



# CARRS STAINLESS STEELS

A Division of ELG Haniel Metals Ltd.  
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CD23199

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0086330

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 50040 3 1 EN 10204	Cert No: Zeugnis Nr: Cert No:	135168-a	Date: Datum: Date:	03/07/13
	Customer Order No: Kundenstellnummer: No. de Commande Client:	PO29778	Product Description - Beschreibung des Erzeugnisses - Description du Produit: 13in Dia. x 4500lbs Electric Melt & Vacuum Degassed Stainless Steel Solution Annealed Forged 3772 LB 1711 Kgs.			
	Our Order No: Unsere Auftr.-Nr: notre Comm. No:	50632  W139668/00	ASA 4404/F316L EN 10088-3:5 ASTM A182-09a, A276-08a, A479-10 F316/F316L 316/316L ASME SA182-LE, SA276-LE, SA479-LE F316/F316L 316/316L NACE MR0175-09/ISO 15156			

## Chemical Analysis - Chemische Analyse - Analyse Chimique

Cast No Schmelznummer No. de Coulée	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Co	N								
CD23199	.028	.39	1.38	.032	.011	17.12	2.06	10.4	.37	.21	.055								

## Heat Treatment - Wärmebehandlung - Traitement Thermique

Solution annealed @ 1060 C for 4 hours & Water Quenched

## Mechanical Properties - Mechanische Eigenschaften - Caractéristiques Mécaniques

Test No Probe Nr No. d'Essai	Test dimension Probenmessung Dimension		Proof Stress Streckgrenze Limite d'Elasticité	0.2%	1.0%	Tensile strength Zugfestigkeit Résistance à la traction	Rm	Elong % Bruchdehnung % Allongement %	A	Red of Area % Bruchverschmierung % Striction %	Z	Impact Kerbschlagenergie Résilience	Hardness Härte Dureté
245397	13"	L	32.4 ksi			79 ksi		71 %		81 %		143 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



Rg No 01 701 6066

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:

*C. Ryall*

Chrystall - Quality Manager

Approved signatory for  
ELG Carrs Stainless Steels

