

Advice Note

121828

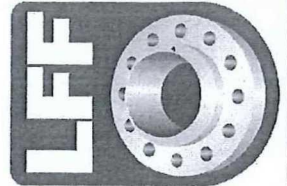
K & S Pipe Contractors LLP

Unit 1, Stock Road
Southend-On-Sea
Essex
SS2 5QF

Our Ref

D/19139/30106/PA

15/12/2016



London Fittings & Flanges Ltd

Christy Way
Southfields Industrial Park
Basildon, Essex,
SS15 6TE
Tel: [REDACTED] (Sales)

Purchasing

Delivery :

K & S KEN SNELL

GRENFELL TOWER
GRENFELL ROAD W11 1TQ
[REDACTED] KEN 7.30 ONWARDS

RECEIVED

20 DEC 2016

Your ref: ks3634

Page: 1

Item No.	Qty	Details	Total Qty	OutStndg.
001	1.00	2" 3000LB Equal Tee SW A105N	1.00	0.00
002	1.00	2" 3000LB Cap SW A105N	1.00	0.00
003	30.00	ASTM A106 Gr B / API 5L 2" St.Wt.	30.00	0.00
004	21.00	ASTM A106 Gr B / API 5L 3/4" St.Wt.	21.00	0.00
005	10.00	2" 3000LB Full Coupling SW A105N	10.00	0.00
006	1.00	2" X 1" 3000LB Red Tee SW A105N	1.00	0.00
007	1.00	2" 3000LB 45 Deg Elb SW A105N	1.00	0.00
008	6.00	3" ASTM A106 Gr B / API 5L St.Wt.	6.00	0.00

CUT PIPE
1 BAG

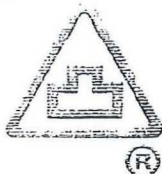
RECEIVED	<i>G. Lawrance</i>
PRINT	<i>G. LAWRENCE</i>
DATE	

Order No. 078950
Item No. 001

Reference No.
T Number

465113 / 1
T126779

Page 1 of 1



BOTH-WELL STEEL FITTINGS CO., LTD.

NO.303, REN-SIN ROAD, REN-WU DISTRICT, KAOHSIUNG CITY, TAIWAN, R.O.C.(81460)

TEL :

FAX :

WEB SITE : <http://www.bothwell.com.tw>

E-Mail : box@bothwell.com.tw

An ISO 9001 : 2008 Registered Manufacturer

MILL TEST & INSPECTION CERTIFICATE

ACCORDING TO EN 10204 3.1

CUSTOMER : MIDSTEEL FLANGES AND FITTINGS LIMITED

CERT NO. : 153828

ORDER NO. : 020487

INVOICE NO. : 5200007028

L/C NO. :

PAGE : 10

DATE : 12/25/2015

ORIGIN : TAIWAN

ITEM	RAW HEAT NO. HEAT NO.	QTY	DESC/GRADE OR SPECIFICATION NO. CHEMICAL COMPOSITION(%) MECHANICAL PROPERTIES.
17	15603277 CA0388	96 PCS	TEE A105 2" 3000# S W C:0.19 Si:0.23 Mn:0.92 P:0.014 S:0.006 Cu:0.01 Cr:0.02 Ni:0.01 Mo:0.002 V:0.002 Nb:0.004 CE:0.35 TS(KSI):80.3 YS 0.2%(KSI):54.2 EL(%):32.0 R.A.(%):61.6 HARDNESS 1(HBW):142 HARDNESS 2(HBW):145

REMARK :

THE MATERIAL SUPPLIED IDENTIFIED AS ASTM A105N -13, ASME SA105N-2013ED

THE FITTING SUPPLIED IDENTIFIED AS ASME B16.11 - 2011

THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH SPECIFICATION(SURFACE & DIM) : GOOD

STANDARD : CHEMICAL COMPOSITION(%) & MECHANICAL PROPERTIES.

	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Cb(Nb)
MIN	-	0.10	0.60	-	-	-	-	-	-	-	-
MAX	0.35	0.35	1.05	0.035	0.040	0.40	0.30	0.40	0.12	0.08	-
	N	Al	Ti	Zr	CE	TS(KSI)	YS	YS 0.2%(KSI)	EL(%)	R of A(%)	HARDNESS(HBW)
MIN	-	-	-	-	-	70	-	36	22	30	-
MAX	-	-	-	-	0.43	-	-	-	-	-	187

HEAT TREATMENT : NORMALIZED: 900°C(1652°F) A.C.

STEEL MAKING PROCESS : ELECTRIC FURNACE

CONFORMS TO NACE MR0175-09/ISO15156-09/MR0103-10

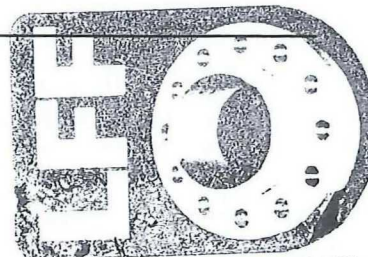
FULLY KILLED AND FINE GRAIN PRACTICE

YOUR NO: KS3634
OUR REF: 19139/30106/RA
ITEM(S): 001
SIGNATURE *[Signature]* DATE 12/12/15

WE CERTIFY THE ABOVE MENTIONED FITTINGS HAVE BEEN MANUFACTURED,
SAMPLED, TESTED, AND INSPECTED IN ACCORDANCE WITH THE
SPECIFICATIONS SHOWN

C.C. Huang
Q.C. MANAGER

C.L. Ko
INSPECTOR



LONDON FITTINGS & FLANGES LTD

® BW-D0839 REV:4

TRI000TRI000001381/2



RACCORDERIA FORGIATA E DERIVAZIONI
FORGED STEEL FITTINGS AND OUTLETS

CERTIFICATO DI COLLAUDO / TEST CERTIFICATE

Cliente/Customer GELDBACH UK LTD

Ordine cliente/Customer order n. 9878 DTD 05/12/15

Documento di trasporto DTVEND201600000328

Lista/Job 3282

FS1692/16

0007-1907

Certific. N. C/CERT201600000345

Data/Date 08/03/2016

Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific/year date	Steel Mill	Steel mill cert. - forgemaster cert.
1	65	RL-EH	1574827	CAPS 2 3000 SW	ASTM SA/A105N-13	RIVA ACCIAIO SPA	18727
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE% Al% Zr%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0.180 0.890 0.0110 0.0080 0.250 0.090 0.060 0.010 0.016 0.180 0.002 0.000 0.015 0.000 0.370 0.021 0.000	Electric furnace - NORM. AT 900°C / cooled in still air	
				CARATTERISTICHE MECCANICHE	Snervamento Rottura Allung. Resilienza	Prova idraulica Pieg.	Visual and dimensional check
				MECHANICAL PROPERTIES	Yield str. Ten. Str. Elong. Red. of. Hardness Impact test	val. J/cm(2) H. Test B. Test	**OK**
				RACCORDI SECONDO / FITTINGS IN ACC. TO	ASME B16.11-2011, BS 3799-74, MSS SP-25-L.E., ASME SEC. II PART A L.E., NACE MR0175-2009/ISO 15156		

Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific/year date	Steel Mill	Steel mill cert. - forgemaster cert.
2	5	E-NC	1574948	45DEG ELBOWS 2 3000 SW	ASTM SA/A105N-13	RIVA ACCIAIO SPA	21257 - 558
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE% Al% Zr%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0.160 0.960 0.0150 0.0030 0.230 0.150 0.060 0.010 0.015 0.180 0.002 0.000 0.018 0.090 0.370 0.024 0.000	Electric furnace - NORM. AT 900°C / cooled in still air	
				CARATTERISTICHE MECCANICHE	Snervamento Rottura Allung. Resilienza	Prova idraulica Pieg.	Visual and dimensional check
				MECHANICAL PROPERTIES	Yield str. Ten. Str. Elong. Red. of. Hardness Impact test	val. J/cm(2) H. Test B. Test	**OK**
				RACCORDI SECONDO / FITTINGS IN ACC. TO	ASME B16.11-2011, BS 3799-74, MSS SP-25-L.E., ASME SEC. II PART A L.E., NACE MR0175-2009/ISO 15156		

Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific/year date	Steel Mill	Steel mill cert. - forgemaster cert.
3	14	70285	1270285	STREET ELBOWS 1/4 3000 BSPT	ASTM SA/A105N-13	RIVA ACCIAIO SPA	4900 - 02
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE% Al% Zr%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0.200 0.850 0.0090 0.0100 0.160 0.080 0.040 0.020 0.017 0.120 0.001 0.000 0.021 0.000 0.370 0.000 0.000	Electric furnace - NORM. AT 900°C / cooled in still air	
				CARATTERISTICHE MECCANICHE	Snervamento Rottura Allung. Resilienza	Prova idraulica Pieg.	Visual and dimensional check
				MECHANICAL PROPERTIES	Yield str. Ten. Str. Elong. Red. of. Hardness Impact test	val. J/cm(2) H. Test B. Test	**OK**
				RACCORDI SECONDO / FITTINGS IN ACC. TO	ASME SEC. II PART A L.E., UNI 10226-3, NACE MR0175-2009/ISO 15156		

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

Certificato secondo / Certificate acc. to: EN 10204/3.1

ANNUAL BOOK ASTM SEZ. I VOL. 01.01, 2014

MATERIAL MANUFACTURER APPROVED BY TUV RHEINLAND INDUSTRIE SERVICE GmbH ACCORDING TO PED 97/23/EC

ANNEX 1 POINT 4.5 & AD 2000 W0.

ENTE COLLAUDO / INSPECTOR

YOUR NO: 153634
OUR REF: 19139/30106/PA
ITEM(S) 002
SIGNATURE [Signature] DATE 9/12/16

LAME Srl - 21049 JERAGO CON ORAGO (VA) ITALY - Via Papa Giovanni XXIII, 1 - Tel. [Number] - TELEFAX [Number] - E-mail: info@lame-srl.it



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TRI000001381_0003

TRI000001381/3

ArcelorMittal South Africa Limited
Tubular Products
273 Genl. Hertzog Rd, Peacehaven Vereeniging
1939
P O Box 48 Vereeniging 1930
South Africa

Telephone
Fax

MATERIAL TEST CERTIFICATE
SEAMLESS STEEL TUBE
CERTIFICATE DE RECEPTION - TUBES D'ACIER SANS SOUDURE
NAHMEPRÜFZEUGNIS - NAHTLOSE STAHLROHRE

Licensed under
API Spec 5L and 5CT
5L - 0319
5CT - 0419

ISO 9001: 2015
DE-395997 QM

Test Certificate
EN 10204:2004 TYPE 3.1



Customer: **LFF GLAMAL LIMITED**
Client
Kunde
Order No: **4000022196**
No. de commande Mittal:
Mital-Auftrags-Nr:
Certificate Reference No: **040061987193**
No de certificat:
Zeugnis-Nr:
Product: **FULLY KILLED HOT FINISHED CARBON STEEL SEAMLESS TUBES**
Produit:
Produkt:
Specification: **ISO3183:2012/API 5L:2012 L245/L290/B/X42 PSL1 ASTM A106B.15/A53B.12/ A530.12 ASME SA106B.15/SA53B.15/SA530.15**
Spécification
Angabe
Product Marking: **ARCELORMITTAL SA ISO3183/Spec 5L-0319 MONOGRAM 06-16 ASTM/ASME A/SA106B A/SA53B 2.375 0.154 19.700 L245/B L290/X42 PSL1 SMLS TESTED 3000 psi CAST NO: 1604304 PROD/O NO: H0642219610 NDE MADE IN SOUTH AFRICA**
Larguage de produit
Produktkennzeichnung

Customer Order/Contract No: **SGB7 153793**
No de commande client
Kundenauftrags-Nr:
Material No: **1000000578**
No de matériau:
Werkstoff-Nr:
Cast/Heat No: **1604304**
Coulée No:
Schmelzen-Nr:
Page Number: **1 of 3**
Page:
Blatt:



GE104006

General Information

Information Générale
Allgemeine Information

Quantity Quantité Menge	Mass Poids Gewicht	Dimensions Dimensions / Maße			Total Length Longueur Länge
		Tube OD Diamètre Durchschnitt	Thickness Epaisseur Stärke	Length Longueur Länge	
463	33.296.206(lb)	2.375(")	0.154(")	19.700 (ft)	9,121.100(ft)

Steel making process Procédé de fabrication de l'acier Stahlschmelzungsverfahren	Final Rolling Operation Fin de laminage / Walzende
Electric Arc	Final hot rolling finished above 1580°F and cooled in still air

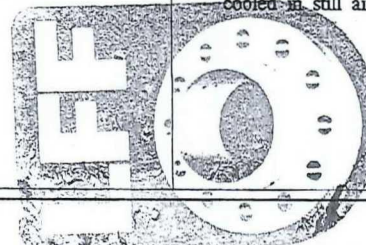
YOUR NO:
OUR REF:
ITEM(S)
SIGNATURE

KS3634

19/39/30106/PA

03

DATE 19/12/16



Chemical Composition

Analyse sur coulée Schmelzenanalyse

R22-(V+Nb+Ti)

R24-(Nb+V)

Element(%)	C	Si	Mn	S	P	Cr	Ni	Mo	Cu	V	Al	Ti	Sn	Ca	N	COBON	Nb	CE	R22	R24	REVIEWED
Minimum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Maximum	0.200	-	1.30	0.030	0.030	0.50	0.50	0.150	0.500	-	-	-	-	-	-	-	-	0.41	0.15	0.060	CA/OC
Heat	0.170	0.25	0.86	0.005	0.016	0.02	0.01	0.001	0.005	0.003	0.031	0.001	0.003	0.0020	0.0060	0.0000	0.0010	0.32	0.01	0.004	4
Product	0.1700	0.2500	0.8600	0.0050	0.0160	0.0200	0.0090	0.0010	0.0050	0.0030	0.0310	0.0010	0.0030	0.0020	0.0060	-	0.0010	0.3191	0.0050	0.0040	LFF GLAMAL LTD
Product (ADD)	0.1700	0.2500	0.8600	0.0050	0.0160	0.0200	0.0090	0.0010	0.0050	0.0030	0.0310	0.0010	0.0030	0.0020	0.0060	-	0.0010	0.3191	0.0050	0.0040	LFF GLAMAL LTD

ITEM: 027 GE/NO: GE104006

ORDER NO: L/16433/00194/JW

CUST: LFF (BASTIDON) LTD

ADVICE NOTE: 468459
1 of 3

TRI000001381/4

TRI000001381_0004

ArcelorMittal South Africa Limited
Tubular Products
273 Genl. Hertzog Rd, Peacehaven Vereeniging
1939
P O Box 48 Vereeniging 1930
South Africa

Telephone
Fax

MATERIAL TEST CERTIFICATE
SEAMLESS STEEL TUBE
CERTIFICATE DE RECEPTION - TUBES D'ACIER SANS SOUDURE
NAHMEPRÜFZEUGNIS - NAHTLOSE STAHLROHRE

Licensed under
API Spec 5L and 5CT
5L - 0319
5CT - 0419

ISO 9001: 2015
DE-395997 QM

Test Certificate
EN 10204:2004 TYPE 3.1


ArcelorMittal

Customer: LFF GLAMAL LIMITED
Client: LFF GLAMAL LIMITED
Kunde: LFF GLAMAL LIMITED
Order No: 4000022196
No. de commande Mittal: 4000022196
Mittal-Auftrags-Nr: 4000022196
Certificate Reference No: 040061987193
No de certificat: 040061987193
Zeugnis-Nr: 040061987193
Product: FULLY KILLED HOT FINISHED CARBON STEEL SEAMLESS TUBES
Produit: FULLY KILLED HOT FINISHED CARBON STEEL SEAMLESS TUBES
Produkt: FULLY KILLED HOT FINISHED CARBON STEEL SEAMLESS TUBES
Specification: ISO3183:2012/API 5L:2012 L245/L290/B/X42 PSL1 ASTM A106B.15/A53B.12/ A530.12 ASME SA106B.15/SA53B.15/SA530.15
Specification: ISO3183:2012/API 5L:2012 L245/L290/B/X42 PSL1 ASTM A106B.15/A53B.12/ A530.12 ASME SA106B.15/SA53B.15/SA530.15
Angabe: ISO3183:2012/API 5L:2012 L245/L290/B/X42 PSL1 ASTM A106B.15/A53B.12/ A530.12 ASME SA106B.15/SA53B.15/SA530.15
Product Marking: ARCELORMITTAL SA ISO3183/Spec 5L-0319 MONOGRAM 06-16 ASTM/ASME A/SA106B A/SA53B 2375 0.154 19.700 L245/B L290/X42 PSL1 SMLS TESTED
Larguage de produit: ARCELORMITTAL SA ISO3183/Spec 5L-0319 MONOGRAM 06-16 ASTM/ASME A/SA106B A/SA53B 2375 0.154 19.700 L245/B L290/X42 PSL1 SMLS TESTED
Produktkennzeichnung: ARCELORMITTAL SA ISO3183/Spec 5L-0319 MONOGRAM 06-16 ASTM/ASME A/SA106B A/SA53B 2375 0.154 19.700 L245/B L290/X42 PSL1 SMLS TESTED

Customer Order/Contract No: SGB7 153793
No de commande client: SGB7 153793
Kundenauftrags-Nr: SGB7 153793
Material No: 1000000578
No de matériau: 1000000578
Werkstoff-Nr: 1000000578
Cast/Heat No: 1604304
Coulée No: 1604304
Schmelzen-Nr: 1604304
Page Number: 2 of 3
Page: 2 of 3
Blatt: 2 of 3



Mechanical Properties at Room Temperature 25°C (C60 # C69)

Propriétés Mécaniques à température ambiante 25°C
Mechanische Eigenschaften bei Raumtemperatur 25°C

Specification Spécification Angabe	UTS (Rm) Force de tension Zugfestigkeit	Yield (Re) Limit élastique Fließgrenze	% EL Allong Dehnu	% EL Allong Dehnu
Limits Limite Grenze	psi	psi	2 Inch	5.65 Sq S0
Minimum	60000	42000	30.0	
Maximum	-	-	-	
Sample (1)	72663	52648	31.0	
Sample (2)	75419	53809	33.0	
Sample (3)				
Sample (4)				
Sample (5)				
Sample (6)				
Sample (7)				
Sample (8)				
Sample (9)				
Orientation of tensile piece C02 Orientation de la poutre de tension Richtung der Zugprobe				
Longitudinal, Strip				

TECHNOLOGICAL TESTS EPREUVES TECHNOLOGIQUES TECHNISCHE PRÜFUNGEN	
Bending Essai de pliage Biegeversuch	Passed
Flattening test Essai d'aplatissement Ringfaltversuch	Passed
Hydrostatic D02 Hydrostatique Hydrostatisch	3000 psi for 5 Sec
Electromagnetic Insp D99 Inspection électromagnétique Elektromagnetische Prüfung	PASS - ASTM E570 - 12.5% NOTCH
Ultrasonic inspection Inspection ultrasonique Ultraschallprüfung	UT not required
Orientation of impact test piece longitudina	10 x 3.3 mm -
Width of tensile piece (inch) Largeur de l'échantillon Zugstab Breite	0.75 Inch

TECHNOLOGICAL TESTS EPREUVES TECHNOLOGIQUES TECHNISCHE PRÜFUNGEN	
Hardness Dureté Härte	157 164 167
Impact strength (ft.lbs) Résistance au choc sur barre Kerbschlagfestigkeit	120.0 126.0 132.0 Ave. 126.0 @ 32 °F
Shear Fracture (%) C43 Rupture ductile Verf. Bruchanteil	20.0 40.0 40.0 Ave. 33.3 @ 32 °F
Impact strength (Spec) Résistance au choc sur barre Kerbschlagfestigkeit	30 ft.lbs min - long
REVIEWED	
QA/QC	

* Elongation to BS EN ISO 2566 table 7: 5.65 square root S0
Élongation au BS EN ISO 2566 tableau 7: 5.65 racine carrée S0
Verlängerung zu BS EN ISO 2566 Tabelle 7: 5.65 Quadratwurzel S0

ITEM: 027 GE/NO: GE104006

ORDER NO: L/16433/00194/JW

CUST: LFF (BASILDON) LTD

ADVICE NOTE: 468459
2 of 3

TR1000001381_0005

TR1000001381/5

**ArcelorMittal South Africa Limited
Tubular Products**

273 Genl. Hertzog Rd, Peacehaven Vereeniging
1939

P O Box 48 Vereeniging 1930
South Africa

Telephone
Fax

**MATERIAL TEST CERTIFICATE
SEAMLESS STEEL TUBE**

CERTIFICATE DE RECEPTION - TUBES D'ACIER SANS SOUDURE
NAHMEPRÜFZEUGNIS - NAHTLOSE STAHLROHRE

Licensed under
API Spec 5L and 5CT
5L - 0319
5CT - 0419

ISO 9001: 2015
DE-395997 QM

Test Certificate
EN 10204:2004 TYPE 3.1



Customer: Client Kunde	LFF GLAMAL LIMITED	Customer Order/Contract No:	SGB7 153793
Order No: No. de commande Mittal: Mittal-Auftrags-Nr:	4000022196	Material No: No de matériau: Werkstoff-Nr:	1000000578
Certificate Reference No: No de certificat: Zeugnis-Nr:	040061987193	Cast/Heat No: Coulée No: Schmelzen-Nr:	1604304
Product: Produit: Produkt:	FULLY KILLED HOT FINISHED CARBON STEEL SEAMLESS TUBES	Page Number: Page: Blatt:	3 of 3
Specification: Specification Angabe	ISO3183:2012/API 5L:2012 L245/L290/B/X42 PSL1 ASTM A106B.15/A53B.12/ A530.12 ASME SA106B.15/SA53B.15/SA530.15		
Product Marking: Largage de produit Produktkennzeichnung	ARCELORMITTAL SA ISO3183/Spec 5L-0319 MONOGRAM 06-16 ASTM/ASME A/SA106B A/SA53B 2.375 0.154 19.700 L245/B L290/X42 PSL1 SMLS TESTED 3000 psi CAST NO: 1604304 PROD/O NO: H0642219610 NDE MADE IN SOUTH AFRICA		



Remarks:

Remarque:
Bemerkung:

Material in accordance with NACE MR0175:2015/ISO15156-3:2015 and MR0103:2015. Dimensions to ANSI B36.10-2010.

The material will conform to the hot yield strength requirements as per ASME, Sect II, Part D, Table Y-1, and the general requirements of ASME, Sect II, Part A, Ed 2013

All the material conform to the visual inspection and dimensional tolerance requirements of the specification.

A suitable fine grain practice is followed in manufacturing.

La Société ArcelorMittal South Africa garantit que les produits objet du présent certificat, respectent en leur totalité les prescriptions de l'Article 15 de l'Arrêté Ministériel du 24 mars 1978 modifié.

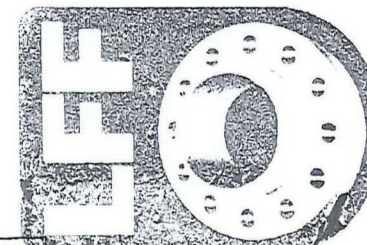
$C \leq 0.25\%$, $P \leq 0.05\%$, $R \leq 700N/mm^2$, $E \leq 0.9 \times R$

$A\% (L_0 = 5.65V_{So}) \min. 16\%$ en long. $R(A-2) \geq 10500$

$A\% (L_0 = 5.65V_{So}) \min. 16\%$ en transv. $RxA \geq 10500$

The QM System of ArcelorMittal SA meets the requirements of PED 97/23/EC, App. I, Sect. 4.3 as certified by TUV cert 01 202 ZA/Q-02 0004. All materials meet the requirements of PED 97/23/EC, App I, Sect 7.5. Non-harmonized materials require Particular Material Appraisal. The impact strength is guaranteed to exceed 27J at 0°C

HARDSTAMPED with low stress tool: API logo, AMSA, Size, Heat number, Grade, NDE



LONDON FITTINGS & FLANGES LTD

Quality Assurance Manager: PJ Venter

Chef des services de l'assurance de qualité:
Qualitätssicherungsmanager:

We hereby certify that the material was manufactured, tested and inspected to and fully comply with the requirements of referenced specifications. No changes, amendments or additions may be made to this document. Any changes which are effected shall invalidate this certificate.
Nous certifions que le matériel a été fabriqué, testé et inspecté et se conformer pleinement aux exigences de spécifications référencées. Il est interdit de modifier ou de corriger ce document ou d'y ajouter quoi que ce soit. Tout changement invalide le présent certificat.
Wir bestätigen hiermit, daß das Material wurde hergestellt, geprüft und inspiziert und voll mit den Anforderungen der referenzierten Spezifikationen. Diese Unterlage darf in keiner Weise geändert, abgeändert oder ergänzt werden. Jede derartige Änderung wird die Gültigkeit dieser Bescheinigung aufheben.

Date of Release: 2016.06.24

Certifié par:
Bescheinigt von:

Certified by:

Emis
Freigegeben

ITEM: 027 GE/NO: GE104006

ORDER NO: L/16433/00194/JW

CUST: LFF (BASILDON) LTD

ADVICE NOTE: 468459
3 of 3

TR1000001381_0006

TR1000001381/6

Rohrwerk Maxhütte GmbH 92237 Sulzbach-Rosenberg

Abnahmeprüfzeugnis / Inspection certificate / Certificat de réception DIN EN 10204 :08.1995 - 3.1B / :01.2005 - 3.1
Konformität zur PED 97/23/EG Anhang 1 Abs. 4.3 u. 7.5 ist sichergestellt / Conformity to the PED 97/23/EG appendix 1 exp. 4.3 and 7.5 is guaranteed



Post: 92237 Sulzbach-Rosenberg, Franz-Kunze-Straße 1

Telefon: [REDACTED]

P1338/15

LFF Glamal Holdings Limited Pegasus House Wynyard Avenue, Wynyard Park GB - TS 22 5TB Billingham / UK		Erzeugnisform/Product/Produit nahtlose Stahlrohre/ seamless steel tubes Tubes en acier sans soudure Verkoef/Lieferzustand Quality/Condition of delivery Qualité/État de livraison ASTM A 106 GR B		warmgefertigt hot finished produit à chaud		Lieferbedingungen und/oder amtliche Vorschriften / Terms of delivery and/or official regulations / Conditions de livraison et/ou prescriptions officielles: ASTM A106/A106M : 2014 API 5L-B PSL1X42 ASME SA-106/SA-106M NACE Standard MR 0175/ISO 15156 gem. Glamal Spec. 047 Rev. 09 : 09.12.2009																																																																																																																																																																																																																																									
Lieferanzeige/delivery note/concernement l'avis d'expédition Nr./No.: GWA003 246 08.09.15						Bestell-Nr./Order No./No. de commande: G/65734M vom 14.07.15																																																																																																																																																																																																																																									
Auftrags-Nr./Order-No./ No. de l'usine		Pos.		Abmessungen/Dimensions/ mm		Zeichen/ Bunde bundles		Stück pieces		Gewicht/weight/ pois kg		Meter		Schmelzen-Nr./ Heat No./ Cottice No.		Chemische Zusammensetzung (Schmelzenanalyse)/ of cast/composition chimique																																																																																																																																																																																																																															
VK 1501623 RW 800420		080 8		1,051 x 0,113 in. [26,7 x 2,87 mm] 3/4" Sched. 40		5		566		5.838		3.413,98		A) 279940		<table border="1"> <tr> <td>% C</td><td>% Si</td><td>% Mn</td><td>% P</td><td>% S</td><td>% Nb</td><td>% V</td><td>% Ti</td><td>% Cr</td> </tr> <tr> <td>0,13</td><td>0,27</td><td>0,80</td><td>0,008</td><td>0,002</td><td>0,002</td><td>0,010</td><td>0,001</td><td>0,24</td> </tr> <tr> <td>0,12</td><td>0,27</td><td>0,80</td><td>0,008</td><td>0,002</td><td>0,002</td><td>0,010</td><td>0,001</td><td>0,24</td> </tr> <tr> <td>0,13</td><td>0,27</td><td>0,80</td><td>0,008</td><td>0,002</td><td>0,002</td><td>0,010</td><td>0,001</td><td>0,24</td> </tr> <tr> <td>% Ni</td><td>% Mo</td><td>% Cu</td><td>% N</td><td>% Al</td><td>% Sn</td><td>% B</td><td>CEV</td><td>J-Faktor</td> </tr> <tr> <td>0,16</td><td>0,05</td><td>0,15</td><td>0,0082</td><td>0,026</td><td>0,009</td><td>0,0002</td><td>0,34</td><td>182</td> </tr> <tr> <td>0,16</td><td>0,05</td><td>0,13</td><td>0,025</td><td>0,009</td><td>0,0002</td><td></td><td></td><td></td> </tr> <tr> <td>0,15</td><td>0,05</td><td>0,14</td><td>0,024</td><td>0,009</td><td>0,0002</td><td></td><td></td><td></td> </tr> </table>										% C	% Si	% Mn	% P	% S	% Nb	% V	% Ti	% Cr	0,13	0,27	0,80	0,008	0,002	0,002	0,010	0,001	0,24	0,12	0,27	0,80	0,008	0,002	0,002	0,010	0,001	0,24	0,13	0,27	0,80	0,008	0,002	0,002	0,010	0,001	0,24	% Ni	% Mo	% Cu	% N	% Al	% Sn	% B	CEV	J-Faktor	0,16	0,05	0,15	0,0082	0,026	0,009	0,0002	0,34	182	0,16	0,05	0,13	0,025	0,009	0,0002				0,15	0,05	0,14	0,024	0,009	0,0002																																																																																																																																																	
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Pos./ Item		Probe Nr. Test No Epreuve		Yield strength (MPa / N/mm²)		Tensile Strength (MPa / N/mm²)		Elongation in 2h (%)		<table border="1"> <tr> <td colspan="10">X Beschädigung und Ausmessung/ Inspection and measurement/ Inspection et mesure</td> </tr> <tr> <td colspan="10">X Zugversuch (s. Tafel)/tensile test (cf. table)/essai de traction (voir tableau) ASTM A 370 : 2012</td> </tr> <tr> <td colspan="10">X Ringaufdomversuch/ ring expanding test/essai d'évasement d'anneau ASTM A 370 : 2012</td> </tr> <tr> <td colspan="10">X Ringfaltversuch/ flattening test/ essai d'aplatissement ASTM A 370 : 2012</td> </tr> <tr> <td colspan="10">X Aufweitversuch/expanding test/ essai d'évasement ASTM A 370 : 2012</td> </tr> <tr> <td colspan="10">X Biegeversuch / bending test / essai d'pliage ASTM A 370 : 2012</td> </tr> <tr> <td colspan="10">X Härteprüfung / hardness test / essai de dureté ASTM A 370 : 2012</td> </tr> <tr> <td colspan="10">Kerbschlag-Biegeversuch/ notched bar impact bend test/essai de résilience : ISO-V ASTM A 370 : 2012</td> </tr> <tr> <td colspan="10">longitudinal ASTM E 23 : 2012</td> </tr> <tr> <td colspan="10">Sollwert: ≥ 27 J ASTM E 23</td> </tr> <tr> <td colspan="10">DIN EN ISO 148-1:2011-01</td> </tr> <tr> <td colspan="10">Verwechslungsprüfung / test for mixing up steel grade / essai au confusion de qualités d'acier (PMI)</td> </tr> <tr> <td colspan="10">US-Prüfung am Vormaterial / ultrasonic testing on blooms / essai d'ultra-son sur blooms</td> </tr> <tr> <td colspan="10">X Auf Dichtheit geprüft/ Inspected for tightness/Essayés sur étanchéité: ungeprüfte Rohrenden wurden abgeschnitten</td> </tr> <tr> <td colspan="10">Mit Wirbelstrom/with eddy current test/avec courant de Foucault (NDE) ASTM E 309</td> </tr> <tr> <td colspan="10">X Mit Wasserinnendruck/ with hydr. test/hydrauliquement ASTM A 530 à 20,5 MPa</td> </tr> <tr> <td colspan="10">X Die Rohre haben freien Durchgang/ The tubes have free passages/propres/ pas d'objections</td> </tr> <tr> <td colspan="10">X Walztemperatur/ final temperature of rolling/température finale de laminage ca.: 900°C</td> </tr> <tr> <td colspan="10">X Glühzustand/ annealing condition/ état recuit einwandfrei/ unobjectionable/ irréusable</td> </tr> <tr> <td colspan="10">normalisiert/ normalized/ normalisé</td> </tr> <tr> <td colspan="10">NT (normalized and tempered)</td> </tr> <tr> <td colspan="10">X Die mit "X" bezeichneten Prüfungen wurden durchgeführt und nicht beanstandet/ The tests marked with "X" were performed and did not lead to objection/ Les essais marqués d'un "X" étaient accomplis et n'entraînaient pas d'objections.</td> </tr> </table>										X Beschädigung und Ausmessung/ Inspection and measurement/ Inspection et mesure										X Zugversuch (s. Tafel)/tensile test (cf. table)/essai de traction (voir tableau) ASTM A 370 : 2012										X Ringaufdomversuch/ ring expanding test/essai d'évasement d'anneau ASTM A 370 : 2012										X Ringfaltversuch/ flattening test/ essai d'aplatissement ASTM A 370 : 2012										X Aufweitversuch/expanding test/ essai d'évasement ASTM A 370 : 2012										X Biegeversuch / bending test / essai d'pliage ASTM A 370 : 2012										X Härteprüfung / hardness test / essai de dureté ASTM A 370 : 2012										Kerbschlag-Biegeversuch/ notched bar impact bend test/essai de résilience : ISO-V ASTM A 370 : 2012										longitudinal ASTM E 23 : 2012										Sollwert: ≥ 27 J ASTM E 23										DIN EN ISO 148-1:2011-01										Verwechslungsprüfung / test for mixing up steel grade / essai au confusion de qualités d'acier (PMI)										US-Prüfung am Vormaterial / ultrasonic testing on blooms / essai d'ultra-son sur blooms										X Auf Dichtheit geprüft/ Inspected for tightness/Essayés sur étanchéité: ungeprüfte Rohrenden wurden abgeschnitten										Mit Wirbelstrom/with eddy current test/avec courant de Foucault (NDE) ASTM E 309										X Mit Wasserinnendruck/ with hydr. test/hydrauliquement ASTM A 530 à 20,5 MPa										X Die Rohre haben freien Durchgang/ The tubes have free passages/propres/ pas d'objections										X Walztemperatur/ final temperature of rolling/température finale de laminage ca.: 900°C										X Glühzustand/ annealing condition/ état recuit einwandfrei/ unobjectionable/ irréusable										normalisiert/ normalized/ normalisé										NT (normalized and tempered)										X Die mit "X" bezeichneten Prüfungen wurden durchgeführt und nicht beanstandet/ The tests marked with "X" were performed and did not lead to objection/ Les essais marqués d'un "X" étaient accomplis et n'entraînaient pas d'objections.									
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FormblattNr.: QSRW-06-003 Rev 3 vom 18.12.07

YOUR NO: KS3634
OUR REF: 1, 9139/ 30106/P4
ITEM(S): 004
SIGNATURE [Signature] DATE: 19/12/16





RACCORDERIA FORGIATA E DERIVAZIONI
FORGED STEEL FITTINGS AND OUTLETS

CERTIFICATO DI COLLAUDO / TEST CERTIFICATE

Cliente/Customer GELDBACH UK LTD
Ordine cliente/Customer order n. 10059 dtd 29/01/16
Documento di trasporto DTVEND201600000776
Lista/Job 217

Certific. N. CTCERT201600000804
Data/Date 23/05/2016

FS 1726/1

Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date	Steel Mill	Steel mill cert. - forgemaster cert.
4	200	E.NI	237929	90DEG ELBOWS 1 3000 SW	ASTM SA/A105N-13	ACC. VENETE SPA	239532 - 78
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE% Al% Zr%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0,164 1,028 0,0070 0,0010 0,181 0,067 0,109 0,016 0,000 0,150 0,002 0,000 0,004 0,000 0,370 0,033 0,000	Electric furnace - NORM. AT 900°C / cooled in still air	
				CARATTERISTICHE MECCANICHE	Snervamento Rottura All. Con% Durezza Resilienza	Prova idraulica Pieg.	Visual and dimensional check
				MECHANICAL PROPERTIES	Yield str. Ten.Str. El% Red.of. Hardness Impact test val./cm(2)	IL Test B.Test	**OK**
				RACCORDI SECONDO / FITTINGS IN ACC.TO	ASME B16.11-2011, BS 3799-74, MSS SP-25-L.E., ASME SEC. II PART A L.E., NACE MR0175-2009/ISO 15156		

Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date	Steel Mill	Steel mill cert. - forgemaster cert.
5	450	RL-EK	15-75324	COUPLINGS 2 3000 SW	ASTM SA/A105N-13	RIVA ACCIAIO SPA	25292
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE% Al% Zr%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0,190 0,920 0,0130 0,0070 0,170 0,110 0,050 0,010 0,017 0,170 0,002 0,000 0,015 0,000 0,390 0,000 0,000	Electric furnace - NORM. AT 900°C / cooled in still air	
				CARATTERISTICHE MECCANICHE	Snervamento Rottura All. Con% Durezza Resilienza	Prova idraulica Pieg.	Visual and dimensional check
				MECHANICAL PROPERTIES	Yield str. Ten.Str. El% Red.of. Hardness Impact test val./cm(2)	IL Test B.Test	**OK**
				RACCORDI SECONDO / FITTINGS IN ACC.TO	ASME B16.11-2011, BS 3799-74, MSS SP-25-L.E., ASME SEC. II PART A L.E., NACE MR0175-2009/ISO 15156		

Item	Quantity	Heat code	Heat Number	Description	Type and mat. specific./year date	Steel Mill	Steel mill cert. - forgemaster cert.
6	125	E.ML	231751	90DEG ELBOWS 3/4 3000 BSPT HDG	ASTM SA/A105N-13	ACC. VENETE SPA	215805 - 318
				ANALISI CHIMICA DI ACCIAIERIA	C% Mn% P% S% Si% Cr% Ni% Mo% Ti% Cu% Nb% Co% V% N% CE% Al% Zr%	TRATTAMENTO TERMICO / HEAT TREATMENT	
				STEEL MILL CHEMICAL ANALYSIS	0,163 1,011 0,0120 0,0050 0,186 0,099 0,091 0,021 0,009 0,109 0,040 0,000 0,004 0,000 0,370 0,024 0,000	Electric furnace - NORM. AT 900°C / cooled in still air	
				CARATTERISTICHE MECCANICHE	Snervamento Rottura All. Con% Durezza Resilienza	Prova idraulica Pieg.	Visual and dimensional check
				MECHANICAL PROPERTIES	Yield str. Ten.Str. El% Red.of. Hardness Impact test val./cm(2)	IL Test B.Test	**OK**
				RACCORDI SECONDO / FITTINGS IN ACC.TO	ASME B16.11-2011, BS 3799-74, MSS SP-25-L.E., ASME SEC. II PART A L.E., ASTM A153/A153M-03, UNI 10226-3, NACE MR0175-2009/ISO 15156		

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

ENTE COLLAUDO / INSPECTOR

Certificato secondo / Certificate acc. to: EN 10204/3.1

ANNUAL BOOK ASTM SEZ.1 VOL.01.01, 2014

MATERIAL MANUFACTURER APPROVED BY TUV RHEINLAND INDUSTRIE SERVICE GmbH ACCORDING TO PED. 97/23/EC
ANNEX 1 POINT 4.3 & AD 2000 W0.

YOUR NO: U33634
OUR REF: 19139/30106/P4
ITEM(S) 005
SIGNATURE [Signature] DATE 9/12/16



QUALITY CONTROL
LONDON FITTINGS & FLANGES
C.A. 01631000721

GELDBACH UK LTD
QA
VERIFIED
24/05/16



Order No. 077230
Item No. 001

Reference No.
T Number

458536 / 001
T128243

Page 1 of 1

FS17 B/11

1108243



BOTH-WELL STEEL FITTINGS CO., LTD.

NO.303, REN-SIN ROAD, REN-WU DISTRICT, KAOHSIUNG CITY, TAIWAN, R.O.C.(81460)

TEL : [REDACTED] FAX : [REDACTED]
WEB SITE : <http://www.bothwell.com.tw> E-Mail : box@bothwell.com.tw

An ISO 9001 : 2008 Registered Manufacturer

MILL TEST & INSPECTION CERTIFICATE

ACCORDING TO EN 10204 3.1

CUSTOMER : MIDSTEEL FLANGES AND FITTINGS LIMITED

CERT NO. : 160343

ORDER NO. : 020881

INVOICE NO. : 5200007272

L/C NO. :

PAGE : 60

DATE : 02/04/2016

ORIGIN : TAIWAN

ITEM	RAW HEAT NO. HEAT NO.	QTY	DESC./GRADE OR SPECIFICATION NO. CHEMICAL COMPOSITION(%) MECHANICAL PROPERTIES.
59	351150 CA0376	50 PCS	RED TEE A105 2"x1" 3000# S/W C:0.19 Si:0.20 Mn:0.84 P:0.011 S:0.006 Cu:0.13 Cr:0.09 Ni:0.05 Mo:0.01 V:0.002 Nb:0.002 N:0.0093 Ti:0.001 CE:0.36 TS(KSI):76.2 YS 0.2%(KSI):51.5 EL(%):34.4 R.A.(%):62.8 HARDNESS 1(HBW):141 HARDNESS 2(HBW):143 AVG:0 J

REMARK :

THE MATERIAL SUPPLIED IDENTIFIED AS ASTM A105N -14, ASME SA105N-2015ED

THE FITTING SUPPLIED IDENTIFIED AS ASME B16.11 - 2011

THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH SPECIFICATION(SURFACE & DIM) : GOOD

STANDARD : CHEMICAL COMPOSITION(%) & MECHANICAL PROPERTIES.

	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Cb(Nb)
MIN	-	0.10	0.60	-	-	-	-	-	-	-	-
MAX	0.35	0.35	1.05	0.035	0.040	0.40	0.30	0.40	0.12	0.08	-
	N	Al	Ti	Zr	CE	TS(KSI)	YS	YS 0.2%(KSI)	EL (%)	R of A (%)	HARDNESS(HBW)
MIN	-	-	-	-	-	70	-	36	22	30	-
MAX	-	-	-	-	0.43	-	-	-	-	-	187

HEAT TREATMENT : NORMALIZED: 900°C(1652°F) A.C.

STEEL MAKING PROCESS : ELECTRIC FURNACE

CONFORMS TO NACE MR0175-15/ISO 15156-15/MR0103-12

FULLY KILLED AND FINE GRAIN PRACTICE

YOUR NO:
OUR REF: 19139/ 30106/104
ITEM(S) 006

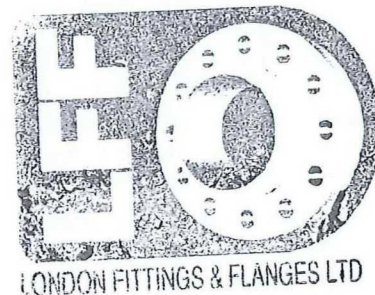
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DATE 19/12/16

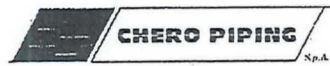
WE CERTIFY THE ABOVE MENTIONED FITTINGS HAVE BEEN MANUFACTURED, SAMPLED, TESTED, AND INSPECTED IN ACCORDANCE WITH THE SPECIFICATIONS SHOWN

C.C. Huang
Q.C. MANAGER

C.L. Ko
INSPECTOR



BW-D0839 REV:4



CERTIFICATE NR.
CE/2015/2749 - Rev. 0
DATE
21/12/2015

INTERNAL ORDER NR.
OC/2015/1287
DATE
13/11/2015

CUSTOMER ORDER REF.
L/16335/00183/JW - 13/11/2015

CUSTOMER
LFF LONDON FITTINGS & FLANGES LTD

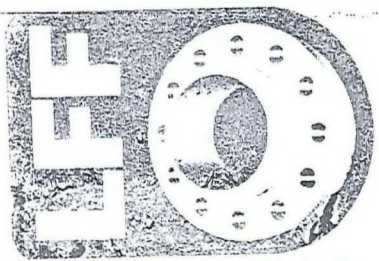
FS1661/16

SHEET
1/4

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

POS.	TEST No.	HEAT CODE	HEAT NUMBER	Q.TY	DESCRIPTION / MAT.REQUISIT. - TAG N. - ITEM CODE - COMPUTER CODE - UB / ENCLOSURE - NOTES
28	1.43115/2015	B21F	15/74951	50,00	90 Deg ELBOW NPT S/3000 A/SA105 1/2" / CIC: F0003
29	1.43120/2015	B20F	15/74951	1.000,00	90 Deg ELBOW SW S/3000 A/SA105 3/4" / CIC: F0010
30	1.39962/2014	B40E	P3141437170	500,00	90 Deg ELBOW SW S/3000 A/SA105 1" / CIC: F0011
31	1.40509/2015	E-VT	14/70217	100,00	90 Deg ELBOW SW S/3000 A/SA105 1.1/2" / CIC: F0012
32	1.43230/2015	I22F	15/74951	500,00	90 Deg ELBOW SW S/3000 A/SA105 2" / CIC: F0013
33	1.43114/2015	N1	15/74585	100,00	45 Deg ELBOW SW S/3000 A/SA105 3/4" / CIC: F0031
34	1.37822/2013	FC-ZV	P4131342531	50,00	45 Deg ELBOW SW S/3000 A/SA105 2" / CIC: F0034
35	1.40300/2014	FM-IZ	14/72312	50,00	TEE NPT S/3000 A/SA105 1/2" / CIC: F0041
36	1.39006/2014	E-UY	14/78866	24,00	TEE NPT S/3000 A/SA105 2" / CIC: F0045
37	1.43322/2015	E-ZW	802165	150,00	TEE SW S/3000 A/SA105 2" / CIC: F0051
38	1.40172/2014	E-VL	14/79250	50,00	RED.TEE SW S/3000 A/SA105 1.1/2"x3/4" / CIC: F0063
39	1.40726/2015		13/76918	50,00	FULL COUPLING NPT S/3000 A/SA105 1" / CIC: F0095
40	1.40551/2015		14/71656	100,00	FULL COUPLING SW S/3000 A/SA105 1.1/2" / CIC: F0103
41	1.36382/2013		12/33762	300,00	FULL COUPLING SW S/3000 A/SA105 2" / CIC: F0104
42	1.40485/2015		14/34571	60,00	FULL COUPLING SW S/3000 A/SA105 3" / CIC: F0105
43	1.40555/2015		14/72081	120,00	CAP FEMALE SW S/3000 A/SA105 1" / CIC: F0134
44	1.40484/2015		14/35639	150,00	CAP FEMALE SW S/3000 A/SA105 2" / CIC: F0135
45	1.40380/2014	1T11	1T1181	120,00	H.H.PLUG NPT S/6000 A/SA105 1" BS3799 / CIC: F0232
46	1.43510/2015		52423	200,00	P.NIPPLE TBE S80 A/SA106/B 1/2 LB0 / CIC: F0271
47	1.43546/2015		54799	120,00	PIPE NIPPLE TBE Sch.80 A/SA106/B 3/4" L100 / CIC: F0272
48	1.40881/2015	E-VY	14/72773	120,00	RED.TEE SW S/3000 A/SA105 2"x3/4" / CIC: F0278

YOUR NO: 153634
OUR REF: 1939/3066/PA
ITEM(S) 007
SIGNATURE *[Signature]* DATE 19/12/16



LONDON FITTINGS & FLANGES LTD



NOTES
THIS IS TO CERTIFY THAT MATERIAL REQUIREMENTS ARE ACCORDING TO ORDER SPECIFICATIONS. MATERIAL ACC. TO NACE MR 01.75 ED.2009. MATERIAL ACC. TO ASME SECTION II ED.2013 + ASTM ED.2013. VISUAL, DIMENSIONAL AND MARKING CHECK HAVE BEEN CARRIED OUT WITH SATISFACTORY RESULTS. MATERIAL ACC. WITH PED 97/23/EC ANNEX 1.

CUSTOMER INSPECTOR

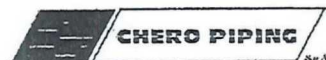
THIRD PARTS

QUALITY CONTROL

Dalila Malchiodi

[Signature]

CHERO PIPING S.P.A.


 CERTIFICATE NR.
CE/2015/2749 - Rev. 0

 DATE
21/12/2015

 CUSTOMER ORDER REF.
L/16335/00183/JW - 13/11/2015

 SHEET
2/4

 INTERNAL ORDER NR.
OC/2015/1287

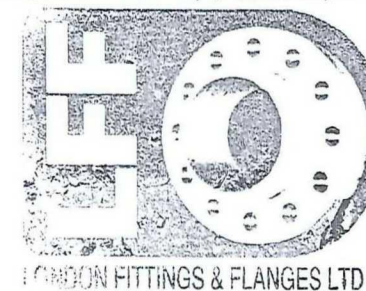
 DATE
13/11/2015

 CUSTOMER
LFF LONDON FITTINGS & FLANGES LTD

FSI 661 / 16

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

TEST No.	MATERIAL SPECIFICATION AND GRADE	HEAT NUMBER	BASE MATERIAL CERTIFICATE REF.	STEEL WORKS
36382/2013	ASTM/ASME A/SA105	12/33762	41164	RIVA
37822/2013	ASTM/ASME A/SA105	P4131342531	2013 100000062307	LUCCHINI
39006/2014	ASTM/ASME A/SA105	14/78866	5430	RIVA
39962/2014	ASTM/ASME A/SA105	P3141437170	2014 100000068974	LUCCHINI
40172/2014	ASTM/ASME A/SA105	14/79250	15040	RIVA
40300/2014	ASTM/ASME A/SA105	14/72312	36601	RIVA
40380/2014	ASTM/ASME A/SA105	1T1181	04412/1	RODACCIAI
40484/2015	ASTM/ASME A/SA105	14/35638	48971	RIVA
40485/2015	ASTM/ASME A/SA105	14/34571	12227	RIVA
40509/2015	ASTM/ASME A/SA105	14/70217	27283	RIVA
40551/2015	ASTM/ASME A/SA105	14/71656	35365	RIVA
40555/2015	ASTM/ASME A/SA105	14/72081	36124	RIVA
40726/2015	ASTM/ASME A/SA105	13/76918	34147	RIVA
40881/2015	ASTM/ASME A/SA105	14/72773	44596	RIVA
43114/2015	ASTM/ASME A/SA105	15/74585	37301	RIVA
43115/2015	ASTM/ASME A/SA105	15/74951	20957	RIVA
43120/2015	ASTM/ASME A/SA105	15/74951	20957	RIVA
43230/2015	ASTM/ASME A/SA105	15/74951	20957	RIVA
43322/2015	ASTM/ASME A/SA105	802165	111475/1	ABS ACCIAIERIE BERTOLI SAFAU
43510/2015	ASTM/ASME A/SA106 GR.B	52423	35866/1/2015	ZELEZJARNE-PODBREZOVA
43546/2015	ASTM/ASME A/SA106 GR.B	54799	52818/1/2015	ZELEZJARNE-PODBREZOVA



LONDON FITTINGS & FLANGES LTD

NOTES

THIS IS TO CERTIFY THAT MATERIAL REQUIREMENTS ARE ACCORDING TO ORDER SPECIFICATIONS. MATERIAL ACC. TO NACE MR 01.75 ED.2009. MATERIAL ACC. TO ASME SECTION II ED.2013 + ASTM ED.2013. VISUAL, DIMENSIONAL AND MARKING CHECK HAVE BEEN CARRIED OUT WITH SATISFACTORY RESULTS. MATERIAL ACC. WITH PED 97/23/EC ANNEX 1.

CUSTOMER INSPECTOR

THIRD PARTS

QUALITY CONTROL

Dallia Malchiodi

CHERO PIPING S.P.A.



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

ASTM/ASME A/SA105

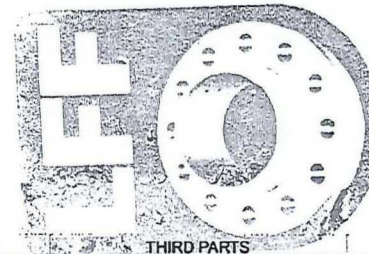
		36382/2013	37822/2013	39006/2014	39962/2014	40172/2014	40300/2014	40380/2014	40484/2015	40485/2015	40509/2015	40551/2015	40555/2015	40726/2015	40881/2015
Ladle Analysis	Heat Number	12/33762	P4131342531	14/78866	P3141437170	14/79250	14/72312	1T1181	14/35638	14/34571	14/70217	14/71656	14/72081	13/76918	14/72773
	C %	0.200	0.180	0.180	0.180	0.155	0.185	0.198	0.185	0.200	0.180	0.200	0.185	0.180	0.170
	Mn %	0.950	0.980	0.870	0.970	0.950	0.950	0.918	0.940	0.960	0.940	0.870	0.870	0.850	0.920
	Si %	0.220	0.200	0.250	0.205	0.230	0.210	0.238	0.220	0.210	0.250	0.190	0.210	0.220	0.210
	P %	0.007	0.015	0.015	0.012	0.010	0.013	0.012	0.009	0.009	0.011	0.013	0.015	0.012	0.011
	S %	0.007	0.004	0.006	0.006	0.003	0.010	0.023	0.010	0.009	0.001	0.010	0.008	0.009	0.004
	Cr %	0.090	0.096	0.140	0.089	0.090	0.080	0.115	0.080	0.100	0.100	0.130	0.150	0.120	0.100
	Mo %	0.020	0.005	0.010	0.004	0.010	0.010	0.037	0.010	0.010	0.010	0.020	0.010	0.010	0.010
	Ni %	0.050	0.024	0.060	0.026	0.050	0.070	0.208	0.050	0.080	0.060	0.090	0.060	0.070	0.070
	Ti %	0.000	0.000	0.000	0.000	0.000	0.021	0.000	0.000	0.015	0.000	0.018	0.024	0.016	0.015
	Cu %	0.110	0.035	0.180	0.068	0.180	0.180	0.301	0.150	0.170	0.160	0.200	0.180	0.180	0.140
	V %	0.013	0.000	0.012	0.002	0.017	0.017	0.000	0.018	0.012	0.016	0.011	0.016	0.015	0.017
	NbCb %	0.001	0.000	0.002	0.001	0.001	0.002	0.002	0.001	0.002	0.002	0.001	0.001	0.001	0.001
	B %	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Ce %	0.394	0.367	0.373	0.367	0.352	0.381	0.415	0.377	0.401	0.377	0.397	0.381	0.367	0.363
Tensile Test	Test Temperature °C	+20	+20	+20	+20	+20	+20	+20	+20	+20	+20	+20	+20	+20	+20
	Tensile Strength MPa	517	499	511	502	495	515	520	497	492	486	517	511	506	505
	Yield Strength MPa	375	280	308	375	308	325	392	344	362	300	315	322	366	318
	Elongation %	36.60	28.30	34.10	35.60	33.50	33.10	36.00	29.70	34.70	34.40	32.90	32.70	32.00	33.10
	Reduction Area %	69.00	64.00	59.20	68.00	59.10	59.40	58.90	55.70	72.00	60.10	56.50	57.00	65.00	58.80
Hardness Test	Scale	HB 30	HB 30	HB 30	HB 30	HB 30	HB 30	HB 30	HB 30	HB 30	HB 30	HB 30	HB 30	HB 30	HB 30
	Value	156	156	156	162	156	156	175	175	155	155	153	153	153	153
	Average Value	163.0	153.500	157.0	128.0	159.000	158.0	186.0	177.000	164.0	158.000	152.000	156.0	165.3	158.0
Heat Treatment	References	SIDER TEST REF	SIDER TEST REF	SIDER TEST REF	SIDER TEST REF	SIDER TEST REF	SIDER TEST REF	SIDER TEST REF	SIDER TEST REF	SIDER TEST REF	SIDER TEST REF	SIDER TEST REF	SIDER TEST REF	SIDER TEST REF	SIDER TEST REF
	Type	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
	Holding Temperature °C	+920	+920	+920	+920	+920	+920	+920	+920	+920	+920	+920	+920	+920	+920
	Holding Time h:mm	2.00	2.00	2.00	2.00	2.00	1.00	0.50	1.50	2.20	1.00	1.10	0.60	1.00	1.00
	Cooling Media	AIR	AIR	AIR	AIR	AIR	AIR	AIR	AIR	AIR	AIR	AIR	AIR	AIR	AIR

NOTES

FULLY KILLED CARBON STEEL - FINE GRAIN ACCORDING TO ASTM E112 = 7

CUSTOMER INSPECTOR

THIRD PARTS



LONDON FITTINGS & FLANGES LTD

QUALITY CONTROL

Dallia Malchiodi

J. Bili Linde

CHERO PIPING S.P.A.



CERTIFICATE NR.
CE/2015/2749 - Rev. 0

DATE
21/12/2015

CUSTOMER ORDER REF.
L/16335/00183/JW - 13/11/2015

SHEET
4/4

INTERNAL ORDER NR.
OC/2015/1287

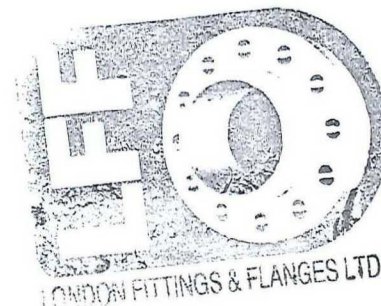
DATE
13/11/2015

CUSTOMER
LFF LONDON FITTINGS & FLANGES LTD

PS1661/16

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

		ASTM/ASME A/SA105					ASTM/ASME A/SA106 GR.B	
		43114/2015	43115/2015	43120/2015	43230/2015	43322/2015	43510/2015	43546/2015
Ladle Analysis	Heat Number	15/74585	15/74951	15/74951	15/74951	802165	52423	54799
	C %	0.200	0.185	0.185	0.185	0.180	0.160	0.160
	Mn %	0.940	0.900	0.900	0.900	1.170	0.590	0.510
	Si %	0.170	0.200	0.200	0.200	0.260	0.240	0.220
	P %	0.015	0.011	0.011	0.011	0.012	0.012	0.013
	S %	0.007	0.010	0.010	0.010	0.004	0.008	0.009
	Cr %	0.150	0.100	0.100	0.100	0.150	0.050	0.050
	Mo %	0.010	0.010	0.010	0.010	0.020	0.010	0.010
	Ni %	0.060	0.050	0.050	0.050	0.110	0.060	0.060
	Ti %	0.020	0.018	0.018	0.018	0.003	0.001	0.002
	Cu %	0.210	0.150	0.150	0.150	0.210	0.160	0.170
	V %	0.024	0.019	0.019	0.019	0.004	0.007	0.005
	NbCb %	0.002	0.002	0.002	0.002	0.002		0.001
	B %		0.000	0.000	0.000			
	Ce %					0.419		
	Ce %	0.411	0.374	0.374	0.374		0.286	0.273
Tensile Test	Test Temperature °C	+20	+20	+20	+20	+20	+20	+20
	Tensile Strength MPa	530	510	510	510	525	428	493
	Yield Strength MPa	352	321	321	320	388	321	381
	Elongation %	30.00	33.00	33.00	33.00	31.50	37.60	33.70
	Reduction Area %	56.90	57.90	59.00	57.90	67.00	0.00	0.00
Impact Test	Specimen Size				30, (L)		21,31 x3,76 (L)	26,73 x4 (L)
	Test Temperature °C	-46	-46	-46	-46	-46		-15
	Absorbed Energy Joule	43	46,9	46,8	47	105		100
	Absorbed Energy 2 Joule	45,9	49,8	50	50	106		100
	Absorbed Energy 3 Joule	48,2	49	49	49	104		104
	Type	KV	KV	KV	KV	KV		KV
	Specimen Size	10, x10 (L)	10, x10 (L)	10, x10 (L)	10, x10 (L)	10, x10 (L)		10, x2,5 (L)
Hardness Test	Scale	HB 30	HB 30	HB 30	HB 30	HB 30	HB 30	HB 30
	Value	149	129	137	148	147	140	138
	Value 2	148	133	139	147	135	136	140
	Value 3	146	127	140	148	142	132	141
	Average Value	147,667	129,667	138,667	147,667	142,667	136,000	139,667
Hydrostatic Test	Value Bar						207	205
Eddy Current	Result						OK	OK
Heat Treatment	Type	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
	Heating Rates °C/h	150	150	150	150	150	150	150
	Holding Temperature °C	+920	+920	+920	+920	+920	+920	+920
	Holding Time h:min	0:30	0:30	0:30	1:30	1:30	0:10	0:10
	Cooling Media	AIR	AIR	AIR	AIR	AIR	AIR	AIR



NOTES

FULLY KILLED CARBON STEEL - FINE GRAIN ACCORDING TO ASTM E112 = 7

CUSTOMER INSPECTOR

THIRD PARTS

QUALITY CONTROL

Dalila Malchiodi

Dalila Malchiodi

CHERO PIPING S.P.A.



ArcelorMittal South Africa Limited
Tubular Products
 273 Genl. Hertzog Rd, Peacehaven Vereeniging
 1939
 P O Box 48 Vereeniging 1930
 South Africa

Telephone
 Fax

MATERIAL TEST CERTIFICATE
SEAMLESS STEEL TUBE
 CERTIFICATE DE RECEPTION - TUBES D'ACIER SANS SOUDURE
 NAHMEPRÜFZEUGNIS - NAHTLOSE STAHLROHRE

Licensed under
 API Spec 5L and 5CT
 5L - 0319
 5CT - 0419

ISO 9001: 2008
 DE-395997 QM

Test Certificate
 EN 10204:2004 TYPE 3.1

ArcelorMittal

Customer: **GLAMAL LIMITED**
 Client
 Kunde

Order No: **4000021453**
 No. de commande Mitral:
 Mitral-Auftrags-Nr:

Certificate Reference No: **040061910740**
 No de certificat:
 Zeugnis-Nr:

Product: **FULLY KILLED HOT FINISHED CARBON STEEL SEAMLESS TUBES**
 Produit:
 Produkt:

Specification: **ISO3183:2012/API 5L:2012 L245/L290/B/X42 PSL1 ASTM A106B.15/A53B.12/ A530.12 ASME SA106B.13/SA53B.13/SA530.13**
 Specification
 Angabe

Product Marking: **ARCELORMITTAL SA ISO3183/Spec 5L-0319 MONOGRAM 02-16 ASTM/ASME A/SA106B A/SA53B 3.500 0.216 19.700 L245/B L290/X42 PSL1 SMLS TESTED**
 Marquage de produit
 Produktkennzeichnung
3000 psi CAST NO: 28B4610 PROD/O NO: T0142145310 NDE MADE IN SOUTH AFRICA

Customer Order/Contract No: **SGB2 152550**
 No de commande client
 Kundenauftrags-Nr

Material No: **1000000700**
 No de matériau:
 Werkstoff-Nr:

Cast/Heat No: **28B4610**
 Coudée No:
 Schmelzen-Nr:

Page Number: **1 of 3**
 Page:
 Blatt:

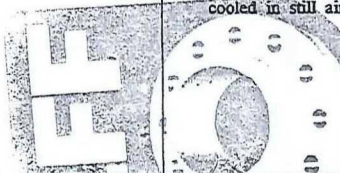
General Information

Information Générale
 Allgemeine Information

Quantity Quantité Menge	Mass Poids Gewicht	Dimensions Dimensions / Maße			Total Length Longueur Länge
		Tube OD Diamètre Durchschnitt	Thickness Epaisseur Stärke	Length Longueur Länge	
335	50,036.153(lb)	3.500(")	0.216(")	19.700 (ft)	6,599.500(ft)

YOUR NO:
 OUR REF:
 ITEM(S)

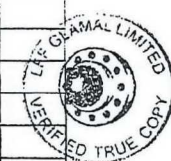
KS3634
 19/139/ 30/06/14
 008

Steel making process Procédé de fabrication de l'acier Stahlschmelzungsverfahren	Final Rolling Operation Fin de laminage / Walzende
Electric Arc	Final hot rolling finished above 1,580°F and cooled in still air
<div>  <div> REVIEWED QA/QC 4 LFF GLAMAL LTD ITEM NO </div> </div>	

Chemical Composition

analyse sur coulée Schmelzenanalyse

Element(%)	C	Si	Mn	S	P	Cr	Ni	Mo	Cu	V	Al	Ti	Sn	Ca	N	DB	Nb	CE	R05	R22	R24		
Minimum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Maximum	0.200	-	1.30	0.030	0.030	0.50	0.50	0.150	0.500	-	-	-	-	-	-	-	-	0.41	-	0.15	0.060		
Heat	0.187	0.34	0.75	0.008	0.017	0.05	0.08	0.014	0.060	0.005	0.035	0.001	0.005	0.0013	0.0054	0.0002	0.0010	0.34	0.21	0.01	0.006		
Product	0.1870	0.3400	0.7500	0.0080	0.0170	0.0500	0.0800	0.0140	0.0600	0.0050	0.0350	0.0013	0.0050	0.0013	0.0054	0.0002	0.0010	0.3351	0.2090	0.0073	0.0060		
Product (ADD)	0.1870	0.3400	0.7500	0.0080	0.0170	0.0500	0.0800	0.0140	0.0600	0.0050	0.0350	0.0013	0.0050	0.0013	0.0054	0.0002	0.0010	0.3351	0.2090	0.0073	0.0060		



ITEM: 042 GE/NO: GE101757

ORDER NO: 1/16420/00193/JW

CUST: LFF (BASILDON) LTD

ADVICE NOTE: 466638
1 of 3

ArcelorMittal South Africa Limited
Tubular Products
273 Genl. Hertzog Rd, Peacehaven Vereeniging
1939
P O Box 48 Vereeniging 1930
South Africa

Telephone
Fax

MATERIAL TEST CERTIFICATE
SEAMLESS STEEL TUBE
CERTIFICATE DE RECEPTION - TUBES D'ACIER SANS SOUDURE
NAHMEPRÜFZEUGNIS - NAHTLOSE STAHLROHRE

Licensed under
API Spec 5L and 5CT
5L - 0319
5CT - 0419

ISO 9001: 2008
DE-395997 QM

Test Certificate
EN 10204:2004 TYPE 3.1

ArcelorMittal

P1412/16

Customer: GLAMAL LIMITED
Client: Kund: No de commande client: Kundenauftrags-Nr: SGB2 152550
Order No: 4000021453
No de commande Minal: Minal-Auftrags-Nr: 1000000700
Certificate Reference No: 040061910740
No de certificat: Zeugnis-Nr: Cast/Heat No: 28B4610
Product: FULLY KILLED HOT FINISHED CARBON STEEL SEAMLESS TUBES
Produit: Page Number: 2 of 3
Specification: ISO3183:2012/API 5L:2012 L245/L290/B/X42 PSL1 ASTM A106B.15/A53B.12/ A530.12 ASME SA106B.13/SA53B.13/SA530.13
Specification: Angabe
Product Marking: ARCELORMITTAL SA ISO3183/Spec 5L-0319 MONOGRAM 02-16 ASTM/ASME A/SA106B A/SA53B 3.500 0.216 19.700 L245/B L290/X42 PSL1 SMLS TESTED
Larguage de produit: 3000 psi CAST NO: 28B4610 PROD/O NO: T0142145310 NDE MADE IN SOUTH AFRICA
Produktkennzeichnung:

Mechanical Properties at Room Temperature 25°C (C60 # C69)

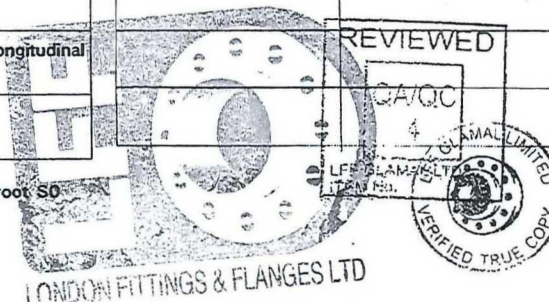
Propriétés Mécaniques à température ambiante 25°C
Mechanische Eigenschaften bei Raumtemperatur 25°C

Specification Spécification Angabe	UTS (Rm) Force de tension Zugfestigkeit	Yield (Re) Limit élastique Fließgrenze	% EL Allong Dehnu	% EL Allong Dehun
Limits Limite Grenze	psi	psi	2 Inch	5.65 Sq SO
Minimum	60000	42000	30.0	
Maximum	-	-	-	
Sample (1)	71938	46412	37.0	
Sample (2)	72954	47282	39.0	
Sample (3)				
Sample (4)				
Sample (5)				
Sample (6)				
Sample (7)				
Sample (8)				
Sample (9)				
Orientation of tensile piece C02 Orientation de la poutre de tension Richtung der Zugprobe			Longitudinal, Strip	

TECHNOLOGICAL TESTS EPREUVES TECHNOLOGIQUES TECHNISCHE PRÜFUNGEN	
Flattening test Essai d'aplatissement Ringfaltversuch	Passed
Hydrostatic D02 Hydrostatique Hydrostatisch	3000 psi for 5 Sec
Electromagnetic Insp D99 Inspection électromagnétique Elektromagnetische Prüfung	PASS - ASTM E570 - 12.5% NOTCH
Ultrasonic inspection Inspection ultrasoniq Ultraschallprüfung	UT not required
Orientation of impact test piece Orientation de la poutre de tension Richtung des Probestücks	10 x 5 mm - longitudinal
Width of tensile piece (inch) Largeur de l'échantillon Zugstab Breite	0.75 Inch

TECHNOLOGICAL TESTS EPREUVES TECHNOLOGIQUES TECHNISCHE PRÜFUNGEN	
HV 22 lbs Dureté Härte	157 164 169
Impact strength (ft.lbs) Résistance au choc sur barre Kerbschlagfestigkeit	76.0 80.0 92.0 Ave. 82.7 @ 32 °F
Shear Fracture (%) Rupture ductile Verf. Bruchanteil	C4330.0 30.0 30.0 Ave. 30.0 @ 32 °F
Impact strength (Spec) Résistance au choc sur barre Kerbschlagfestigkeit	30 ft.lbs min - long

* Elongation to BS EN ISO 2566 table 7: 5.65 square root SO
Élongation au BS EN ISO 2566 tableau 7: 5.65 racine carrée SO
Verlängerung zu BS EN ISO 2566 Tabelle 7: 5.65 quadratwurzel SO



ITEM: 042 GE/NO: GE101757

ORDER NO: 1/16420/00193/JW

CUST: LFF (BASILDON) LTD

ADVICE NOTE: 466638
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ArcelorMittal South Africa Limited
Tubular Products
273 Genl. Hertzog Rd, Peacehaven Vereeniging
1939

P O Box 48 Vereeniging 1930
South Africa

Telephone
Fax

MATERIAL TEST CERTIFICATE
SEAMLESS STEEL TUBE
CERTIFICATE DE RECEPTION - TUBES D'ACIER SANS SOUDURE
NAHMEPRÜFZEUGNIS - NAHTLOSE STAHLROHRE

Licensed under
API Spec 5L and 5CT
SL - 0319
SCT - 0419

ISO 9001: 2008
DE-395997 QM

Test Certificate
EN 10204:2004 TYPE 3.1

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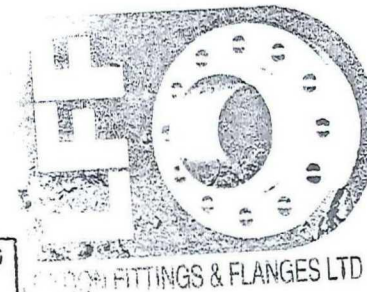
Customer: Client Kunde	GLAMAL LIMITED	Customer Order/Contract No:	SGB2 152550
Order No: No. de commande Mittal: Mittal-Auftrags-Nr:	4000021453	Material No: No de matériau: Werkstoff-Nr:	1000000700
Certificate Reference No: No de certificat: Zeugnis-Nr:	040061910740	Cast/Heat No: Coulée No: Schmelzen-Nr:	28B4610
Product: Produit: Produkt:	FULLY KILLED HOT FINISHED CARBON STEEL SEAMLESS TUBES	Page Number: Page: Blatt:	3 of 3
Specification: Spécification Angabe	ISO3183:2012/API 5L:2012 L245/L290/B/X42 PSL1 ASTM A106B.15/A53B.12/ A530.12 ASME SA106B.13/SA53B.13/SA530.13		
Product Marking: L'usage de produit Produktkennzeichnung	ARCELORMITTAL SA ISO3183/Spec 5L-0319 MONOGRAM 02-16 ASTM/ASME A/SA106B A/SA53B 3.500 0.216 19.700 L245/B L290/X42 PSL1 SMLS TESTED 3000 psi CAST NO: 28B4610 PROD/O NO: T0142145310 NDE MADE IN SOUTH AFRICA		

Remarks:

Remarque:
Bemerkung:

Material in accordance with NACE MR0175:2009/ISO15156-3:2009 and MR0103:2012. Dimensions to ANSI B36.10-2010.
The material will conform to the hot yield strength requirements as per ASME, Sect II, Part D, Table Y-1, and the general requirements of ASME, Sect II, Part A, Ed 2013
All the material conform to the visual inspection and dimensional tolerance requirements of the specification.
A suitable fine grain practice is followed in manufacturing.
La Société ArcelorMittal South Africa garantit que les produits objet du présent certificat, respectent en leur totalité les prescriptions de l'Article 15 de l'Arrêté Ministériel du 24 mars 1978 modifié.
 $C \leq 0.25\%$, $P \leq 0.05\%$, $R \leq 700N/mm^2$, $E \leq 0.9 \times R$
 $A\% (L_0 = 5.65V_{So}) \min. 16\% \text{ en long. } R(A-2) \geq 10500$
 $A\% (L_0 = 5.65V_{So}) \min. 16\% \text{ en transv. } R(A) \geq 10500$
The QM System of ArcelorMittal SA meets the requirements of PED 97/23/EC, App. I, Sect. 4.3 as certified by TUV cert 01 202 ZA/Q-02 0004. All materials meet the requirements of PED 97/23/EC, App I, Sect 7.5. Non-harmonized materials require Particular Material Appraisal. The impact strength is guaranteed to exceed 27J at 0°C

HARDSTAMPED with low stress tool: API logo, AMSA, Size, Heat number, Grade, NDE



Quality Assurance Manager: PJ Venter

Chef des services de l'assurance de qualité:
Qualitätssicherungsmanager:

We hereby certify that the material was manufactured, tested and inspected to and fully comply with the requirements of referenced specifications. No changes, amendments or additions may be made to this document. Any changes which are effected shall invalidate this certificate.
Nous certifions que le matériel a été fabriqué, testé et inspecté et se conformer pleinement aux exigences de spécifications référencées. Il est interdit de modifier ou de corriger ce document ou d'y ajouter quoi que ce soit. Tout changement invalide le présent certificat.
Wir bestätigen hiermit, daß das Material wurde hergestellt, geprüft und inspiziert und voll mit den Anforderungen der referenzierten Spezifikationen. Diese Unterlage darf in keiner Weise geändert, abgeändert oder ergänzt werden. Jede derartige Änderung wird die Gültigkeit dieser Bescheinigung aufheben.

Date of Release: 2016.02.11

Certifié par:
Bescheinigt von:

Certified by:

Emis
Freigegeben



ITEM: 042 GE/NO: GE101757

ORDER NO: L/16420/00193/JW

CUST: LFF (BASILDON) LTD

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