/A479 Gr 316/316L & ASTM A182 F316/316L

Manufacturers Test Cert No.

Concessions Agreed

HCT No: P456

Part No: 7711238202

"Certified that the whole of the supplied detailed hereon, unless otherwise stated", are covered by the Sources Certificate of Conformity/Test Certificate referenced hereon, and has been subject to the Quality System requirements in accordance with the conditions of our BS EN ISO 9001 2008 registration, for lot traceable products".

"Certified that the supplies/services detailed hereon have been inspected and tested in accordance with the conditions, requirements of the contractor purchase order and, unless therwise noted below, conform in all respects to the specification(s)/drawing(s) relevant the eto".

Checked & Approved by Parkers Lannifin Landing Controller 15-08-2012 16:59:39 Page 1 of 4

Usine productrice
Hersteller
Manufacturer

AISI 316L

ce Ugine Avenue Paul Girod

Girod 73403 Ugine France INSPECTION CERTIFICATE 3.1
CERTIFICAT DE RECEPTION 3.1
ABNAHMEPRUEFZEUGNIS 3.1

EN 10204 / 3.1

UGITECH

Providing special steel collitions



No lot MM / Chargen / Batch Numéro / Nummer / Number Ordre de fab. / Auftrag / Prod. Order N° coulée / Schmeizen Nr / Heat N° 217099 1216SY0300 81107862 000010 A1216SY03000 11-3 Marque d'usine Certification - Werkzeugnis - Certificate Herstellerzeichen AD 2000-MERKBLATT WO/TRD100 97 Pressure Equipment Directive 97/23/EC Supplier's Mark ISO 9001 Poinçon de l'expert ISO/TS 16949 ISO 9100 Prufstempe ISO 14001 99 ISO 9120 98 Inpector's stamp 96

UGIMA 316LFG BAR ROLLED BLACK SOLUTION ANNEALEDHEXAGONAL 34,000MM LONG. 5,460M + 200,0

9 2950006975

MM000,0- MM00

Produit UGIMA 316LFG BARRE LAMINÉ(E) NOIR(E) HYPERTREMPÉ(E)HEXAGONAL(E) 34,000MM LONG. 5,460M + 200,000M

Erzeugnistorm UGIMA 316LFG STAB GEWALZT SCHWARZ LÖSUNGSGEGLÜHTSECHSKANT 34,000MM LONG. 5,460M + 200,000MM -0.0

Product UGIMA 316LFG BAR ROLLED BLACK SOLUTION ANNEALEDHEXAGONAL 34,000MM LONG. 5,460M + 200,000MM -0.00

Client et/ou destinataire - Besteller und/oder Empfænger - Purchaser and/or Consigner N° de commande client - Kundebestellnummer - Purchase order number

19516 HI-TECH SPECIAL STEELS LTD

Norme de référence / Besugsnorm / Standard for reference

EN 10088-3 ED 2005 1.4404

12-2

6

 $\textbf{Specification client} \ / \ \textbf{Kundenspezifikation} \ / \ \textbf{Customer's specification}$

													12-3
Nombre			Profil			Dimension			Longueur		Poids		
Stueckzahl	I		Profile			Ausmessur	ıg.		Laenge		Gewi	cht	
Pieces Nbr			Shape			Dimension			Length		Weigi	h	
168	18		НХ	19		34,000 !	MM 21-1		5,460	21-2	73	376 KG	22
			Demandé : ∀o	schrift Red	quired	42	43	44	45	46	47	48	49
Mode	Nº prélève	ement				% C	% SI	% MN	% NI	% CR	% MO	% S	% P
d'élaboration	Probenum	mer		Min					10,0000	16,5000	2,0000		
Erchmel zungsart	Test numi	per	}	Мах		0.0300	0,7500	2,0000	13,0000	18,0000	2,5000	0,0300	0,0450
Melting process EAF + AOD	3DZW		coulée/ Schr	nelzen 7 Ho	eat	0,0140	0,5230	1,3070	11,0970	16,6030	2,0300	0,0241	0,0257
+ CC 38		39A	Produit / Erzi	eugnistorm	/ Product								
Demandé / Vorschrift / R	equired	50 % N	5 1	52	53	54	55	70	71	72	73	74	75
Mı	n												
Ma	ıx	0,1000											
coulée/ Schmeizen / I	Heat	0.0290											
Produit / Erzeugnisford	m/ Product												
Demandé / Vorschrift → R	equired	76	77	78	79	80	81	82	83	84	85	86	87

Min

Max

coulée/ Schmeizen / Heat Produit / Érzeugnisform/ Product

The contents of the report are accurate and all test results and operations performed by MGTTECH of its subcontractors are in compliance with the material specification and the specific applicable material requirements of ASME NCA-3860

We declare that the mentioned product is in compliance with therethrometry of the contract and but latter checks and tests, it meets in all respects the specified requirements and applicable standards and equilations, except reservations or exceptions as here in this declaration of conformity; Document validated by electionic signaluse Material manufactured in the SEACA regulation respect.

Ugine le 05.05.2012

L'agent Réceptionnaire de l'usin

Der Werksachverständige The work inspector

2 040000575279 Page 1/2 63

5-08-2012 16:59:39 Page 2 of 2

INSPECTION CERTIFICATE 3.1 Usine productrice Ugine **CERTIFICAT DE RECEPTION 3.1** Avenue Paul He, steller UGITECH ABNAHMEPRUEFZEUGNIS 3.1 Girod Manufacturer Providing special steel solutions 73403 Ugine EN 10204 / 3.1 France Nº lot MM / Chargen / Batch Ordre de tab. / Auftrag / Prod. Order Nº coulée / Schmelzen Nr / Heat Nº Numéro / Nummer / Number 1216SY0300 11-1 217099 A1216\$Y03000 81107862 000010 11-3 11-2 Dureté-Haerte-Hardness umite d'élasticité RM Alongement Striction Bruchaennung Einschnurung Streckgrenze Zuatestiakei T°C HB HV HR8 HRC Yield Strength Elongation Red area Tensile 24 90 A5D A4D 0.2% °C Mpa % % Mpa Mpa 500 40 200 20 235 Min 215 700 13 Max 20 Min Max Nº prélèvement 120 L 52 74 160 303 343 558 3DZW 20 Probenummer 1.0 Test number 398 A l'état de Référence / treatment on test sample / Probestreitenbehandlung 89 30 Résilience-Kerbschlagzaehigkeit-Notch Toughness Taux de corroyage Expansion latérale Sens Valeurs individuelles Forging ratio Type Seitliche Breitung T°C Richtung Min Linzelwerte Mittelwert Farm Verschmiedungsgrad Individual values Average Lateral Expansion Direction Type 42.0 35 91 36 101 31 33 32 95 A l'état de livraison / Lieferzustano / As °C delivered KISOV 20 Ł 100 207-236-214 219 13 solution annealed A l'état de Référence / treatment on test sample / Probestraitenbehandlung NTERCRYSTALLINE CORROSION RESISTANT ACCORDING TO ASTM A262 PRACTICE E INTERCRYSTALLINE CORROSION RESISTANT ACC. TO ISO 3651-2

5

Quantite livree / dehvered quantity / gellefeite Quantitat Ugine le 05.05.2012 L'agent Réceptionnaire de l'usine We declare that the mentioned product is in compliance timestim all respects the specified requirements and applical in thisdeclaration of conformity; Document validated by elec-Der Werksachverständige The work inspector 040000575279



Special Testing Ltd

www.specialtesting.co.uk Bacon Lane, Sheffield S9 3NH Tel. 0114 244 1061 Fax: 0114 244 0444 Works Fax: 0114 244 5566 Acc/Admin

Test Certificate 215657

ROLLS ROYCE APPROVED LABORATORY AUTHENTICATION CODE 04229B30D497

CUSTOMER

HI-TECH SPECIAL STEELS LTD LAUGHTON COMMON, DINNINGTON ALLOY & METAL WORKS, ROTHERHAM RD

SHEFFIELD S25 3RF DATE RECEIVED 13 August 2012

:: Ų			Approval No 1119	11191		TEST DATE	13	13 August 2012	(\$7.1925
CUSTOMER ORDER NO PRD2512		TEST NUMBER 215657 IDENTITY	IDENTITY	P40478	CAST	217099		ALL REQUIREMENT	ALL REQUIREMENTS MIN UNLESS STATED
SPECIFICATION	BS EN10088-3:2005 (X2CrNiMo17-12-2) 1.4404				TEST PIECE FROM	OM"		1.1/4" A/F HEX	
TENSILE: BS EN ISO 6892-1:2009 A224	2-1:2009 A224	0.2% PROOF	1.0% PROOF	UTS	- And an appropriate to the second	ELONG QN	%	R OF A %	COMMENTS

END OF CERTIFICATE

ROCKWELL C (MID RADIAL)

HARDNESS: BS EN ISO6508-1 2005

DESIGNATION HBW 10/3000 DESIGNATION

REQUIREMENTS

RESULTS 6

HRC

BRINELL (MID RADIAL)

HARDNESS: BS EN ISO6506-1 2005

9.98mm SECTION

78.23mm² Mpa

RESULTS

521

551

657

50mm

38.0

70.0

Z

REQUIREMENTS

RESULTS

189

AREA SQ

UNIT REQUIREMENTS

OR TEMP

TENSILE: BS EN ISO 6892-1:2009 A224

REPRESENTING* No copy is authentic without the embossed seal and signature. This certificate can be full, without the written approval of the laboratory This certificate shall not be reproduced except in authenticated at www.specialtesting.co.uk with the code 04229B30D497 A Member of the Special Steel Group of Companies **SPECIAL TESTING LTD** For and on behalf of Ky Slage Kath Elliott Certification Officer

Test results do not in any way confer approval of the quality of manufacture of the material. All results are subject to uncertainty of measurement budgets, detains available upon request information marked it is supplied by the customer.

Page 1 of

C.T. P456 15-08-2012 16:59:39 Page 4 of 4 DELTINOX STAINLESS - STEEL FITTINGS RACCORDS ACIER INOXYDABLE **BP 597 59605 MAUBEUGE CEDEX FRANCE**

24 Rue Paul Eluard - 59750 FEIGNIES Tel: 03.27.65.28.28 - Fax: 03.27.64.03.94

Plant: Zi des Longues Royes

Client / Customer

R.T.I. S.p.A.

VIA AMBROSOLI, 2/A RODANO MILLEPINI

20090 ITALIE

CERTIFICAT DE RECEPTION - ACCEPTANCE CERTIFICATE (EN 10204 : 2004 3.1) Certificat/Certificate n

DEL/29063/05/212 / 2

6/05/2012

Commande / Order 37484/10

Bordereau / Dispatch note

DEI /29063/05/212

16/05/2012

raitement thermique/Heat Treatment

HYPERTREMPE 1040℃ MIN

SOLUTION TREAT 1040°C MIN

Specification matière/Material Specification ASTM A 182/A 182M-11a F316L/ASME SA 182/SA182M Sect II Part A

DESP 97/23/CE (An.1 §4.3)

COMPOSITION CHIMIQUE (CHEMICAL ANALYSIS

CONT	001110	N CHIMIQUE /CHEMICAL ANALTSI		Identification	C %	Si %	Mn %	P %	S %	Ni %	Cr%	Mo %	N%
Item	Qte/Qty	Désignation	N Couleerneat Number	identinos son						10.00	16.00	2.000	
nini					0.030	1.000	2.000	0.045	0.030	15.00	18.00	3.000	0.10
59 76 1 2 3 9 14 15 22 29 30 33	100 5 8 60 10 30 50 5 400 600	TEE 3/4" NPT 3M F316L 90® ELBOW 1/2" SW 3M F316L UNION FF 1.1/2 NPT 3M F316L UNION FF 1.1/2 NPT 3M F316L UNION FF 1/2" NPT 3M F316L 90® ELBOW FF 1.1/2" NPT 3M F316L STREET ELBOW 3/4" NPT 3M F316L COUPLING 1" NPT 3M F316L HALF COUPLING 3/4" NPT 3M F316L HEX. NIPPLE 1/4" NPT 3M F316L HEX. NIPPLE 1/2" NPT 3M F316L RED HEX NIP 1/2"X1/4" NPT 3M F316L RED HEX NIP 3/4"X1/2" NPT 3M F316L	330530 5A2601 V2M4 424851 949069 RY101134 11A1906 134254 143143 137102 129137 146066 142041	EEY T120 APV 424851 ABG T89 T115 CCL CCK DFN DES CCR DET AZK	0.020 0.021 0.022 0.008 0.023 0.023 0.018 0.021 0.018 0.020 0.011 0.020	0.440 0.350 0.343 0.600 0.520 0.493 0.320 0.357 0.422 0.481 0.373 0.449 0.343	1.720 0.930 1.361 1.540 1.340 0.832 1.620 1.325 1.322 1.320 1.320 1.322	0.034 0.035 0.032 0.039 0.031 0.044 0.026 0.032 0.026 0.024 0.033 0.029 0.026	0.028 0.005 0.022 0.030 0.024 0.004 0.030 0.030 0.030 0.030 0.037 0.027	10.05 10.18 10.56 10.25 11.01 10.09 11.17 10.08 10.15 10.11 10.10 10.14 10.07	16.55 16.51 16.83 16.86 16.71 16.25 16.62 16.63 16.61 16.58 16.56 16.63	2.070 2.080 2.061 2.020 2.030 2.070 2.020 2.033 2.064 2.052 2.033 2.063 2.063	0.0 0.0 0.0 0.0

ESSAIS MECANIQUES / MECHANICAL TEST

Item	Re (0,2%) N/mm²	Rm N/mm²	A %	Z % Red. of Area	Dureté Hardness	Spécification dimensionnelle Dimensional spécification	Forgeron Forgemaster	Acleriste Steel Producer	Négociant Supplier
mini maxi	170.0	- 51-11	30.00			ASME B16.11/05-ANSVASME B1.20.1/92	EVASI	OLARRA	EVASI
59 76 1		662.0	59.00 53.40 54.00	77.70 70.00	163HB 177.5HB	ASME B16.11/2005 ANSI/ASME B1.20.1/1992	BARRE CAPPELLETTI	THYSSEN	BARRE CAPPELLETTI
3 9	322.0 268.0 274.4	553.0	52.00 56.00 57.20	76.00	158HB 162.5HB	ANSI/ASME B1.20.1/1992 ANSI/ASME B1.20.1/1992 ASME B16.11/05-ANSI/ASME B1.20.1/92	F DE ITON	UGITECH	F DE ITON
14 15 22	300.0 216.0	613.0 545.0 545.0	55.00 58.00 58.00	78.00 78.00	157HB 157HB	ANSVASME B1.20.1/1992 ASME B16.11/05-ANSVASME B1.20.1/92 ASME B16.11/05-ANSVASME B1.20.1/92		UGITECH UGITECH UGITECH	UGITECH UGITECH UGITECH
29 30 33	579.0 494.0	682.0	31.00 34.00 35.00	66.00 67.00	18HRC 19HRC	BSI BS3799/74-ANSVASME B1.20.1/92 BSI BS3799/74-ANSVASME B1.20.1/92 BSI BS3799/74-ANSVASME B1.20.1/92		UGITECH UGITECH UGITECH	UGITECH UGITECH UGITECH
37 41	464.0		36.00 38.00		18HRC 96HRB	BSI BS3799/74-ANSVASME B1.20.1/92 ASME B16.11/05-ANSVASME B1.20.1/92		UGITECH	UGITECH

Contrôle QUALITE

16 MAI

DELTINOX Vu par : MT LAITAT

Le :

Visa:

- PMI PERFORMED AT 100% ON RAW MATERIAL - - MATERIAL ACCORDING TO NACE MR01.75 - MR01.03 -

Les valeurs reprises sur ce certificat sont celles données par notre fournisseur / The values mentioned on this test certificate are those given by the supplier

Nous certifions que les produits énumérés ci-dessous sont conformes aux prescriptions de la commande et des spécifications et ont subi, sans objection, les contrôles d'aspect et de dimensions. We hereby certify that above mentioned products are in accordance with the requirements of the order and specifications and have been checked without objection for surface and dimensionnal control.

Réalisation DECLIC 3000

DELTINOX	(1)
STAINLESS - STEEL FITTINGS	9,
RACCORDS ACIER INOXYDABLE	
RP 597 59605 MAUREUGE CEDEX F	RANCE

DELCORTE

CERTIFICAT DE RECEPTION - ACCEPTANCE CERTIFICATE (EN 10204 : 2004 3.1)

Client / Customer

R.T.I. S.p.A.

VIA AMBROSOLI, 2/A RODANO MILLEPINI

20090 ITALIE

N° Certificat/Certificate n°	_
------------------------------	---

SOLUTION TREAT 1040℃ MIN

DEL/29674/09/212 / 1

1/09/2012 Commande / Order

39040/10

Bordereau / Dispatch note DEL/29674/09/212

10/09/2012

raitement thermique/Heat Treatment HYPERTREMPE 1040℃ MIN Divers/Others

Specification matière/Material Specification

24 Rue Paul Eluard - 59750 FEIGNIES

Tel: 03.27.65.28.28 - Fax: 03.27.64.03.94

Plant : Zi des Longues Royes

Others

ASTM A 182/A 182M-11a F316L/ASME SA 182/SA182M Sect II Part A DESP 97/23/CE (An.1 §4.3)

COMPOSITION CHIMIQUE /CHEMICAL ANALYSIS

Item	Qte/Qty	Désignation	N℃oulée/Heat Number	Identification	С%	Si %	Mn %	P %	S %	Ni %	Cr %	Mo %	N%
nini	4.0.4.9									10.00			
					0.030	1.000							
naxi 1	1 000 HEX. HEAD	PLUG 1/4" NPT 6M F316L	149153	DKP	0.017	0.399	1.307	0.027	0.029	10.10	10.37	2.033	0.03
								-					
						3		6 3					

ESSAIS MECANIQUES / MECHANICAL TEST

	Re (0,2%) N/mm²		A %	Z % Red. of Area	Dureté Hardness	Spécification dimensionnelle Dimensional spécification	Forgeron Forgemaster	Acieriste Steel Producer	Négociant Supplier
nini	170.0	485.0	30.00	50.00					
maxi 1	512.0	728.0	30.00	63.00	228HBW	ASME B16.11/05-ANSI/ASME B1.20.1/92		UGITECH	UGITECH

- PMI PERFORMED AT 100% ON RAW MATERIAL - - MATERIAL ACCORDING TO NACE MR01.75/ISO 15156 ED.2009 - MR01.03 -

DELTINOX Vu par : MT LAITAT

Le:

Visa:

Contrôle QUÁLITE

Les valeurs reprises sur ce certificat sont celles données par notre fournisseur / The values mentioned on this test certificate are those given by the supplier

Nous certifions que les produits énumérés ci-dessous sont conformes aux prescriptions de la commande et des spécifications et ont subi, sans objection, les contrôles d'aspect et de dimensions. We hereby certify that above mentioned products are in accordance with the requirements of the order and specifications and have been checked without objection for surface and dimensionnal control.

Réalisation DECLIC 3000

ADSTRUCTION OF THE PROPERTY OF BP 597 59605 MAUBEUGE CEDEX FRANCE RACCORDS ACIER INOXYDABLE STAINLESS - STEEL FITTINGS DELTINOX

ent / Customer

Plant : Zi des Longues Royes 24 Rue Paut Eluard - 59750 FEIGNIES Tel : 03.27,65.28.28 - Fax : 03.27,64.03.94

CERTIFICAT DE RECEPTION - ACCEPTANCE CERTIFICATE (EN 10204 : 2004 3.1)

RODANO MILLEPINI VIA AMBROSOLI, 2/A 20090 ITALIE R.T.I. S.p.A.

DEL/29064/05/212 36972/10 ADD.1 rdereau / Dispatch note 6/05/2012 commande / Order

DEL/29064/05/212 / 2

*Certificat/Certificate n

SOLUTION TREAT 1040°C MIN HYPERTREMPE 1040°C MIN 16/05/2012 Taitement thermique/Heat Treatmen

> Specification matter Material Specification ASME SA312/SA 312M Sect II Part A ASTM A 312/312M-11 TP316L ASME SA312/SA 312M Sect II Part A DESP 97/23/CE (An.1 §4.3)

minî

3.000 S OF 18.00 % ပ် 15.00 10.00 % Ž 0.030 80 0.045 % 4 1.720 ₹. 380 Si % 0.035 % C N'Coulée/Heat Number Identification E 530828 COMPOSITION CHIMIQUE /CHEMICAL ANALYSIS 17 NIPPLE SH80 TOE/POE 1/2"X101.6 TP316L Désignation Ote/Oty Ham

ESSAIS MECANIQUES / MECHANICAL TEST

item Tem	item Re (0,2%)	Ram N/mm²	% (45)	Dureté Hardness	Spécification dimensionnelle Dimensional specification	Forgeron Forgemaster	Acieniste Steel Producer	Négociant Supplier
mini	170.0		l					
maxi	0.008 6	645.0		47.0 78HRB	ANSI/ASME B1.20.1/1992		SANDVIK	SANDVIK

						•		
WEST	1							
3	7				ANTICON TO THE PROPERTY OF THE NAME MR01.75 - MR01.03 -	1R01.75 - MR01.03 -		

- PMI PERFORMED AT 100% ON RAW MATERIAL - - MATERIAL ACCORDING TO NACE MR01,75 - MR01,03

Vu par : MT LAITAT DELTINOX

16 MAI 2012 .. و

Contrôle QUALITÉ

Les valeurs raprises sur ce certificat sont celles données par notre fournisseur / The values mentioned on this test certificate are those given by the supplier

Nous certifions que les produits énumérès cl-dessous sont conformes aux prescriptions de la commande et des spécifications et ont subt, sans objection, les contrôles d'aspect et de dimensione. We hereby cartify that above mentioned products are in accordance with the requirements of the order and specifications and have been checked without objection for surface and dimensionnal control.

b) Hydrostatic test on each length of fluished pipe in accordance with specification A999/A999M a) Flattening test on 5% of the pipe from each heat treated lot Test d'applatissement sur 5 % des tubes pour chaque lot et coulée traités

Test hydraulique sur chaque longueur de tube fini en conformité avec l'A999/A999M

CHEMICAL ANALYSIS AND MECHANICAL TEST CERTIFICATE TO: DIN 50049 3.1 - EN 10204/3.1

Messrs. R.T.I. SPA

VIA AMBROSOLI 2/A

20090 RODANO MILLEPINI

ORDER: 37744/10

DATE : 24/04/2012 JOB : 12/91 /01432







Sede e Stabilimento: 21048 SOLBIATE ARNO (Varese) Via Caronno Varesino
Tel. +39.0331.994.216 - Fax +39.0331.991.796
web: http://www.omsafitting.it - e-mail: info@omsafittings.it

=					MATERIAL	HEAT CODE	STEEL MILL	MILL CERT	HEAT N.
ITEM	Q.TY	DESCRIPTION							
			NPT F31		SA182F316/316L	L05	ACC. VALBRUNA	157729	256155
1	1,00	SWAGE XS 1"X1/2"			SA182F316/316L	L05	ACC. VALBRUNA	157729	256155
2	2,00	SWAGE XS 1"X1/2"			SA182F316/316L	E67	ACC. VALBRUNA	802709/2009	423038
3	1,00	SWAGE XS 1.1/2"X1/2"	NPT/PE F31		SA-A105N	G72	RIVA	41540	10/74409
5	33,00	TEE S.3000 1/2"	NPT ZINC. A10	5	SA-A106/B	E80	ZELEZIARNE	32931/1/2009	91658
6	530,00	N. TUBO XS 1/2"X100	NPT ZINC. A10	6/B	i i	M698	ZELEZIARNE	1951/1/2012	16508
7	23,00	N. TUBO XS 2"X100	NPT ZINC. A10	6/B	SA-A106/B	1			79505
8	407,00	MANICOTTO 3000 1/2"	NPT ZINC. A10	5	SA-A105N	Н80	RIVA	41580	79505

						CH	IEMICAL	ANALYS	SIS									
HEAT CODE	C %	Mn %	Si %	P %	S %	Ni %	Cr %	Mo %	П %	AI %	V %	Cu %	Nb %	N %			C.E. %	NOTE
L05	0.012	1,540	0.500	0.030	0,030	10,000	16,760	2,070	0,000	0,000	0,000	0,000	0,000	0,060	0,000	0,000	0,000	
L05		1,540	0,500	0,030	0,030	10,000	16,760	2,070	0,000	0,000	0,000	0,000				0,000	0,000	
E67	0,017	1,440					16,650			100		7	0,000			· 1	0,380	
G72	· ·	0,890			0,009	1	0,120 0,040	0,020			2 3 5						0,272	
E80 M698		0,650 0,480	- 1				0,030		· · ·			0,170	0,000			1		
нво	1		l 1	·			0,130			0,024	0,016	0,130	0,001	0,000	0,000	0,000	0,380	

							MECHANICAL	TEST				
HEAT CODE	R N/mm²	S N/mm²	A %	C %	Bending Test	Flattenin g	Hydraulic Test	HARDNESS HB	IMPACT TEST J - °C	HEAT TREATMENT - °	c	NOTE
L05 E67 G72 E80	627,0 627,0 645,0 500,0 474,0 476,0 513,0	321,0 370,0 311,0 407,0 383,0	45,0 48,0 33,3 48,0 28,9					184 184 184 184 178 178 150 150 147 148 147 148 151 152	240 229 239 20		1050 1050 1050	

WE HEREBY CERTIFY THAT THE ABOVE IS IN ACCORDANCE WITH THE ORIGINAL CERTIFICATE WHICH IS HELD BY US.

SPECIMEN FOR ELONGATION: STANDARD ROUND. FITTINGS MEET ANSI B16.11 & BS3799 REQUIREMENTS.UNIONS GROUND JOINT, STEEL TO STEEL

FITTINGS ARE DIMENSIONAL AND SURFACE CHECKED WITHOUT OBJECTION. C/SWAGES TO MSS SP95, PIPE NIPPLES TO B36.10 : SEAMLESS.

MATERIAL TO ASME Sec.II Part A Ed.2010 - ASTM 01.01 NACE MR01.75 MR01.03 LATEST EDITION. A105N NORMALISED AT 890 C.

IN ACCORDANCE WITH PED 97/23/EC ANNEX 1 SECT. 4.3. WHERE REQUIRED EDDY CURRENT OR HYDROSTATIC TEST WITHOUT OBJECTIONS.

F304/L+F316/L QUENCHING COOL BELOW 260 C ASTM A182 F11 NORM. AT 920 C. O'LET TO MSS SP97.

INSPECTION

O.M.S.A. S.R.L.

CERTIFICATE N°

DATE

01013/001

24/05/2012

ADDRESS Via Arno, 3
20029 TURBIGO (MI) ITALIA
PHONE 0331 871111 (3 linee r.a.)
FAX 0331 871468
WEB SITE www.turozzi.it
E-MaiL turozzi@turozzi.it





Raccordi in acciaio per impianti ad alta pressione Steel fittings for high pressure plants

CLIENTE / Purchaser R.T.I. S.p.A.				TIFICATO DI CO s certificate		0204 3.1	FOGLIO Sheat
37790/10	ns.DdT 8	302	N.	49611	DEL/Of	04/06/2012	1/1

ITEM Item	QUANTITÀ Quentity	DESCRIZIONE / Description	COLATA Heat	MATERIALE Material	CERTIF. ORIG. Mill certif.	ACCIAIERIA / FORNITORE Steel plant / Supplier
		VS.ORD. 37790/10 DEL 27/04/2012			ı	
1	58	N.T.R. 1x3/4 S.40 FxF WPB	12278	A106/B	78458.9PR	PIETRA
2		K.T.R. 1x1/2 S.40 FxF WPB	12278	A106/B		PIETRA
3		MIPPLO/T. 1x150 S.40 FXF WPB	56078	A106/B	2743/846.4	Z.POOBREZOVA
4	60		7738	A105	7063/1092.1	RIVA
		AGG. DEL 17/05/12				
5	2	BONITO N/F 1.1/4 3000 NPT F316L	992453	A182 F316L/316	43589/3815	OLARRA

ANALISI CHIMICA - Chemical Analysis

COLATA	င္န	Mn	Si %	P	Ş	Ni %	Çr %	Mo %	Ti %	V %	Cu %	Al %	Nb %	N %	%	%	C.E.
Heat	76	%	7/0	76	70		/6										
12278	0,154	n 651	0,230	0,010	0,004	0,100	0,080	0,022		0,001	0,229	0.027					0,305
12278	0,154	i 1	0,230	1		1	1 1	I		0,001		0,027					0,305
56078	0,140	1 ' I	0,210	-		-	1 1			0,008	0,180						0,293
7738	0,185	l ' i			-	0,080	1 1	0,020		0,017	0,180	0,026	0,002		ı		0,393
992453	0,019	1,760	0,380	0,030	0,029	10,150	16,550	2,060						0,045			
	1															ļ	

CARATTERISTICHE MECCANICHE - Mechanicai Test

COLATA Hest	Figure 1 Fig	S Yield Point N/mmq.	A:2" Elongation	C Reduction of area %	Bending Test	Flattening Test	Hydraufic Test	HB Hardness		Kv Impact test J	Temp. °C	STATO DI FORNIT. (TRATT TERM.) Supply cand. (heat treatment)	TEMP.	NOTE Remark
12278 12278 56078 7738	494 494 491 508	354 402	40,0 30,4	57,5	OK OK		2500P\$I 2500P\$I 17.2NPa	145 145 147 151	147 147 149 154					
992453	\$65	266	57,0	76,0			,					SOLUT.AMMEALED	105 0	

NATURA DEL MATERIALE / Kind of maierial	NORMA DI RIFERIMENTO Referenced standard	NOTE / Remarks
Acciaio elaborato al formo elettrico Steel made by electric furnace	ASTM ultima edizione ASTM latest edition	

COLLAUDI INTERNI / Works inspection	RISULT. Result	COLLAUDI SUPPLEMENTARI / Supplementary lests	AISULT. Result
Oimensionale/Visivo Dimensional/Visual	Ok Ok		
			<u>l</u>

ENTE COLLAUDATORE / Inspection agency RESPONSABILE QUALITÀ / Quality Manager turozzi fratelli

RACCORDERIA FORGIATA / FORGED STEEL FITTINGS Località Prateglia, 37 - 28013 C A R P A N E T O P I A C E N T I N O - PC Tel *39 0523 850937 - Fax *39 0523 850933 - <u>infop@citoropipina.com</u>

CUSTOMER
R.T.I. S.P.A.

2/05/2012 1123/2012 CERTIFICATE N°

SHEET

DATE 8/03/2012 $\frac{295}{2012}$

CUSTOMER ORDER REF.

37198/10 - 07/03/2012

DELIVERY
MATERIAL
OF
EXTENT
ı
3.1
10204
EN C
TC
ACCORDING
CORD

1 1 34760/2012 FM-CL 10/74888 25 GOMITI 45 SN 3 4447/2010 M5 11/79166 30 GOMITI 45 SN 3 4447/2011 M6 11/79166 30 GOMITI 45 SN 11/7916 10 GOMITI 45 SN 11/7916 10 GOMITI 45 SN 11/7916 10 GOMITI 90 SN	Pos.	TEST NO.	HEAT CODE	HEAT NUMBER	Q.TY	DESCRIPTION	MAT. REQUISITION / TAG Nº / ITEM CODE / COMPUTER CODE / UB	COMPUTER CODE / UB	ENCLOSURE / NOTES	
2 34477/2010 M5 11/79166 30 GOMITI 45 SN 11/79166 30 GOMITI 45 SN 11/79166 30 GOMITI 45 SN 11/79161 15 GOMITI 45 SN 11/79161 15 GOMITI 45 SN 11/79161 15 GOMITI 45 SN 11/79161 15 GOMITI 45 SN 11/79161 15 GOMITI 90 SN 11/79161 15 GOMITI 90 SN 11/79161 15 GOMITI 90 SN 11/79161 15 GOMITI 90 SN 11/79161 11	1 1		FM-CL	10/74888	25	GOMITI 45 SW S/3000 A105	RF350003			
3 34583/2011 M6 11/79166 30 GOMITI 45 SN 4 34602/2011 L901 11/79166 10 GOMITI 45 SN 5 35667/2012 RM 11/79166 50 GOMITI 90 SN 6 34773/2012 M8 11/79166 50 GOMITI 90 SN 10 32220/2012 RDL 11/7986 20 GOMITI 90 SN 11 34234/2012 MS 11/7986 20 GOMITI 90 SN 12 34234/2011 FM-DA 11/78584 10 FEE SW S/30C 13 34532/2011 FM-DA 11/78587 40 FEE SW S/30C 14 34835/2010 E-OY 11/78587 40 FEE SW S/30C 15 3476/2010 E-OX 11/78587 40 FEE SW S/30C 16 3476/2010 E-OX 11/7868 40 MANICOTTI SW 19 34823/2011 11/78625 11/78625 11/78625 10 MANICOTTI SW 20 3476/2010	2 1		<u>45</u>	11/79165	10	GOMITI 45	RE350004			
4 34602/2011 L901 11/7941 10 GOMITI 45 SF 5 35067/2012 FM-CS 11/7946 10 GOMITI 90 SF 6 3473/2012 MB 11/79166 10 GOMITI 90 SF 10 3320/2012 MG 11/7986 20 GOMITI 90 SF 10 3320/2012 FG-TO 11/7986 20 GOMITI 90 SF 11 34324/2011 FM-DA 11/7986 10 TEE SW S/30C 12 35060/2012 MIS 11/78887 40 TEE SW S/30C 14 34835/2010 E-OY 10/7078 2 TEE SW S/30C 15 3460/2012 MIS 11/7868 40 MANICOTTI SW 16 34769/2012 E-NC 09/7858 5 TEE SW S/30C 18 34769/2012 L-NC 09/7858 5 TEE SW S/30C 18 34769/2012 L-NC 09/7858 5 TEE SW S/30C 19 34769/2012 11/77862	3		76	11/79166	30	GOMITI 45 SW S/3000 A105	RF350005			
35067/2012 EM-CS 11/79741 150 GOMITI 90 SW 3473/2012 M8 11/79166 50 GOMITI 90 SW 3493/2012 M9 11/79166 50 GOMITI 90 SW 3493/2012 EM-DA 11/79584 10 TEE SW S/30C 35060/2012 M15 11/79584 10 TEE SW S/30C 34532/2011 T7B P410104545 10 TEE SW S/30C 34532/2011 T7B P410104545 10 TEE SW S/30C 34532/2011 T7B P410104545 10 TEE SW S/30C 34532/2011 T7B T1/78584 11/78584 11/78587 11/7868 11/78768 11/78768 11/78768 11/78768 11/7868 11/78768 11/7869	4 1		L901	11/78156	10	GOMITI 45 SW S/3000 A105	RF350007			
6 1 34773/2012 M8 11/79166 50 GOMITI 90 SF 11/79161 11/7986 150 GOMITI 90 SF 11/79161 11/7986 150 GOMITI 90 SF 11/79161	5		FM-CS	11/79741	150	GOMITI 90 SW S/3000 A105	RF352003			
7 34867/2012 M9 11/79166 150 GOMITI 90 SW 9 34973/2012 BOIC 11/79886 20 GOMITI 90 SW 10 33220/2010 FC-IO 11/79884 10 GENITI 90 SW 11 34234/2011 FM-DA 11/78584 10 TEE SW S/30C 13 34532/2011 FM-DA 11/78584 10 TEE SW S/30C 14 31835/2010 FM-DA 11/78584 10 TEE SW S/30C 15 34532/2011 FM-DA 11/78687 40 TEE SW S/30C 16 34173/2011 B46B 11/77868 11/7868 5 TEE RID.SW S/30C 18 3421/2011 11/78768 11/78768 11/78768 5 TEE RID.SW S/30C 19 34823/2012 11/78768 11/78768 5 TEE RID.SW S/30C 20 3469/2012 11/7760 11/7760 AMICOTTI SW 21 34393/2011 11/7780 11/7760 AMICOTTI SW 22	9	34773/2012	4B	11/79166	5(GOMITI 90 SW S/3000 A105	RE352004			
9 1 34973/2012 BOIC 11/79886 20 GOMITI 90 SW 10 1 32320/2010 FC-IO 5110 5 GOMITI 90 SW 11 1 3424/2011 FM-DA 11/78684 10 FEE SW S/30C 13 2 35060/2012 M15 11/78684 10 FEE SW S/30C 14 1 31835/2011 177B P410104545 10 TEE SW S/30C 15 1 38060/2012 M15 11/78687 6 FEE RID.SW S/30C 16 1 34173/2011 B46B 11/7868 10 TEE RID.SW S/30C 18 1 3423/2012 B46B 11/7868 40 FEE RID.SW S/30C 18 3421/2011 11/7868 11/7868 5 TEE RID.SW S/30C 19 34823/2012 11/7868 40 MANICOTTI SW 20 34769/2012 11/77869 50 MAXICOTTI SW 21 34830/2011 11/77860 11/77260 20 MAZICOTTI SW 22 3 34744/2009 188976 11/77260 50 MCCHETTONI 25 1 36877/2011 125C 11/77260 50 MCCHETTONI <	 7 1		ΔĮ	11/79166	150	GOMITI 90 SW S/3000 A105	RF352005			
10 32320/2010 FC-IO 5110 5 GOMITI 90 SF 11 34324/2011 FM-DA 11/78584 10 TEE SW S/30C 13 34532/2011 I77B F410104545. 10 TEE SW S/30C 14 31835/2010 E-OY 10/70778 2 TEE SW S/30C 15 34060/2012 M15 11/73526 10 TEE SW S/30C 16 34173/2011 B46B 11/73526 10 TEE RID.SW S/30C 18 34221/2011 B46B 11/73726 10 TEE RID.SW S/30C 19 34823/2012 11/7868 11/73678 5 TEE RID.SW S/30C 10 34393/2011 11/7862 11/73679 30 MANICOTTI SF S/20C 11 11/7862 11/7760 ML-FW AD1214 5 BOCCHETTONI SF S/20C 12 33937/2011 I1/7862 11/7760 5 MELDOLET BW S/20C 24 33171/2011 ML-FW AD1814 5 BOCCHETTONI SF S/20C 25 34074/2009 188976 11/7760 5 SOCKOLET SW S/20C 26 3955/2010 I28B 11/7760 5 SOCKOLET SW S/20C 27 3555/2010 I28B 11/79739 5 SOCKOLET SW S/20C 28 34761/2012 I38 11/79739 5 SOCKOLET SW S/20C 29 34761/2012 I38 11/79739 5 SOCKOLET SW S/20C 36 37 34761/2012 I38 11/79739 5 SOCKOLET SW S/20C 38 34761/2012 I38 11/79739 5 SOCKOLET SW S/20C 39 30 30 30 30 30 30 30	9		901c	11/79886	20	GOMITI 90 SW S/3000 A105	RF352008			
11 34324/2011 FM-DA 11/78584 10 TEE SW S/30C 12 35060/2012 M15 11/78587 40 FEE SW S/30C 13 34332/2011 177B P410104545 10 TEE SW S/30C 14 31835/2010 E-OY 10/70778 2 TEE SW S/30C 15 34173/2011 B46B 11/73526 10 TEE RID.SW S/30C 18 34221/2010 E-NC 09/78538 5 TEE RID.SW S/30C 19 34823/2012 11/79679 11/79679 11/79679 MANICOTTI SW S/30C 20 34769/2012 205813 205813 20 MANICOTTI SW S/30C 21 34393/2011 11/77862 11/77862 11/77860 20 MANICOTTI SW S/30C 22 34769/2012 11/77862 11/77860 5 MANICOTTI SW S/30C 23 33057/2011 ILFW AD1214 5 DOCCHETTONI 24 330474/2009 188976 11/77560 5 5	10 1		FC-IO	5110	±1)	GOMITI 90 SW S/3000 A105	RF352010			
12 35060/2012 M15 11/78587 40 TEE SW S/30C 13 34532/2011 177B P410104545 10 TEE SW S/30C 14 13835/2010 E-OY 10/7078 2 TEE SW S/30C 15 34060/2012 M15 11/78587 6 TEE RID.SW S 16 34173/2011 B46B 11/7858 1 TEE RID.SW S 17 31246/2010 E-OX 09/78538 5 TEE RID.SW S 19 34823/2011 11/7876 11/7868 40 MANICOTTI SW S 20 34769/2012 205813 205813 50 MANICOTTI SW S 21 34393/2011 11/77862 11/77862 10 MANICOTTI SW SW S 22 33380/2011 11/77260 11/77260 MALDOLET BW SW S MALDOLET BW SEDOLET BW SW SS 24 33474/2009 188976 188976 5 SOCKOLET SW SW SEDOLET SW SW SS 25 3655/2010 162A 10/71002 5 SOCKOLET SW SW SCKOLET SW SW SS </td <td> 11 1</td> <td></td> <td>FM-DA</td> <td>11/78584</td> <td>10</td> <td>TEE</td> <td>.RF354004</td> <td></td> <td></td> <td></td>	 11 1		FM-DA	11/78584	10	TEE	.RF354004			
13 134532/2011 177B P410104545 10 TEE SW \$/30C 14 131835/2010 E-OY 10/70778 2 TEE SW \$/30C 15 35660/2012 M15 11/78587 6 TEE RID.SW \$/30C 16 34173/2011 B46B 11/78768 10 TEE RID.SW \$/30C 18 13221/2011 11/78768 11/78768 40 MANICOTTI SW \$/30C 19 34221/2012 11/78625 11/79679 30 MANICOTTI SW \$/30C 20 34769/2012 205813 205813 50 MANICOTTI SW \$/30C 21 34380/2011 11/77862 11/77862 10 MANICOTTI SW \$/30C 22 34380/2011 11/77260 11/77260 20 MEZI MAICOTI SW \$/30C 23 33279/2011 ML-FW AD1814 5 DOCCHETTONI 26 33311/2011 MB-FW AD1814 5 DOCCHETTONI 26 33474/2009 188976 11/77260 AMELDOLET SW \$/30C SOCKOLET SW \$/30C	 12 1		YI 5	11/78587	4(TEE	RF354005			
14 131835/2010 E—OY 10/70778 2 TEE SW S/30C 15 38060/2012 M15 11/78587 6 TEE RID.SW S 16 34173/2011 B46B 11/73526 10 TEE RID.SW S 17 34246/2010 E-NC 09/78838 5 TEE RID.SW S 18 34221/2011 11/7868 11/78768 11/78768 AMINCOTTI SW S 20 347823/2012 11/78625 11/78625 11/77260 AMINCOTTI SW S 21 34380/2012 11/77260 11/77260 AMINCOTTI SW S 22 34380/2011 11/77260 11/77260 AMINCOTTI SW S 23 32579/2011 11/77260 MENDICOTTI SW S 24 33171/2011 ML-FW AD1814 20 BOCCHETTONI 25 13952/2011 158B 11/77260 MELDOLET BW S 26 330474/2009 188976 8 MELDOLET SW S 27 35037/2011 155C 11/39406 8 MELDOLET SW S 28 <td< td=""><td> 13 1</td><td></td><td>I77B</td><td>P410104545</td><td>10</td><td>TEE SW S/3000 A105 11/2"</td><td>RF354007</td><td></td><td></td><td></td></td<>	 13 1		I77B	P410104545	10	TEE SW S/3000 A105 11/2"	RF354007			
15 35060/2012 M15	14 1		E-0Y	10/70778	٠,٧		.RF354008			
16 1 34173/2011 b46B 11/37526 10 TEE RID.SW 8 17 1 31246/2010 E-NC 09/78538 5 TEE RID.SW 8 18 1 34221/2011 11/78768 11/78768 40 MANICOTTI SW 8 19 1 34823/2012 11/79679 30 MANICOTTI SW 8 21 1 34769/2012 20.5813 20.5813 50 MANICOTTI SW 8 22 1 34380/2011 11/77260 11/77260 MANICOTTI SW 8 23 1 32579/2010 ML-FW AD1214 20 MALICOTTI SW 8 24 1 31711/2011 11/77260 11/77260 20 MALICOTTI SW 8 25 1 34380/2011 ML-FW AD1214 20 BOCCHETTONI 26 1 33951/2011 IS8976 11/77260 5 WELDOLET BW 8 26 1 35037/2011 IS8876 11/73406 4 WELDOLET SW 8 29 1 30474/2009 188976 188976 5 SCCKOLET SW 8 30 1 177201	15 1	_	415	11/78587	w		RF355191			
17 131246/2010 E-NC 09/78538 5 TEE RID.SW E 18 13421/2011 11/78768 11/78768 40 MANICOTTI SW E 19 134823/2012 11/79679 11/79679 30 MANICOTTI SW E 20 134769/2012 205813 205813 50 MANICOTTI SW E 21 134389/2011 11/77805 11/77805 11/77805 MANICOTTI SW E 23 132579/2010 ML-FW AD1214 20 MCCHETTONI 24 13311/2011 ML-FW AD1814 5 MCCHETTONI 25 13395/2011 188976 188976 5 MCCHETTONI 26 13395/2011 158B 11/77260 5 MCCHETTONI 26 135037/2011 158B 11/77260 5 SCCKOLET SW 27 135037/2011 125C 11/39406 4 MELDOLET SW 29 130474/2009 188976 188976 5 SCCKOLET SW 36 11779739<	 16 1		B46B	11/37526	10	TEE RID.SW S/3000 A105 11/2"X3/4"	RE355202			
18 34221/2011 11/78768 11/79679 40 MANICOTTI SW 19 34823/2012 11/79679 11/79679 30 MANICOTTI SW 20 3469/2012 205813 50 MANICOTTI SW 21 34393/2011 11/78825 10 MANICOTTI SW 22 34380/2011 11/77260 11/77260 20 MEZI MANICOTTI SW 24 33171/2011 ML-FW AD114 20 MCCHETTONI 25 33674/4/2009 188976 5 MCCHETTONI 26 33952/2011 158B 11/77260 5 WELDOLET BW 27 35037/2011 158C 11/39406 5 SOCKOLET SW 29 30474/2009 188976 188976 5 SOCKOLET SW 30 3355/2010 162A 10/71002 5 SOCKOLET SW 30 34761/2012 1B8 11/79739 5 SOCKOLET SW 38 34761/2012 1B8 11/79739 5	17 1		Ð÷NC	09/78538	±1)	TEE RID.SW S/3000 A105 11/2"X1/2"	RF355203			
19 1 34823/2012 11/79679 30 MANICOTTI SW 20 1 34769/2012 205813 205813 50 MANICOTTI SW 21 1 34393/2011 11/78825 11/78825 10 MANICOTTI SW 22 1 34380/2011 11/77260 20 MEZI MANICOTTI SW 23 1 32579/2010 ML-FW AD1214 20 MEZI MANICOTTI SW 24 1 3311/2011 ML-FW AD1814 5 MCCHETTONI 25 1 3474/2001 188976 188976 5 MELDOLET BW 26 1 33537/2011 128B 11/77260 5 WELDOLET BW 27 1 35037/2011 128G 11/39406 5 MELDOLET BW 29 1 30474/2009 188976 188976 5 SCKOLET SW 30 1 30474/2009 188976 188976 5 SCKOLET SW 30 1 30474/2009 188976 5 SCKOLET SW 31 3 3751/2012 188 11/79739 5 SCKOLET SW 32 1 34761/2012 188 11/79739 5 SCKOLET SW	18 1		11/78768	11/78768	4(MANICOTTI SW S/3000 A105 1/2"	RF362003			
20 34769/2012 205813 205813 50 MANICOTTI SN 234393/2011 11/78825 11/78825 10 MANICOTTI SN 234389/2011 11/77260 11/77260 20 MEZZI MANICOTZI SN 23579/2010 ML-FW ADD214 20 MEZZI MANICOTZI SN 24 33171/2011 ML-FW ADD814 5 MECOHETTONI SP 25 13952/2011 128B 11/77260 5 MELDOLET BW 27 35037/2011 128B 11/77260 5 MELDOLET BW 29 30474/2009 188976 188976 5 SOCKOLET SW 30 34761/2012 188976 188976 5 SOCKOLET SW 37 34761/2012 188 11/79739 5 SOCKOLET SW 38 34761/2012 188 11/79739 5 SOCKOLET SW 38 14761/2012 188 1477939 5 SOCKOLET SW 38 14761/2012 188 1477939 14761/2012 188 1477939 5 SOCKOLET SW 38 14761/2012 188 1477939 14761/2012 188 1477939 5 SOCKOLET SW 38 14761/2012 188 1477939 14761/2012 188 1477939 14761/2012 188 1477939 14761/2012 14761/201	 19 1		11/79679	11/79679	30	MANICOTTI SW S/3000 A105 3/4"	RF362004			
21 1 34393/2011 11/78825 11/78625 10 MANICOTTI SN 3380/2011 11/77260 11/77260 20 MEZZI MANICO	 20 1		205813	205813	2(MANICOTTI SW S/3000 A105 1"	RF362005			
22 1 34380/2011 11/77260 11/77260 20 MEZZI MANICC 23 1 32579/2010 ML-FW AD1214 20 BOCCHETTONI 24 1 33171/2011 ML-FX AD1814 5 BOCCHETTONI 25 1 30474/2009 188976 188976 5 WELDOLET BW 26 1 39952/2011 128C 11/7360 5 WELDOLET BW 27 1 35037/2011 125C 11/39406 4 WELDOLET BW 29 1 30474/2009 188976 188976 5 SOCKOLET SW 30 1 30474/2009 188976 10/71002 5 SOCKOLET SW 37 1 34761/2012 1B8 11/79739 5 SOCKOLET SW 38 1 34761/2012 1B8 11/79739 5 SOCKOLET SW	 21 1		11/78825	11/78825	1(MANICOTTI SW S/3000 A105 11/2"	RF362007			
23 1 32579/2010 ML-FW AD1214 20 BOCCHETTONI 24 1 33171/2011 ML-FX AD1814 5 BOCCHETTONI 25 1 30474/2009 188976 188976 5 WELDOLET BW 26 1 33952/2011 188B 11/77260 5 WELDOLET BW 27 1 35037/2011 125C 11/39406 4 WELDOLET BW 29 1 30474/2009 188976 188976 20 SOCKOLET SW 36 1 32655/2010 162A 10/71002 5 SOCKOLET SW 37 1 34761/2012 1B8 11/79739 5 SOCKOLET SW 38 1 34761/2012 1B	 22 1		11/77260	11/77260	20	MEZZI MANICOTTI SW S/3000 A105 3/4"	RF366004			
24 1 33171/2011 ML-FX AD1814 5 BOCCHETTONI 25 1 30474/2009 188976 188976 5 WELDOLET BW 26 1 33952/2011 158B 11/77260 5 WELDOLET BW 27 1 35037/2011 125C 11/39406 4 WELDOLET BW 29 1 30474/2009 188976 188976 20 SOCKOLET BW 36 1 32655/2010 162A 10/71002 5 SOCKOLET SW 37 1 34761/2012 1B8 11/79739 5 SOCKOLET SW 38 1 34761/2012 1B8 11/79739 5 SOCKOLET SW 38 1 34761/2012 1B8 11/79739 5 SOCKOLET SW 38 1 34761/2012 1B8 11/79739 5 SOCKOLET SW 38 1 34761/2012 1B8 11/79739 5 SOCKOLET SW 39 1 34761/2012 1B8	 23 1		ML-FW	AD1214	2(DOCCHETTONI SW S/3000 A105 1/2"	RF372003			
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26 1 33952/2011 ISSB 11/77260 5 WELDOLET BW 27 1 35037/2011 IZ5C 11/39406 4 WELDOLET BW 29 1 30474/2009 I88976 20 SOCKOLET SW 30 1 30474/2009 IR8976 188976 5 SOCKOLET SW 35 1 32655/2010 IG2A 10/71002 5 SOCKOLET SW 37 1 34761/2012 IBS 11/79739 5 SOCKOLET SW 38 1 34761/2012 IBS 11/79797 5 SOCKOLET SW 38 1 34761/2012 IBS 11/7979 5 SOCKOLET SW 38 1 34761/2012 IBS 11/7979 5 SOCKOLET SW 38 1 34761/2012 IBS 11/7979	 25 1		188976	188976	п)					
27 1 35037/2011 125C 11/39406 4 WELDOLET BW 29 1 30474/2009 188976 188976 20 SOCKOLET SW 30 1 30474/2009 188976 188976 5 SOCKOLET SW 35 1 32655/2010 162A 10/71002 5 SOCKOLET SW 37 1 34761/2012 1B8 11/79739 5 SOCKOLET SW 38 3 34761/2012 1B8 11/79739 5 SOCKOLET SW	 26 1		158B	11/77260	u)	WELDOLET BW	1/2" RF374004/3			
29 1 30474/2009 188976 188976 20 SOCKOLET SW 30 1 30474/2009 188976 188976 5 SOCKOLET SW 35 1 34761/2012 1B8 11/79739 5 SOCKOLET SW 38 3 34761/2012 1B8 11/79739 5 SOCKOLET SW 38 1 34761/2012 1B8 11/79739 5 SOCKOLET SW 38 2 34761/2012 1B8 11/79739 5 SOCKOLET SW 38 3 SOCKOLET SW 38 3 SOCKOLET SW 38 S	27 1	•	125C	11/39406	4	WELDOLET BW	RE374008/6			
30 1 30474/2009 188976 188976 5 SOCKOLET SW 35 1 32655/2010 162A 10/71002 5 SOCKOLET SW 37 1 34761/2012 1B8 11/79739 5 SOCKOLET SW 38 3 34761/2012 1B8 11/79739 5 SOCKOLET SW	 29 1		188976	188976	20	SOCKOLET SW	. RF376003/4			
35 1 32655/2010 162A 10/71002 5 SOCKOLET SW 37 1 34761/2012 1B8 11/79739 5 SOCKOLET SW 38 1 34761/2012 1B8 11/79739 5 SOCKOLET SW	 30 1	30474/2009	188976	188976	11.1	SOCKOLET SW S/3000 A105				
37 1 34761/2012 IB8 11/79739 5 SOCKOLET SW 38 1 34761/2012 IB8 11/79739 5 SOCKOLET SW	 35 1		I62A	10/71002	۱,	SOCKOLET SW S/3000 A105	RE376005/5			
38 ; 34761/2012 IB8 11/79739 5 SOCKOLET SW	 37 1		IB8	11/79739)	SOCKOLET SW S/3000 A105	RF376007/1			
	38		IB8	11/79739	.,	SOCKOLET	RF376007/3			
NOTES				NOTE	င္သ		THIRD PARTS	CUSTOMER INSPECTOR	QUALITY CONTROL	

CHERO PIPING S.P.A.

MATERIAL ACC.TO NACE MR 01.75 ED.2007 + ASME SECTION II ED.2010. VISUAL, DIMENSIONAL AND MARKING CHECK HAVE BEEN CARRIED OUT WITH

ORDER SPECIFICATIONS,

THIS IS TO CERTIFY THAT MATERIAL REQUIREMENTS ARE ACCORDING TO

SATISFACTORY RESULTS, MATERIAL ACC. WITH PED 97/23/EC.

ASPA.

RACCORDENA FORGIATA / FORGED STEEL FITTINGS
Localia Padagle, 37 - 29013 C A R P A N E T O P I A C E N T I N O - PC
Tal +39 0523 859997. Fax +39 0523 860833 - intopoliting.com

CUSTOMER
R.T.I. S.P.A.

2/05/2012 DATE 1123/2012 CERTIFICATE N°

SHEET 2

DATE 8/03/2012 INTERNAL ORDER NUMBER 295/2012

CUSTOMER ORDER REF. 37198/10 - 07/03/2012

	TEST NO.	HEAT CODE	HEAT NUMBER	Q.TY	DESCRIPTION	MAT.REQUISITION / TAG Nº / ITEM CODE / COMPUTER CODE / UB	ENCLOSURE / NOTES
-	34761/2012	IB8	11/79739	-/	5 SOCKOLET SW 3000 A105 11/2"X31/2"-4"	RE376007/4	
	33422/2011	10/74446	10/74446	-,	5 INSERTI SW S/3000 A105 11/2"X1"	RE378201	
	31588/2010	10/38918	10/38918	- 4	2 INSERTI SW S/3000 A105 11/2"X3/4"	RE378202	
7	33422/2011	10/74446	10/74446	-	4 INSERTI SW S/3000 A105 11/2"X1/2"	RE378203	
-	34725/2012	11/79470	11/79470	-,	5 INSERTI SW S/3000 A105 2"X1"	RF378208	
	33107/2011	EM-AS	10/74258	20	GOMIT	RF401Z003	
	34212/2011	199	11/76494	10	GOMIT	RF401Z004	
-	34476/2010	M4	11/76175	15	GOMITI 45 ZC NPT S/3000 A105 1"	RF401Z005	
	34145/2011	E-ST	11/75717		5 GOMITI 45 ZC NPT S/3000 A105 2"	RF401Z008	
-	34799/2011	M13	11/78587	50	GOMIT	RF404003	
•	34486/2011	M2	11/76494	10	GOMITI 90 NPT S/3000 A105 3/4"	RF404004	
-	34976/2012	M2.1	11/79799	25	GOMITI 90 NPT S/3000 AL05	RF404005	
_	34939/2012	E.TE	11/77566	15	GOMITI 90 NPT S/3000 A105 11/4"	RE404006	
,	34584/2011	Ω	11/79166	100	GOMITI 90 ZC NPT S/3000 A.	RF404Z003	
_	34894/2012	I19C	11/79888	50	GOMITI	RF404Z005	
~	34774/2012	E.TC	11/37397	50	GOMITI 90 ZC NPT S/3000 AX	RF404Z007	
e~	33997/2011	EM-CO	11/77383	100	TEE NPT S/3000 A105 1/2"	RF407003	
80.00	35158/2012	M23	12/70536	10	TEE NPT S/3000 A105 1"	RF407005	
44	34278/2011	B53B	11/78586	50	TEE ZC NPT S/3000 A105 1/2"	RF407Z003	
1771	33695/2011	EM-CF	11/76495	10	TEE 2C NPT S/3000 A105 3/4"	RF4072004	
844-7	34798/2011	M12	11/76175	30	TEE ZC NPT S/3000 A105 1"	RE407Z005	
.	34717/2012	E.TA	11/37397	10	TEE ZC NPT S/3000 A105 11/2"	RF407Z007	
,_,	33739/2011	FC-NS	1146810	10	TEE ZC NPT S/3000 A105 2"	RE407Z008	
-	33482/2011	L87	11/76133		5 TEE RID.NPT S/3000 A105 1"X3/4"	RF409191	
-	24359/2006	E-HV	05/78268		5 TEE RID.NPT S/3000 A105 1"X1/2"	RE409192	
	32577/2010	I75A	09/78562	,	5 TEE RID.NPT S/3000 AL05 11/4"X3/4"	RF409196	
-	34798/2011	M12	11/76175	10	TEE RID.2C NPT S/3000 A105 1"x3/4"	RF409Z191	
	34798/2011	M12	11/76175	-,	5 TEE RID.ZC NPT S/3000 A105 1"x1/2"	RF4092192	
-	34916/2012	E.TD	12/79921	10	TEE RID.ZC NPT S/3000 A105	RF409Z208	
$\overline{}$	34461/2011	E.SW	11/78826	10	TEE RID.ZC NPT S/3000 A105 2"X1/2"	RF409Z210	
·-	T000/05040	100	70170	•	10 10 10 10 10 10 10 10 10 10 10 10 10 1	7 1 2 1 2 0 0 0	

NOTES	THIRD PARTS	CUSTOMER INSPECTOR	QUALITY CONTROL
THIS IS TO CERTIFY THAT MATERIAL REQUIREMENTS ARE ACCORDING TO			
ORDER SPECIFICATIONS.			C. alleman
MATERIAL ACC.TO NACE MR 01.75 ED.2007 + ASME SECTION II ED.2010.			DOMENICO GUARNIERI
VISUAL, DIMENSIONAL AND MARKING CHECK HAVE BEEN CARRIED OUT WITH			650
SATISFACTORY RESULTS. MATERIAL ACC. WITH PED 97/23/EC.			CHENO PIPING S.P.A.

RACCORDERIA FORGIATA / FORGED STEEL FITTINGS Localis Presigle, 37 - 29013 C A R P A N E T O PI A C E N T I N O - PC Tel +39 0523 554957 - Fax +39 0523 550833 - Inforc@cheropiping.com

CUSTOMER R.T.I. S.P.A.

2/05/2012 DATE 1123/2012 CERTIFICATE Nº

SHEET

DATE 8/03/2012 $\frac{1}{295/2012}$

CUSTOMER ORDER REF.

37198/10 - 07/03/2012

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_	TEST NO.	HEA! CODE	HEAT NUMBER	Q.T.	DESCRIPTION	MAT, REQUISITION / TAG Nº / ITEM CODE / COMPUTER CODE / UB	ENCLOSURE / NOTES
-	34266/2011	11/78769	11/78769	50	50 MANICOTII NPT S/3000 A105 1/2"	RE415003	
	33895/2011	11/76173	11/76173	S	5 MANICOTTI NPT S/3000 A105 3/4"	RF415004	
-	34667/2012	11/79167	11/79167	ιO.	5 MANICOTTI NPT S/3000 A105 1"	RF415005	
-	32814/2010	10/7367.4	10/73674	πO	5 MANICOTTI NPT S/3000 A105 11/4"	RF415006	
	34393/2011	11/78825	11/78825	20	20 MANICOTTI NPT S/3000 A105 11/2"	RF415007	
-	33976/2011	11/77738	11/77738	7.0	MANICOTII ZC NPT S/3000 A105 1/2"	RF415Z003	
-	32397/2010	98661/60	98661/60	20	MANICOTII 2C NPT S/3000 A105 3/4"	RF415Z004	
~	34667/2012	11/79167	11/79167	20	MANICOTTI ZC NPT S/3000 A105 1"	RF415Z005	
·	34839/2012	11/38303	11/38303	20) MANICOTTI ZC NPT S/3000 A105 11/2"	RF415Z007	
*****	34840/2012	11/78824	11/78824	10) MANICOTII 2C NPT S/3000 A105 2"	RF415Z008	
20.74	34944/2012	11/79740	11/79740	10) MANICOTTI NPT S/6000 A105 3/4"	RF416004	
****	34725/2012	11/79470	11/79470	10	MANICOTIL NPT S/6000 A105 1"	RF416005	
·,	33640/2011	11/76367	11/76367	10	0 MEZZI MANICOTTI NPT S/3000 A105 1"	RF419005	
_	32125/2010	10/30366	10/30366	Ŋ	5 MEZZI MANICOTTI NPT S/3000 A105 2"	RF419008	
_	34266/2011	11/78769	11/78769	30	TAPP	RF421003	
_	34192/2011	11/78481	11/78481	30	D TAPPI FEMMINA NPT S/3000 A105 3/4"	RF421004	
_	34839/2012	11/38303	11/38303	10	TAPP	RE421007	
_	34840/2012	11/78824	11/78824	ъ	5 TAPPI FEMMINA NPT S/3000 A105 2"	RF421008	
_	33624/2011	10/32876	10/32876	ъ	5 TAPPI FEMMINA NPT S/3000 A105 3"	RF421010	
_	33976/2011	11/77738	11/77738	50	TAPP	RF421Z003	
_	34192/2011	11/78481	11/78481	20	TAPP	RF421Z004	
7	32499/2010	10/72870	10/72870	20	TAPP	RF4212005	
_	32579/2010	MI-FW	AD1214	100	BOCC	RF4252003	
s=	31489/2010	ML-FS	04/72295	40) BOCCH.FF.2C NPT S/3000 A105 3/4"	RF425Z004	
\$ ³⁰ 1	28265/2008	CM	07/77093	10	BOCCH. FF. ZC NPT S/3000 F	RF4252008	
£^-y	31602/2010	ML-FU	06/74668	10	BOCCH.M/F 2C NPT S/3000 A105 1/2"	RF4262003	
	31602/2010	ML-FU	06/74668	10	BOCCH.M/F ZC NPT S/3000	RF4262004	
·	33171/2011	ML-FX	AD1814	10	BOCCH.M/F ZC NPT S/3000	RF4262005	
	34994/2012	L727	76820	S	5 BOCCH.M/F ZC NPT S/3000 A105 11/2"	RF4262007	
_	33113/2011	L819	38919	ιC	BOCCH.M/F ZC NPT S/3000	RF4262008	
_	34057/2011	G79604	679604	20	TAPPI T.E.NPT S/3000 AlC	BF428000	

DOMENICO GUARNIERI CHERO PIPING S.P.A.

QUALITY CONTROL

CUSTOMER INSPECTOR

THIRD PARTS

MATERIAL ACC. TO NACE MR 01.75 ED.2007 + ASME SECTION II ED.2010. VISUAL, DIMENSIONAL AND MARKING CHECK HAVE BEEN CARRIED OUT WITH

SATISFACTORY RESULTS. MATERIAL ACC. WITH PED 97/23/EC.

THIS IS TO CERTIFY THAT MATERIAL REQUIREMENTS ARE ACCORDING TO

ORDER SPECIFICATIONS.

RACCORDENA FORGIATA / FORGED STEEL FITTINGS
Localia Pradagie, 37 - 29013 C A R P A N E T O P I A C E N T I N O - PC
Tel + 39 0523 850997 - Fax +38 0523 850933 - Interpolicing.com

CUSTOMER
R.T.I. S.P.A.

DATE 2/05/2012 1123/2012 CERTIFICATE Nº

знеет 4

DATE 8/03/2012

Internal order number 295/2012

CUSTOMER ORDER REF. 371198/10 - 07/03/2012

13107/2011 19104	*****							
13003/2011 30140	POS. TEST		-	Q.T	DESCRIPTION	MAT.REQUISITION / TAG Nº / ITEM CODE / C	OMPUTER CODE / UB	ENCLOSURE / NOTES
21284/2010 ACRES 158 THEN T. E. NOT 37000 ALIOS 147 REV22003 RE	П		G79604	50	TAPPI T.E.NPT S/3000 A105	RF428001		
MCC1434	113 1 21284/		G99865	150	TAPPI T.E.NPT S/3000 A105	RF428003		
33606/2011 Act	-		AC1675	50	TAPPI T.E.NPT S/3000 A105	RF428004		
33098/2012 FR-CW 1074099 10 TAPPET T.E.NET S.49000 ALDS 11/2" FRF28005 FRF	-		AG1434	35	TAPPI T.E.NPT S/3000 A105	RF428005		
33999/2011 EP-CN 1/74108 20 TAPET T.E.NPT 8/3000 ALDS 1/4" RR428001 RR4280	_		42099	10	TAPPI T.E.NPT S/3000 A105	RF428006		
39593/2012 EW-CW 1/75369 10 TAPPI T.E. No. No. No. No. No. No. No. No. No. No	-		10/74408	20	TAPPI T.E.NPT S/3000 A105	RF428007		
34045/2011 AC1262 AC4282 O TAPPT T.E.ZC NPT \$/3000 A105 1/2" RF4782001 34045/2011 AC1262 AC4282 O TAPPT T.E.ZC NPT \$/3000 A105 1/2" RF4782003 32562/2010 AC1262 AC4281 AC4281 O TAPPT T.E.ZC NPT \$/3000 A105 1" RF4782005 34149/7011 AC1263 AC1261 AC4281 O TAPPT T.E.ZC NPT \$/3000 A105 1" RF4782005 34149/7011 AC1263 AC1264 AC1264 O TAPPT T.E.ZC NPT \$/3000 A105 1" RF4782005 34149/7011 AC1263 AC1264 O TAPPT T.E.ZC NPT \$/3000 A105 1" RF4782005 34149/7011 AC1263 AC1264 AC1264 O TAPPT T.E.ZC NPT \$/3000 A105 1" RF4782005 34149/7011 AC1264 AC1264 AC1264 O TAPPT T.E.ZC NPT \$/3000 A105 1" RF4782005 34146/7011 AC1264 AC	-	_	11/75388	10	TAPPI T.E.NPT S/3000 A105	RF428008		
33/381/2011 AG4282	_	-	G79604	10	TAPPI T.E.ZC NPT S/3000 A.	RF4282001		
3256/2010 AF9036 AF9036 AF9036 AF9036 AF90200 AF902004 AF902004 AF902004 AF902001 AF90201 AF90201 AF6036 AF90201 AF6036 AF902005 AF902005 AF902005 AF90200 A	-		AG4282	9	TAPPI T.E.ZC NPT S/3000 A.	RF4282003		
3419/2011 A64281 A64281 10 TAPPI T.E.ZC NFT S/3000 ALIOS 1" RF4282005 A66144 A66146 A66144		_	AF3036	10	TAPPI T.E.ZC NPT S/3000 A.	RF428Z004		
32969/2011 AF6196 AF6196 10 TAPPI T.E.ZC NPT S/3000 A105 1" RF42B2005 RF431192 AG660/2011 AG1434 AG1			AG4281	10	TAPPI T.E.ZC NPT S/3000 A	RF4282005		
33660/2011 AG1434 AG1432 AG1434 AG1434 AG1434 AG1434 AG1434 AG14320 AG162 AG1434	•	_	AF6198	10	TAPPI T.E.ZC NPT S/3000 A.	RE4282005		
24466/2016 131 06/79515 5 RDUZ.MYF NPF 8/3000 AloS 11/2 %334" RF431202 32562/2010 AF3036 AF30220 AF3036 AF3	_		AG1434	10	RIDUZ.M/F NPT S/3000 A105	RF431192		
32552/2010 AF3036 AF3027 AF4312192 AF4312192 AF4312201			06/79515	Ŋ	RIDUZ.M/F NPT S/3000 A105	RF431202		
33660/2011 AG1434 AG1434 20 RIDUZ.M/F 2C NPT \$/3000 A105 1"X1/2" RF4312192 33069/2011 RP-AN 10/74256 30 RIDUZ.M/F 2C NPT \$/3000 A105 11/2"X1" RF4312202 26428/2007 RB	-		AF3036	10	RIDUZ.M/F ZC NPT S/3000 A	RF431Z188		
3006/2011 FW-AN 10/74258 30 RIDUZ.M/F ZC NPT S/3000 AlOS 11/2"X1" RF4312201 RF4312202 S RIDUZ.M/F ZC NPT S/3000 ALOS 11/2"X3/4" RF4312202 S RIDUZ.M/F ZC NPT S/3000 ALOS 11/2"X1/2" RF4312206 RF43134 RF4312206 RF4312003 RF4312003 RF4312003 RF43134 RF4312003 RF431203 RF4312003 RF4312003 RF431203 RF4312003 RF431203 RF	-		AG1434	20	RIDUZ.M/F ZC NPT S/3000 A	RE4312192		
26428/2007 182 06/70495 5 RIDUZ.M/F ZC NPT S/3000 A105 11/2"X3/4" RF4312202 35060/2001 182 06/70495 5 RIDUZ.M/F ZC NPT S/3000 A105 11/2"X1/2" RF4312203 350850/2001 5-NL 09/78810 10 NIPPLI ES. NPT S/3000 A105 2"X1" RF4312208 31792/2010 679604 679604 7 NIPPLI ES. NPT S/3000 A105 1/4" RF4322001 33978/2011 679604 679604 7 NIPPLI ES. CN NPT S/3000 A105 1/4" RF4322001 33978/2011 A61434 A61444 9 NIPPLI ES. CN NPT S/3000 A105 1/2" RF4322008 33978/2011 A64282 3 NIPPLI ES. R. NPT S/3000 A105 1/2" RF4322008 3398/2011 A64282 3 NIPPLI ES. R. NPT S/3000 A105 1/2"X1/4" RF432188 3308/202009 673995 673995 5 NIPPLI ES. R. NPT S/3000 A105 1/2"X1/2" RF434187 30262/2009 18741 187441 5 THREADOLET NPT S/3000 A105 1/2"x2"-21/2" RF436003/4 30480/2009 188835 188835 2 THREADOLET NPT S/3000 A105 34"x11/4"-11/2" RF436004/2 30480/2009 188835 188835 2 THREADOLET NPT S/3000 A105 34"x11/4"-11/2" RF436004/2	-		10/74258	30	RIDUZ.M/F ZC NPT S/3000 A	RF431Z201		
26428/2007 IR2 06/70495 5 RIDUZ.M/F ZC NPT S/3000 A105 11/2"X1/2" RF4312203 330560/2009 E-NL	****		06/70495	ιΩ	RIDUZ.M/F ZC NPT S/3000 A	RF4312202		
33066/2011 FW-AL 10/73411 10 RIDUZ.M/F ZC NPT S/3000 A105 2"X11/2" RF431Z206 RF431Z208	0	_	06/70495	C)	RIDUZ.M/F ZC NPT S/3000 A	RF431Z203		
30850/2009 E-NL 09/78810 10 RIDUZ.M/F ZC NPT S/3000 A105 2"X1" RF4312208 RF4312208 31792/2010 AE0436 10 NIPPLI ES.NPT S/3000 A105 1/4" RF4322001 34057/2011 G79604 7 NIPPLI ES.ZC NPT S/3000 A105 1/2" RF4322003 33978/2011 AG4282 AG4282 NIPPLI ES.ZC NPT S/3000 A105 1/2"X1/4" RF4322008 34381/2011 AG4282 AG4282 AG4282 NIPPLI ES.R. NPT S/3000 A105 1/2"X1/4" RF4322008 34381/2011 AG4282 A	e-ry		10/73411	10	RIDUZ.M/F ZC NPT S/3000 A	RF4312206		
31792/2010 AE0436 AE0436 10 NIPPLI ES.NPT S/3000 AL05 3/4" RF432004 34057/2011 G79604 G79604 T NIPPLI ES.ZC NPT S/3000 AL05 1/2" RF4322001 33978/2011 AG1434 AG1434 AG1434 NIPPLI ES.ZC NPT S/3000 AL05 1/2" RF4322003 32857/2010 10/31777 10/31777 S NIPPLI ES.ZC NPT S/3000 AL05 1/2" RF4322008 3481/2011 AG4282 AG4282 AG4282 S NIPPLI ES.R. NPT S/3000 AL05 3/4"x1/2" RF434003/4 30474/2009 188976 S THREADOLET NPT S/3000 AL05 1/2"x3"-8" RF436003/5 30480/2009 188835 188835 Z THREADOLET NPT S/3000 AL05 3/4"x11/4"-11/2" RF436004/2 30480/2009 188835 R8835 R8835 RRABDOLET NPT S/3000 AL05 3/4"x11/4"-11/2" RF436004/2 30480/2009 R8835 R8835 R8835 RRABDOLET NPT S/3000 AL05 3/4"x11/4"-11/2" RF436004/3 30480/2009 R8835 R8835 R8835 RRABDOLET NPT S/3000 AL05 3/4"x11/4"-11/2" RF436004/3 30480/2009 R8835 R8835 R8835 RRABDOLET NPT S/3000 AL05 3/4"x11/4"-11/2" RF436004/3 30480/2009 R8835 R883	v -1		09/78810	10	RIDUZ.M/F ZC NPT S/3000 A	RE4312208		
34057/2011 G79604 G79604 7 NIPPLI ES.ZC NPT S/3000 A105 1/2" RF4322001 33978/2011 AG1434 AG1434 NIPPLI ES.ZC NPT S/3000 A105 1/2" RF4322003 32857/2010 10/31777 10/317	1		AE0436	10	NIPPLI ES.NPT S/3000 A105	RF432004		
33978/2011 AG1434 AG1434 AG1434 BOUPPLI ES.ZC NPT S/3000 A105 1/2" RF4322003 32857/2010 10/31777 10/31777 10/31777 SOURT S/3000 A105 2" RF4322008 34381/2011 AG4222 AG4282 AG4282 SOURT S/3000 A105 1/2"X1/4" RF434187 30474/2009 188976 SOURT S/3000 A105 1/2"X2"-21/2" RF436003/4 30478/2009 188835 188835 SOURT S/3000 A105 1/2"X3"-8" RF436004/2 30480/2009 188835 188835 SOURT S/3000 A105 1/2"X3"-8" RF436004/2 30480/2009 188835 RF436004/2 SOURT S/3000 A105 1/2"X3"-8" RF436004/2 30480/2009 188835 RF436004/2 RF436004/2 RF436004/2 30480/2009 RF436004/2 RF436004/2 RF436004/2 RF436004/2 30480/2009 RF436004/2 RF436004/2 RF436004/2 RF436004/2 RF436004/2 30480/2009 RF436004/2 R	\··•		G79604	L ~	NIPPLI ES.ZC NPT S/3000 A.	RF432Z001		
32857/2010 10/31777 10/31777 5 NIPPLI ES.ZC NPT S/3000 A105 2" RF4322008 34381/2011 A64282 A64282 3 NIPPLI ES.R. NPT S/3000 A105 1/2"X1/4" RF434187 30292/2009 G73995 G73995 G73995 5 NIPPLI ES.R.ZC NPT S/3000 A105 3/4"x1/2" RF43603/4 30474/2009 188976 188976 5 THREADOLET NPT S/3000 A105 1/2"X2"-21/2" RF436003/5 30480/2009 188835 188835 2 THREADOLET NPT S/3000 A105 3/4X2-21/2 RF436004/3 30480/2009 188835 188835 2 THREADOLET NPT S/3000 A105 3/4X2-21/2 RF436004/3 30480/2009 188835	-		AG1434	Φ.	NIPPLI ES.ZC NPT S/3000 A	RF4322003		
34381/2011 AG4282	<u></u>		10/31777	z,	NIPPLI ES.2C NPT S/3000 A	RF4322008		
30292/2009 G73995 G73995 B NIPPLI ES.R.ZC NPT S/3000 A105 3/4"x1/2" RE4342188 30474/2009 188935 B THREADOLET NPT S/3000 A105 1/2"x2"-21/2" RE436003/4 30480/2009 188835 B88835	-		AG4282	ന	NIPPLI ES.R. NPT S/3000 A1	RE434187	 	
30474/2009 188976 188976 188976 188976 188976 188976 188976 188976 188976 188976 188976 187441	<u></u>		G73995	ις	NIPPLI ES.R.ZC NPT S/3000	RE434Z188		
1 30475/2009 187441 187441 5 THREADOLET NPT S/3000 A105 1/2"x3"-8" RE436003/5 1 30480/2009 188835 188835 2 THREAD.NPT S/3000 A105 3/4X2-21/2 RE436004/3 2 THREADOLET NPT S/3000 A105 3/4X2-21/2 RE436004/3	-		188976	ιÜ	THREADOLET NPT S/3000 A105 1/2"x2"-21/2"	RE436003/4		
1 30480/2009 188835 188835 2 THREAD.NPT S/3000 A105 3/4X2-21/2 RF436004/2 1 30480/2009 188835 2 THREADOLET NPT S/3000 A105 3/4X2-21/2 RF436004/3 NOTE:	-		187441	ß	THREADOLET NPT S/3000 A105 1/2"x3"-8"	RF436003/5		
1 30480/2009 188835 188835 2 THREADOLET NPT S/3000 A105 3/4X2-21/2 RF436004/3	-		188835	2	THREAD.NPT S/3000 A105 3/4	RF436004/2		
OCYCAGOU GENERALIN AND A PAG TOUR	-		188835	N	THREADOLET NPT S/3000 A105	RF436004/3		
TUIDD BADTC								
			SHON					

NOTES	THIRD PARTS	CUSTOMER INSPECTOR	QUALITY CONTROL
THIS IS TO CERTIFY THAT MATERIAL REQUIREMENTS ARE ACCORDING TO			
ORDER SPECIFICATIONS.			Consequence
MATERIAL ACC.TO NACE MR 01.75 ED.2007 + ASME SECTION II ED.2010.			DOMENICO GUARNIERI
VISUAL, DIMENSIONAL AND MARKING CHECK HAVE BEEN CARRIED OUT WITH			
SATISFACTORY RESULTS. MATERIAL ACC. WITH PED 97/23/EC.			CHERO PIPING S.P.A.

RACCORDERIA FORGIATA / FORGED STEEL FITTINGS Localita Pratagles, \$37 - 28013 C A R P A M ET O PI A C EN TI N O - PC 78/ +39 0523 85997 - Fex +39 0523 850839 - infope@cheropteing.com

CUSTOMER
R.T.I. S.P.A.

1123/2012 CERTIFICATE N°

SHEET Ŋ

DATE

DATE 8/03/2012 2/05/2012

 $\frac{295/2012}{2}$

CUSTOMER ORDER REF.

37198/10 - 07/03/2012

142 1 304(143 1 345; 144 1 345;	TEST NO. HEAT	HEAT CODE H	HEAT NUMBER Q.TY	TY DESCRIPTION	MAT.REQUISITION / TAG N° / ITEM CODE / COMPUTER CODE / UB	CODE / COMPUTER CODE / UB	ENCLOSURE / NOTES
	30480/2009 188835		188835	2 THREADOLET NPT S/3000 A105 3/4"X3"-5"	RF436004/4		
-	34535/2010 11/7	11/78291 1	11/78291	2 THREADOLET NPT S/3000 A105 1X11/2	RF436005/2		
	34535/2010 11/7	11/78291 1	11/78291	2 THREADOLET NPT S/3000 A105 1"X2"	RF436005/3		
145 1 329	32952/2011 93076		93076	5 SWAGE CONC. FXF SCH. 80 WPB 3/4"X1/2"	RF442188		
146 1 3480	34809/2012 105731		105731	5 SWAGE CONC. FXF SCH. 80 WPB 1.1/2"X3/4"	RF442202		
148 1 222	22253/2004 83267		83267	3 SWAGE CONC. FXF SCH. 160 WPB 1"X1/2"	RF446192		
149 1 316	31669/2010 91555		91555	3 SWAGE CONC. FXF SCH.160 WPB 1.1/2"X3/4"	RF446202		
150 1 323	32358/2010 239	•	239	3 SWAGE CONC. 2C FXF SCH. 160 WPB 3/4"x1/2"	, RE4462188		
152 1 248	24897/2006 92477		92477	3 SWAGE CONC. ZC FXF SCH. 160 WPB 1"x1/2"	RF4462192		
153 3 340	34042/2011 93249		93249	5 SWAGE CONC. FXP SCH. 160 WPB 3/4X1/2	RE447188		
154 3 351	35103/2012 16755		16755	5 SWAGE CONC EXP SCH.160 WPB 2"x11/4"	RF447207		
155 1 351	35103/2012 16755		16755	5 SWAGE CONC FXP SCH.160 WPB 2"x1"	RE447208		
156 1 351:	35130/2012 108096		108096	5 SWAGE CONC.PXF SCH.160 WPB 3/4"X1/2"	RF448188		
157 1 3510	35103/2012 16755		16755	3 SWAGE CONC.PXF SCH.160 WPB 2"X1.1/2"	RF448206		
158 1 351	35105/2012 109490		109490	3 SWAGE CONC.PXP SCH.160 WPB 1"X3/4"	RF449191		
159 1 316	31669/2010 91555		91555	2 SWAGE CONC.PXP SCH.160 WPB 1.1/2"X1"	RF449201		
160 3 316	31669/2010 91555		91555	2 SWAGE CONC.PXP SCH.160 WPB 1.1/2"X3/4"	RE449202		
161 1 316	31641/2010 239		239	3 SWAGE CONC.PXP SCH.160 WPB 2"X1"	RF449208		
162 1 346	34662/2012 4408		4408	3 SWAGE CONC.PXP SCH.160 WPB 2"X3/4"	RF449209		
163 3 3343	33437/2011 10964		10964	3 NIPPLI TUBO FXF S80 A106/B 3/4 L50	RE454004		
164 3 347	34768/2012 32012		32012	3 NIPPLI TUBO FXF S80 A106/B 1"L50	RF454005		
165 3 330	33060/2011 702074		702074	3 NIPPLI TUBO ZC FXF S80 A106B 1/2"L50	RF454Z003		
166 3 258	25890/2006 50359		50359	10 NIPPLI TUBO FXF S40 A106/B 1/2" L100	RF457/4003		
167 3 277	27775/2008 73686		73686	10 NIPPLI TUBO FXF S40 A106/B 3/4" L100	RF457/4004		
168 3 348	34891/2012 14898		14898	100 NIPPLI TUBO EXF S80 A106/B 1/2" L100	RF457003		
169 3 3240	32404/2010 2088		2088	48 NIPPLI TUBO ZC FXF S80 A106B 1/2" L100	RF457Z003		
370 3 350	35034/2012 32024		32024	50 NIPPLI TUBO PXF \$80 A106/B 1/2" L100	RF458003		
172 3 347	34768/2012 32012		32012	10 NIPPLI TUBO PXF S80 A106/B 1" L100	RF458005		
173 1 182	18248/2000 91248		91248	5 NIPPLI TUBO PXF S80 A106/B 11/4" L100	RF458006		
174 1 2408	24085/2005 10274		10274	5 NIPPLI TUBO FXF S40 A106/B 1/2"L150	RF460/4003		
175 1 345	34594/2011 557171	ιΩ	57171	100 NIPPLI TUBO FXF S160 A106/B 1/2" L100	RF466003		
			NOTES		THIRD PARTS	CUSTOMER INSPECTOR	QUALITY CONTROL
S IS TO CE	RIIFY THAT	MATERI	THIS IS TO CERTIFY THAT MATERIAL REQUIREMENTS ARE	TS ARE ACCORDING TO			
ORDER SPECIFICATIONS	CATIONS.						
ERTAL ACC.	TO NACE MR	01,75	FD.2007 + ASM	MATERIAL ACC TO NACE MR 01.75 ED 2007 + ASME SECTION II ED 2010.			DOMENICO GUARNIERI
NAME OF MEN	CHA TANCTO	MADEV	TAME AUGROUP	VICINI DIMENSIONAL AND MADETING CURCE GAVE DEED CADED OF MITTER			7850

SATISFACTORY RESULTS, MATERIAL ACC, WITH PED 97/23/EC.

RACCORDERIA FORGIATA / FORGED STEEL FITTINGS Localita Prategita, 37 - 28013 C.A.R.P.A.N.E.T.O.P.I.O.P.C. Tel +39 0523 85997 - Fax +39 0523 850833 - intope@charopinha.com CHRICAN DAY ON STATE OF THE BUT THE STATE OF

CUSTOMER
R.T.I. S.P.A.

2/05/2012 DATE 1123/2012 CERTIFICATE N°

SHEET 6

DATE 8/03/2012 INTERNAL ORDER NUMBER 295/2012

CUSTOMER ORDER REF.

37198/10 - 07/03/2012

TEST NO.	HEAT CODE	HEAT NUMBER	Q.TY	DESCRIPTION	MAT, REQUISITION / TAG Nº / ITEM CODE / COMPUTER CODE / UB	ODE / COMPUTER CODE / UB	ENCLOSURE / NOTES
1 31453/2010	0 104041	104041	20	NIPPLI TUBO EXF S160 A106/B 3/4" L100	RF466004		
1 33607/2011		2435	Ŋ	NIPPLI TUBO	RF4662003		
1 33576/2011		105867	пÚ	NIPPLI TUBO	RF4662004		
1 33983/2011	1 105953	105953	5	NIPPLI TUBO	RF4662005		
1 34594/2011	1 557171	557171	20	NIPPLI TUBO	RF467003		
1 33632/2011	1 107138	107138	10	NIPPLI TUBO PXF S160 A106/B 3/4" L100	RF467004		
1 33607/2011	1 2435	2435	20	NIPPLI TUBO	RF468003		
1 31453/2010	0 104041	104041	20	NIPPLI TUBO PXP S160 A106,	RF468004		
1 34539/2010	0 86554	86554	10	NIPPLI TUBO PXP	RF468005		
		NOTES	S		THIRD PARTS	GOTOBORNI WARMOTALIO	COTNOCYTILATIO
						10 07 0111110000	

DOMENICO GUARNIERI CHERO PIPING S.P.A.

VISUAL, DIMENSIONAL AND MARKING CHECK HAVE BEEN CARRIED OUT WITH SATISFACTORY RESULTS. MATERIAL ACC. WITH PED 97/23/EC. MATERIAL ACC.TO NACE MR 01.75 ED.2007 + ASME SECTION II ED.2010.

ORDER SPECIFICATIONS.

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RACCORDERIA FORGIATA / FORGED STEEL FITTINGS Localid Produgile, 37 - 29013 C.A.R.P.A.N.E.T.O.P.I.O.P.C. Tel +39 0523 959597 - Fax +39 0523 950533 - Liftope@beng.com

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R.T.I. S.P.A.

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2/05/2012 1123/2012

DATE 8/03/2012 INTERNAL ORDER NUMBER 295/2012

CUSTOMER ORDER REF. 37198/10 - 07/03/2012

No. 1992 March M	Z S	MAIERIAL SP	CIFICATION	200	-	AL NUMBE	Į		ŀ	-	-	-			ŀ	ŀ	ŀ	ŀ	ŀ		ŀ	ŀ	-		ŀ	ŀ	ŀ			
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State Continue C	34583/2011	ASTM A105			115	79166	0.185	0.890								0.018		00'0	_											0.371
National State Alice ice State Alice Alice Alice State Alice A	34602/2011	ASTM A105			115	78156	0.185	0.890								0.018		000	64											0.387
	3506720012	ACTM BIOS			115	197.41	0.180	0.880								0.018		000	-											0.368
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V+Nb+Ti<0,10%; Cu+Ni+Cr+Mo<1%; B%<0,0001 C.E.=C+Mn/6+(Cr+Mo+V)/5+(Cu+ Ni)/15																														
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		Ti<0,10%; C	u+Ni+Cr+	40<18;	B\$<0,0	001 C.E.	=C+Mn/:	6+ (Cr+)	/(A+0)/	5+ (Cu	+ Ni)/	15														B)	WEN!	30	VAR	NIER

COMMENSATION OF THE PROPERTY O

S.p.A.

**AGCORDERINA FORBIATA / FORGED STEEL FITTINGS
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CUSTOMER R.T.I. S.P.A.

1123/2012 CERTIFICATE N°

DATE 2/05/2012

SHEET 8

INTERNAL ORDER NUMBER 295/2012

DATE 8/03/2012

CUSTOMER ORDER REF. 371198/10 - 07/03/2012

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V+Nb+Ti<0,10%; Cu+Ni+Cr+Mo<1%; B\$<0,0001 C.E. "C+Mn/6+(Cr+Mo+V)/5+(Cu+ Ni)/15 THIRD PARTS CUSTOMER INSPECTOR	34380		_	ت ت	92	0		-	AIR														23984				RIV	a					
V+Nb+Ti<0,10%; Cu+Ni+Cr+Mo<1%; B\$<0,0001 C.E.=C+Mn/6+(Cr+Mo+V)/5+(Cu+ Ni)/15				-						_																							
V+Nb+Ti<0,10%; Cu+Ni+Cr+Mo<1%; B%<0,0001 C.E.=C+Mn/6+(Cr+Mo+V)/5+(Cu+ Ni)/15								NOTES											HH	D PART	6	L	CUST	MER IN	SPECTO	ı ı			1	O CO			
V+Nb+Ti<0,10%; Cu+Ni+Cr+Mo<1%; B%<0,0001 C.E.=C+Mn/6+(Cr+Mo+V)/5+(Cu+ Ni)/15		1																				1	3			<u> </u>		7	5	2	-		
CHENO PIPING S.P.A.		+Nb+Ti<	<0,10%; C	ùu+Ni+Cr	:+Mo<1%	; B\$<0,	0001 C.E	=C+Mn	/6+(C)	7+M0+7) /5+(C	u+ Ni)	/15														4			GUA	RNIE	Z	
																												i i	こここ	0 2 2 3 3 4	4		

RACCORDERIA FORGIATA / FORGED STEEL FITTINGS
Localia Producina, 37 - 29013 C. A.P. A.N.E.T.O. P.I.A.C.E.N.T.IN.O. P.O. Tel +39 0523 659997 - Fax +39 0523 850933 - Infape@pharmpiping.com

CUSTOMER
R.T.I. S.P.A.

1123/2012 CERTIFICATE N°

2/05/2012 DATE

SHEET 9

DATE 8/03/2012 Internal order number 295/2012

customer order ref. 37198/10 - 07/03/2012

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32579/2010	ASTM A105	AD1214	0,180	1,000	0,260	800'0	900'0	0,110	0,030 0,	0,100	0,140	40 0,002	2		0,000												0,391	(7)	
33171/2011	ASTM A105	AD1814	0,200	096'0	0,230	0,011	900'0	0,100	0,020 0,0	0,080	0,100	00 0,004	*		0,001												0,396	_	
30474/2009	ASTM A105	188976	0,168	1,028	0,243	0,012	0,001	0,102	0,047 0,	0,165	0,268	68 0,001	_		0,002							-					0,398		
33952/2011	ASTM A105	11/7/260	0,180	0,890	0,220	0,010	0,010	0,110	0,020 0,0	0,070	0,180	80 0,016	es es		0,001												0,374		
35037/2011	ASTM A105	11/39406	0,195	0,960	0,240	0,008	600'0	0600	0,010 0,0	0,040	0,110	10 0,000	ů		0,000												0,385		•
32655/2010	ASTM A105	10/71002	0,180	0,880	0,240	0,012	0,010	0,150	0,020 0,0	0,070	0,180	80 0,020	9		0,001												0,381	381	
34761/2012	ASTM A105	11/79739	0,180	0,870	0,250	0,012	2000	0600	0,010 0,0	090'0	0,210	10 0,015	r.		0,003							•	-				0,366		
33422/2011	ASTM A105	10/74446	0,200	0,880	0,200	0,013	900'0	0,150		0,070	0,170		ç		0,002												0,399		
31588/2010	ASTM A105	10/38918	0,190	1,000	0,220	0,012	2000	0,130	0,010 0,0	090'0	0,160	00000	6		0000												0,399	_	
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ESI.N.	Feat Temperature	Tensile Strength	Yeld	Elongation %	n Reduction Area %	Test		Absorbed	Type	Specimen Size	ji.	Value	Scale	[bar]	TEST	Dir. Mandrel Angle T	TEST Current	
32579/2010 +	+ 20 °C	523		371 28,00	53,00						_	157,0	O HB					
33171/2011 +	+ 20 °C	515		358 25,00	00 38,00						_	152,0	O HB					
30474/2009 +	+ 20 °C	590		341 32,80	10 64,00							158,0	O HB					
33952/2011 +	+ 20 °C	497		307 33,80	10 59,20							146,0	O HB					
35037/2011 +	+ 20 °C	500		345 30,00	09 58,60	_						162,0	O HB					
32655/2010 +	+ 20 °C	497		308 35,40	06,30							161,0	0 HB					
34761/2012 +	+ 20 °C	494		303 33,90	06 28,90	-						152,0	0 HB					
33422/2011 +	+ 20 °C	516		321 32,10	0 56,50	-						153,0	0 HB 0					
31588/2010 +	+ 20 °C	507		368 27,50	57,80	-						158,0	0 HB					
34725/2012 +	+ 20 °C	513		318 32,60	56, 80	-						152,0	O HB					
TEST.N° H	H.T.	SCALI POR	мах. т	h Agoth	h BELOW TO	COOLING	F. ©	SCALE	MAX. T	Ó	#s #s	BELOW COOLING TO MEDIA	COOLING	HEAT TREATMENTS REFEREMENTS		BASE MATERIAL CERTIFIC.REF.	H.	STEEL WORKS
32579/2010 NOFU	NORMAL.	ວຸ	006			AIR									533768	89	ORI MARTIN S.p.A.	N S.p.A.
33171/2011 NOF	NORMAL.	ů	900			AIR									534642	42	ORI MARTIN S.p.A.	N S.D.A.
30474/2009 NORU	NORMAL.	ړ.	006			AIR									130455	55	ACCIAIERIE VENETE	E VENETE
33952/2011 NORI	NORMAL.	ָט	910			AIR									23985	rs.	RIVA	
35037/2011 NOFU	NORMAL.	D.	920			AIR									1224		RIVA	
32655/2010 NOR	NORMAL.	ņ	006			AIR									12274	Į.	RIVA	
34761/2012 NOR	NORMAL.	ပ္	920			AIR									43720	0	RIVA	
33422/2011 NOFU	NORMAL.	ر د	920			AIR									41271	1	RIVA	
31588/2010 NORI	NORMAL.	္ ့	920			AIR									13714	ব	RIVA	
34725/2012 NORU	NORMAL.	° د	920			AIR									760		RIVA	

NOTES			_	THIRD PARTS	CUSTOMER INSPECTOR	QUALITY CONTROL
(7) V+Nb+Ti<0,10%; Cu+Ni+Cr+Mo<1%; B%<0,0001 C.E.=C+Mn/6+(Cr+Mo+V)/5+(Cu+ Ni)/15	;+{Cr+Mo+V}/5+{Cu+ Ni}/;	1.5				DOMENICO GUARNIERI CHERO PIPING S.P.A.

RACCORDERIA FORGIATA / FORGED STEEL FITTINGS Localia Pradagile, 37 - 29013 C A R P A N E T O P I A C E N T I N O - PC Tel +39 0523 859997 - Fex +39 0523 850933 - <u>InfracePetercephbra.com</u>

CUSTOMER
R.T.I. S.P.A.

1123/2012 CERTIFICATE Nº

2/05/2012

SHEET 10

> DATE 8/03/2012 INTERNAL ORDER NUMBER 295/2012

CUSTOMER ORDER REF. 37198/10 - 07/03/2012

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(7) V+Nb+7	V+Nb+Ti<0,10%; Cu+Ni+Cr+Mo<1%; B%<0,0001	Cu+Ni+(Cr+Mo<1	\$; B\$<		C.E.=C+Mn/6+(Cr+Mo+V)/5+(Cu+ Ni)/15	Mn/6+	(Cr+Mc	0+V) /E	+ (Cu+	N±)/	15															S H	\(\lambda \) \(\lambda \)	CHERO FIPING S.P.A.	RNIE	₹.

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CUSTOMER R.T.I. S.P.A.

1123/2012 CERTIFICATE N°

2/05/2012 DATE

SHEET 11

DATE 8/03/2012 internal order number 295/2012

CUSTOMER ORDER REF.37198/10 - 07/03/2012

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CUSTOMER
R.T.I. S.P.A.

1123/2012 CERTIFICATE Nº

2/05/2012

SHEET 1.2

DATE 8/03/2012 INTERNAL ORDER NUMBER 295/2012

CUSTOMER ORDER REF.37198/10 - 07/03/2012

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1123/2012 CERTIFICATE Nº

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Internal order number 295/2012

CUSTOMER ORDER REF.

37198/10 - 07/03/2012

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CHERO PIPING S.P.A.		+Ti<0,10%;	Cu+Ni+Cr+M	o<1%; B% <c< th=""><th>),0001 C.E.=</th><th>C+Mn/6-</th><th>+ (Cr+Mc</th><th>o+V)/5,</th><th>- (On+</th><th>Ni.)/15</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>)0<u>0</u></th><th>MENIC (</th><th><i>1</i>0 00 ∂</th><th>1RNIE</th><th>₹.</th></c<>),0001 C.E.=	C+Mn/6-	+ (Cr+Mc	o+V)/5,	- (On+	Ni.)/15)0 <u>0</u>	MENIC (<i>1</i> 0 00 ∂	1RNIE	₹.
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RACCORDERIA FORGIATA / FORGED STEEL FITTINGS
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																		LADLE	LADLE ANALYSIS (%)	(%) \$1											
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CUSTOMER R.T.I. S.P.A.

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DATE 8/03/2012 internal order number 295/2012

CUSTOMER ORDER REF. 37198/10 - 07/03/2012

014 H 614	CLEG - CIELLY AND	TO A DIO COM A MOIT A CITATION OF A SECTION OF	THE PERSON	000											1	LAULE ANALTSIS (%)		ē									
EO I.N	MAIENIALOPE	IFICA HON AND GRADE	neal nomber	ט	Mn	S	۵	S	Cr Mo	2	F	3	>	Fe	A	Cb Ta	8	z	W	Zu	Pb Sn	n As	Sb	S	0	B H	C.E.
34381/2011	ASTM A105		AG4282	0,180			600'0	0,024 0,		0,020 0,100	0(0,100			_	00000											0,377
32562/2010	ASTM A105		AF3036	0,							2	0,130			_	0000											0,35
34197/2011	ASTM A105		AG4281	0,190							30	0,090			_	0000											0,377
32969/2011	ASTM A105		AF6198	0,190	0,970	0,240		0,024 0,	0,140 0,0	0,020 0,070	0.	0,110			_	0000											0,396
24466/2006	ASTM A105		06/79515	0,185							20	0,160			_	0000											0,375
33005/2011	ASTM A105		10/74258	0,185	35 0,890			0,007		0,020 0,060	8	0,210			_	0,002										_	0,35
26428/2007			06/70495	0,200							92	0,120			_	000'0											0,384
33006/2011	ASTM A105		10/73411	0,190							ß	0,150			_	0,002											0,3
30850/2009	ASTM A105		09/78810	0,200		0,180	0,013	0,010 0,	0,110 0,0	0,010 0,05	2	0,120			_	0,001											033
31792/2010	ASTM A105		AE0436	0,200	1,010	0,260	0,024	0,021 0,	0,110 0,0	0,020 0,080	8	0000	0,002		_	00000											0,40
				-			-	-		-	_				1	-									-	-	-
		TENSILE TEST [Mpa]	-				¥E	IMPACT TEST	L	[Joufe]			Ŧ	RDNES	HARDNESS TEST	HYDRO	HYDROSTATIC TEST	\vdash	ARING	BEN	BENDING TEST		TIENING			REFER	REFEREMENTS
TEST.N°	Tenneraline	Tensile Yeld	Elongation	Reduction Area %	Temperature		Abse	Absorbed	1	4dkL	Specimen	Γ	Öğ.	Vafue	Scale	-	[bar]		TEST	Dir, Mandrei		Angle	TEST	Current			
34385/2011	J. UC +	632	618 21.90	54.00									-	186.0	E E			-									
325622010	20			56,20										180.0													
3410770111	200			55,00										182.0						_							
32969/2011	+ 20 °C			59,80										183,0													
24466/20/06	30			5.8 A.0										0 09													
33005/2011	20			57,90										157.0	1												
26428/2007	0			56.70								•		60.0													
33006/2011	20			57,70										157,0													
308502000	00			57.80										155.0													
31792/2010	20			56,20										178,0	1 1												
									 					1 -					-						_		
TEST.N°	H.T. SCALI	I Wath MAX. T	Jh John	BELOW TO	COOLING			SCALE		МАХ. Т	Ó	-E	H TO		COOLING	HEA	HEAT TREATMENTS REFEREMENTS	MENTS NTS	BAS	E MATE	RIAL CE	BASE MATERIAL CERTIFIC.REF.			STE	STEEL WORKS	en,
34381/2011	NORMAL. °C	920			AIR									••••					068531	531			ROI	RODACCIAI			
32562/2010	_	006			AIR					_									058.	05837/1			ROI	RODACCIAI			
34197/2011	_	910			AIR											_			066302	302			ROI	RODACCIAI			
32969/2011	NORMAL. °C	906			AIR											_			001519	519			ROI	RODACCIAI			
24466/2006	NORMAL. °C	006			AIR					_						_			10191	31			RIVA	ď.			
33005/2011	NORMAL. °C	006			AIR														40216	16			RIVA	ď			
26428/2007	NORMAL. °C	006			AIR							_							22901	71			RIVA	ĕ			
33006/2011		006			AIR									_					31815	2			RIVA	ď			
308502000		006			ATR											_			145.67	D			HIVA				
24702/2010	NOBIGEI	000			ATD DIE														014491				1 6	PODACCTRI			
0102/26/16		200			į.														ř 1	-1 -0 -r			2	A CCIA1			
	-													$\left\{ \right\}$	i			$\ \cdot\ $					-				
				NOTES										-	ř	THIRD PARTS	13 13	-	SDS	CUSTOMER INSPECTOR	NSPEC	TOR I			JUALITY	QUALITY CONTROL	<u>ب</u>
(7) V+Nb+	Ti<0,10%; Cu+	V+Nb+Ti<0,10%; Cu+Ni+Cr+Mo<1%; B%<0,0001	0,0001 C.	C.E.=C+Mn/6+(Cr+Mo+V)/5+(Cu+ N1)/	/6+ (Cz	V+0M+) /2+ (c	īN + D	/15																(18 3	OMENICO GUARNIERI	RNIE
														_				-						١			

RACCORDERÍA FORGIATA / FORGED STEEL FITTINGS Localia Pradagle, 37 - 29013 C.A.R.P.A.N.E.T.O.P.I.A.C.E.N.T.INO.-PC Tel +39 0523 550997 - Fax +39 0523 550833 - Inforce@cherrophing.com

CUSTOMER R.T.I. S.P.A.

1123/2012 CERTIFICATE N°

DATE 2/05/2012

SHEEТ 16

Internal order number 295/2012

DATE 8/03/2012

CUSTOMER ORDER REF.

37198/10 - 07/03/2012

Column C	011000000000000000000000000000000000000	27.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.	AG1434 10/31777 6/32996 6/32996 11/178291 99076 11/178291 99076 11/178291 99076 11/178291 99076 11/178291 99076 99076 11/178291 99076 99079				0,023				9 9		₹	S .	\vdash		 			Н	m	H	C,E,
State Column Co	011 ASTM ALOS 010 ASTM ALOS 010 ASTM ALOS 029 ASTM ALOS 039 ASTM ALOS 040 ASTM ALOS 041 ASTM AZ34 041 ASTM AZ34 041 ASTM AZ34 041 ASTM AZ34	TENSILE TEST [Mpa] TENSILE TEST [Mpa] Solution	AG1434 10/31777 10/31777 10/31777 11/76291 19/3076 11/76291 19/3076 11/50 11/5				0,023			00		000		00000						-			
Secretary Secr	010 ASTM ALOS 009 ASTM ALOS 009 ASTM ALOS 000 ASTM ALOS 010 ASTM ALOS 011 ASTM AZ34 012 ASTM AZ34 014 ASTM AZ34 016 ASTM AZ34 017 ASTM AZ34 017 ASTM AZ34	TENSILE TEST [Mpa] TENSILE TEST [Mpa] TENSILE TEST [Mpa] Standar Standa	10/31/77 07/3996 18/34/1 18/82/3 93076 10/67/3 91/55 15/0 2 2 9 4 0 2 2 9 4 0 3 2 , 00 3 2 , 00 3 3 2 , 00 3 3 2 , 00 3 3 2 , 00 3 3 2 , 00 3 3 2 , 00 3 3 2 , 00 3 3 2 , 00 3 3 3 2 , 00 3 3 2 , 00 3 3 3 2 , 00 3 3 3 4 1 4 0				0,010					3		200					_		_	+	_
Secretary Secr	009 ASTM ALOS 009 ASTM ALOS 009 ASTM ALOS 010 ASTM ALOS 011 ASTM A234 014 ASTM A234 010 ASTM A234 010 ASTM A234 011 ASTM A234	TENSILE TEST [Mpa] TENSILE TEST [Mpa] Street 493 S494 494 494 494 506 506	(673956 (87441 (176294 (93076 (95734 (93076 (95734 (93076 (95734 (93076 (95734 (93076				2 2 2			3 1				0000		_	-	_					
Company Comp	009 ASTM ALOS 008 ASTM ALOS 009 ASTM ALOS 011 ASTM A234 014 ASTM A234 010 ASTM A234 011 ASTM A234 011 ASTM A234 011 ASTM A234	TENSILE TEST [Mpa] TENSILE TEST [Mpa] Subject	197399 1177224 1177224 1177224 1177224 1177224 1177224 117									7 .		0,002			-					_	
Second S	000 ASTM ALOS 010 ASTM ALOS 011 ASTM A234 012 ASTM A234 010 ASTM A234 010 ASTM A234 011 ASTM A234 010 ASTM A234 011 ASTM A234	TENSILE TEST [Mpa] TENSILE TEST [Mpa] Strength Tensile	11/78291 39076 10/6731 93267 93267 91555 1 31,50 2 29,40 2 32,00 32,00 32,00 32,00 32,00				0000					3 :		200,0								_	
STATE STAT	000 ASTM ALOS 010 ASTM ALOS 010 ASTM ACS4 012 ASTM ACS4 010 ASTM ACS4 010 ASTM ACS4 010 ASTM ACS4	TENSILE TEST [Mpa] TENSILE TEST [Mpa] Standard	188835 93076 106731 93267 91555 91555 21,50 22,00 32,00 32,20 32,20 32,20				900'0					707		0,003								_	
March Marc	010 ASSIM A105 011 ASSIM A234 004 ASSIM A234 010 ASSIM A234 010 ASSIM A234	TENSILE TEST [Mpa] Single Street 493 845 507 866 501 386 494 356 506 306	11/78291 106/31 802/6 802/6 91555 11,50 31,00 32,20 32,20 32,20 32,20				0,002			•		707	•	0,001								_	0,403
Second Color Seco	001 ASTM A234 002 ASTM A234 000 ASTM A234 010 ASTM A234 TenTest Test Control C	TENSILE TEST [Mpa] Male Strength 632	93076 100731 100731 11555 11,50 12,00 12,00 12,00 132,00 132,00 141,40				900'0					220		0,001								_	0,391 (7)
1985/2019 1985	002 ASTM A234 004 ASTM A234 010 ASTM A234 Test A234	TEN SILE TEST [Mpa] Min Strength Test [Mpa] 622 Strength Test [Mpa] 622 Strength Test [Mpa] 624 Strength Test [Mpa] 625 Strength Test [Mpa] 625 Strength Test [Mpa] 626 Strength Test [Mpa] 626 Strength Test [Mpa] 626 Strength Test [Mpa] 626 Strength Test [Mpa] 626 Strength Test [Mpa] 626 Strength Test [Mpa] 626 Strength Test [Mpa] 626 Strength Test [Mpa] 626 Strength Test [Mpa] 626 Strength Test [Mpa] 627 Strength Test [Mpa] 627 Strength Test [Mpa] 627 Strength Test [Mpa] 628 Strength Test [Mpa]	106731 94555 10676 1077 1077 1077 1077 1077 1077 107				600'0					70		00000		-						_	
Statement Stat	004 ASTM A234 010 ASTM A234 Test Test Tencedure	TENSILE TEST [Mpa] TENSILE TEST [Mpa] Standard	83287 91555 1 21,50 2 29,40 32,00 32,20 32,20 31,40 41,40				0,001					8		0,001								_	
Table Tabl	Test Temperature	FENSILE TEST M	Enoughton R 29,40 31,00 32,20 33,20 41,40				900'0			0 /		900		000'0									0,307 (7)
State Column Co	Temperature	SILE TEST [M] SILE TEST [M] Standth 632 507 501 510 510	Elengation R 31,50 29,40 31,00 32,00 32,20 33,20 41,40				ann'n					3		ano'n									0,257 (7)
	Temperature	632 832 8493 8507 8506 8506 8506	Elongation Ri 31,50 29,40 31,00 32,00 32,20 33,90 41,40				MPACT T		ule 1			HARDN	ISS TEST	l ⊢		-	ENDING TEX	▍┌	l 1		- 1 		
187, 0 1	06 1	632 507 507 581 596 510 506	31,50 29,40 31,00 32,00 32,20 33,90	1	Test		Specified		Appe	Specimen		Value	Scale	т.	TES		Mandrel	Ī.		eddy	¥	FEREMEN	SE
State Stat			31,50 29,40 31,00 32,00 33,90 41,40	+	mperature		Errergy	+		Size							E E	+	+				
State Column Co	+ -		31,00 32,00 32,20 33,90 41,40	20								18											
Second S	+ 20		31,00 32,00 32,20 33,90 41,40	01.0								35											
Second S	2 6		32,20 33,90 41,40	8 8								S 1											
138,0 118 11	1 20		32,20 33,90 41,40	00		_						15		-									
Separation 4 - 20 C Store St	+ 20		33,90	10								15											
Second S	+ 50			10							_	16					_						
State Stat	+ 50											13					_	×					
150,0 H	+ 20											13								ОЖ			
170, 0 kg 170,	+ 20											15							••••				
Hard Hard Treathers Hard Hard Treathers Hard Tr	+ 20											17						*					
H.T. SCALI H.T. SCALI H.T. SCALI H.T. SCALI H.T. SCALI H.T. SCALI H.T. H.T. HEATTREATHENTS BASE MATERIAL CERTIFIC.REF.		- Inches							_								-						
389782014 NORMAL. C 910	ξŒ	MAX T	yo *		OLING	Ŧ.⊚	SCALE		MAX. T		_	-	COOLIN			BASE M	TERIAL CE	RTIFIC.REF.		, s	TEEL WO	RKS	
NORMALL C S S S S S S S S S	NORMAL,			AIR							\vdash					224740			Denog	121			
NORMALL C STOCK	NORMAL.			AIR												8195			DIVE	•			
304/5/2009 NORMAL. °C 900 AIR AIR AIR ACRAMAL. °C 900 AIR AIR ACRAMAL. °C 900 AIR ACRAMAL. °C 900 AIR ACRAMAL. °C 900 AIR ACRAMAL. °C 900 AIR AIR 900	NORMAL			ATR												0110			TATE TO	1.4			
30480/2009 NORMAL. °C 900 AIR	NORMAL.			AIR												20100			4 10 0	TOTAL	Em and		
345952010 NORMAL. °C 900 AIR A	NORMAL.			A											, .	DALCE.			4 TO C R	er areas	21.000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.000 21.0000 21.000		
32822011 NORMAL. °C 900 38922012 NORMAL. °C 920 38922012 NORMAL. °C 920 38922012 NORMAL. °C 920 38927012 NORMAL. °C 920 389275 316692016 NORMAL. °C 920 316692016 NORMAL. °	NORWAL			4								_				00000			ACC.	SA GINGS	a a		
NORMAL. C S20 AIR AI	NORWAT.			4												7777	0000		W. W.				
22852000 NORMAL. °C 900 AIR 316692010 NORMAL.	MOBINE			4 4											,	1///509	72003		ZELEZ	LARNE-PO	DBREZOV	ei:	
A1R A1R A1R A1R A1R A1R A1R B8(275 PIE B1087/1/2009 B11 B11	Monday.			4												072000	76/		TOBOS	REUNIDO	ñ		
19697/1/2009 AIR	NOKWAL.			AIR												4275			PIETR				
NOTES THIRD PARTS CUSTOMER INSPECTOR V+Nb+Ti<0,10%; Cu+Ni+Cr+Mo<1%; B%<0,0001 C.E.=C+Mn/6+(Cr+Mo+V)/5+(Cu+ Ni)/15	NORMAL.	•••		AIR	~										-	1/1806	/2009		ZETEZ	OH-ENWED	DBREZOU	er!	
W+Nb+Ti<0,10%; Cu+Ni+Cr+Mo<1%; B%<0,0001 C.E.=C+Mn/6+(Cr+Mo+V)/5+(Cu+ Ni)/15				_							-												
V+Nb+Ti<0,10%; Cu+Ni+Cr+Mo<1%; B%<0,0001 C.E.=C+Mn/6+(Cr+Mo+V)/5+(Cu+ Ni)/15			LON	Ē										THIRD PARTS		USTON	ER INSPECT	70R		QUAL	TY CON	TROL	
V+Nb+Ti<0,10%; Cu+Ni+Cr+Mo<1%; B%<0,0001 C.E.=C+Mn/6+(Cr+Mo+V)/5+(Cu+ Ni)/15												+			-								İ
DOMENICO GUAI		+Ni+Cr+Mo<1%; B%<0,	,0001 C.E.=C.	+Wn/6+	-(Cr+Mc	+V) /5+	(Cu+ Ni					<u></u>							,		1		
CHERO BIRING &																			<u>a</u>	MENIC	ည် လ	ARN	ER
S CNIGIG OCCUPANT																			ノ	J 3	3		-
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TO BOTH THE STATE OF THE STATE

RACCORDENIA FORGIATA / FORGED STEEL FITTINGS Localita Pradaglie, 37 - 29013 C A R P A N E T O P I A C E N T I N O - PC T al +38 0523 558957 - Fax +38 0523 560833 - Infaption in C - PC

CUSTOMER
R.T.I. S.P.A.

1123/2012 CERTIFICATE N°

SHEET 1.7

DATE 2/05/2012

DATE 8/03/2012 INTERNAL ORDER NUMBER 295/2012

CUSTOMER ORDER REF. 37198/10 - 07/03/2012

0,130 0,630 0,250 0,011 0,009 0,080 0,140 0,630 0,240 0,009 0,008 0,110	
0,070 0,020 0,020 0,020 0,020 0,020 0,040 0,040 0,080	0,6540 0,2240 0,00
_ -	1,200 0,240 0,010 0,003 0,040 0,040
δ δ Κ Κ Κ Κ Κ Κ Κ Κ Κ Κ Κ Κ Κ Κ	<u> </u>
	NOTES
.) /15	<pre></pre> <pre></pre> <pre><-1%; B\$<0,0001 C.E.=C+Mn/6+(Cr+Mo+V)/5+(Cu+ Ni)/15 <pre>- FINE GRAIN ACCORDING TO ASTW E112 = 7</pre></pre>

RACCORDERIA FORGIATA / FORGED STEEL FITTINGS
Localia Prodaglie, 37 - 29013 C.A. P.P. A.N.E.T.O. P.I.A. 578 0523 859997 - Fax +39 0523 850933 - inforc@eherropiphig.com

CUSTOMER R.T.I. S.P.A.

1123/2012 CERTIFICATE N°

2/05/2012

SHEET 18

DATE 8/03/2012 internal order number 295/2012

CUSTOMER ORDER REF.

37198/10 - 07/03/2012

33060/2011	WALERAL OF	MATERIAL SPECIFICATION AND GRADE	2500		L	-	ē		L	, R65	ž	F			F	ŀ	ŀ	_	_	-	H	H	-	č		ŀ	
33060/2011					C	Min	S	Ŀ	ב פ	-	_	=	3	>		Al	- a	3	≥ 	. Zn	ЬВ	Sn As	Sb	_	m O	_	ц Щ
	ASTM ALOG GR.	E.3		702074	0.080	0.480	0.200	0.012	0.003 0.0	0.030	30 0.130	-0	0.210	0.00		00	0000										0.202
25890/2006	ASTM A106 G	GR.B		50359	0.130		0.230					9	0.200			9	0000										0.292
27775/2008	ASTM A106 GI	GR. B		73686	0.150		0.220			0,050 0,010		0	0.200			. 6	0000										0.290
34891/2012	ASTM A106 GI	GR. B		14898	0.140		0.220					-0	0,190			00	0000										0.254
32404/2010	ASTM A106 G	GR.B		2088	0,150		0.240					0	0.210			· 8	0.001										0.291
35034/2012	ASTM A106 G	GR.B		32024	0.190	1030	0.250		0.002		10 0,110		0.240	0.005		9	0,001										0,397
18248/2000	ASTM A106 GI	GR.B		91248	0,166		0.188			0,085 0,047		ķΩ	0,124			0	0000										0,319
24085/2005	ASTM A106 G	GR.B		10274	0,150	0,630	0,230	0,015	0,006	070 0,020	20 0,070	0	0,170		_	ŏ	0000										0,289
34594/2011	ASTM A106 G	GR.B	_	557171	0,140		0,200			0,060 0,040		8	090'0			ð	0,012										0,292
31453/2010	ASTM A106 G	GR.B		104041	0,160	0,840	0,260	0,012	0,004		50 0,110	9	0,250	0,004		õ	900'0										0,356
					_			-	-	1	-																
		TENSILE	TENSILE TEST [Mpa]		-			¥	MPACT TEST	3T [Joule]	<u>-</u>			¥	HARDNESS TEST	TEST	HYDROSTATIC TEST	TC TEST	FLARING		BENDING TEST		FLATTENING	Eddy		REFEREMENTS	MENTS
EST.N	Test	Tensile Strength	Yeld	Elongation Rec	Reduction Area %	Test Temperature	-	Absorbed	rbed 'gy		Type	Specimen Size		. OJr.	Value	Scale	[bar]	-	163	١.	Dir, Mandrej Ømm	Angle	TE8T	Current			
33060/2011	+ 20 °C		322	36,90	Ь.										152,0	EE E		205						Š			
25890/2006	+ 20 °C	523	402												159,0			207		,x,		ĕ)	ΝO			
277752008	+ 20 °C	523	366												164,0			210		,3E,		O. X	Š	š			
34891/2012	+ 20 °C	511	421	31,30											159.0			207			*	OK.		ð			
32404/2010	+ 20 %	507	401												145.0			207				Š		Š			
35034/2012	+ 20 %	920	407												165.0			782				ĕ	O.	i			
18248/2000	+ 20 °C	506	357												168.0			172				X		ÖK			
240852005	7 50 ¢	504	367												148.0			172			*	×	×	ğ			
345942011	+ 20 °C	477	356												156.0			207				ě					
314537010	ν ος + + 50 °C	4 4	313												38.0			202				ž					
3143312010	- 1	o r	7												1007							ŧ.					
					-		_	-	-					-	\vdash	-											
TEST.N°	H.T.	SCALI OTH N	MAX. T	ų/o ₹	BELOW C	COOLING	. H.T.		SCALE	_	MAX, T	0,	* del	BELOW		COOLING	HEAT TR REFER	HEAT TREATMENTS REFEREMENTS		BASE№	IATERIAL	BASE MATERIAL CERTIFIC.REF	GF.		STEEL	STEEL WORKS	
33060/2011	NORMAL.	ູບ	006		Ą	AIR														10/25242	42		TEN,	TENARIS			
25890/2006	NORMAL.	(J)	920		Ą	AIR	_													3339/1/2005	/2005		TEL	ZELEZIARNE-PODBREZOVA	-PODBRE	JOYA.	
27775/2008	NORMAL.	O	920		ď	AIR														31726/1/2007	1/2007		ZELI	ZELEZIARNE-PODBREZOVA	-PODBRE	OVA	
34891/2012	NORMAL.	Ę)	950		×	AIR														59573/1/2011	1/2011		SEL	ZELEZIARNE-PODEREZOVA	-PODERE	5073	
32404/2010		r:	086		ď	AIR														23010/1/2010	1/2010		ZEL	ZELEZ JARNE-PODBREZOVA	-PODERE	AVO	
35034/2012		- (000		4	ATR														9035			East	A R MORTHE			
20745000 400404000	_	·····	0 0		: 4															2000							
10240/2000	_	ייי	0 0		٠,	4 1														10000			4 1	5			
24083/2003	_		200		Ą	AIK														000/1			FIETRA	FRA			
34594/2011	_		950		æ	AIR														41-574	41-574379/001		BEN	BENTELER			
31453/2010	NORMAL.	υ	006		A	AIR						_		_						0000204435	4435		AUF	TUBOS REUNIDOS	SOGI		
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					NOTES											E	THIRD PARTS		L	CUSTO	CUSTOMER INSPECTOR	ECTOR		ō	OUALITY CONTROL	ONTRO	
															+				-					•			
(2) FULLY	FULLY KILLED CARBON STEEL		- FINE GR	FINE GRAIN ACCORDING TO ASTM E112	ING TO	ASTM	E112	<u>۲</u>															7	POWE	OMENICO GUARNIERI	3UAR	NIEF
																			_)	0 0 C	CHERO PIPING S P A	V

STUDIES CHEEN

Sp.4.
RACCORDERIA FORGIATA / FORGED STEEL FITHINGS
LOAGIS-PRINGS 37-29013 CAR PANETO P.1 A CENTINO - PC
Tel +39 0523 59899-7 Tex +39 0523 90933 - MIDDERECHURDERING COM

CUSTOMER
R.T.I. S.P.A.

1123/2012 CERTIFICATE N°

2/05/2012 DATE

SHEET 1.9

DATE 8/03/2012 Internal order number 295/2012

customer order ref. 37198/10 - 07/03/2012

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ŭ	0,341 0,342 0,345 0,345 0,294	ENTS					OMENICO GUARNIERI CHERO PIPING S.P.A.
=		REFEREMENTS			ORKS	TROL	JARI 9 S.P
æ		2			STEEL WORKS OS S.A. OS S.A.	S.A.	00/ NIA
o	•		<u>=</u>	1		TUBOS REUNIDOS S.A. QUALITY CONTROL	CHERO PIPING S.P.A.
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g		ENING	ST.			TUBC	Q ***
As	!	L ST	TEST		C.REF		
5		TEST	Angle		OK OK	CTOR	
8		BENDING TEST	Mandrel	E E	ERIAL (INSPE	
7		BE	ă	1	BASE MATERIAL, CERTIFIC.REF. 21359 21359 21359	169573 CUSTOMER INSPECTOR	
3		RING	TEST		BASE M 1259 211492 213530 301969,	169573	
z			_	+			
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⊒ <u> </u> ₹		HARDNESS TEST	Scale	1	4,0 HB 4,0 HB COOLING		
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=			Specimen	Size	Ő		
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e e	0,020 0,040 0,060 0,030 0,020	[Joule]	Type		MAX. T		
ច់	0000-			†			
S	0,001 0,006 0,006 0,003 0,004	IMPACT TEST	Absorbed	ABJ.	SCALE		
_	900'0 900'0 800'0 800'0	Σ	A P				
<u>s</u>	8 5 8 5 8		L	1	H. (6)		ľ
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O	0.0000	-	╀	+	·		T OT
BER			Reduction	AITEB 76	DELOW TO	NOTES	RDING
HEAT NUMBER	83		Elongation		30,00		FINE GRAIN ACCORDING TO ASTM E112
	2435 105867 105953 107138 86554	1.	Elo.				RAIN
RADE		TENSILE TEST [Mpa]	Yeld	trength			INE G
AND		E TEST	_		MAX. 1	92	1
ATION		TENSIL	tsije postb	ngth	4 6 6 2 4 8 9 9 4 1 5 6 1 5 6 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		STEEL
ECIFIC			Tensile	Sire	80 P	ů	RBON (
MATERIAL SPECIFICATION AND GRADE	ASTM A106 GR.B ASTM A106 GR.B ASTM A106 GR.B ASTM A106 GR.B ASTM A106 GR.B			200			D CAR
MATER	ASTW 1 ASTW 1 ASTW 1 ASTW 3 ASTW 3		Test	Temper	+ 20 + 20 + 20 + 20 H.T. (1) NORWAL. NORWAL. NORWAL.	NORMAL	KILLE
			<u>. </u>		558 555		FULLY KILLED CARBON STEEL
TEST.N°	33607/2011 33576/2011 33963/2011 33632/2011 34539/2010		TEST.N°		339832011 346392010 346392010 TEST.N° 336972011 338532011	34539/2010	
						PRISMA INFORMATICA - PIACE	(2)



Spett.le / Messrs

R.T.I. SPA

VIA AMBROSOLI 2VA 20090 RODANO MILLEPINI MI

Certificato di Analisi

No. 20122035

EN 10204:2005 3.1

pagina/page 14/19

Certificate of Analysis

ASTM A105-09

Item	Po No.	Descrizione prodotto/Description	qtà/qty	sigla/heat code colata/heat	Mill Cert.	Origin	OurJob No
0	39248	TAPPI ESAGONALI 1/4" NPT A105	20	G79	10015	INTER	43200
		HEX PLUG - Dimensions according to ASME B16.11 - I edition/Class 3/6000 - ZINCATI	ast				
0	39248	NIPPLI ESAGONALI 1/4" 3000 NPT A105	20	G79	10015	INTER	43200
		HEX NIPPLES - Dimensions according to BS 3799 - las edition - ZINCATI	st				

C _C	C %	Mn %	Si %	Р%	S %	Ni %	Cr %	Mo %	Ti %	V %	Cu%	AI %	Nb %	N %	Sn %		C.E.
Colata Heat No.	0.35 max	0.60 – 1. 05	0.10–0.3 5	0.035 max	0.040 max	0.40 max	0.30 max	0.12 max									
G79	0,18	0,84	0,009	0,011	0,009	0,06	0,08	0	0	0	0,1	0	0	0	0	0	0,3

Colata Heat No.	Dim. provino Spec. Dim mrr	Area Sez. area section mm2	Lungh. Utile Gauge Lenghht mm	Senso provino Roll Direct.	Temp. Prova Temp.Test °C	R Tensile N/mmq	S Yeld point N/mmq	A:2" Elongation %	Reduction of area %	KV Impact Test Joule	° C	Senso Prov. Roll direction	HB Hardness Test
G79					20	503	328	28	65			L	158 158

Normalized at 900°- 920° / AIR Cooling

Steel made by electic furnace Fully Killed Steel

Steel made by electic turnace. Fully kniled. Steel
MATERIAL MANUFACTURED ACCORDING TO PED 97/23/CE Annex 1 Art.4 - Material according to ASTM A105M and ASME SA105M - (Sez II Part A. Ed.2010).
THE QUALITY MANAGEMENT SYSTEM SUPPORTS THE REQUIREMENTS OF ANNEX I, SECT. 4.3 OF PRESSURE EQUIPMENT DIRECTIVE (PED)
97/23/EC.CERTIFICATE 2009 MI PP 60. Notify Body Rina Service S.p.A.
MATERIAL ACCORDING TO NACE MR0175 - MR0103 Last Edition (Hardness Only)

Visual and dimensional check according to ASME B16.11 - last edition/Class 3/6000 : satisfactory

Issued by Quality Manager:

Approved by Customer

Collaudatore /Inspector

NE\&\EC

Paolo Macchi Cavaria, 13/10/12

Date

Certificate generated by computer to be considered valid without signature.



CHERO PIPING

RACCORDERIA FORGIATA / FORGED STEEL FITTINGS
Località Pradaglie, 37 - 29013 C A R P A N E T O P I A C E N T I N O - PC
Tel +39 0523 859997 - Fax +39 0523 850833 - infopc@cheropiping.com

CUSTOMER

R.T.I. S.P.A.

CERTIFICATE N°

DATE

25/10/2012

SHEET

INTERNAL ORDER NUMBER 1326/2012 DATE

24/09/2012

CUSTOMER ORDER REF.

2582/2012

39249/10+REV.1 - 12/09/2012

TEST CERTIFICATE ACCORDING TO EN 10204 3.1 - EXTENT OF MATERIAL DELIVERY

POS.	TEST NO.	HEAT CODE	HEAT NUMBER	Q.TY	DESCRIPTION	MAT.REQUISITION / TAG N° / ITEM CODE / COMPUTER CODE / UB	ENCLOSURE / NOTES
POS. 1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 1 10 1	TEST NO. 35025/2012 33929/2011 33422/2011 31277/2010 33903/2011 35008/2012 34882/2012 33646/2011 20151/2002 31277/2010	M20 41857 10/74446 G79 FM-CL AH0 115C AF5859 12278	11/78665 41857 10/74446 G79604 11/76495 AH0309 11/78291 AF5859 12278 G79604	50 5 4 30 5 4 4 4	GOMITI 45 SW S/3000 A105 1" SOCKOLET SW S/3000 A105 1/2"x3"-8" INSERTI SW S/3000 A105 11/2"X1" H.H.PLUG NPT S/3000 A105 1/4" TAPPI T.E.NPT S/3000 A105 1/2" THREADOLET NPT S/3000 A105 1/2" THREADOLET NPT S/3000 A105 2"X3" SWAGE CONC.FXF SCH.40 A234WPB 1"X1/2" TAPPI T.E.NPT S/3000 A105 1/4"	MAT.REQUISITION / TAG N° / ITEM CODE / COMPUTER CODE / UB	ENCLOSURE / NOTES

NOTES	THIRD PARTS	CUSTOMER INSPECTOR	QUALITY CONTROL
THIS IS TO CERTIFY THAT MATERIAL REQUIREMENTS ARE ACCORDING TO			THE RESERVE OF THE PERSON OF T
ORDER SPECIFICATIONS.			
MATERIAL ACC.TO NACE MR 01.75 ED.2007 + ASME SECTION II ED.2010.			DØMENICO GUARNIER
VISUAL, DIMENSIONAL AND MARKING CHECK HAVE BEEN CARRIED OUT WITH			Just
SATISFACTORY RESULTS. MATERIAL ACC. WITH PED 97/23/EC.			CHERO PIPING S.P.A.

RACCORDERIA FORGIATA / FORGED STEEL FITTINGS
Località Predaglie, 37 - 29013 C A R P A N E T O P I A C E N T I N O - PC
Tel +39 0523 859997 - Fax +39 0523 850833 - infopc@cheropiping.com

CERTIFICATE N°

DATE

SHEET

2582/2012

25/10/2012

1326/2012 R.T.I. S.P.A.

INTERNAL ORDER NUMBER

DATE 24/09/2012

CUSTOMER ORDER REF.

39249/10+REV.1 - 12/09/2012

TERIAL SPECIFICATION AND GRADE	HEAT NUMBER														LADLE A	WAL I	313 (70												
		С	Mn	Si	Р	S	Cr	Мо	Ni	Ti	Cu	٧	Fe	Al	Cb	Ta	Co	N	W	Zn	Pb	Sn	As	Sb	Ca	0	В	Н	C.E.
TM A105	11/78665	0,185	0,890	0,220	0,009	0,010	0,100	0,010	0,040		0,150	0,023			0,001	- 1			-				100						0,372
TM A105	41857	0,210	0,980	0,190	0,012	0,017	0,110	0,020	0,090		0,220	0,000				. 1	-												0,419
TM A105	10/74446	0,200	0,880	0,200	0,013	0,006	0,150	0,020	0,070		0,170	0,016		model		- 24							- 1						0,399
TM A105	G79604	0,180	0,840	0,180	0,011	0,009	0,080	0,000	0,060	-	0,100	0,000							-			- 1							0,346
TM A105	11/76495	0,185	0,930	0,220	0,008	0,008	0,110	0,020	0,050		0,180	0,000		1			1				l								0,381
TM A105	AH0309	0,190	0,970	0,230	0,011	0,023	0,140	0,040	0,090		0,120																		0,402
TM A105	11/78291	0,190	0,880	0,220	0,014	0,006	0,150	0,020	0,070		0,180	0,020		-	100	- 1	- 1												0,391
TM A105	AF5859	0,190	1,010	0,250	0,010	0,006	0,150	0,020	0,090		0,100	0,000		1										1					0,404
TM A234 GR.WPB	12278	0,154	0,657	0,234	0,010	0,004	0,080	0,022	0,105		0,229	0,003			0,000														0,306
T T T T	M A105 M A105 M A105 M A105 M A105 M A105 M A105 M A105	M A105 41857 M A105 10774446 M A105 G79604 M A105 11776495 M A105 AH0309 M A105 11778291 M A105 AF5859	M A105 41857 0,210 M A105 1074446 0,200 M A105 G79604 0,180 M A105 1176495 0,185 M A105 AH0309 0,190 M A105 11778291 0,190 M A105 AF5859 0,190	M A105 41857 0,210 0,980 M A105 1074446 0,200 0,880 G79604 0,180 0,840 M A105 1176495 0,185 0,930 M A105 AH0309 0,190 0,970 M A105 11778291 0,190 0,880 M A105 AF5859 0,190 1,010	M A105 41857 0,210 0,980 0,190 M A105 1074446 0,200 0,880 0,200 M A105 G79604 0,180 0,840 0,180 M A105 11/76495 0,185 0,930 0,220 M A105 AH0309 0,190 0,970 0,230 M A105 11/78291 0,190 0,880 0,220 M A105 AF5859 0,190 1,010 0,250	M A105 41857 0,210 0,980 0,190 0,012 M A105 10/74446 0,200 0,880 0,200 0,013 M A105 G79604 0,180 0,840 0,180 0,01 M A105 11/76495 0,185 0,930 0,220 0,008 M A105 AH0309 0,190 0,970 0,230 0,011 M A105 11/78291 0,190 0,860 0,220 0,014 M A105 AF5859 0,190 1,010 0,250 0,010	M A105 41857 0,210 0,980 0,190 0,012 0,017 M A105 1074446 0,200 0,880 0,200 0,013 0,006 M A105 G79604 0,180 0,840 0,180 0,011 0,009 M A105 1176495 0,185 0,930 0,220 0,008 0,008 M A105 AH0309 0,190 0,970 0,230 0,011 0,023 M A105 11778291 0,190 0,880 0,220 0,014 0,006 M A105 AF5859 0,190 1,010 0,250 0,010 0,006	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105	M A105

CUSTOMER

		TENSILE 1	TEST [Mpa]				IMPACT TES	T [Joule]			HARDNESS	TEST	HYDROSTATIC TEST	FLARING		ENDING		FLATTENING	Eddy	REFEREMENTS
TEST.N°	Test Temperature	Tensile Strength	Yeld Strength	Elongation	Reduction Area %	Test Temperature	Absorbed Energy	Туре	Specimen Size	Dir.	Value	Scale	[bar]	TEST	Dir.	Mandrel Ø mm	Angle	TEST	Current	
35025/2012	+ 20 °C	501	308	34,00	58,90						149,0					1				
33929/2011	+ 20 °C	555	400	29,20	67,20						150,0				1					
33422/2011	+ 20 °C	516	321	32,10	56,50			1 1			153,0									
31277/2010	+ 20 °C	503	328	28,00	65,00			1 1			162,0								1	
33903/2011	+ 20 °C	507	308	33,00	57,80			1			155,0								1 1	
35008/2012	+ 20 °C	642	358	21,70	56,40			1 1			190,0					1			1	
34882/2012	+ 20 °C	501	307	34,00	58,10						151,0				1	1				
33646/2011	+ 20 °C	500	360	20,00	45,00			1			155,0				1	1				
20151/2002	+ 20 °C	494	352	40,00	35.6			1 1		4 1	150,0	НВ	Control of the same	D . 7	THE !	No.				
20131/2002					-									N ISSUE						

	TEST.N°	H.T.	SCALE	o/h	MAX. T	(Q)h	ofh	BELOW	COOLING MEDIA	H.T. ②	SCALE	MA	LT X	(Q)h	ofh of	BELOW TO	COOLING MEDIA	HEAT TREATMENTS REFEREMENTS	BASE MATERIAL CERTIFIC.REF.	STEEL WORKS
1	35025/2012	NORMAL.	°C		920				AIR										40913	RIVA
- 1		5	°C		910				AIR			- 1							15540HL	HES HENNIGSDORFER
	00020.2011		°C		920				AIR			- 1							41271	RIVA
5	00.000		°C		900				AIR								1		2.023073/01	STILMA
E	33903/2011				920				AIR		1								46	RIVA
P.	35008/2012				920	1			AIR								1		00914/1	RODACCIAI
8			°C		920				AIR										32601	RIVA
WA	0.000	NORMAL.	0.0		910				AIR		1								572832	ORI MARTIN S.p.A.
NFOR		E.	°C		920				AIR										78458	PIETRA
RISMA																				

NOTES	THIRD PARTS	CUSTOMER INSPECTOR	QUALITY CONTROL
V+Nb+Ti<0,10%; Cu+Ni+Cr+Mo<1%; B%<0,0001 C.E.=C+Mn/6+(Cr+Mo+V)/5+(Cu+ Ni)/15			DOMENICO GUARNIER CHERO PIPING S.P.A.

CHEMICAL ANALYSIS AND MECHANICAL TEST CERTIFICATE TO: DIN 50049 3.1 - EN 10204/3.1

Messrs. R.T.I. SPA

VIA AMBROSOLI 2/A

20090 RODANO MILLEPINI

MI

ORDER: 39292/10

DATE : 17/09/2012

JOB : 12/91 /03102







Sede e Stabilimento: 21048 SOLBIATE ARNO (Varese)

Via Caronno Varesino
Tel. +39.0331.994.216 - Fax +39.0331.991.796
web: http://www.omsafitting.it - e-mail: info@omsafittings.it

ITEM	Q.TY	DESCRIPTION	MATERIAL	HEAT CODE	STEEL MILL	MILL CERT	HEAT N.
17 18	49,00 1,00	MANICOTTO 3000 1/2" NPT F316L NIPPLO ES. 3000 1/2"X1/4"NPT ZINC.A105	SA182F316/316L SA-A105N	L03 H07	ACC. VALBRUNA RODACCIAI	157727/2012 02268/1	254515 AG1434
		CHEMICAL ANALYSIS			1		

	CHEMICAL ANALYSIS																	
HEAT CODE	C %	Mn %	Si %	P %	S %	Ni %	Cr %	Mo %	П %	AI %	V %	Cu %	Nb %	N %			C.E. %	NOTE
L03	0,017	1,470	0,430	0,030	0,029	10,060	16,820	2,030	0,000	0,000	0,000	0,500	0,000	0,062	0,000	0,000	0,000	
H07	0,180	0,990	0,250	0,011	0,023	0,090	0,160	0,030	0,000	0,022	0,002	0,150	0,000	0,000	0,000	0,000	0,399	
													Consultation Add					

927577							MECHANICAL	TEST	77775		
HEAT CODE	R N/mm²	S N/mm²	A %	C %	Bending Test	Flattenin g	Hydraulic Test	HARDNESS HB	IMPACT TEST J - °C	HEAT TREATMENT - °C	NOTE
	679,0 636,6	449,0 354,0	4 5,0 37,0	69,0 66,0				228 229 178 181	185 190 197 20 37 49 61 -10	SOLUTION AT 1050	

WE HEREBY CERTIFY THAT THE ABOVE IS IN ACCORDANCE WITH THE ORIGINAL CERTIFICATE WHICH IS HELD BY US.

INSPECTION

SPECIMEN FOR ELONGATION: STANDARD ROUND. FITTINGS MEET ANSI B16.11 & BS3799 REQUIREMENTS.UNIONS GROUND JOINT, STEEL TO STEEL

FITTINGS ARE DIMENSIONAL AND SURFACE CHECKED WITHOUT OBJECTION. C/SWAGES TO MSS SP95, PIPE NIPPLES TO B36.10 : SEAMLESS.

MATERIAL TO ASME Sec.II Part A Ed.2010 - ASTM 01.01 NACE MR01.75 MR01.03 LATEST EDITION. A105N NORMALISED AT 890 C.

IN ACCORDANCE WITH PED 97/23/EC ANNEX 1 SECT. 4.3. WHERE REQUIRED EDDY CURRENT OR HYDROSTATIC TEST WITHOUT OBJECTIONS.

ASTM A182 F11 NORM. AT 920 C. O'LET TO MSS SP97.

F304/L+F316/L QUENCHING COOL BELOW 260 C

O.M.S.A. S.R.L. Quality Control (Paolo Micheletti) CERTIFICATE N°

DATE

01926/004

01/10/2012

CHEMICAL ANALYSIS AND MECHANICAL TEST CERTIFICATE TO: DIN 50049 3.1 - EN 10204/3.1

ΜI

Messrs. R.T.I. SPA

VIA AMBROSOLI 2/A

20090 RODANO MILLEPINI

ORDER: 39956/10

DATE : 11/11/2012

JOB : 12/91 /03790







Sede e Stabilimento: 21048 SOLBIATE ARNO (Varese)
Via Caronno Varesino
Tel. +39.0331.994.216 - Fax +39.0331.991.796
web: http://www.omsafitting.it - e-mail: info@omsafittings.it

ITEM	Q.TY	DESCRIPTION	MATERIAL	HEAT CODE	STEEL MILL	MILL CERT	HEAT N.
I I CIVI	Q.III	DESCRIPTION					
1	6,00	BOCCHETTONE FF 3000 1" NPT Z.CAL.A105	SA-A105N	ML-GA	RIVA	3742	75254
2	4,00	BOCCHETTONE FF 3000 1/2"NPT Z.CAL A105	SA-A105N	ML-GB	RIVA	14886	77593
2	,	GOMITO 45 S.3000 1" NPT Z.CAL.A105	SA-A105N	D06	RIVA	42904	08/76567
3	7,00		SA-A105N	N57	RIVA	12903	71647
4	3,00	GOMITO 90 S.3000 1/2" NPT Z.CAL A105	SA-A105N	M752	RIVA	24106	72745
5	16,00	GOMITO 90 S.3000 1" NPT ZIN. CALDO A105			1		
6	4,00	N. TUBO XS 1/2"X100 NPT ZIN.CALD.A106/B	SA-A106/B	E80	ZELEZIARNE	32931/1/2009	91658
7	6,00	N. TUBO XS 1"X100 NPT Z.CAL A106/B	SA-A106/B	E82	ZELEZIARNE	29034/1/2009	92634

	CHEMICAL ANALYSIS																	
HEAT CODE	C %	Mn %	Si %	P %	S %	Ni %	Cr %	Mo %	П %	AI %	V %	Cu %	Nb %	N %			C.E. %	NOTE
ML-GA	0,195	0,900	0,210	0,014	0,009	0,070	0,110	0,010	0,015	0,023	0,018	0,170	0,002	0,000	0,000	0,000	0,380	
ML-GB	0,185	0,920	0,200	0,015	0,023	0,050	0,090	0,010	0,007	0,005	0,003	0,140	0,001	0,000	0,000	0,000	0,370	
D06	0,200	0,910	0,210	0,012	0,010	0,050	0,070	0,010	0,015	0,021	0,019	0,110	0,001	0,000	0,000	0,000	0,380	
N57	0,180	0,850	0,220	0,011	0,007	0,040	0,070	0,010	0,018	0,022	0,019	0,150	0,001	0,000	0,000	0,000	0,350	
M752	0,190	0,860	0,250	0,015	0,007	0,050	0,110	0,010	0,016	0,022	0,017	0,180	0,002	0,000	0,000	0,000	0,370	
E80	0,130	0,650	0,220	0,013	0,008	0,070	0,040	0,020	0,002	0,013	0,004	0,250	0,001	0,000	0,000	0,000	0,272	
E82	0,140	0,670	0,230	0,013	0,007	0,080	0,050	0,020	0,001	0,012	0,005	0,230	0,001	0,000	0,000	0,000	0,290	

	MECHANICAL TEST													
HEAT CODE	R N/mm²	S N/mm²	A %	C %	Bending Test	Flattenin g	Hydraulic Test	HARDNESS HB	IMPACT TEST J - °C	HEAT TREATMENT - °C	NOTE			
ML-GA	514,0	319,0	32,5	56,8				154 167	58 61 59 -10					
ML-GB	508,0	315,0	32,9	57,5				151 157	60 61 67 -10					
D06	518,0	321,0	32,3	56,5				153 153	55 58 54 -10					
N57	497,0	306.0	33,9	59,7				145 146	71 68 70 -10					
M752	505,0	308,0	35,2	59,0				147 148	61 58 57 -10					
E80	474,0	407,0	48,0					147 148	114 89 96 -10					
E82	515,0							150 153	110 113 119 0					
									TO MILOU TO HELD BY	110				

WE HEREBY CERTIFY THAT THE ABOVE IS IN ACCORDANCE WITH THE ORIGINAL CERTIFICATE WHICH IS HELD BY US.

SPECIMEN FOR ELONGATION: STANDARD ROUND. FITTINGS MEET ANSI B16.11 & BS3799 REQUIREMENTS.UNIONS GROUND JOINT, STEEL TO STEEL

FITTINGS ARE DIMENSIONAL AND SURFACE CHECKED WITHOUT OBJECTION. C/SWAGES TO MSS SP95, PIPE NIPPLES TO B36.10 : SEAMLESS.

MATERIAL TO ASME Sec.II Part A Ed.2010 - ASTM 01.01 NACE MR01.75 MR01.03 LATEST EDITION. A105N NORMALISED AT 890 C.

IN ACCORDANCE WITH PED 97/23/EC ANNEX 1 SECT. 4.3. WHERE REQUIRED EDDY CURRENT OR HYDROSTATIC TEST WITHOUT OBJECTIONS.

F304/L+F316/L QUENCHING COOL BELOW 260 C ASTM A182 F11 NORM. AT 920 C. O'LET TO MSS SP97.

> O.M.S.A. S.R.L. Quality Control (Paolo Micheletti)

CERTIFICATE N°

DATE

02457/003

03/12/2012

INSPECTION

DELCORTE s.a.s FORGED STEEL & STAINLESS STEEL Quality system certified ISO9001:2008 by BSI-Q05524



17, Avenue du Corbeau - BP 597 59605 MAUBEUGE CEDEX FRANCE Tél : +33 (0)327 691 414 Fax : +33 (0)327 642 569 info@delcorte.com

CERTIFICAT DE RECEPTION - ACCEPTANCE CERTIFICATE EN 10204 3.1 (Ex EN 10204 3.1.b)

Customer: R.T.I. S.P.A.

VIA AMBROSOLI, 2/A

20090 RODANO MILLEPINI (MI)

ITALIA

Certificate n°: 174230 / 4

26/09/2012

Dispatch note

174230

39250/10

25/09/2012

Material specification

Heat Treatment

ASTM A106 GR.B/08 - CONFORMITY NACE MR 0175-09

HOT FINISHED T°C MINI 620°C-MAXI 980°C- COOLED IN STILL AIR

DESCRIPTION

Item	Qty	TALL TRANS	Designation	Heat N°	Identification	Spec dimension	Mar. 177		Localisation
8 9 10	3	NIPPLE S80 TBE	3/4" X 2" 1" X 2"	278293 33579 33955	MKA NMD NPA	A733/93 A733/93 A733/93			11/08 22062 10/11 26404 01/12 27221
	,								
								뉗	
							2460		

CHEMICAL ANALYSIS

Item	Identif.	C%	SI%	Mn%	P%	S%	Cr%	Mo%	V%	Ni%	Cu%	Ce%	
nini			0,100		0.035	0.035			10-11-11	14	-		
naxi	BALL A	0.250	0.240	0.520	0.008	0.001	0.040	0.010	< 0.004	0.020	0.020	0.29	
	MKA	0.190			0.009	0.002	0.040	0.020	0.002	0.080	1	0.27	
	NMD	0.150	0.240			0.002	0.030	0.010	0.001	0.070		A	
10	NPA	0.140	0.220	0.550	0.010	0.003	0.030	0.010	0.001	0.0.0	0,,00		
				40.0		75.7	12.5		100		100		
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									- 1				
										20			

MECHANICAL TESTS

ltem	Identi- fication	Re 0.2% N/mm²	Rm N/mm²	A%	НВ	Act of Sa		
nini naxi		240.0			237		33 32.23	16.7
9	MKA NMD NPA	346.0 344.0 329.0		33.0	147 - 150 137 - 139 135 - 137			
			54		,			
		M . 2077			or of he			

Nous certifions que les produits énumérés ci-dessous sont conformes aux prescriptions de la commande et des spécifications et ont subi, sans objection, les contrôles d'aspect et de dimensions. We hereby certify that above mentioned products are in accordance with the requirements of the order and specifications and have been checked without objection for surface and dimensionnel control.

Quality département

Réalisation DECLIC 3000 tél 27.68 14 7

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



	2407-1 3.01.2010	1	ufacture	er's mar	k:	®	Custo 2095		rder No.			PL: 146	09
CUST	OMER:	ARTIC	JIANTU	BI S.r.I			*						
		Via Pio	la Torr	e, 10/12									
			6 Trezz			1)							
			or. IT 1			•							
Specific	cations: A	STM A	06-08; A	SME SA	106-07:		Dime	nsions:	21.3 x 3.7	3 x 6 000	+100/-0	m m	
	A53-07; A						t t		X42 PSL				
	7/23/EC+F					,							
Descrip	ption: Hot	rolled se	amless st	eel pipes	with beve	elled ends	: markins	by pain	ing: T.M.	K - ARTI	OM. star	idard.	
dimensi	ions, steel	grade, 1.	62Kg/m,	LENGTI	I, (m), 29	70 PSI, S	MLS, he	at no., L(OT, mill in	spector r	o 5 tech	nical con	troi
sign,										•	•		
Heat N	lo.: 2795	2											
	Quantity		<u> </u>	Pcs		Ή	Lengt	h m		The	oretical V	eight kg	
				957			5742				9420)	····
		**			Lac	lle Chem	ical Ana	lyse					
С	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	N	v
0.11	0.45	0.006	0.008	0.21	0.07	0.03	0.01	0,17	0.030	0.001	0.001	0.009	0.001
Cr+Cu	+Mo+Ni:	0.28	·	Nb+V:	0.002	•			V+Nb+	Γi: 0.003	3	·	·
					Proc	Inct Cher	nical An	alvse					

MILL TEST CERTIFICATE - EN 10204: 2004 / 3.1

TENSILE TEST (ASTM A370-05) at room temperature- Test Specimen Full section		Yield strength 0.5%EUL MPa	UTS MPa	Elongation %
Dimension – Specimen (mm) 1. 21.3 x 3.7 / 2. 21.35 x 3.70 / 3. 21.3 x 1.75	T T	379	482	32
Section – Specimen (So)(mm²) 1. 204.5 / 2. 205.05 / 3. 206.6	2	374	472	33
Length - Specimen (Lo) (mm) 1, 50.8 / 2, 50.8 / 3, 50.8	,	370	474	34

Fleat treatment: normalised during hot rolling process Hydraulic test pressure (ASTM A530): 2970 PSI for 5 sec Bending test (ASTM A108 point 11): OK Flattening test (EN ISO 8492): OK Drift expanding test (EN ISO 8493): OK	Charpy V- Notch (ASTM A 370) Longitudinal 2.5 x10 [mm] L 30 (28; 32; 30) J (-15°C) 2.27 (26; 26; 28) J (-15°C) 3.29 (28; 30; 28) J (-15°C)	Process of melting- electric are furnace Hardness HRB: 1, 77-78-78-77 / 2, 76-77-77-76 3, 77-78-77-77 Hardness HRC max 22 (acc to NACE MR01.75) Grain size ASTM E 112 : 8, 5
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Visual inspection and dimensional check: OK OC & LABORATORIES CHIEF Dipl. Eng. Silviu Barbulescu

MILL INSPECTOR Eng. Marius Burlacu

 \boldsymbol{C}

0.10

0.11

Mn

0.44

0.43

0.005

0.005

0.010

0.011

This fewision replace the MTC no. 12407/16.12.2009

(SC177-1903-0)

AVIDATION O

(F)

Si

0.21

0.22

Ni

0.09

0.09

Cr

0.03

0.03

Mechanical Properties

Мо

0.01

0.01

Cu

0.16

0.16

Al

0.034

0.033

Nb

0.002

0.002

Ti

0.002

0.002

N

0.009

0.009

0.001

0.001

ii presente	certificato	of int	ende	copia	j	
conforme_a	ll'originale d	ed è	valido	per:		
conforme a	Ti ORD	. 36	652	<u>/0</u>	Pos	4-7
Ddt Nº		ادآ	•	′		

Trezzo s/Adda h 31

ARTIGIANTUBI S.R.L 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.

Obdice: 12407-1 Fornitore: ARTROMSA, Oblata: 27952

CERT-0000001110 / 0000001110.001

1 di 1





Inspection certificate "3.1" (EN 10 204)

A07	Document No.: 50782/08 Customer's Order (P.O.) No./Item No.: 670006907+6700006953						AGE	Manufacturer's Works Order No.: 40283/0/07							
ATI	8700008907+6700006903 Supplier's Order No.:						A10	Advice - 1	Vote No.:		75 9 A (1) A				
	NH 3150020295										910407				
BOS.	Quantity del	vered				B12 Actual o	Name .	A06	Customer	/ Consi	pnes:				
312/13	pes mus				kgs				_						-
	bdls	bdls feet			bs										
	1477 8940.000			0	14390										
								_							
309-11	Dimensions	•	144	X 3.70 m	m.										
B02	Steel designation							7							
801	BPSL1 Product, conditions and terms of delivery:														
9/33 BO4															
BU4	acc. to API	Itael Diba	isi aalis 200:	4 DQ1 4	AGTM A4	nera son	MANA AS	SMF 9	A 106-04.		5 3/5				
	DEC 07/23/	, me 0			GAL	_VAN	IIZEI								
	PED 97/23/EC Annex I par.4.3, NACE MR 0176/ISO 15156-03. Hot rolled - as rolled.									0.0		AS			
					. 25			AC	.C. 1 C) A3	11///	4 53			
AQ4 B06	Marking: Manufacturer's mark, mill inspector's stainp														
	1			1	1		1	1							
	MITTAL STE	EL OSTRA	VA A.S.	- (2)	{ 3		(4)						
				(1							
C71-92	Heat chemi	cal analys	sis (%)		<u></u>	,	C71	Ste	el made by	basic ox	ygen pro	cess, full	y killed, s	trand car	sł.
	Heat No.:	C	MN	P	S	MÔ	V	TI	SI	CU	NI	CR			
	74129K	0,17	0.61	0,009	0.007	0.004	<0.003	<0.00	1	0.08	0.04	0.04			
	74239K	0.17	0,59	0.008	0.007	0.004	<0.003	<0.00		0.08	0.03	0,04			n Parameter
	74850K	0.17	0.63	9,012	0.003	0.005	<0.003	<0.00	1	0.09	0,04	0.06			
	76318K	0.17	0.60	0.015	0,006	0.007	0.00#	<0.01	appendix	0.11	0.03	0.07	1	and the same of th	i
296								Dea Oil		2"		1 *	C	1	IRB
	Test results:			, Bi											
807							45					as described	4-4-8		dra - sa
004	Heat No. c Requirement		nen No. IPSL1		id Point 241		nisibe Stre nin. 414		cus Elong min.		C40	43 Impac	t iesi nin		Hardna kx. 99
	74129K 74239K			min 3 2						25 					17 73 72
	Requirement			3 2 2	14 99		485 485 465 486		35.1 43. 40.	25 8 5 2					77 73
	74129K 74239K 74239K 74850K 75318K			3 2 2	14 99 82		485 485 465 486	wes or	35.43.40.36.43.36.49.36.43	25 5 5 2	Ø		nin		77 73 72 74
004	74129K 74239K 74239K 74850K 78318K	nts: 8	PSL1	3 2 2 3	14 99 62 30		485 489 465 486 contin	wes or	35.1 43. 40.	25 5 5 2	Ø				77 73 72 74
Z99	74129K 74239K 74239K 74850K 78318K	dimensio	PSL1	3 2 2 3	14 99 62 30		485 485 465 486	Cles Or	35.43.40.36.isppendix	25 8 5 2 8 -st - min.	test pres	Sure	nin		77 73 72 74
Z99	74129K 74239K 74850K 76318K Visual and satisfactory	dimensio	PSL1	3 2 2 3 sction will	14 99 62 30		485 489 465 486 contin	Cles Or	35.43.40.36.43.36.49.36.43	25 8 5 2 8 -st - min.	test pres	Sure	nin		77 73 72 74
299 De1	74129K 74239K 74850K 76318K Visual and satisfactory	dimensio	PSL1	min. 3 2 2 3 section with	14 99 62 30		485 489 465 486 contin	Cles Or	35.43.40.36.isppendix	25 8 5 2 8 st- min.	test pres	Sure	nin		77 73 72 74
299 Do1 C50	74129K 74239K 74850K 76318K Visual and satisfactory Flattening Expanding	dimensio y results test	mai inspe satisfact satisfact	min. 3 2 2 3 section with	14 99 62 30		485 489 465 486 contin	Cles Or	35.1 43.1 49.1 36.1 1 appendix Hydraulic te	25 8 5 2 8 st- min.	test pres	Sure	nin		77 73 72 74
Z99 De1 C50 C51	74129K 74239K 74850K 76318K Visual and satisfactory Flattening Expanding 18	dimensio y results test test st-satisf	nal inspersalisfaction	min. 3 2 2 3 3 section will	14 99 82 30		485 489 485 486 contin	Des Or	35.1 43.1 49.1 36.1 1 appendix Hydraulic te	25 5 5 2 8 8 si - min.	test pres	sure by NOT	MPa/s		77 73 72 74
Z99 D01 C50 C51 C52	74129K 74239K 74850K 74850K 76318K Visual and satisfactory Flattening Expanding Bending to Ring experi	dimensio y results test test st-satisf	nal inspe satisfact satisfact actory	min. 3 2 2 3 section will tory ory	14 99 82 30		485 489 485 486 contin	Cles Or	35.1 43.1 49.1 36.1 1 appendix hydraulic te	9 5 5 2 8 8 start min.	teat pres	sure by NOT	MPa/s		77 73 72 74
299 De1 C50 C51 C52 C53	74129K 74239K 74850K 76318K Visual and satisfactory Flattening Expanding tanders Ring exper	dimensio y results lest - test - st - satisf noing test e test (Diff	nal inspe satisfact satisfact actory	min. 3 2 2 3 section will tory ory	14 99 82 30		485 489 485 486 contin	Cles Or	min. 35.1 43., 40., 36.i appendix Hydraulic te In acc.	9 5 5 2 8 8 start min.	teat pres	sure by NOT	MPa/s		77 73 72 74
299 De1 C50 C51 C52 C53	74129K 74239K 74850K 74850K 76318K Visual and satisfactory Flattening Expanding Bending to Ring experi	dimensio y results lest - test - st - satisf noing test e test (Diff	nal inspe satisfact satisfact actory	min. 3 2 2 3 section will tory ory	14 99 82 30 h	lory	485 489 465 486 contin	061 002	min. 35.1 43., 40., 36.i appendix Hydraulic te In acc.	9 5 5 2 8 8 saled on to	teat pres	sure by NOT	MPa/s		77 73 72 74
299 De1 C50 C51 C52 C53	74129K 74239K 74850K 76318K Visual and satisfactory Fisttening Expanding Bending to Ring exper	dimensio y results test test st-satisf iding test e test (Dil mex.	nal inspe satisfact satisfact actory (DIN EN N EN 100	min. 3 2 2 3 3 section will tory ory 1 10236) - sat	14 99 82 30 n	nory 33) acc.tr	485 489 485 486 contin	002 003	35.1 43 49 36 I appendix Hydraulic te in sec. Nondestruceddy - curr	25 6 5 2 8 st - min. estiad on to	test pres	sure by NOT	MPa/s		77 73 72 74
299 901 C50 C51 C52 C52	74129K 74239K 74850K 76318K Visual and satisfactory Flattening Expanding Bending to Ring experience Ring tensils Alt pipes co	dimensio y results test test st-satisf iding test e test (Dil milix.	nal inspe satisfact satisfact actory (DIN EN 10)	min. 3 2 2 3 3 section will tory ory 1 10236) - sat	14 99 82 30 n	nory 33) acc.tu	485 489 485 486 contin	061 062 003 003 003 003 003 003 003 003 003 00	35.1 43., 40., 36., a appendix Hydraulic te In acc. Nondestruc eddy - curr Orllled hole	25 5 5 2 8 8 st - min. bto to ant aver.1.	test pres	sure by NOT	MPa/s	Mi	77 73 72 74
299 901 C50 C51 C52 C52	74129K 74239K 74850K 76318K Visual and satisfactory Fisttening Expanding Bending to Ring exper	dimensio y results test test st-satisf iding test e test (Dil milix.	nal inspe satisfact satisfact actory (DIN EN 10)	min. 3 2 2 3 3 section will tory ory 1 10236) - sat	14 99 82 30 n	nory 33) acc.tu	485 489 485 486 contin	061 062 003 003 003 003 003 003 003 003 003 00	35.1 43 49 36 I appendix Hydraulic te in sec. Nondestruceddy - curr	25 5 5 2 8 8 st - min. bto to ant aver.1.	test pres	sure by NDT	MPa/s	Mi	177 73 72 74 5.915
299 901 C50 C51 C52 C52	74129K 74239K 74850K 76318K Visual and satisfactory Flattening Expanding Bending to Ring experience Ring tensils Alt pipes co	dimensio y results test test st-satisf iding test e test (Dil milix.	nal inspe satisfact satisfact actory (DIN EN 10)	min. 3 2 2 3 3 section will tory ory 1 10236) - sat	14 99 82 30 n	nory 33) acc.tu	485 489 485 486 contin	061 062 003 003 003 003 003 003 003 003 003 00	35.1 43., 40., 36., a appendix Hydraulic te In acc. Nondestruc eddy - curr Orllled hole	25 5 5 2 8 8 st - min. bto to ant aver.1.	test pres	sure by NDT	MPa/s	Mi	77 73 72 74 5.9 / 5
299 De1 C50 C51 C52 C53 C54 227 707	74129K 7429K 74850K 76318K Visual and satisfactory Flattening Expanding Bending ta Ring experience Ring tensilities All pipes co	dimension / results test test test ording test test (Dill max.)	nal insperse satisfact satisfact actory (DIN EN 10) the above 2008/Vo	min. 3 2 2 3 3 section will tory ory 237) - sat	14 99 82 30 h satisfact islactory add.D0	cory is) acc.tr	485 489 485 486 contin X X d orderin	061 002 003 A106-I	min. 35.1 43.4 40.36.1 appendix hydraulic te In sec. Nondestruc eddy - curr Orilled hole irements ar ax ++420 56568	25 B S S S S S S S S S S S S	teat president tightness tromagnetic memis.	Sure by NDT	MPa/s	Mi	77 73 72 74 5.9 / 5.9 / 5
299 Det C50 C51 C52 C52 C53 C54 C54 C54 C54 C54 C54 C54 C54 C54 C54	74129K 74239K 74850K 75318K Visual and satisfactory Flattening Expanding Bending ta Ring exper Ring tensili RC=99HRBd	dimensio y results test test test st-satisf iding test onform to be 24.1.:	nal insperse satisfact satisfact actory (DIN EN 10) the above 2008/Vo	min. 3 2 2 3 section will tory ory 1 10236)- 237) - set	14 99 82 30 h satisfactory add.00	cory	485 489 485 486 contin X X ASTM d orderin	003 A106-1	min. 35.1 43.1 36.1 36.1 sppendix Hydraulic te In acc. Nondestruc eddy - curr Orllled hole irements ar ax ++420 5eses	25 8 5 2 8 8 1 1 1 1 1 1 1 1 1 1 1	test pressurements.	Sure by NDT rice Testin	MPa/s	Million Co.	77 73 72 74 5.915
299 De1 C50 C51 C52 C53 C54 Z01 Z01 Z01 A0	74129K 7429K 74850K 76318K Visual and satisfactory Flattening Expanding Bending ta Ring experience Ring tensilities All pipes co	dimension y results test test test st-satisf iding test e test (Dil max. conform to be 24.1.:	nal insperse satisfact satisfact actory (DIN EN 10) the above 2008/Vo	min. 3 2 2 3 section will tory ory 1 10236)- 237) - set	14 99 82 30 h satisfactory add.00	cory	485 489 485 486 contin X X ASTM d orderin	003 A106-1	min. 35.1 43.1 36.1 36.1 sppendix Hydraulic te In acc. Nondestruc eddy - curr Orllled hole irements ar ax ++420 5eses	25 8 5 2 8 8 1 1 1 1 1 1 1 1 1 1 1	test pressurements.	Sure by NDT rice Testin	MPa/s	Million Co.	77 73 72 74 5.9 / 5.9 / 5
299 201 C50 C51 C52 C63 C70 Z01 Z01 Z01 Z01 Z01 Z01 Z01 Z01 Z01 Z0	74129K 7429K 7429K 74850K 78318K Visual and satisfactory Flattening Expanding Expanding Bending ta Ring expension Ring tension IRC=99HRBs All pipes co	dimension y results test test test oding test onform to onform to be 24.1.1	satisfact satisfact actory (DIN EN N EN 100	sction will tory only 10236).	14 99 82 30 satisfact islactory add.Do	and the same of th	485 489 485 486 contin X X Certif	DOS DOS DOS DOS DOS DOS DOS DOS DOS DOS	min. 35.1 43.4 40.36.1 sppendix Hydraulic te in acc. Nondestruc eddy - curr Orilled hole irements ar ex +420 seses	25 8 5 2 8 st - min. to tive Elek sent aver.1. d agrees valic	test pressionnegne tromagne ments.	Arcabassan Arcabassan Arcabassan Vork's	MPa/s MPa/s EIO Stall Robbin Simposis 685	Million Co.	77 73 72 74 5.9 / 5.9 / 5
299 Dot 1 C50 C50 C50 C50 C50 C50 C50 C50 C50 C50	T4129K T429K T429K T4850K T8318K Visual and satisfactory Flattening Expanding Bending ta Ring exper Ring tensilit RC=99HRBd	dimension y results test test test test oring test oring test oring test at Tubula ment 89 a-Kunčic	satisfact satisfact actory (DIN EN N EN 100	sction will tory only 10236).	14 99 82 30 satisfact islactory add.Do	and the same of th	485 489 485 486 contin X X Certif	DOS DOS DOS DOS DOS DOS DOS DOS DOS DOS	min. 35.1 43.4 40.36.1 sppendix Hydraulic te in acc. Nondestruc eddy - curr Orilled hole irements ar ex +420 seses	25 8 5 2 8 st - min. to tive Elek sent aver.1. d agrees valic	test pressionnegne tromagne ments.	Arcabassan Arcabassan Arcabassan Vork's	MPa/s	707 02 0	77 73 72 74 5.9 / 5
299 Dot 1 C50 C50 C50 C50 C50 C50 C50 C50 C50 C50	74129K 74239K 74850K 78318K Visual and satisfactory Flattening Expanding Bending ta Ring experi Ring tensili IRC=99HRB All pipes co Date of Issuer ArcelorMittes CA Department Imovská 6 07 02 Ostrav	dimension y results test test test test oring test oring test oring test at Tubula ment 89 a-Kunčic	satisfact satisfact actory (DIN EN N EN 100	sction will sort only only constructs of the construction of the c	241 14 99 82 30 satisfactive add.Do	and the same of th	485 489 485 486 contin X X Certif	DOS DOS DOS DOS DOS DOS DOS DOS DOS DOS	min. 35.1 43.4 40.36, in appendix. Hydraulic te in acc. Nondestructed in acc. Nondestructed hole interments are in acc. Still in acc. Still in acc.	25 8 5 2 8 st - min. to tive Elek sent aver.1. d agrees valic	test pressionagne tromagne ments.	Arcalorate Arcalorate Vork's 222 V	MPa/s MPa/s EIO Stall Robbin Simposis 685	707 02 0	77 73 72 74 5.915
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