



CD24599 - 23.5"

C121814

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:	141689-a	Date: Datum: Date:	03/02/15
	Customer Order No: Kundenbestellnummer: No. de Commande Client:	P033771	Product Description - Beschreibung des Erzeugnisses - Description du Produit: 23.5in Dia. x 10000lbs 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:	53179 W144526/00	13329 LB 6046 Kgs.			

Chemical Analysis - Chemische Analyse - Analyse Chimique													
Cast No Schmelznummer No. de Coulee	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Co	N		
CD24599	.017	.50	1.38	.032	.018	16.01	2.06	10.18	.35	.18	.047		

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 Probestabmessung Dimension		Proof Stress Streckgrenze Limite d'Elasticite		Tensile strength Zugfestigkeit Resistance a la traction	Elong % Bruchdehnung % Allongement %		Red of Area % Brucheingsnurung % Striction %	Impact Kerbschlagzähigkeit Resilience	Hardness Harte Durete
			0.2%	1.0%		Lo 5D	4D			
MP1975	23.5"	L	36.8 ksi	40.6 ksi	78 ksi		63 %	72 %		143 HB

Remarks - Bemerkungen - Remarques

Ultrasonically tested to ASTM A388 and found satisfactory
 Intercrystalline corrosion test to ASTM A262:E satisfactory
 Grain size to ASTM E112 - 00
 No welding performed
 No contact with Mercury or radioactive elements
 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