

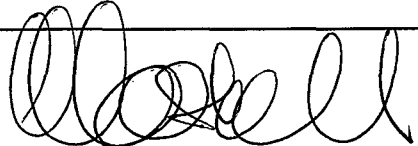
Units 2 & 3  
 Loades Business Park  
 Gorsey Lane  
 Great Wyrley  
 WS6 6AL  
 t: 01922 414003 f: 01922 414606  
 e: sales@offshor stainless.co.uk

# OFFSHORE STAINLESS SUPPLIES LTD.

Producers of specialist stainless and high nickel products . Suppliers of 1.4003

Certificate Number: 84632  
 Date: 16/04/2013  
 Customer Order No: 7986/DB  
 Quantity Ordered: 3 bars  
 Stock Number: 49361  
 Delivery Note No: 39498  
 Customer: Flow Technology Ltd  
 Half House Lane  
 Hove Edge  
 Brighouse  
 HD6 2PH

## TEST CERTIFICATE OF CONFORMITY

Standard		Grade		Finish		Size			
AISI		316L		Linished		3 x 1 1/2" flat			
Description of Material				Cast No		Approved Source: Certificate Reference No.			
Stainless Steel Bar				560081		63830			
ANALYSIS	C%	Si%	Mn%	P%	S%	Cr%	Ni%	Mo%	W%
	0.0170	0.6350	1.5400	0.0330	0.0290	16.7000	10.1200	2.0600	
	N%	Nb%	Ti%	Co%	Pb%	Cu%	V%	Ta%	Al%
	0.0530		0.0030	0.1740		0.4210			
	Fe%								
TEST	0.2% Proof Stress N/mm <sup>2</sup>	1.0% Proof Stress N/mm <sup>2</sup>	Tensile Strength N/mm <sup>2</sup>	Elongation %	Reduction of Area %	Hardness HB	Impact Values		
1	580		675	36.00	72.00	217	<b>FLOW TECHNOLOGY LTD</b> <b>TEST CERTIFICATE</b> <b>VERIFIED TRUE</b> <b>COPY OF ORIGINAL</b>		
2									
<i>In accordance with EN10204.3.1B</i>									
Heat Treatment				Remarks/Specific Customer Requirements					
				19.04.13					
Date Dispatched				Signed- On Behalf of Offshore Stainless Supplies Ltd					

THE SUPPLIES DETAILED HEREIN ARE COVERED BY THE SOURCE'S CERTIFICATE OF CONFORMITY OR TEST CERTIFICATE

F10557  
 BODY  
 3/4" MEDIUM PRESSURE FEMALE 90° ELBOW  
 20K 316L

Registered No: 3888553  
 VAT Reg No: 715 4941 31



Laboratory Test Certificate

Order No. J09003889 Page 1 of 1

Received/ Tested 30/10/09

Material Specification 316

Invoice No. 560081

Dimensions 3" x 1 1/2"

No.



0561

Remarks :-

**PASSED**

Mechanical Test	ERICHSEN TEST				HARDNESS TEST				TENSILE TEST (ASTM-E8-2004/ASTM-A370-2007A)				IMPACT TEST					
	Min	Actual	HBW	HV	HRB	HRC	HRBW	Min	Actual	HBW	HV	HRC	HRBW	Min	Actual	HBW	HV	
Sample No.			217															
Chemical Analysis																		
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Böllinghaus Portugal Aços Especiais, SA  
DIN EN ISO 90012000  
TÜV CERT No 01 100 030458

Unsere innere Verweisung / Our Int. Ref/ N/ ref int  
5600010364 000010

Datum / Date / Data  
13.03.2009

Normen / Standards / Normas

W.Nr 1.4401/1.4404 acc to BS EN 10088-3 05, BS EN 10272.2008-01, AISI 316/316L, acc to ASTM A479/A479M-06a, A182/A182M-07a, A276-08 but with size tolerances of (+/-0.50 mm) width and (-0 mm) thickness. "Improved Machinability", I C C Tested to ASTM A262 Practice E, EN 10058:2003, EN 10163-2 class B

Kunde / Customer / Cliente

Offshore Stainless Supplies Ltd.  
Unit 2 & 3 Loades Business Park  
WS6 6AL Walsall

Bestell Nr./Order Nr./ Enc.Nr 5733

Endegültiger Kunde / Final Customer / Cliente Final

Offshore Stainless Supplies Ltd.  
Unit 2 & 3 Loades Business Park  
WS6 6AL Walsall

Bestell Nr./ Order Nr./ Enc.Nr. 5733.01

Prüfgegenstand / Product / Produto

AISI 316L FLAT 78 x 40 mm

Gewicht / Weight / Peso

3,591 kg

Bunde / Bundle / Atados

04

Werkstoff-Nr  
Material-no  
Qualidade

1.4404

Werkstoff-Normbezeichnung / Material standard grade / Norma do material

X 2 CrNiMo 17-12-2

Beschreibung / Description / Descrição

Stainless steel flat bars, hot rolled, annealed, pickled, straightened.

Schmelzen Nr.  
Cast nr. / Fusão nr.

Chemische Analyse in % / Chemical composition in % / Análise química em %

560081	C:	0.017	Si:	0.635	Mn:	1.540	P:	0.033	S:	0.029	Cr:	16.700	Ni:	10.120
EAF	Mo:	2.060	Co:	0.174	Cu:	0.421	N:	0.053	Ta:	0.003	W:	-	V:	-

DIN EN 10045

DIN EN 10002

Proben Nr Test no. Amostra no	Kerbschlagarbeit	Streckgrenze	Dehngrenze	Zugfestigkeit	Dehnung	Einschnürung
	Impact Test	Yield point	1% point	Tensile strength	Elongation	Reduction of area
	Resiliência	Tensão limite	Limite de extensão	Tensão de rotura	Alongamento	Coef. Estriação
	{Charpy V}	Rp 0.2 %	Rp 1,0%	Rm	A (A50-50mm)	Z (A50-50mm)
	[ J ]	[ MPa ]	[ MPa ]	[ MPa ]	[ % ]	[ % ]
3017514.01.01	252	315	345	630	-	81.2
3017514.01.02	251	314	342	629	61.1	81.4

Visuelle Kontrolle  
Visual inspection  
Inspeção visual

OK

DIN EN 6506-1

Härte  
Hardness  
Dureza

149

[ HB ]

DIN 3651 - 2A

Korrosionsbeständigkeit  
IC Test  
Corrosão Intermetálica

OK

Wärmebehandlung  
Heat treatment  
Tratamento térmico

Annealed Quenched 1050 °C

**FLOW TECHNOLOGY LTD**  
**TEST CERTIFICATE**  
**VERIFIED TRUE**  
**COPY OF ORIGINAL**

EN 10058  
Maßkontrolle  
Dimensional inspection  
Inspeção dimensional

OK

Korngröße  
Grain size  
Tamanho de grão

Verwechslungsprüfung  
Test of identity  
Teste de identificação

OK

Makroskopische Untersuchung  
Macrographic test  
Material free from segregation defects.

OK

Werkstoffverständiger  
Quality Control Representative  
Inspector da Qualidade

Jose Santos

**Böllinghaus Portugal - Aços Especiais, SA**

Hiermit bestätigen wir, dass das Material der oben genannten

Spezifikation entspricht

We confirm that this material meets the specification according the mentioned according the mentioned standards.

Confirmamos que este material respeita as especificações de acordo com as normas referidas.

Bemerkungen / Remarks / Observações

Country of origin: Portugal

Certified acc. PED 97/23/EC-EN 764-5 and AD 2000 W0

Notified Body 0034 - TÜV Saarland e.V. ZN 71 202 I 007