



# CARRS STAINLESS STEELS

A Division of ELG Haniel Metals Ltd.  
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HT# CD24568A

C117155

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:	140641	Date: Datum: Date:	08/10/14
	Customer Order No: Kundenbestellnummer: No. de Commande Client:	P033771	Product Description - Beschreibung des Erzeugnisses - Description du Produit: 18.75in Dia. x 8812lbs Electric Melt & Vacuum Degassed Stainless Steel Solution Annealed Forged 316/316L - ASA - MS2 rev A ASTM A182:14, A276:13a, A479:13b - F316/F316L 316/316L ASME SA182-LE, SA479-LE - F316/F316L 316/316L NACE MR0175-09/ISO 15156 API 6A / ISO 10423 ED20			
	Our Order No: Unsere Auftr.-Nr: notre Comm. No:	53179  W144527/00	7088 LB 3215 Kgs.			

## Chemical Analysis - Chemische Analyse - Analyse Chimique

Cast No Schmelznummer No. de Coulée	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Co	N											
CD24568A	.028	.37	1.29	.036	.011	17.06	2.07	10.19	.36	.19	.065											

## Heat Treatment - Wärmebehandlung - Traitement Thermique

Solution annealed @ 1060 C for 5 hours & Water Quenched

## Mechanical Properties - Mechanische Eigenschaften - Caractéristiques Mécaniques

Test No Probe Nr No. d'Essai	Test dimension Probabmessung 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 % Bruchdehnung % Striction % Z	Impact Kerbschlagzähigkeit Resilience	Hardness Harte Durete
MN8364	18.75" L	37.7 ksi	41.9 ksi	79.2 ksi	61.5 %	76 %	149 HB	

## Remarks - Bemerkungen - Remarques

Ultrasonically tested to ASTM A388 and found satisfactory  
 Intergranular corrosion test to ASTM A262:E satisfactory  
 Grain size to ASTM E112 - 1  
 Material produced by ELG Carrs Stainless Steels in the United Kingdom

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