



CD22847B

12"

C074645

CARRS STAINLESS STEELS

A Division of ELG Haniel Metals Ltd.
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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:	133014	Date: Datum: Date:	21/01/13
	Customer Order No: Kundenbestellnummer: No. de Commande Client:	P028593	Product Description - Beschreibung des Erzeugnisses - Description du Produit: 15in Dia. x 8800lbs Electric Melt & Vacuum Degassed Stainless Steel Solution Annealed Forged ASTM A182/ASTM A479 316 Nace MR0175:2003 8818 LB 4000 Kgs.			
	Our Order No: Unsere Auftr.-Nr: notre Comm. No:	49886 W138266/00				

Chemical Analysis - Chemische Analyse - Analyse Chimique

Cast No Schmelzenummer No. de Coulee	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Co	N								
CD22847B	.023	.53	1.59	.034	.010	16.75	2.09	10.47	.35	.19	.062								

Heat Treatment - Wärmebehandlung - Traitement Thermique

Solution annealed @ 1060 C for 5 hours & Water Quenched

Mechanical Properties - Mechanische Eigenschaften - Caracteristiques Mechanique

Test No Probe Nr No. d'Essai	Test dimension Probabmessung Dimension		Proof Stress Rp		Tensile strength Rm Zugfestigkeit Resistance a la traction	Elong % A Bruchdehnung % Allongement % Lo 5D 4D		Red of Area % Z Bruchseinschnürung % Striction %	Impact Kerbschlagzähigkeit Resilience				Hardness Harte Durete	
			0.2%	1.0%										
229390	15"	L	280 MPa	308 MPa	535 MPa		67 %	76 %					10 HRC	1
229390	15"	T	255 MPa	280 MPa	535 MPa	35 %	69 %		215 J	217 J	184 J	RT		

Remarks - Bemerkungen - Remarques

Ultrasonically tested to ASTM A388 and found satisfactory
 Inter-crystalline corrosion test to ASTM A262:E satisfactory
 Inter-crystalline corrosion test to BS EN ISO 3651-2 Satisfactory
 Grain size to ASTM E112 - 00
 No welding performed
 No contact with Mercury or radioactive elements
 Macrostructure see attached sheet.
 Rockwell C hardness = 10
 Rockwell B hardness = 88



Certificate No. FM 13415



Reg No 04 701 6563

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 - Quality Manager



Approved signatory for
ELG Carrs Stainless Steels