



**CHERRY®
AEROSPACE**

SPS Fastener Division, a PCC Company

Cherry Aerospace
1224 East Warner Avenue
Post Office Box 2157
Santa Ana, CA 92707-0157
USA



PACKING LIST



Order No: S0338229

Page: 1

Order Date: 10/06/08

Print Date: 12/12/08



Sold-To: 10017717

Ship-To: 10042250

S O L D T O	SATAIR FRANCE
	27 AV ETIENNE-AUDIBERT
	BP 30169
	SENLIS CEDEX 60305
	FRANCE

108830W

S H I P T O	SATAIR FRANCE
	C/O BAX GLOBAL-GARDEN GROVE
	7423 DOIG DRIVE
	GARDEN GROVE, CA 92841

Salesperson (s): 205

Purchase Order: 5A0917

Credit Terms: Net 60
Net 60

Ship Via: BAX GLOBAL
FOB: Origin

Remarks:

ALL ASN PART NUMBERS MUST APPEAR ON ALL BAGS/BOXES
NOTE: PACKING SLIP & INVOICE INSIDE & OUTSIDE ALL BOXES
AIRBUS APPROVAL# 30114

FASTENERS ECCN: 9A991d SCHEDULE B# 8803300010

TOOLS ECCN: EAR99 SCHEDULE B# 8467290095

CANCELLED ITEM 24 ON 11/26/2008

Ln	Item Number	Site T Location	Lot/Serial	Qty Open Qty to Ship	UM	Promised Shipped	
26	CR3223-4-03	1600			EA	01/08/09	
	Customer Item: CAN43078E4-3						
		B0705	87156823	7500.0		()	
35	CR3523PR-5-02	1600			EA	01/08/09	
	Customer Item: =CR3523PR-5-02						
	* CR3523-5-02						
		H0305	87158829	6417.0		()	
37	CR4622D-6-05	1600			EA	02/19/09	
		C0804	87069233	3250.0		()	

**TEST REPORTS ENCLOSED
DO NOT DESTROY**

CERTIFICATION

The material and/or parts we are furnishing in this shipment (as shown above) on the subject Purchase Order conform to the order and applicable specifications. Evidence that the material and/or parts meet the specifications and results of all tests for each lot affected will be in our files and will be available for your inspection at any reasonable time.

ATTENTION: PURCHASING DEPARTMENT

Quality Assurance Representative

Signed

SIM NGUYEN

**CHERRY[®] AEROSPACE**

SPS Fastener Division, a PCC Company

Chemical Processing
Heat Treating
ISO/IEC 17025
Material Testing Lab1224 East Warner Avenue
Santa Ana, CA 92707-0157**Final Inspection & Test Report**
CherryMax[®] Rivet**An ISO9001 and AS9100 registered company. OASIS #6111041606**

Part Numbers	Rev	Proc. Spec.	Rev	Lot I.D. No.: 87158829 Lot Size: 7,650 MFG. Date: December 10, 2008
CR3523PR-5-02	AB	PS-CMR-3000	R	
CR3523-5-02	AB	PS-CMR-3000	R	
** See 2nd Page for the Customer Parts				

ASSEMBLY DATA

TYPE	ID #	CERT #	MATERIAL	FINISH	LUBE
Rivet	87152935	A59285	QQ-N-281/MONEL	None	None
Stem	87136117	A59733	AMS5657 / 15-7PH	None	AS5272, Type 1, Moly Disulfide
Collar	00000000	A60191	A-286 / AMS5731	Passivate per AMS2700	None

W.O. #: 5355980

Final Lube: None

MECHANICAL STRENGTH TEST

MIN REQ'D SAMPLE SIZE SPECS	INSTALLED SHEAR		TENSION		SPINDLE RETENTION		DISASSEMBLY
	888				250		10
	5	N/A	N/A	N/A	5	N/A	5
	C-N	B	C-N	B	C-N	B	C-N
RESULTS	1370				368		40
	1453				383		44
	1498				387		34
	1368				395		50
	1405				405		36

C=CR N=NAS
M=MIL B=BAC
LOAD VALUES
IN POUND

METALLURGICAL AND OTHER RELATED TESTS/REQUIREMENTS

PCS.	ITEM	STATUS	PCS.	ITEM	STATUS
<u>80</u>	EXAMINATION	PASS	<u>20</u>	INSTALLATION (Min and Max Grips)	PASS
	Locking feature (missing collar/spindle)			Spindle Protrusion/Recession	
	Roundness/Concentricity			Collar Protrusion	
	Dimensional, ID Marks, Tool Marks/Nick			Blind Head Dia./Formation	
	Visual (grip/material code, ID)			Tightness in plate	
	Laps, seams, folds				

Comments:

Blind Fastener

Tr. Rev: -	Q Code
Rev. Date: 12/10/2008	V10
Inspector	
A Silva	

Cherry Aerospace certifies that the product tested above conforms to all referenced specifications listed and that the original data are available for review upon sufficient notice. Cherry Aerospace further certifies that the articles listed above have been manufactured and inspected in accordance with FAA TSO-C148. The conditions and tests required for TSO approval of this article are minimum performance standards. Aircraft fasteners approved under this TSO are not necessarily interchangeable with other aircraft fasteners approved under this TSO. Substitution of parts may only be done if acceptable to or approved by the FAA Administrator.

This test report shall not be reproduced except in full, without the written approval of the laboratory.
The recording of false, fictitious, or fraudulent statement or entries on the certificate may be punished as a felony under Federal law.



CHERRY[®] AEROSPACE
SPS Fastener Division, a PCC Company

1224 East Warner Avenue
Santa Ana, CA 92707-0157



Accredited

Nadcap[™]

Chemical Processing
Heat Treating
ISO/IEC 17025
Material Testing Lab

Final Inspection & Test Report CherryMax[®] Rivet

An ISO9001 and AS9100 registered company. OASIS #6111041606

Lot I.D. No.: **87158829**

Rev: -

Customer Parts List

<u>Customer Part Number</u>	<u>Rev</u>	<u>Proc. Spec.</u>	<u>Rev</u>
NAS9307M-5-02	3	NAS1687	2

A - 1 Wire Tech, Inc.

Phone (815) 226-0477 Fax (815) 226-0537

Certified By Connie Ruggero

CHERRY AEROSPACE**Order NO.****1224 EAST WARNER AVENUE****2024-7****SOLD TO****CHERRY AEROSPACE**
1224 EAST WARNER AVENUE
PO BOX 2157
SANTA ANA CA 92707**SHIP TO****PO BOX 2157**
SANTA ANA CA 92707**Customers Order NO.**
P094896**A-1 Order NO.**
2024-7**Date Shipped**
8/2/2008**Sales Code**
99**Ship VIA**
ESTES**Bill Method**
PPD/ALL

2300 LBS

M400 .1540" X COIL (MONEL 400)

SOAP DRAWN, SHAVED, DEFECT FREE, RMS 32

ITEM M015.1540

2350 LBS 2 CARRIERS/23 COILS (COMPLETE SHIPMENT)

RC188849

8/11/08



A59285

HEAT M31N7BR13 ✓

C	Mn	Fe	S	Si	Cu	Ni	Cr	Al	Ti	Mg	CD
.02 ✓	.84 ✓	1.47 ✓	.002 ✓	.14 ✓	32.78	64.73 ✓		.01 ✓			
Co	Mo	Nb	Ta	P	B	Ca	Nb+Ta	Ni+Co	N	O	
				.009 ✓							
V	W	As	Sn	Pb	Se	Sb	Bi	Zn	Be	Zr	Al+Ti
PPM 1.2				PPM 3.8			PPM 7.2				

Notes

The % of Nickel Includes a small amount of Cobalt
To convert PPM to WT% - Move decimal point 4 places to the left

AS SHIPPED PROPERTIES:

TENSILE STR.	YEILD STR.	%ELG	%R/A	Grain Size	HARDNESS	SHEAR	Wrap/Bend
REPORT	50-70,000 PSI	REPORT	REPORT	4 OR FINER	REPORT		
75,184 PSI	52,964 PSI	44.6	80.38	TO FOLLOW	81.5 RB		

AFTER HEAT TREAT PROPERTIES @ ROOM TEMPERATURE:

TENSILE STR.	YEILD STR.	%ELG	%R/A	Grain Size	HARDNESS	SHEAR	Wrap/Bend
		44.6					
Stress Rupture °F	TENSIL STR.	%ELG	%R/A	Test Temp	Test Time		



AUG 25 2008

CHERRY SPEC M15 REV Y, AMS 4730F, QQN 281D CLASS A

Connie Ruggero

QA Certification Tech

Melt Source: HUNTINGTON ALLOYS**Country of Origin USA****Manufactured In USA**

Material complies to DFARS 252.225.7014-225.7002-3(b)(1)

The results reported on this test report represent the actual attributes of the material furnished and indicate full compliance with all applicable specifications and contract requirements. Each lot has been sampled, tested, and inspected in accordance with the specification and meets all specification requirements.** Certification complies to EN10204-3.1.B. The recording of false fictitious or fraudulent statements or entries on this document may be punished as a felony under federal statutes including federal law, Title 18, Chapter 47. (MIL-I-45208). Material when shipped is free from contamination by mercury, radium, alpha source and low melting elements.

NOTE: THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTE.

WESTERN U.S.

HUNTINGTON ALLOYS
A Special Metals Company
HUNTINGTON, WEST VIRGINIA 25720

A59285



A-1 Wire

M31N7BR13

A-1 WIRE TECH INC 4550 KISHWAUKEE ST ROCKFORD IL 61109		CERTIFIED MATERIAL TEST REPORT No. 63428	
A-1 WIRE TECH INC 4550 KISHWAUKEE ST ROCKFORD IL 61109		PAGE OF 1 2	
HA ORDER NO. ITEM 100036036 1		DATE 06/25/08	
QUANTITY 12906 LBS		INSPECTED BY HA/SNC	
CHARGE ORDER NO. 37177		MARK ORDER NO. 37177	
DESCRIPTION OF MATERIAL MONEL ALLOY 400 HR ROD - COIL PKL ANN		QUANTITY .5310 IN COIL	

THIS IS TO CERTIFY THAT ALL REQUIRED SAMPLING INSPECTIONS AND TESTS HAVE BEEN PERFORMED IN ACCORDANCE WITH THE ORDER AND SPECIFICATION REQUIREMENTS. THE TEST REPORT REPRESENTS THE ACTUAL ATTRIBUTES OF THE MATERIAL FURNISHED AND THE VALUES SHOWN ARE CORRECT AND THE MATERIAL DESCRIBED BY THIS CERTIFICATE IS IN FULL COMPLIANCE WITH ALL SECTION REQUIREMENTS AND THE TEST CERTIFY THAT THE BELOW PHRASES ARE IN ACCORDANCE WITH THE SHOWN CONTRACT REQUIREMENTS.

QUALITY CERTIFICATION REPRESENTATIVE

*****THIS REPORT RELATES ONLY TO THE ITEM(S) TESTED AND MAY NOT BE REPRODUCED EXCEPT IN FULL.*****

SPECIFICATIONS: US FED QQ-N-281D IA 1 CL A CHEM ONLY
US FED QQ-N-281D AM 2 CL A CHEM ONLY
US FED QQ-N-281D AM 2 IC 1 CL A CHEM ONLY
ASTM B 164-03 CHEM ONLY
ASME SB-164 2007 EDITION NO ADDENDA CHEM ONLY
ASME SECTION III 2007 EDITION NO ADDENDA NCA-3800-MARKING NOT PERFORMED
GE S-400 (10-31-2007) GE S-1000 (1-2-2008)
SAE AMS 4730E/A-1 WIRE TECH M400LC MOD FOR CUST 295/01 9-24-07
NACE MR0175-ISO 15156-3 1ST EDITION CARBON .03% MAX.
QUALITY SYSTEM CERTIFICATION: ISO 9001:2000 (ABS-QE CERT. 30125)
EN 10 204/DIN 50049 (TYPE 3.1)



AUG 25 2008

UNS: N04400

CHEMICAL ANALYSIS (WT. %)

HEAT#	C	FE	SI	CU	NI	AL	P
M31N7BR /	0.02 3.8	1.47 7.2	0.14	32.78	64.73	0.01	0.009
M32NSBR	0.02 1.4	1.53 4.3	0.13	33.32	64.14	0.01	0.010

THE % OF NICKEL INCLUDES A SMALL AMOUNT OF COBALT
TO CONVERT PPM TO WT.%, MOVE DECIMAL POINT FOUR PLACES TO THE LEFT.
MELT METHOD: AIM

MECHANICAL PROPERTIES

HEAT/LOT	QUANTITY	HARDNESS	GRAIN YIELD	TENSILE	WELG	R/A	DEG
M31N7BR 13	9 PCS		SIZE .2XPSI		X		F
ROOM TEMP-HRB	-AS SHIPPED ***	53.9	0222	0630	53.2	83.3	

CERTIFICATE OF TESTS

CERT SERIAL# 000651713

ABNAHMEPRUEFZEUGNIS

CERTIFICAT DE CONTROLE



CARPENTER

Carpenter Technology Corporation
101 West Bern Street, Reading, Pa. 19601
Tel: (610) 208-2000 (800) 338-4592

09/23/08

CUSTOMER/BESTELLER/CLIENT

CHERRY AEROSPACE LLC
SCOTT MARTIN
PO BOX 2157
1224 E WARNER
SANTA ANA

, CA 92707

CARPENTER TECHNOLOGY CORP

101 W. BERN STREET
READING, PA 19601

- THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.
- THE VALUES AND OTHER TECHNICAL DATA REPRESENT THE RESULTS OF ANALYSES AND TESTS MADE ON SAMPLES COLLECTED FROM THE TOTAL LOT. ORIGINAL DATA RECORDS CAN BE TRACED BY REFERENCE TO THE CARPENTER ORDER NUMBER.
- MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADIUM, ALPHA AND GAMMA SOURCE CONTAMINATION.
- THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF CARPENTER TECHNOLOGY CORPORATION.

SELLER/VERKÄUFER/VENDEURPAGE 1 OF 1

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE

CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE

DATE/DATUM/DATE

WEIGHT/GEWICHT/POIDS

83605

LOS602301 L35340

08/29/08

2507

HEAT NUMBER / SCHMELZ-NR. / N° DE COULEE :

554715✓

PRODUCT DESCRIPTION: CARPENTER 15-7 PH ANNEALED CF WIRE FOR HEADING SC2
STRAND CU/SOAP JTT

SPECIFICATION: TEXTRON AEROSPACE M-84 REV AB (01/14/08)
AMS 5657 REV B (02/ /07) (CHEM ONLY)

SIZE 0.104000 IN. (2.64 MM) RD WIRE

PRIMARY HEAT CHEMISTRY(WT%): (TEST METHOD IS SHOWN IN PARENTHESIS)

C (COM)	MN(XRF)	SI(XRF)	P (XRF)	S (COM)	CR(XRF)
0.07✓	0.55✓	0.30✓	0.014✓	LT .001✓	15.38✓
NI(XRF)	MO(XRF)	AL(XRF)	N (FUS)		
7.39✓	2.14✓	1.22✓	0.020✓		

CAPABLE OF A SURFACE FINISH OF MAX N7 (63 RA MAX).

YIELD STRENGTH, (0.20 %) KSI(MPA) 116.0(800)
TENSILE STRENGTH, KSI(MPA) 168.0(1158)
ELONGATION IN .41", % 26.0

CAST TEST - SATISFACTORY

MATERIAL PRODUCED ON THIS ORDER WAS MELTED AND MANUFACTURED IN THE U.S.A. MATERIAL HAS BEEN MELTED IN USA OR QUALIFYING COUNTRY TO DFARS REQUIREMENTS 252,225-7014 WITH ALTERNATE 1 FOR QUALIFYING COUNTRY 225.872.1. CARPENTER'S QUALITY MANAGEMENT SYSTEM WAS REGISTERED AS OF SEPTEMBER 2, 2004 TO THE REQUIREMENTS OF ISO 9001:2000 APPROVAL CERTIFICATE 07-0869 BY PERFORMANCE REVIEW INSTITUTE. CERTIFICATE OF TEST IS PREPARED IN ACCORDANCE WITH PARAGRAPH 3.1 OF EN 10204 (DIN 50049). WE HEREBY CERTIFY THAT THE ABOVE TEST DATA ARE IN ACCORDANCE WITH THE PURCHASE ORDER AND SPECIFICATION REQUIREMENTS.

DEANA KISSLING
MET RELEASE/REQUIREMENTS ANALYST
CARPENTER TECHNOLOGY CORPORATION



SEP 26 2008

A59733



Cartech Corp
554715

Deana M. Kissling

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.
Die vorliegende Zertifizierung ist nur für den in diesem Formular genannten Kunden gültig. Carpenter übernimmt gegenüber Dritten keinerlei Haftung für die ausgewiesenen Daten oder Zertifizierungen.
Ce certificat est uniquement valable pour le client dont le nom est imprimé sur ce formulaire. Carpenter n'assume pas de responsabilité pour une certification vis-à-vis d'une tierce personne.

Certificate of Analysis

Radcliff Wire Inc. 97 Ronzo Rd., P.O. Box 603, Bristol, CT 06010

Date Shipped: 10/20/2008

PO #: VP091194

Qty. Shipped: 77 LBS-6 BLACK
MIG SPOOLS

Radcliff No.: 112792

Heat No.: QG890

Customer: CHERRY AEROSPACE
SANTA ANA OPERATIONS
1224 EAST WARNER AVE
SANTA ANA, CA 92705-5414

Country of Origin: FRANCE

Original Mill Source: FRANCE

Size: .0075 X .014 X .081 ***

Material: A286 Stainless Steel

Description: SPECIAL SHAPE

Specification: AMS 5731 REV L CHEM ONLY

Notes:

DFAR COMPLIANT
NET WGT 77 LBS
PART# M189.05 REV V

Chemical Properties

Al: 0.16%	B: 0.007%	Bi: <0.00002%	C: 0.04%	Co: 0.21%
Cr: 14.71%	Cu: 0.38%	Fe: BAL%	Mn: 1.75%	Mo: 1.25%
Ni: 24.53%	P: 0.015%	Pb: <0.0001%	S: .0001%	Si: 0.11%
Ti: 2.17%	V: 0.32%			

Tensile: 98 KSI

Rockwell:

Certs/Material



NOV 04 2008



A60191

Lisa Platek

Certification Clerk

The material as shipped is free from mercury contamination

PERTH, ON
ERIN, ON
DUMAS, AR
LANCASTER, SC

613-267-3752 FAX 613-267-5617
519-833-9632 FAX 519-833-2213
870-382-2980 FAX 870-382-6988
803-283-3353 FAX 803-283-6303



CENTRAL WIRE

UNION, IL
HOUSTON, TX
PERRIS, CA

815-923-2131 FAX 815-923-2126
713-466-1000 FAX 713-466-7425
951-657-2105 FAX 951-943-6061

THE LEADING MANUFACTURER OF STAINLESS STEEL, NICKEL AND COPPER ALLOY WIRE PRODUCTS
EXECUTIVE OFFICES: PERTH, ON CANADA - EMAIL sales@centralwire.com

UNION WIRE PLANT
OLSON & JEFFERSON STREET UNION, IL 60180-0423
TEL: 815-923-2131 FAX: 815-923-2126

CERTIFICATE OF CONFORMANCE

SOLD
TO

RADCLIFF WIRE INC.
P.O. BOX 603
BRISTOL,

CT 06011-0603

USA

SHIP
TO

RADCLIFF WIRE INC.
97 RONZO ROAD
BRISTOL,

CT 06110-0603

USA

CUSTOMER'S PO NO.	TYPE OF CERT	CUSTOMER	ORDER NO.	WORK ORDER	DATE SHIPPED
39808	Customer	124610	1116171 4	4081678	10/09/08

SPECIFICATIONS:

ITEM DESCRIPTION		
DESCRIPTION	SPEC. CLASS	HEAT
Forming A286SF Melt mill SKIN PASSED Bright ArcelorMittal .0340 200LB. Plastic Spools Country of origin Clean FRANCE		QG890
	QTY SHIP 437	044

CHEMICAL ANALYSIS						
C .04	MN 1.75	SI .11	P .015	S < .001	CR 14.71	NI 24.53
MO 1.25	CU .38	CO .21	AL .16	TI 2.17	FE Balance	B .007
V .32	BI < .00002	PB < .0001				

MECHANICAL PROPERTIES						
AS SHIPPED PROPERTIES:						
TENSILE 95.000 KSI MIN	TENSILE 112.000 KSI MAX					
AFTER HEAT TREAT PROPERTIES:						



NOV 04 2008

60191
RADCLIFF WIRE, INC.
03620

* PASSIVATED IN PROCESS *

The material as shipped is free from mercury contamination. I certify the chemical analysis and physical and mechanical test results reported above are correct as contained in the records of the company.

Very truly yours,

David Mung

AUTHORIZED SIGNATURE

ArcelorMittal

Usine - Works - Werk

Stainless & Nickel Alloys Wire

BP4 - 58160 IMPHY FRANCE

Tel : 03 86 21 36 03

Fax : 03 86 21 31 14

CERTIFICAT DE RECEPTION
Inspection certificate - Abnahmeprüfzeugnis

TYPE 3-1 according to EN 10204 : 2004



n° C055501/2

ISO 9001 : 2000
ISO 14001 : 2004
AQAP 2120 : 2003
EN 9100 : 2003
ISO TS16949 : 2002

Date of expiration

15 June 2009

23 Sept 2009

Client : **TECHALLOY UNION**
Customer :
Kunde :
V/Commande :
Your order : **2005535**
Ihre Bestell. Nr :
Spécification :
Specification : **D.3.PRS.010.S ORIG.**
Vorschrift :

du : **12.21.07**
Of :
Von :

N/Référence : **191857/01**
Our reference :
Unser Auftrag Nr. :

Produit : **HQ 286 WIRE ROD**
Product :
Erzeugnisform :
DIAM/7.5000/MM
SS A286 (.295")

Etat de livraison :
Condition of delivery :
Lieferzustand :

SHAVED-DRAWABLE

N° de fabric. : **4100121850**
Manufact. Nr :
Fabrik. Nr :

Poids : **2996.050 LB**
Weight :
Gewicht :

Nombre : **4 PI**
Part No :
Stückzahl :

COMPOSITION CHIMIQUE (X poids)
CHEMICAL COMPOSITION (X weight)
CHEMISCHE ZUSAMMENSETZUNG (X Gewicht)

Coulée N° : **QG890/14**
Heat Nr :
Schmelze Nr :

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	Co
.04	1.75	.11	< .001	.015	24.53	14.71	1.25	.38	.21
V	Al	Ti	Pb	Bi	B	Fe			
.32	.16	2.17	< .0001	< .00002	.007	bal.			

CARACTERISTIQUES MECANQUES ET AUTRES ESSAIS / TESTS RESULTS

ETAT DE LIVRAISON

CONDITION OF DELIVERY

RESISTANCE..... TENSILE STRENGTH..... : **591 MPA**
GRAIN ASTM..... SIZE ASTM..... : **6/7 ASTM**

HYPERTREMPE 980°1H EAU+VIEILLISSEMENT 720°16H AIR
HEAT TREATMENT OF SPECIMEN 1800°F1H WATER+1325°F 16H AIR

LIMITE ELASTIQUE. YIELD STRENGTH 0.2% : **750 MPA**
RESISTANCE..... TENSILE STRENGTH..... : **1114 MPA**
ALLONGEMENT..... ELONGATION SUR 40..... : **28.3 %**
STRICTION..... RED. OF AREA..... : **54.0 %**
DURETE HB..... HARDNESS..... : **323 HB**



FLUAGE

STRESS RUPTURE TEST AT 1200°F (649°C)

AT 70.000 PSI (483MPa)

DUREE DE VIE..... TIME..... : **74.5 H**
ALLONGEMENT..... ELONGATION..... : **20.6 %**

NOV 04 2008



QUALITY CONTROL

MERLIN CHR.

Signature :
Signature :
Unterschrift :

03.07.08

Voir page suivante

PAGE N°: 1

ArcelorMittal

Usine - Works - Werk
Stainless & Nickel Alloys Wire
BP4 - 58160 IMPHY FRANCE
Tel : 03 86 21 36 03
Fax : 03 86 21 31 14

CERTIFICAT DE RECEPTION
Inspection certificate - Abnahmeprüfzeugnis

TYPE 3-1 according to EN 10204 : 2004



n° C055501/2

ISO 9001
ISO 14001
AQP 2120
EN 9100
ISO 13169-9

2000
2004
2003
2003
2002

Date of expiration
15 June 2009
23 Sept 2009

Client
Customer
Kunde : **TECHALLOY UNION**

V/Commande
Your order
Ihre Bestell. Nr : **2005535**

Spécification
Specification
Vorschrift : **D.3.PRS.010.S ORIG.**

du
Of : **12.21.07**
Von

N/Reference
Our reference
Unser Auftrag Nr. : **191857/01**

ETAT HYPERTREMPE 900° + VIEILLISSEMENT 720°16H AIR
HEAT TREATMENT OF TEST SPECIMEN 1650°F IN WATER+1325°F16H AIR

LIMITE ELASTIQUE.....	YIELD STRENGTH 0.2%.....	761 MPA
RESISTANCE.....	TENSILE STRENGTH.....	1122 MPA
ALLONGEMENT.....	ELONGATION SUR 40.....	28.7 %
STRICTION.....	RED. OF AREA.....	55.0 %
DURETE HB.....	HARDNESS.....	324 HB

FLUAGE

STRESS RUPTURE TEST AT 1200°F (649°C)

AT 65,000 PSI(448MPa)

DUREE DE VIE.....	TIME.....	117.0 H
ALLONGEMENT.....	ELONGATION.....	26.5 %

"MATERIAL IS FREE FROM MERCURY, RADIUM,
OR ALPHA PARTICLE CONTAMINATION

"THE WILLFUL RECORDING OF FALSE OR FRAUDULENT
STATEMENTS ON THIS DOCUMENT MAY RESULT IN
PUNISHMENT AS A FELONY UNDER FEDERAL STATUTES"

"MELTING PROCESS : EF + VAR"

"NO WELDING WITH FILLER METAL HAS BEEN PERFORMED"

"STRESS RUPTURE AND AGE HARDENING AND CHEMISTRY TO MEET
LATEST ISSUE OF AMS 5731, AMS 5732, 5734 AND 5737"

ARCELORMITTAL STAINLESS NICKEL ALLOYS WIRE CERTIFIES THAT THIS
MATERIAL HAS BEE MELTED/PRODUCED IN FRANCE, QUALIFYING COUNTRY,
AS REQUIRED BY DFARS 252.225-7014



NOV 04 2008



06890

**CHERRY®****AEROSPACE**

SPS Fastener Division, a PCC Company

Cherry Aerospace
1224 East Warner Avenue
Post Office Box 2157
Santa Ana, CA 92707-0157
USA

**PACKING LIST**

Order No: S0338229

Page: 1

Order Date: 10/06/08

Print Date: 12/12/08



Sold-To: 10017717

Ship-To: 10042250

S O L D T O	SATAIR FRANCE
	27 AV ETIENNE-AUDIBERT
	BP 30169
	SENLIS CEDEX 60305
	FRANCE

108830W

S H I P T O	SATAIR FRANCE
	C/O BAX GLOBAL-GARDEN GROVE
	7423 DOIG DRIVE
	GARDEN GROVE, CA 92841

Salesperson (s): 205

Purchase Order: 5A0917

Credit Terms: Net 60
Net 60

Ship Via: BAX GLOBAL
FOB: Origin

Remarks:

ALL ASN PART NUMBERS MUST APPEAR ON ALL BAGS/BOXES
NOTE: PACKING SLIP & INVOICE INSIDE & OUTSIDE ALL BOXES
AIRBUS APPROVAL# 30114

FASTENERS ECCN: 9A991d SCHEDULE B# 8803300010

TOOLS ECCN: EAR99 SCHEDULE B# 8467290095

CANCELLED ITEM 24 ON 11/26/2008

Ln	Item Number	Site T Location	Lot/Serial	Qty Open Qty to Ship	UM	Promised Shipped	
26	CR3223-4-03	1600			EA	01/08/09	
	Customer Item: CAN43078E4-3	B0705	87156823	7500.0		()	
35	CR3523PR-5-02	1600			EA	01/08/09	
	Customer Item: =CR3523PR-5-02						
	* CR3523-5-02	H0305	87158829	6417.0		()	
37	CR4622D-6-05	1600			EA	02/19/09	
		C0804	87069233	3250.0		()	

TEST REPORTS ENCLOSED
DO NOT DESTROY

CERTIFICATION**ATTENTION: PURCHASING DEPARTMENT**

The material and/or parts we are furnishing in this shipment (as shown above) on the subject Purchase Order conform to the order and applicable specifications. Evidence that the material and/or parts meet the specifications and results of all tests for each lot affected will be in our files and will be available for your inspection at any reasonable time.

Quality Assurance Representative

Signed

SIM NGUYEN

Final Inspection & Test Report

CherryMax[®] Rivet

An ISO9001 and AS9100 registered company. OASIS #6111041606

Part Numbers	Rev	Proc. Spec.	Rev	Lot I.D. No.:	87158829
CR3523PR-5-02	AB	PS-CMR-3000	R	Lot Size:	7,650
CR3523-5-02	AB	PS-CMR-3000	R	MFG. Date:	December 10, 2008
** See 2nd Page for the Customer Parts					

ASSEMBLY DATA

TYPE	ID #	CERT #	MATERIAL	FINISH	LUBE
Rivet	87152935	A59285	QQ-N-281/MONEL	None	None
Stem	87136117	A59733	AMS5657 / 15-7PH	None	AS5272, Type 1, Moly Disulfide
Collar	00000000	A60191	A-286 / AMS5731	Passivate per AMS2700	None

W.O. #: 5355980

Final Lube: None

MECHANICAL STRENGTH TEST

MIN REQ'D SAMPLE SIZE SPECS	INSTALLED SHEAR		TENSION		SPINDLE RETENTION		DISASSEMBLY
	888				250		10
	5	N/A	N/A	N/A	5	N/A	5
	C-N	B	C-N	B	C-N	B	C-N
RESULTS	1370				368		40
	1453				383		44
	1498				387		34
	1368				395		50
	1405				405		36
C=CR N=NAS M=MIL B=BAC LOAD VALUES IN POUND							

METALLURGICAL AND OTHER RELATED TESTS/REQUIREMENTS

PCS.	ITEM	STATUS	PCS.	ITEM	STATUS
80	EXAMINATION	PASS	20	INSTALLATION (Min and Max Grips)	PASS
	Locking feature (missing collar/spindle)			Spindle Protrusion/Recession	
	Roundness/Concentricity			Collar Protrusion	
	Dimensional, ID Marks, Tool Marks/Nick			Blind Head Dia./Formation	
	Visual (grip/material code, ID)			Tightness in plate	
	Laps, seams, folds				

Comments:

Blind Fastener

Tr. Rev:	Q Code
Rev. Date: 12/10/2008	V10
Inspector	
A Silva	

Cherry Aerospace certifies that the product tested above conforms to all referenced specifications listed and that the original data are available for review upon sufficient notice. Cherry Aerospace further certifies that the articles listed above have been manufactured and inspected in accordance with FAA TSO-C148. The conditions and tests required for TSO approval of this article are minimum performance standards. Aircraft fasteners approved under this TSO are not necessarily interchangeable with other aircraft fasteners approved under this TSO. Substitution of parts may only be done if acceptable to or approved by the FAA Administrator.

This test report shall not be reproduced except in full, without the written approval of the laboratory.
The recording of false, fictitious, or fraudulent statement or entries on the certificate may be punished as a felony under Federal law.



CHERRY[®]AEROSPACE
SPS Performance Division, a PCC Company



Accredited
Nadcap[™]

Chemical Processing
Heat Treating
ISO/IEC 17025
Material Testing Lab

1224 East Warner Avenue
Santa Ana, CA 92707-0157

Final Inspection & Test Report CherryMax[®] Rivet

An ISO9001 and AS9100 registered company. OASIS #6111041606

Lot I.D. No.: **87158829**
Rev: -

Customer Parts List

<u>Customer Part Number</u>	<u>Rev</u>	<u>Proc. Spec.</u>	<u>Rev</u>
NAS9307M-5-02	3	NAS1687	2

Certified By Connie Ruggero

SOLD TO

CHERRY AEROSPACE
1224 EAST WARNER AVENUE
PO BOX 2157
SANTA ANA CA 92707

SHIP TO

CHERRY AEROSPACE
1224 EAST WARNER AVENUE
PO BOX 2157
SANTA ANA CA 92707

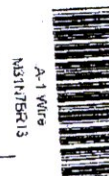
Order NO.
2024-7

Customers Order NO. P094896	A-1 Order NO. 2024-7	Date Shipped 8/2/2008	Sales Code 99	Ship VIA ESTES	Bill Method PPD/ALL
---------------------------------------	--------------------------------	---------------------------------	-------------------------	--------------------------	-------------------------------

2300 LBS

M400 .1540" X COIL (MONEL 400)
SOAP DRAWN, SHAVED, DEFECT FREE, RMS 32
ITEM M015.1540
2350 LBS 2 CARRIERS/23 COILS (COMPLETE SHIPMENT)

RC188849
8/11/08



A59285

HEAT M31N7BR13 ✓											
C	Mn	Fe	S	Si	Cu	Ni	Cr	Al	Ti	Mg	CD
.02 ✓	.84 ✓	1.47 ✓	.002 ✓	.14 ✓	32.78	64.73 ✓		.01 ✓			
Co	Mo	Nb	Ta	P	B	Ca	Nb+Ta	Ni+Co	N	O	
				.009 ✓							
V	W	As	Sn	Pb	Se	Sb	Bi	Zn	Be	Zr	Al+Ti
			PPM 1.2	PPM 3.8				PPM 7.2			

Notes The % of Nickel Includes a small amount of Cobalt
To convert PPM to WT% - Move decimal point 4 places to the left

AS SHIPPED PROPERTIES:

TENSILE STR.	YEILD STR.	%ELG	%R/A	Grain Size	HARDNESS	SHEAR	Wrap/Bend
REPORT	50-70,000 PSI	REPORT	REPORT	4 OR FINER	REPORT		
75,184 PSI	52,964 PSI	44.6	80.38	TO FOLLOW	81.5 RB		

AFTER HEAT TREAT PROPERTIES @ ROOM TEMPERATURE:

TENSILE STR.	YEILD STR.	%ELG	%R/A	Grain Size	HARDNESS	SHEAR	Wrap/Bend
		44.6					
Stress Rupture °F	TENSIL STR.	%ELG	%R/A	Test Temp	Test Time		



AUG 25 2008

CHERRY SPEC M15 REV Y, AMS 4730F, QQN 281D CLASS A

Connie Ruggero
Connie Ruggero
QA Certification Tech

Melt Source: HUNTINGTON ALLOYS

Country of Origin USA

Manufactured In USA

Material complies to DFARS 252.225.7014-225.7002-3(b)(1)

The results reported on this test report represent the actual attributes of the material furnished and indicate full compliance with all applicable specifications and contract requirements. Each lot has been sampled, tested, and inspected in accordance with the specification and meets all specification requirements.** Certification complies to EN10204-3.1.8. The recording of false fictitious or fraudulent statements or entries on this document may be punished as a felony under federal statutes including federal law, Title 18, Chapter 47. (MIL-I-45208). Material when shipped is free from contamination by mercury, radium, alpha source and low melting elements.

A59285

IDENTIFICATION RECORD
A Special Metals Company

NOTE: THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTE.
WESTERN U.S.



A-1 WIR
M31176R13

CERTIFIED MATERIAL TEST REPORT		No.	63428
HA ORDER NO./ITEM		DATE	PAGE
100036036 1		06/25/08	2
QUANTITY		INSPECTED BY	
12906 LBS		HA/SMC	
CHARGE ORDER NO.		MARK ORDER NO.	
37177		37177	
DESCRIPTION OF MATERIAL SHIPPED		MONEL ALLOY 400 HR ROD - COIL PRL ANN	
		.5310 IN COIL	

THIS IS TO CERTIFY THAT ALL REQUIRED SAMPLING, INSPECTIONS AND TESTS HAVE BEEN PERFORMED IN ACCORDANCE WITH THE ORDER AND SPECIFICATION. REQUIREMENTS THE TEST REPORT VERIFIES THE ACTUAL ATTRIBUTES OF THE MATERIAL. THE MATERIAL HAS BEEN INSPECTED AND TESTED IN ACCORDANCE WITH THE ORDER AND SPECIFICATION. THE MATERIAL IS IN FULL COMPLIANCE WITH ALL ORDER AND SPECIFICATION REQUIREMENTS. THE ORDER AND SPECIFICATION BELOW REFERS TO AN AGREEMENT WITH THE SIGNED CONTRACT REQUIREMENTS.

QUALITY CERTIFICATION REPRESENTATIVE

GRAIN SIZE-AS SHIPPED ACS ASTM NO. 6.
NORMAL - TRAN

N32NSBR 11 5 PCS
ROOM TEMP-HRB -AS SHIPPED *** 58.6 0266 0670 52.2 81.6

GRAIN SIZE-AS SHIPPED ACS ASTM NO. 7.
NORMAL - TRAN
*** TENSILE SPECIMEN GAUGE LENGTH - 02.500

YIELD STRENGTH WAS DETERMINED USING A STRESS STRAIN CURVE

NO WELDING OR WELD REPAIR WAS PERFORMED.

ASME QUALITY SYSTEMS CERTIFICATE QSC-328 EXPIRES 3/25/2011, AND AS APPLICABLE, ASME QUALITY SYSTEMS ANY SUBCONTRACTED WORK ALSO COMPLIES WITH CUSTOMER & ASME SECTION III, NCA 3800 REQUIREMENTS. THIS CERTIFICATION AFFIRMS THAT THE CONTENTS OF THIS REPORT ARE CORRECT AND ACCURATE AND THAT ALL TEST RESULTS AND OPERATIONS PERFORMED BY SPECIAL METALS CORPORATION, INC. OR ITS SUBCONTRACTORS ARE IN COMPLIANCE WITH THE MATERIAL SPECIFICATIONS AND THE SPECIFIC APPLICABLE MATERIAL REQUIREMENTS OF ASME SECTION III.

COUNTRY OF ORIGIN: MELTED AND MANUFACTURED IN THE USA

VISUAL AND DIMENSIONAL EXAMINATION SATISFACTORY. MATERIAL, WHEN SHIPPED, IS FREE FROM CONTAMINATION BY MERCURY, RADIUM, ALPHA SOURCE, & LOW MELTING ELEMENTS.

"CHEMICAL ANALYSIS AS REQUIRED FOR CARBON, SULFUR, NITROGEN OR OXYGEN IS PERFORMED BY COMBUSTION TECHNIQUES. ALL OTHER REPORTED ELEMENTS ARE ANALYZED BY X-RAY AND/OR EMISSION SPECTROSCOPY."

"QUALITY SYSTEM MEETS REQUIREMENTS OF DIRECTIVE 97/23/EC (PRESSURE EQUIPMENT DIRECTIVE). ANNEX 1, CHAPTER 4.3 PER ABS GROUP LTD CERTIFICATE 008 (EXPIRES AUGUST 2008)."

AUTHORIZED QUALITY CERTIFICATION REPRESENTATIVES:
W.E. MOLEN, P.D. CUSTER, M.A. MORRISON, P. WAUGH



AUG 25 2008

CERTIFICATE OF TESTS
CERT SERIAL# 000651713

ABNAHMEPRUEFZEUGNIS

CERTIFICAT DE CONTROLE



CARPENTER

Carpenter Technology Corporation
101 West Bern Street, Reading, Pa. 19601
Tel: (610) 208-2000 (800) 338-4592

- THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.
- THE VALUES AND OTHER TECHNICAL DATA REPRESENT THE RESULTS OF ANALYSES AND TESTS MADE ON SAMPLES COLLECTED FROM THE TOTAL LOT. ORIGINAL DATA RECORDS CAN BE TRACED BY REFERENCE TO THE CARPENTER ORDER NUMBER.
- MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADIUM, ALPHA AND GAMMA SOURCE CONTAMINATION.
- THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF CARPENTER TECHNOLOGY CORPORATION.

09/23/08

CUSTOMER/BESTELLER/CLIENT

SELLER/VERKÄUFER/VENDEURPAGE 1 OF 1

CHERRY AEROSPACE LLC
SCOTT MARTIN
PO BOX 2157
1224 E WARNER
SANTA ANA ,CA 92707

CARPENTER TECHNOLOGY CORP
101 W. BERN STREET
READING ,PA 19601

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/POIDS
83605	LOS602301 L35340	08/29/08	2507

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

554715✓

PRODUCT DESCRIPTION: CARPENTER 15-7 PH ANNEALED CF WIRE FOR HEADING SC2
----- STRAND CU/SOAP JIT

SPECIFICATION: TEXTRON AEROSPACE M-84 REV AB (01/14/08)
----- AMS 5657 REV B (02/ /07) (CHEM ONLY)

SIZE 0.104000 IN. (2.64 MM) RD WIRE

PRIMARY HEAT CHEMISTRY(WT%): (TEST METHOD IS SHOWN IN PARENTHESIS)

C (COM)	MN(XRF)	SI(XRF)	P (XRF)	LT	S (COM)	CR(XRF)
0.07✓	0.55✓	0.30✓	0.014✓		.001✓	15.38✓
NI(XRF)	MO(XRF)	AL(XRF)	N (FUS)			
7.39✓	2.14✓	1.22✓	0.020✓			

CAPABLE OF A SURFACE FINISH OF MAX N7 (63 RA MAX).

YIELD STRENGTH, (0.20 %) KSI(MPA)	116.0(800)
TENSILE STRENGTH, KSI(MPA)	168.0(1158)
ELONGATION IN .41", %	26.0

CAST TEST - SATISFACTORY

MATERIAL PRODUCED ON THIS ORDER WAS MELTED AND MANUFACTURED IN THE U.S.A. MATERIAL HAS BEEN MELTED IN USA OR QUALIFYING COUNTRY TO DFARS REQUIREMENTS 252.225-7014 WITH ALTERNATE 1 FOR QUALIFYING COUNTRY 225.872.1. CARPENTER'S QUALITY MANAGEMENT SYSTEM WAS REGISTERED AS OF SEPTEMBER 2, 2004 TO THE REQUIREMENTS OF ISO 9001:2000 APPROVAL CERTIFICATE 07-0869 BY PERFORMANCE REVIEW INSTITUTE. CERTIFICATE OF TEST IS PREPARED IN ACCORDANCE WITH PARAGRAPH 3.1 OF EN 10204 (DIN 50049). WE HEREBY CERTIFY THAT THE ABOVE TEST DATA ARE IN ACCORDANCE WITH THE PURCHASE ORDER AND SPECIFICATION REQUIREMENTS.

DEANA KISSLING
MET RELEASE/REQUIREMENTS ANALYST
CARPENTER TECHNOLOGY CORPORATION



SEP 26 2008

A59733



Certech Corp
554715

Deana M. Kissling

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.
Die vorliegende Zertifizierung ist nur für den in diesem Formular genannten Kunden gültig. Carpenter übernimmt gegenüber Dritten keinerlei Haftung für die ausgewiesenen Daten oder Zertifizierungen.
Ce certificat est uniquement valable pour le client dont le nom est imprimé sur ce formulaire. Carpenter n'assume pas de responsabilité pour une certification vis-à-vis d'une tierce personne.

Certificate of Analysis

Radcliff Wire Inc. 97 Ronzo Rd., P.O. Box 603, Bristol, CT 06010

Date Shipped: 10/20/2008

PO #: VP091194

Qty. Shipped: 77 LBS-6 BLACK
MIG SPOOLS

Radcliff No.: 112792

Heat No.: QG890

Customer: CHERRY AEROSPACE
SANTA ANA OPERATIONS
1224 EAST WARNER AVE
SANTA ANA, CA 92705-5414

Country of Origin: FRANCE

Original Mill Source: FRANCE

Size: .0075 X .014 X .081 ***

Material: A286 Stainless Steel

Description: SPECIAL SHAPE

Specification: AMS 5731 REV L CHEM ONLY

Notes:

DFAR COMPLIANT
NET WGT 77 LBS
PART# M189.05 REV V

Chemical Properties

Al: 0.16%	B: 0.007%	Bi: <0.00002%	C: 0.04%	Co: 0.21%
Cr: 14.71%	Cu: 0.38%	Fe: BAL%	Mn: 1.75%	Mo: 1.25%
Ni: 24.53%	P: 0.015%	Pb: <0.0001%	S: 0.001%	Si: 0.11%
Ti: 2.17%	V: 0.32%			

Tensile: 98 KSI

Rockwell:

Certs/Material

The material as shipped is free from mercury contamination



NOV 04 2008

Lisa Piatek

Lisa Piatek

Certification Clerk

RADCLIFF WIRE INC.
QG890



A60191

PERTH, ON
ERIN, ON
DUMAS, AR
LANCASTER, SC

613-267-3752 FAX 613-267-5617
519-833-9632 FAX 519-833-2213
870-382-2980 FAX 870-382-6988
803-283-3353 FAX 803-283-6303



CENTRAL WIRE

UNION, IL
HOUSTON, TX
PERRIS, CA

815-923-2131 FAX 815-923-2126
713-486-1000 FAX 713-466-7425
951-657-2105 FAX 951-943-6061

THE LEADING MANUFACTURER OF STAINLESS STEEL, NICKEL AND COPPER ALLOY WIRE PRODUCTS
EXECUTIVE OFFICES: PERTH, ON CANADA - EMAIL sales@centralwire.com

UNION WIRE PLANT
OLSON & JEFFERSON STREET UNION, IL 60180-0423
TEL: 815-923-2131 FAX: 815-923-2126

CERTIFICATE OF CONFORMANCE

SOLD
TO

RADCLIFF WIRE INC.
P.O. BOX 603
BRISTOL, CT 06011-0603
USA

SHIP
TO

RADCLIFF WIRE INC.
97 RONZO ROAD
BRISTOL, CT 06110-0603
USA

CUSTOMER'S PO NO.	TYPE OF CERT	CUSTOMER	ORDER NO.	WORK ORDER	DATE SHIPPED
39808	Customer	124610	1116171 4	4081678	10/09/08

SPECIFICATIONS:

ITEM DESCRIPTION			SPEC. CLASS	HEAT
DESCRIPTION				
Forming A286SF	Melt mill			QG890
SKIN PASSED Bright	ArcelorMittal			
.0340 200LB. Plastic Spools	Country of origin		QTY SHIP	
Clean	FRANCE		437	044

CHEMICAL ANALYSIS						
C	MN	SI	P	S	CR	NI
.04	1.75	.11	.015	< .001	14.71	24.53
MO	CU	CO	AL	TI	FE	B
1.25	.38	.21	.16	2.17	Balance	.007
V	BI	PB				
.32	< .00002	< .0001				

MECHANICAL PROPERTIES						
AS SHIPPED PROPERTIES:						
TENSILE 95.000 KSI MIN	TENSILE 112.000 KSI MAX					
AFTER HEAT TREAT PROPERTIES:						
					NOV 04 2008	



A60191
RADCLIFF WIRE, INC.
05830

* PASSIVATED IN PROCESS *

The material as shipped is free from mercury contamination. I certify the chemical analysis and physical and mechanical test results reported above are correct as contained in the records of the company.

Very truly yours,

David Mung

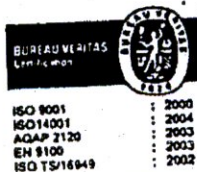
AUTHORIZED SIGNATURE

ArcelorMittal

Usine - Works - Werk
Stainless & Nickel Alloys Wire
BP4 - 58160 IMPHY FRANCE
Tel : 03 86 21 36 03
Fax : 03 86 21 31 14

CERTIFICAT DE RECEPTION
Inspection certificate - Abnahmeprüfzeugnis

TYPE 3-1 according to EN 10204 : 2004



n° C055501/2

Date of expiration
15 June 2009
23 Sept 2009

Client : TECHALLOY UNION
Customer :
Kunde :
V/Commande : 2005535
Your order :
Ihre Bestell. Nr :
Spécification : D.3.PRS.010.S ORIG.
Specification :
Vorschrift :

du : 12.21.07
of :
von :

NIRéférence : 191857/01
Our reference :
Unser Auftrag Nr. :

Produit : HQ 286 WIRE ROD
Product :
Erzeugnisform :
DIAM/7.5000/MM
SS A286 (.295")

Etat de livraison :
Condition of delivery :
Lieferzustand :

SHAVED-DRAWABLE

N° de fabric. : 4100121850
Manufact. Nr :
Fabrik. Nr :

Poids : 2996.050 LB
Weight :
Gewicht :

Nombre : 4 PI
Part. No :
Stückzahl :

COMPOSITION CHIMIQUE (1 poids)
CHEMICAL COMPOSITION (1 weight)
CHEMISCHE ZUSAMMENSETZUNG (1 Gewicht)

Coulée N° : QG890/14
Heat Nr :
Schmelze Nr :

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	Co
.04	1.75	.11	< .001	.015	24.53	14.71	1.25	.38	.21
V	Al	Ti	Pb	B	B	Fe			
.32	.16	2.17	< .0001	< .00002	.007	bal.			

CARACTERISTIQUES MECANQUES ET AUTRES ESSAIS / TESTS RESULTS

ETAT DE LIVRAISON
CONDITION OF DELIVERY

RESISTANCE..... TENSILE STRENGTH..... : 591 MPA
GRAIN ASTM..... SIZE ASTM..... : 6/7 ASTM

HYPERTREMPE 980°1H EAU+VIEILLISSEMENT 720°16H AIR
HEAT TREATMENT OF SPECIMEN 1800°F1H WATER+1325°F 16H AIR

LIMITE ELASTIQUE. YIELD STRENGTH 0.2%.. : 750 MPA
RESISTANCE..... TENSILE STRENGTH..... : 1114 MPA
ALLONGEMENT..... ELONGATION SUR 40..... : 28.3 %
STRICTION..... RED. OF AREA..... : 54.0 %
DURETE HB..... HARDNESS..... : 323 HB

FLUAGE

STRESS RUPTURE TEST AT 1200°F (649°C)

AT 70,000 PSI (483MPA)

DUREE DE VIE..... TIME..... : 74.5 H
ALLONGEMENT..... ELONGATION..... : 20.6 %



NOV 04 2008



QUALITY CONTROL

MERLIN CHR.

Signature :
Signature :
Unterschrift :

03.07.08

PAGE N°: 1

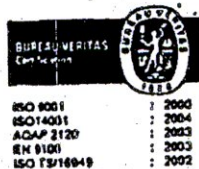
Voir page suivante

ArcelorMittal

Usine - Works - Werk
Stainless & Nickel Alloys Wire
BP4 - 58160 IMPHY FRANCE
Tel : 03 86 21 36 03
Fax : 03 86 21 31 14

CERTIFICAT DE RECEPTION
Inspection certificate - Abnahmeprüfzeugnis

TYPE 3-1 according to EN 10204 : 2004



n° C055501/2

Date of expiration

15 June 2008

23 Sept 2008

Client
Customer
Kunde : TECHALLOY UNION

Vi/Commande
Your order
Ihre Bestell. Nr : 2005535

du
of : 12.21.07
von

Spécification
Specification
Vorschrift : D.3.PRS.010.S ORIG.

W/Reference
Our reference
Ihrer Auftrag Nr. : 191857/01

ETAT HYPERTREMPE 900° + VIEILLISSEMENT 720°16H AIR

HEAT TREATMENT OF TEST SPECIMEN 1650°F 1H WATER+1325°F16H AIR

LIMITE ELASTIQUE. YIELD STRENGTH 0.2%... : 761 MPA
RESISTANCE..... TENSILE STRENGTH..... : 1122 MPA
ALLONGEMENT..... ELONGATION SUR 4D.... : 28.7 %
STRICTION..... RED. OF AREA..... : 55.0 %
DURETE HB..... HARDNESS..... : 324 HB

FLUAGE

STRESS RUPTURE TEST AT 1200°F (649°C)

AT 65,000 PSI(448MPa)

DUREE DE VIE..... TIME..... 117.0 H
ALLONGEMENT..... ELONGATION..... 26.5 %

"MATERIAL IS FREE FROM MERCURY, RADIUM,
OR ALPHA PARTICLE CONTAMINATION

"THE WILLFUL RECORDING OF FALSE OR FRAUDULENT
STATEMENTS ON THIS DOCUMENT MAY RESULT IN
PUNISHMENT AS A FELONY UNDER FEDERAL STATUTES"

"MELTING PROCESS : EF + VAR"
"NO WELDING WITH FILLER METAL HAS BEEN PERFORMED"
"STRESS RUPTURE AND AGE HARDENING AND CHEMISTRY TO MEET
LATEST ISSUE OF AMS 5731, AMS 5732, 5734 AND 5737"
ARCELORMITTAL STAINLESS NICKEL ALLOYS WIRE CERTIFIES THAT THIS
MATERIAL HAS BEE MELTED/PRODUCED IN FRANCE, QUALIFYING COUNTRY,
AS REQUIRED BY DFARS 252.225-7014



NOV 04 2008



RADCLIFF WIRE, INC.-
06890