



CARRS STAINLESS STEELS

A Division of ELG Haniel Metals Ltd.
Wadsley Bridge, Sheffield, S6 1LL, England

CD23188

Telephone: 0114 285 5866
Fax No.: 0114 285 4962
Website: <http://www.elgcarrs.co.uk>
e-mail: info@elgcarrs.co.uk

0086334

Purchaser - Besteller - Acheteur: ASA Alloys Div of CSM ULC 20 Challenger Crescent Sherwood Park Alberta T8H 2R1 Canada	Inspection Certificate: Abnahmeprüfzeugnis: Certificat de reception:	DIN 50049 3.1 EN 10204	Cert No: Zeugnis Nr: Cert No:	135170-a	Date: Datum: Date:	27/08/13	
	Customer Order No: Kundenbestellnummer: No. de Commande Client:	PO29778	Product Description - Beschreibung des Erzeugnisses - Description du Produit: 10in Dia. x 4400lbs Electric Melt & Vacuum Degassed Stainless Steel Solution Annealed Forged ASA 4404/316L EN 10088-3:5 ASTM A182-09a, A276-08a, A470-10 F316/F316L 316/316L ASME SA182-LE, SA276-LE, SA470-LE F316/F316L 316/316L NACE MR0175-09/ISO 15156				4228 LB 1918 Kgs.
	Our Order No: Unsere Auftr.-Nr. notre Comm. No:	50632 W139672/00					

Chemical Analysis - Chemische Analyse - Analyse Chimique

Cast No Schmelznummer No. de Cuite	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Co	N								
CD23188	.011	.44	1.41	.035	.008	16.52	2.10	10.17	.34	.20	.076								

Heat Treatment - Wärmebehandlung - Traitement Thermique

Solution annealed @ 1060 C for 3 hours & Water Quenched

Mechanical Properties - Mechanische Eigenschaften - Caracteristiques Mechaniques

Test No Probe Nr No. d'Essai	Test dimension Probeabmessung Dimension		Proof Stress Streckgrenze Limite d'Elasticite		Tensile strength Zugfestigkeit Resistance a la traction	Elong % Bruchdehnung % Allongement %		Red of Area % Bruchminderung % Striction %	Impact Kerbschlagzähigkeit Resilience	Hardness Harto Durete
			0.2%	1.0%		Lo 50	4D			
244882	10"	L	37.8 ksi		80.5 ksi	64 %	82 %			141 HB

Remarks - Bemerkungen - Remarques

Ultrasonically tested and found satisfactory
 Intercrystalline corrosion test to ASTM A262:E satisfactory
 Grain size to ASTM E112 - 1
 Material produced by ELG Carrs Stainless Steels in the United Kingdom



Certificate No. FM 13615

RWTV
Reg No 04 701 4048

The material detailed has been manufactured and tested in accordance with the Quality Assurance system ISO 9001:2008 and the requirements of the specification/order.

Signed:

Chris Ryall

Chris Ryall - Quality Manager

Approved signatory for
ELG Carrs Stainless Steels

