

ASA PO 76921 W05601 CPA @ F0E10 S

CD 21497

CO48611



CARRS STAINLESS STEELS

A Division of ELG Haniel Metals Ltd.
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Purchaser - Besteller - Acheteur	Inspection Certificate: Abnahmeprüfzeugnis: Certificat de reception:	DIN 50049 3.1 EN 10204	Cert No: Zeugnis Nr: Cert No:	127418	Date: Datum: Date:	26/10/11
Customer Order No: Kundebestellnummer: No de Commande Client:	P01398	Product Description - Beschreibung des Erzeugnisses - Description du Produit:		9.1in Dia x 8400 lbs Electric Melt & Vacuum Degassed Stainless Steel Solution Annealed Forged SS1 Rev. 4 ASTM A276,A479,A182,A484,A193 B8M CL1 F316,F316L ASME SA479, SA182, SA193 B8M CL1 316,316L Q35 763F AMS 5653, 5648. MIL-7720A NACE MR0175 L.E. NACE MR0103 L.E.		
Our Order No: Unsere Aufz.-Nr. notre Comm. No:	47499			8838 LB 4009 Kgs.		
	W133325/00					

Chemical Analysis - Chemische Analyse - Analyse Chimique

Cast No Schmelznummer No. du Couse	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	N	Co							
Heat # CD21497	.018	.39	1.42	.030	.024	16.67	2.05	10.36	.39	.036	.16							

Heat Treatment - Wärmebehandlung - Traitement Thermique

Solution annealed @ 1060 C for 6 hours 15 mins and water quenched.

Mechanical Properties - Mechanische Eigenschaften - Caracteristiques Mechanique

Test No Probe Nr No. d'Essai	Test dimension Probleabmessung Dimension	Proof Stress Streckgrenze Limite d'Elasticite	Rp	Tensile strength Zugfestigkeit Resistance a la traction	Rm	Elong % A Bruchdehnung % Allongement %	Red of Area % Bruchdehnung % Striction %	Impact Kerbschlagzähigkeit Resilience	Hardness Harte Durete
		2.2%	1.0%			Lo 5D	4D		
N/A	9.1" DIA L	280 MPa	315 MPa	555 MPa		63 %	68 %	73 %	145 HB

ok with 2/17/12

Remarks - Bemerkungen - Remarques

No contact with Mercury or radioactive elements
No welding performed
Intercrystalline corrosion test to ASTM A262:E satisfactory
Ultrasonically tested to ASTM A388 and found satisfactory
Grain size to ASTM E112 - Average
Intercrystalline corrosion test to ASTM A262.A satisfactory
Microstructure and Macrostructure see attached sheet
Hot Working Reduction - 7.157:1

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
G Carrs Stainless Steels

SW McC