




DEGERFORS STAINLESS S-893 81 DEGERFORS, SWEDEN Ref./OC-Dept. Jörgen Johansson		Date-Datum-Data    Your order-Ihre Bestellung-Votre commande 2016-12-02                      OU0761		No.                      LP 1698-15								
Product-Erzeugnisform-Produit Stainless steel, hot rolled billet. Intended for further hot working. No mechanical tests performed. Not heat treated.		Our order Unsere Auftrag Notre commande 48051		Advice of delivery Lieferschein Avie d'expédition								
Requirements-Prüfgrundlagen-Exigences Amodil Supplies spec. QAD 40a Rev.1 ASTM A 182, 314, 278, 479, 484 (latest editions) EN 10088-3:2014		Purchaser-Besteller-Acheteur AMODIL SUPPLIES LTD FOREST PARK, CLEOBURY MORTIMER NR KIDDERMINSTER, WORCS DY14 9BD GREAT BRITAIN										
Marking-Kennzeichnung-Marquage												
Type of steel Werkstoff Nr. Nuance F 316L F 316, F 316L, S31603, 1.4401, 1.4404 17-11-2L		Brand mark Herstellerzeichen Signe du producteur 	Inspectors' stamp Abnahmestempel Poinçon de l'expert 		Melting process Erschmelzungsart Procédé de fusion EAF+AOD-Converter refining CC to bloom 400 x 300							
Extent of delivery-Lieferumfang-Etendue de livraison												
Item	Quantity	Dimensions, mm	Cast No.	Lot No.	Weight Kg							
Pos.	Anzahl	Abmessungen, mm	Schmelze Nr.	Los Nr.	Gewicht Kg	Reduction ratio						
Pos.	Nombre	Dimensions, mm	Coulée n.	Lot n.	Poid Kg							
01-01	4	150x150	E151528	99237	2 496	5.33						
Chemical composition-Chemische Zusammensetzung-Composition Chimique (weight %)												
Cast No. Schmelze Nr. Coulee no												
E151528	C	Si	Mn	P	S	Cr	Ni	Mo	Ti	Nb	Cu	Co
	0.018	0.42	1.61	0.035	0.027	16.80	10.11	2.03	0.007	0.012	0.47	0.21
	N	Sn	W	V	Al	Ta	Ce	B				
	0.078	0.01	0.07	0.05	0.006	0.002	0.0019	0.0003				
Mechanical tests - Mechanische Prüfungen - Essais mécaniques												
Test results-Prüfergebnisse-Résultats d'essais (L=longitudinal/längsläng, T=transversal/quer/travers)												
Test No./L/T	Rp 0,2	Rp 1,0	Rm	A50	Z	HB	Impact test-Kerbschlagbiegeversuch-		Temp			
Probe Nr./L/T							Resilience		°C			
Epruvette n./L/T	MPa	MPa	MPa	%	%		J					
Requirements min	205	-	515	30	50	-	(ASTM A 182/A 182M/ F 316)					
Solwerte Exigences												
Typical values after solution heat treatment of 316L.												
	Rp 0.2	Rp 1,0	Rm	A5	Z	HB						
	268	312	593	57	76	149						
Other tests-Sonstige Prüfungen-Autres essais US-tested acc. to ASTM/ASME A/SA 388 and DS Instruction OFP-228 FBH 3-5 mm, ASTM/ASME A/SA 388. Requirements FBH (Flat Bottom Hole): Billet ≤ 150 mm = 3 mm FBH Billet > 150 mm = 6 mm FBH The order requirements stipulated are satisfied						Inspection and gauge measurement PMI-test has been performed on every bar/billet with X-ray spectro, without remarks. Radioactivity < 0.1 Bq/g (equivalent to Co <sup>60</sup> ). Measured on samples of the material using analysis techniques in accordance with guidelines issued by the IAEA. No remarks-Ohne Beanstandung-Pas de remarque Free from Mercury contamination at time of shipment. No weld repair performed.						
The material is manufactured according to a Quality System, registered to ISO 9001:2008 and approved by TÜV Nord. Certificate Registration Number: 44 100 116412.						Outokumpu Stainless AB Degerfors Stainless						
Approved acc. to AD2000-Merkblatt W0 by TÜV Nord Systems "Certified acc. to Pressure Equipment Directive (97/23/EC) by TÜV CERT-Certification body for pressure equipment of the TÜV NORD ; notified body, reg.-no. 0046."						 JÖRGEN JOHANSSON Section Manager Quality Control						
Reg.No.:556001-8748 V.A.T.No.:SE5560011874801 Registered office:Stockholm, Sweden												

FLOW TECHNOLOGY LTD  
TEST CERTIFICATE  
VERIFIED TRUE  
COPY OF ORIGINAL

F11507  
1" NPT F/F/F/F Equal Cross 10K