



CARRS STAINLESS STEELS

A Division of ELG Haniel Metals Ltd.
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0085581

CD23189 (8.5')

Purchaser - Besteller - Acheteur ASA Alloys Div of GSM 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:	136019-a	Date: Datum: Date:	26/06/13
	Customer Order No: Kundenbestellnummer: No. de Commande Client:	PO29778	Product Description - Beschreibung des Erzeugnisses - Description du Produit: 8.5In Dia. x 4600lbs Electric Melt & Vacuum Degassed Stainless Steel Solution Annealed Forged ASA 4404/316L 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			
	Our Order No: Unsere Auftr.-Nr: notre Comm. No:	50632 W139674/00	4341 LB 1969 Kgs.			

Chemical Analysis - Chemische Analyse - Analyse Chimique

Cast No Schmelznummer No. de Coulee	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Co	N								
CD23189	.022	.38	1.45	.034	.008	16.7	2.06	10.35	.34	.20	.057								

Heat Treatment - Wärmebehandlung - Traitement Thermique

Solution annealed @ 1060 C for 3 hours & Water Quenched

Mechanical Properties - Mechanische Eigenschaften - Caracteristiques Mechanique

Test No Probe Nr No. d'Essai	Test dimension Probeabmessung Dimension	Proof Stress Streckgrenze Limite d'Elasticite 0.2%	Rp 1.0%	Tensile strength Zugfestigkeit Resistance a la traction Rm	Elong % A Bruchdehnung % Allongement % Lo 5D 4D	Red of Area % Z Bruchdehnung % Striction %	Impact Kerbschlagzähigkeit Resilience	Hardness Härte Durete
MM0273	8.5" L	38.3 ksi		77.9 ksi	69.5 %	78 %	143 HB	

Remarks - Bemerkungen - Remarques

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



Certificate No. FA1 13415



Rgt No 04 101 4028

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

Chris Ryall - Quality Manager

Approved signatory for
 ELG Carrs Stainless Steels

