



CD24089 A

CARRS STAINLESS STEELS

A Division of ELG Haniel Metals Ltd.
Wadsley Bridge, Sheffield, S6 1LL, England

C106538

Telephone: 0114 286 6866
Fax No.: 0114 285 4982
Website: <http://www.elgcarrs.co.uk>
e-mail: info@elgcarrs.co.uk

Purchaser - Besteller - Acheteur ASA Alloys Div of CSM ULC 20 Challenger Crescent Sherwood Park Alberta T8H 2R1 Canada	Inspection Certificate: Abnahmeprüfzeugnis: Certificat de réception:	DIN 50049 3.1 EN 10204	Cert No: Zeugnis Nr: Cert No:	139141	Date: Datum: Date:	27/05/14	
	Customer Order No: Kundenbestellnummer: No. de Commande Client:	P032403		Product Description - Beschreibung des Erzeugnisses - Description du Produit: 16in Dia. x 8000 lbs Electric Melt & Vacuum Degassed Stainless Steel Solution Annealed Forged 316/316L NACE MR01-75 MS2 SPEC			
	Our Order No: Unsere Auftr.-Nr: notre Comm. No:	52363 W143025/00		8686 LB 3940 Kgs.			

Chemical Analysis - Chemische Analyse - Analyse Chimique													
Cast No Schmelznummer No. de Cotee	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Co	N		
CD24089 A	.021	.40	1.30	.033	.010	17.5	2.02	10.0	.36	.19	.055		

Heat Treatment - Wärmebehandlung - Traitement Thermique	Solution annealed @ 1060 C for 3 hours 30 minutes & Water Quenched
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Mechanical Properties - Mechanische Eigenschaften - Caractéristiques Mécanique										
Test No Probe Nr No. d'Essai	Test dimension Probestabmessung Dimension	Proof Stress Streckgrenze Limite d'Elasticité	Rp 0.2% 1.0%	Tensile strength Zugfestigkeit Résistance à la traction	Rm	Elong % A Bruchdehnung % Allongement %	Lo.5D 4D	Red of Area % Z Bruchflächenminderung % Striction %	Impact Kerbschlagzähigkeit Resilience	Hardness Harte Dureté
MIN2791	16" L	32.6 ksi		76.6 ksi		64.5 %		75 %		143 HB

Remarks - Bemerkungen - Remarques

Ultrasonically tested and found satisfactory
 Inter-crystalline corrosion test to ASTM A262:E satisfactory
 Grain size to ASTM E112 - 00
 Hot Working Reduction - 4.23:1
 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