### Catalina Cylinders

12452 Monarch Street Garden Grove, CA 92841

# Declaration of Conformity according to the European Pressure Equipment Directive 2010/35/EU and conforms with the requirements of the ADR/RID 2011 (PED)

For pressure equipment

The manufacturer herewith declares that the pressure equipment described below complies with the requirements of the Pressure Equipment Directive.

#### Description:

Aluminum Cylinder for Compressed Breathing Gas For Application in Breathing Apparatus

Model: S80.3

Volume [L]: 11.1

Test pressure Рн [bar]: 311

Service pressure Ps [bar]: 207

Serial numbers: GV0002842 - GV0002850

Year/month of Manufacture: 2014/02

Applied conformity assessment procedures: Modules B + C1

Applied Standards: ISO 7866; 1999

EC Type Examination Certificate: USA 11-02-189-005

Notified body in charge for monitoring of the final assessment: TUV SUD Industrie

Service GmbH, Westendstr. 199 D-80686 Munchen, NB No: 0036

Date: 2/24/2014

Name:

Bob Lance

Manufacturer's Stamp: Catalina

alina Pi

Position:

Quality Manager

Signature <u>Bol</u> Janu

DATE: 02-24-14

MODEL: S80.3

#### **CERTIFICATE OF CONFORMANCE** Application of ISO 7866:1999

#### Seamless Aluminum Cylinders Model No. S80.3

MANUFACTURED FOR:

STOCK

MANUFACTURED BY:

CATALINA CYLINDERS,

7300 ANACONDA AVENUE, GARDEN GROVE, CALIFORNIA 92841

QUANTITY: 9

**SERIAL NUMBERS:** 

GV0002842

TO

GV0002850

**BATCH NUMBER(S):** 

**AB358** 

**HEAT NUMBER(S):** 

OP2

**TECHNICAL DATA:** 

Service Pressure:

207 Bar

**Test Pressure:** 

311 Bar

**Nominal Size** 

184.2 mm OD

Minimum Wall:

12.1 mm

657.9 mm Long (without cap and without valve)

Nominal Volumetric Capacity:

11.1 Liters

**CONSTRUCTION:** Backward Extrusion to Form a Seamless Shell, the open end is closed by swaging.

MATERIAL AND HEAT TREATMENT: AA Alloy Designation 6061A. Solution Treatment and Artificial Aging to the

6061 T6 Condition

STAMP MARKING: Markings as noted on layout attached to this certificate.

I hereby certify that I have determined the cylinders covered by this Certificate of Conformance have been manufactured in accordance with the requirements of ISO Standard 7866:1999, and have passed all the inspections and tests required by this ISO Standard.

Remarks:

CATALINA CYLINDERS

Garden Grove, CA

Signed:

Inspector

Date: 02-24-14

#### **Measurement of Cylinders**

Batch No.	Serial Numbers	Water Capacity	Minimum m	easured thickness
AB358	GV0002842- GV0002850	100% Inspected all capacities 11.1L or greater	100% Wall Thickness Inspected all above 12.1 mm minimum	100% Base Thickness Inspected all above 18.7 mm minimum

#### Mechanical Testing.

Batch Serial	Serial Numbers	Cast No.	V.1164	T- 13-	F1	Flattening	Burst Test	Burst	Hardness	
No.			Yield Stress (Mpa)	Tensile Stress (Mpa)	Elongation %	Test	Serial No.	Test (Bar)		
AB358	GV0002842 to	OP2	302.5	359.3	18.7	OK	GV0000680	581.9	OK	
:	GV0002850		306.6	355.5	17.9					

#### Record of Chemical Analysis of Material for Cylinders

HEAT NO.	Type of Analysis (Ladle or Check)	CHEMICAL ANALYSIS														
(HEAT CODE)		Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi					
OP2	OP2 LADLE		.16	.31	.03	.88	.073	.00	.01	.000	.000					

Date: 02-24-14

Place: GARDEN GROVE, CALIFORNIA USA

Signature: On behalf of Catalina Cylinders

## **CYLINDER 100% HARDNESS TEST**

Cylind	ler type:	S8	0.3		Lot n	umber:	AB358					
Highest	reading:	70	).4		Lowest	eading:						
Sample	readings:											
67.8	65.3	68.2	62.3	60	69.3	66.5	68.8	70.4				
manufa	a Cylinders cert ctured by Cata 6 (11.3) standa	lina cylind	52 all cylind	to to ers in th	75 e above l	ot numbe ted per th	r					
Date:												

QMF 06T

#### **Burst Test Form**

#### **Specifiction Information**

Specification(s):

ISO 7866

Minimum Burst Pressure (B/P): 497bar / 7,200psi

Specification Section(s): 10.4

- 1. Rate of pressurization may not exceed 200psi per second throughout entire pressurization.
- 2. Burst fracture must initiate in the longitudinal direction in the cylindrical portion of the cylinder. The cylinder must not fragment.

Cylinde	er Name:	S80.3	3		
Size; capacity:	678 cu.in	diameter:	184.15mm	length:	658.81mm
Pressure;	Service:	207bar / 3000psi	Test:	311	bar / 4500psi
Serial Number (1):	GV0000680	Cast #:	OP2	Lot #:	AB358
Serial Number (2):		Cast #:		Lot #:	
Serial Number (3):					
V			0.1130		
est Information		1	Test Date: Burst Tes	- Doculto	
Cylir Serial Number	nder State of Man	Pressur f. (psi)			Fragmentation, Pieces
GV0000680	Hydroed	8,439	lower si	dewall	none
Notes:					
		Page 1			
	All	Re R			

QMF 0AI

Issue No: 1

Issue date: 7/13/10

#### **Record Of Hydrostatic Testing**

In accordance CGA Pamphlet C-1

Manufacturer: Catalina Cylinders / Garden Grove

Test Date: Day: 21-Feb-14

Independent Inspector: T. H. Cochrane Labs

Time:

Friday 2:00 PM

Cylinder Type: \$80.3

Test Station:

#4 Hydro

Test Pressure (T/P): 4500

Cylinder Serial Number	Cylinder Lot Number	Hydro Jkt Num	Actual T/P (psi)	Total Expan (cc)	Perm Expan (cc)	Ratio Perm/Tot (%)	Empty Weight (lbs)	Full Weight (lbs)	Volume Capacity (cu in)	Pass or Fail
GV0002842	AB358	1	4520	64.7	0.4	0.6	31.25	55.95	685.18	PASS
GV0002843	AB358	2	4520	64.6	0.3	0.5	31.20	55.95	686.57	PASS
GV0002844	AB358	3	4520	64.8	0.4	0.6	31.20	55.95	686.57	PASS
GV0002845	AB358	4	4520	64.7	0.4	0.6	31.20	55.90	685.18	PASS
GV0002846	AB358	5	4520	65.2	0.5	8.0	31.25	55.95	685.18	PASS
GV0002847	AB358	1	4520	64.4	0.1	0.2	31.25	55.95	685.18	PASS
GV0002848	AB358	2	4520	64.2	0.0	0.0	31.20	55.85	683.79	PASS
GV0002849	AB358	3	4520	64.2	0.0	0.0	31.30	56.00	685.18	PASS
GV0002850	AB358	4	4520	64.4	0.0	0.0	31.20	55.85	683.79	PASS







## **Record Of Mechanical Property Testing**

Independent Inspection Agency: T.H. Cochrane Laboratory, Ltd(IA03) Manufacturer: Catalina Cylinders / Garden Grove, CA Facility (M4002)

HT Lot#

AB358

Friday, March 30, 2012 8:08 AM

Cylinder Type

S80

Cast #

OP2

Crosshead Speed 0.11

in/min

2

/

Fail\_ Fail

Fail

Crush Test Pass

Material: 6

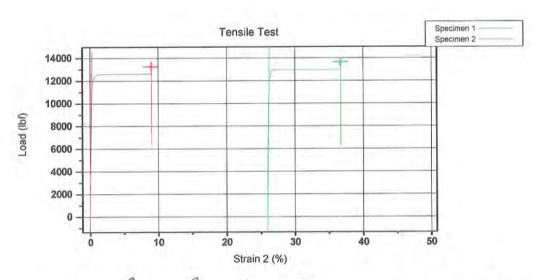
6061-T6

Specimens tested:

Hardness

68

	Thickness (in)	Width (in)	Area (in^2)	YTS-Load (lbf)	YTS (psi)	UTS-load (lbf)	UTS (psi)	%e (%)
1	0.524			11471.1	43870.6	13625.0	52108.1	18.7
2	0.514	0.500	0.2570	11426.9	44462.7	13250.9	51559.8	17.9



INSPECTOR:

Camacho

(IZ)

DATE: 3:30:12

SHA

Page: 4/6

LES LINGOTS TRI-LOK 23KG, LES LINGOTS EN FORME DE T. LES GUEUSES, LES LINGOTS DE LAMINAGE MIS AU REBUT ET AUTRES LINGOTS DE REFUSION ONT TENDANCE L	Bundles: Poids net:  40  Net Weight:		11180201A 8207868	11180201A 8207867		11180201A 8207866	11180001A 8207862		11180001A 8207861	11180001A	77	11180001A 8207859		11180001A 8207858	Complete and of prob	ılée	Analyse en % d		10	nited States	GARDEN GROVE		7300 ANACONDA AVE	DIVISION OF ALUMINUM PRECISION PRODUCTS	CATALINA CYLINDERS	The state of the s	
T. LES GUEUSES, LES LINGOTS D	t: KG		168 2,357	2,356		366 2,356	362 2,356		861 2.356	860 2,356		859 2,356		858 2,356	Net Weight (KG)		Analyse en % du poids / Analysis in % of weight			11211	Ta .	0.0		ISION PRODUCTS			
E LAMINAGE MIS AU REBUT	91,791 202,365		5.196	5,194		5,194	5,194		5 194	5,194		5,194		5,194	Net Weight (LB)	Poids net (LB)	veight		44124-4185		CLEVELAND, OH		6150 PARKLAND BLVD.,	APMG - INGOT SALES	ALCAN PRIMARY PRODUCTS CORP.		
ET AUTRES LI	Pieces :		o o	6		o o	6		n	6		0		0	Pieces	Pièces					Ĭ		ND BLVD	SALES	RY PRO		
NGOTS DE REF	234	0.000	0.59	0.59	0,000	0.59	0.60	0.000	0.000	0.60	0.000	0.60	0.000	0.000		Pb	Si						, SUITE 200		DUCTS CO		
JSION ONT TEN	Tare :	0.000	0.000	0.16	0.000	0.16	0.16	0.000	0.000	0.16	0.000	0,16	0.000	0,000		Sn	Fe						00		ORP.		
DANCE L	E 6		0.30	0.30		0.30	0.31	0.01	2	0.31		0.31		0.31			Cu										
			0 00	0.03		0.03	0.03	0.00	2	0.03		0.03		0.03			Mn	Dimension :	Produit / Product :	Alliage (A	Equipeme	Liste d'ex	Connaiss	Date d'ex			
	800 1,764	0.01	0.87	0.87	0.01	0.87	0.88	0.00	0	0.88		0.88		0.88			Mg		product:	Alliage (AA) / Alloy (AA) :	Equipement / Equipment :	Liste d'exp. / Shiplist:	Connaissement / Bill of Lading:	Date d'exp. / Shipping Date:			
	Poids brut : Gross Weight :	7,000	0.072	0.072	2,0.0	0 073	0.073	0.073		0.073		0.073		0.073			Ç	184 MM DIA, X 5486 MM LONG		5.	ant:		f Lading:	Date:	G9N 6W4	Shawinigan	1100 Boul. St-Sacrem
	ut:	0.01		0.01	0.01		0.00	0.00		0.00		0.00		0.00			Zn	5486 MM LO							i de	n n	1100 Boul. St-Sacrement
	E &	10.0	2	0.01	10.0		0.01	0.01		0.01		0.01		0			П		Alum	69276							
	20	0,000		0.000	0.000		0.000	0.000		0.000	0.000	0 000	0.000	000			<u>B</u>	7.25 IN DIA. X 216 IN LONG	Aluminum Extrusion Ingot		=		326-094172-064767	2			
1	92,591 204,128	0.01		0.01	0.01		0.01	0.01		0.01	0.01	2	0.01	2			Ga	16 IN LON	ision Ingo	(6061)	ICG978688	64767	72-06476	2011-12-27			

Imprimé le 2011/12/27 15:00:00

L'EXACTITUDE DE CES ANALYSES EST DANS LES NORMES DES LIMITES CONNERCIALES THE ANALYSES HERE ARE ACCURATE WITHIN COMMERCIAL LIMITS.

# AB358
02-21-14
C4LT4PE: 580-E2-33
T.V.

CHONSESCICT
2/2/14 S-80-E2-33,
JH CYCE
VO C.

\$85.18 (U.IN.)