


Inspection Certificate EN 10204-3.1B

Distributor	Customer	Customer PO#
BEST Fluidsysteme GmbH Hamburg Vor Dem Hassel 3 21438 Brackel Deutschland		

No.	Part Number	Qty	Product ID	Component	Heat Code
1	SS-6M0-6	75	RADJW01179	Body	NTD

MATERIAL STANDARDS

Components	Material	Standards
Shaped Fittings	F316 Stainless Steel Forgings	ASTM A182, ASME SA182
Straight Fittings	316 Stainless Steel Bar	ASTM A276, ASTM A479, ASME SA479

Annexes: Material Certificates

The Swagelok product specified above were manufactured in accordance with Swagelok Company's Quality Assurance Manual (latest revision, revision D, dated December 16, 2002). Swagelok Company's Quality System is approved to ISO 9001 (BSI Certificate # 01729).



Carl Meece
Vice President of Engineering

CERTIFICATE OF TESTS

ABNAHMEPRUEFZEUGNIS

CERTIFICAT DE CONTROLE

CERT SERIAL# 000345501

CARPENTER

Carpenter Technology Corporation
P.O. Box 14662, Reading, PA 19612-4662

27 JUN 02
CUSTOMER / BESTELLER / CLIENT

SWAGelok COMPANY
ATTN. ACCOUNTS PAYABLE
P.O. BOX 0629
MEDINA , OH 44258

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SELLER / VERKÄUFER / VENDEUR PAGE - 1

NTD

CARPENTER TECHNOLOGY EUROPE
CHEE DE HAECHT 1465

1130 BRUSSELS BELGIUM

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/POIDS
ESS2002	L37264		5654LBS

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE : 726128

Approved 07/02/2002

Penny Boross

PRUFGRUNDLAGEN/ANFORDERUNGEN - TECHNIQUES/EXIGENCES
PRODUCT DESCRIPTION: TYPE 316 PROJECT 70 STAINLESS STRAIN HARDENED COLD DRAWN

NUCLEAR QUAL
COMMODITY CODE: 7222.20.0000
PART NUMBER: SS-HB-055118-E

SPECIFICATION: CRM SMS-00001 REV A (07/30/01) EXCEPTIONS LETTER 4/18/02 EXCPT

LTR (12/06/01)
ASTM-A262-01
ASTM-A276-02
ASTM-A479-02
ASTM-A484-00
ASTM-A751-01
DIN 17440 (09/ /96) MATERIAL NO. 1.4401
DIN EN 10204 (08/ /95) (DIN 50049) PARA. 3.1.B
ASTM-E18-02
ASTM-A370-02
ASME-SA479 2001 EDITION
AD-MERKBLATT W2 (04/ /96)
ASTM E214-95
AD-MERKBLATT W0 (06/ /86)
TRD 100 (04/ /75)
DIN 5091 (09/ /96)
ASTM-EB-01
EN 10002 PART 1 (03/ /90)
EN 10204 ISS 2 AMD 1 (04/ /96) PARA. 3.1.B
DIN EN 10088-3 (08/ /95)
ASTM E214-01
AD-MERKBLATT W10 (11/ /87) MATERIAL NO. 1.4401 (TYPE 316 BAR STOCK).
CRM SOS-00012 REV C (06/14/01)
CRM SOS-00020 REV A (09/25/01)
CRM SOS-00021 REV A (11/14/01)
B&P V*CODE SECT III* 2001 EDITION
SUBJECT NCA3800 2001 EDITION

SIZE 0.551180 IN. (13.99 MM) HEX BAR

CHEMISTRY IN PERCENT/SCHMELZENANALYSE

PRIMARY HEAT CHEMISTRY:

C	MN	SI	P	S	CR
0.038	1.65	0.63	0.027	0.023	17.57
NI	MO	CO	N		
12.09	2.35	0.23	0.03		

MELT DATE: 04/26/02

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This certification is made to the customer printed on this form. Carpenter neither makes, nor assumes responsibility for, any representation or certification to other parties.
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CERT SERIAL# 000345501

ABNAHMEPRUEFZEUGNIS

CERTIFICAT DE CONTROLE



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CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/POIDS
	L37264		5654LBS

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE : 726128

MELT DATE: 04/26/02

INSPECTION CERTIFICATE EN 10204 (DIN 50049) 3.1B.

ALLOY IDENTIFICATION HAS BEEN VERIFIED.

MATERIAL INTERGRANULAR CORROSION TESTED TO DIN 50914, MATERIAL MEETS REQUIREMENTS.

INTERGRANULAR CORROSION TESTED TO ASTM-A262, PRACTICE A - ACCEPTABLE.

100% COMPARATOR TESTED TO DETECT/SORTOUT HIGH IRON/LOW ALLOY INCLUSIONS.

ULTRASONIC INSPECTED (IMMERSION) PER CTC PROCEDURE.

MATERIAL VISUAL AND DIMENSIONAL INSPECTED - ACCEPTABLE.

THIS HEAT MELTED BY THE ARC/AOD PROCESSES

CAPABLE OF MEETING CHARPY V NOTCH IMPACT TEST.

APPROVED BY TUV RHEINLAND E.V. DATED MAY 1995/THE COUNTERSIGNING OBLIGATION HAS BEEN CANCELED-MAY 1995

THIS ORDER WAS MANUFACTURED IN ACCORDANCE WITH SPECIALTY ALLOYS OPERATIONS QUALITY PROGRAM MANUAL REVISION 22, DATED 03/02 AS APPROVED BY CRM IN COMPLIANCE WITH ASME B & P V CODE SECTION III, DIV. 1, SUBSECTION NCA 3800, 2001 EDITION.

PROVISIONS OF 10 CFR PART 21 AND 10 CFR PART 50 - APPENDIX B APPLY.

IN PRODUCTION OR TESTING OF MATERIAL SHIPPED AGAINST THIS ORDER, NO DIRECT CONNECTED MERCURY MANOMETER, MERCURY PUMPS, MERCURY SEALS, OR MERCURY IN GLASS THERMOMETERS HAVE BEEN USED; NOR IN SUCH PRODUCTION OR TESTING HAS MERCURY BEEN HANDLED IN THE IMMEDIATE VICINITY OF SUCH MATERIAL.

THIS CERTIFICATE AFFIRMS THAT THE CONTENTS OF THIS REPORT ARE CORRECT AND ACCURATE AND THAT ALL TEST RESULTS AND OPERATIONS PERFORMED BY US OR OUR SUBCONTRACTORS ARE IN COMPLIANCE WITH THE ORDER REQUIREMENTS AS MAY HAVE BEEN MODIFIED BY PRIOR CORRESPONDENCE BETWEEN THE PARTIES.

NO WELD REPAIR.

MILL HEAT TREATMENT:

TYPE	SOLUTION ANNEAL
TEMP	1950F (1065C)
TIME AT TEMP	CONTINUOUS FURNACE
QUENCH	WATER

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	L37264		5654LBS

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE : 726128

MATERIAL HAS BEEN SOLUTION ANNEALED AND WATER QUENCHED, SURFACE CONDITION PER DIN 17440, TABLE 8, SYMBOL (F).

ORDER LENGTH REQUIREMENT: 144"

DISCS MACROETCHED AND APPROVED

HARDNESS AS SHIPPED, HRC - 21

GRAIN SIZE PER ASTM E112: 5

(T)RANSVERSE	(L)ONGITUDINAL	L	L	L
YIELD STRENGTH, (0.20%) KSI (MPA)	89.5 (617)	89.0 (614)	90.0 (621)	
YIELD STRENGTH, (1.00%) KSI (MPA)	101.0 (696)	100.0 (689)	98.5 (679)	
TENSILE STRENGTH, KSI (MPA)	104.0 (717)	104.0 (717)	102.0 (703)	
ELONGATION IN 2.00", %	37.0	37.0	38.0	
ELONGATION IN 2.50", %	31.0	31.0	32.0	
REDUCTION OF AREA, %	74.0	73.0	74.0	

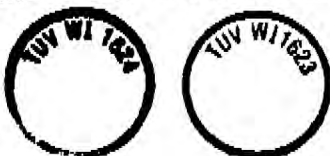
(T)RANSVERSE	(L)ONGITUDINAL	L	L
YIELD STRENGTH, (0.20%) KSI (MPA)	90.0 (621)	90.0 (621)	
YIELD STRENGTH, (1.00%) KSI (MPA)	98.5 (679)	98.5 (679)	
TENSILE STRENGTH, KSI (MPA)	102.0 (703)	102.0 (703)	
ELONGATION IN 2.00", %	39.0	39.0	
ELONGATION IN 2.50", %	33.0	33.0	
REDUCTION OF AREA, %	76.0	76.0	

CARPENTER'S QUALITY MANAGEMENT SYSTEM WAS REGISTERED AS OF DECEMBER 21, 1993 TO THE REQUIREMENTS OF ISO 9002, APPROVAL CERTIFICATE # 101921A, BY LLOYD'S REGISTER QUALITY ASSURANCE LTD.
I CERTIFY THE ABOVE INFORMATION TO BE A TRUE AND CORRECT RESTATEMENT OF PORTIONS OF THE APPLICABLE TEST AND ORDER DATA.

Michael W. ...
DER WERKSSACHVERSTÄNDIGE
THE WORKS INSPECTOR

RODGER L. GODSHALL
MET RELEASE/REOT ANALYST II
CARPENTER TECHNOLOGY CORPORATION

MATERIAL IDENTIFIED VIA CARPENTER/L37264/HEAT 726128/LOT 1,2/WI 1624, WI 1623



Rodger L. Godshall