

4.7L 31A/31B3  
Part No.: Composite  
Cylinder  
Rev.: 0.0/0.1  
Report Date: 06/03/21

**ARROWHEAD INDUSTRIAL SERVICES USA, INC.**  
Compressed Gas Container Specialists  
3537 S. NC 119, PO Box 1000  
Graham, NC 27253-1000

Report: 14821020  
Sheet No.: 1 of 18

**REPORT OF MANUFACTURE OF CARBON-FIBER REINFORCED FULL WRAPPED SEAMLESS ALUMINUM-LINED  
COMPOSITE GAS CONTAINERS**

**Manufactured for Location** BeiJing TianHai Industry Co.,Ltd  
NO 2 South 3rd HuoXian Street,HuoXian Town,TongZhou District  
BeiJing,China

**Manufactured by Location** Shanghai Tianhai Composite Cylinders Co.,Ltd  
Jiuting,Songjiang Hi-Tech Park  
Shanghai 201615, China

**Consigned to: Location** N/A

**Part Number:** 4.7L 31A/31B3 Composite Cylinder

**Quantity:** 198      **Size:** 5.53 inch/ 140.5 mm. outside diameter by 18.90 inch/ 480.1 mm. long.  
287 cuin./ 4.7 Liter

**MARKS PLACED ON IMBEDDED LABELS ARE:**

TC-3CCM-310 BAR  
DOT-SP14621-4500 PSI

**Serial Number:** B321001 to B321199 inclusive except as noted on hydrostatic test sheet

**Identifying Symbol (registered)** M0807

**Inspector's Mark:** 

**Test Date:** 05  21      **REE:** 80 cc

**Other Marks:** Label details see Attachment A

Each composite cylinder was made by completely overwrapping a seamless aluminum liner with resin impregnated filament reinforcement. Liners were made by forming a shoulder and neck on the open end of an aluminum seamless shell. Composite overwrap was made by winding resin impregnated Toray T700 carbon continuous filament over the liner in both longitudinal and circumferential directions, followed by curing of the resin at controlled temperature.

The aluminum liner was identified by heat number(s) and verified as to chemical analysis; record thereof is attached hereto. Liners fabricated from the aluminum were solution treated and artificially aged to T-6 temper. Physical tests were made in the presence of the inspector and report of results is attached hereto.

Each liner was inspected both before and after closing in the ends. All that were inspected were found to be free from seam, cracks, laminations and other defects that might prove injurious to the strength of the cylinder.

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Certifying Inspector: Joe Cassidy  
Director of Quality Assurance  
ARROWHEAD INDUSTRIAL SERVICES USA, INC.

4.7L 31A/31B3  
Part No.: Composite  
Cylinder  
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Report Date: 06/03/21

**ARROWHEAD INDUSTRIAL SERVICES USA, INC.**  
Compressed Gas Container Specialists  
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Report: 14821020  
Sheet No.: 2 of 18

**REPORT OF MANUFACTURE OF CARBON-FIBER REINFORCED FULL WRAPPED SEAMLESS ALUMINUM-LINED  
COMPOSITE GAS CONTAINERS**

Liner walls were measured and the minimum was found to be at least equal to the minimum design thickness of 0.051 inch/ 1.3 mm. The outside diameter was found by a close approximation to be 5.03 inch/ 128 mm.

Filament and resin components were certified by the manufactures, and identified by package/lot number. Filament was verified as to strand strength. Composite was verified as to shear strength. After wrapping composite was cured per manufacturer's specification as follows:

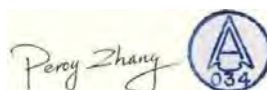
First raise temperature up to 176 °F, hold temperature for 2 hours,  
Then raise temperature up to 257 °F, hold temperature for 3 hours

Prescribed autofrettage and hydrostatic tests were made in the presence of the Inspector. All cylinders accepted conform to the specification requirements. Results of autofrettage and hydrostatic tests are attached hereto.

Tensile stress on the aluminum liner in the hoop direction is calculated to be  
8860 psi/ 61 N/mm<sup>2</sup> and 8727 psi/ 60 N/mm<sup>2</sup> in longitudinal direction at service pressure.

Carbon fiber stress is calculated to be 140711 psi/ 970 N/mm<sup>2</sup> in the hoop direction and  
77856 psi/ 537 N/mm<sup>2</sup> in the longitudinal direction at service pressure.

I hereby certify that all of these cylinders proved satisfactory in every way and conform with the requirements of DOT-CFFC, DOT-SP14621 and TC-3CCM.



Certifying Inspector: Percy Zhang  
ARROWHEAD INDUSTRIAL SERVICES USA, INC.

4.7L 31A/31B3  
 Part No.: Composite Cylinder  
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 Report Date: 06/03/21

**ARROWHEAD INDUSTRIAL SERVICES USA, INC.**  
 Compressed Gas Container Specialists  
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**REPORT OF MANUFACTURE OF CARBON-FIBER REINFORCED FULL WRAPPED SEAMLESS ALUMINUM-LINED COMPOSITE GAS CONTAINERS**


**RECORD OF CHEMICAL ANALYSIS FOR CYLINDER LINERS**

MANUFACTURED BY: Shanghai Tianhai Composite Cylinders Co.,Ltd  
 FOR: BeiJing TianHai Industry Co.,Ltd  
 PLATE SIZE:  
 SERIAL NUMBER: B321001 to B321199 inclusive ALUMINUM ALLOY: 6061

Mill Heat Code	Cast Code	Check Analysis Date	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Other Each	Other Total
338533	19	16-Nov-07	0.72	0.52	0.29	0.04	1.00	0.19	0.01	0.03	0.001	0.000	/	/
			0.67	0.50	0.29	0.01	1.00	0.18	0.00	0.03	0.001	0.000	/	/
338534	20	16-Nov-07	0.72	0.54	0.29	0.07	1.00	0.20	0.01	0.02	0.001	0.000	/	/
			0.67	0.48	0.26	0.06	1.00	0.18	0.01	0.03	0.001	0.000	/	/

The material were manufactured and mill analysis were made by: Alumax Mill Products,INC.Lancaster,PA

The check analysis were made by: Beijing Tianhai Industry Co.,Ltd. Beijing, P.R.China

*Percy Zhang* 

Certifying Inspector: Percy Zhang  
 ARROWHEAD INDUSTRIAL SERVICES USA, INC.

4.7L 31A/31B3  
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**ARROWHEAD INDUSTRIAL SERVICES USA, INC.**  
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**REPORT OF MANUFACTURE OF CARBON-FIBER REINFORCED FULL WRAPPED SEAMLESS ALUMINUM-LINED COMPOSITE GAS CONTAINERS**

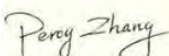

**RECORD OF PHYSICAL TESTS OF MATERIAL FOR CYLINDER LINERS**

MANUFACTURED BY: Shanghai Tianhai Composite Cylinders Co.,Ltd  
 FOR: BeiJing TianHai Industry Co.,Ltd

SERIAL NUMBER: B321001 to B321199 inclusive ALUMINUM ALLOY: 6061

Test Specimen: 6T width by 24T gauge length

LOT NUMBER	CYLINDERS REPRESENTED BY TEST (SERIAL NUMBER)		YIELD STRENGTH AT 0.2 PERCENT OFFSET (Psi/Mpa)	TENSILE STRENGTH (Psi/Mpa)	ELONGATION (PERCENT)
196R	B321001	to	45252 (312)	50038 (345)	13.9
	B321199		44672 (308)	50618 (349)	13.3
207R	B321001	to	44817 (309)	50763 (350)	13.9
	B321199		45252 (312)	51053 (352)	13.0

*Percy Zhang*  

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 Certifying Inspector: Percy Zhang  
 ARROWHEAD INDUSTRIAL SERVICES USA, INC.

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**REPORT OF MANUFACTURE OF CARBON-FIBER REINFORCED FULL WRAPPED SEAMLESS ALUMINUM-LINED COMPOSITE GAS CONTAINERS**

**RECORD OF COMPOSITE ANALYSIS**

MANUFACTURED BY: Shanghai Tianhai Composite Cylinders Co.,Ltd  
 FOR: BeiJing TianHai Industry Co.,Ltd

SERIAL NUMBER: B321001 to B321199 inclusive

Filament designation and specification: \* T700SC-12000-50C

\*\* E-Glass

Filament manufactured by: \* TORAY, JAPAN

\*\* Chongqing International Composite Co.,Ltd


MANUFACTURING LOT NUMBER	NUMBER TENSILE STRENGTH (Psi/Mpa)	INTERLAMINAR SHEAR (Psi/Mpa)	RESULT
*J7120A4	608433 (4195)	N/A	OK
**BE21021600401	229160 (1580)	N/A	OK
***PH0H0698	N/A	5960 (41.09)	OK

**RESIN SYSTEMS COMPONENTS AND MANUFACTURING LOT NUMBERS**

Resin Type: EPIKOTE / RESIN 828  
 Resin designation: Momentive  
 Resin manufactured by: Hexion B.V, Seattleweg 17 3195 ND, Pernis, Rotterdam, Netherlands.

RESIN		CURING AGENT		AIR RELEASE	
TYPE	LOT NUMBER	TYPE	LOT NUMBER	TYPE	LOT NUMBER
EPIKOTE / RESIN 828	PH0H0698	T-403	SC20M23S02	BYK-A-500	620B051

\* Carbon Fiber  
 \*\* Fiber Glass  
 \*\*\*Resin

*Percy Zhang* 

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 Certifying Inspector: Percy Zhang  
 ARROWHEAD INDUSTRIAL SERVICES USA, INC.

4.7L 31A/31B3  
 Part No.: Composite Cylinder  
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**ARROWHEAD INDUSTRIAL SERVICES USA, INC.**  
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**REPORT OF MANUFACTURE OF CARBON-FIBER REINFORCED FULL WRAPPED SEAMLESS ALUMINUM-LINED COMPOSITE GAS CONTAINERS**

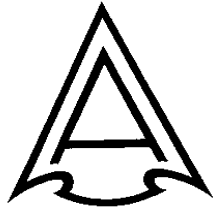
**RECORD OF LOT QUALIFICATION TEST**

MANUFACTURED BY: Shanghai Tianhai Composite Cylinders Co.,Ltd  
 FOR: BeiJing TianHai Industry Co.,Ltd  
 LOT No. B321  
 SERIAL NUMBER: B321001 to B321199 inclusive

LOT TEST CYLINDER S/N	TEST CYLINDER WEIGHT lbs/kgs	PRESSURIZATION RANGE AND CYCLE NUMBERS >= 4500 psi (31Mpa)	PRESSURIZATION RANGE AND CYCLE NUMBERS >= 7500 psi (51.7Mpa)	ACHIEVED BURST PRESSURE >= 15300 psi 105.5Mpa	BURST INITIATE LOCATION
B321071	6.4 (2.89)	10010	35	16904 (116.55)	CSW
B321071	6.4 (2.89)	NA	NA	16904 (116.55)	CSW

*Percy Zhang* 

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 Certifying Inspector: Percy Zhang  
 ARROWHEAD INDUSTRIAL SERVICES USA, INC.



# Arrowhead Industrial Services USA Inc.

Manufactured By: Shanghai Tianhai Composite Cylinders Co.,Ltd

Autofrettage pressure: 8410 psi 58.0 Mpa

Hold for: 60 Seconds

Part Number: 4.7L 31A/31B3 Composite Cylinder Test Date: 13-May-21

Testing pressure: 7500 psi 51.7 Mpa

Serial Number: B321001 to B321017 inclusive.

Hold for: 60 Seconds

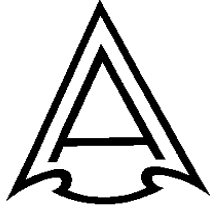
Cylinder Serial Number	Liner Cast Code/Lot No.	Weight				Volume cu. in	Autofrettage		Hydrostatic Test			Perm	Testing date
		Liner	Composite	Tare	Full		Total	Perm	Total	Perm	Elastic	Ratio	
		lbs	lbs	lbs	lbs		Expansion	Expansion	Expansion	Expansion	Expansion	to Ttl.	
B321001	207R001	2.6	3.7	6.3	16.7	287	97.4	15.6	72.4	1.1	71.3	1.5	13-May
B321002	207R002	2.6	3.7	6.4	16.8	287	103.1	20.4	72.9	1.0	71.9	1.4	13-May
B321003	207R003	2.6	3.7	6.4	16.8	287	97.5	15.7	72.1	0.3	71.8	0.4	13-May
B321004	207R004	2.6	3.7	6.4	16.8	289	96.6	14.5	71.7	0.6	71.1	0.8	13-May
B321005	207R005	2.6	3.8	6.4	16.8	288	97.7	16.7	74.4	1.8	72.6	2.4	13-May
B321006	207R006	2.6	3.7	6.4	16.8	288	98.6	17.6	74.1	1.3	72.8	1.8	13-May
B321007	207R007	2.6	3.8	6.4	16.8	288	101.3	20.3	74.9	1.5	73.4	2.0	13-May
B321008	207R008	2.6	3.7	6.4	16.8	288	101.2	20.8	74.7	1.2	73.5	1.6	13-May
B321009	207R009	2.6	3.8	6.5	16.9	289	104.6	23.8	74.3	2.5	71.8	3.4	13-May
B321010	207R010	2.6	3.8	6.5	16.9	289	100.4	19.4	73.4	1.6	71.8	2.2	13-May
B321011	207R011	2.6	3.6	6.3	16.7	289	101.9	20.0	73.9	1.7	72.2	2.3	13-May
B321012	207R012	2.6	3.7	6.4	16.8	289	105.8	22.9	74.9	2.0	72.9	2.7	13-May
B321013	207R013	2.6	3.7	6.4	16.8	289	103.6	23.2	72.9	1.1	71.8	1.5	13-May
B321014	207R014	2.6	3.7	6.4	16.8	288	102.1	20.9	73.3	0.9	72.4	1.2	13-May
B321015	207R015	2.6	3.8	6.5	16.9	289	101.8	21.4	73.3	1.4	71.9	1.9	13-May
B321016	207R016	2.6	3.7	6.3	16.8	289	100.0	19.6	72.8	1.2	71.6	1.6	13-May
B321017	207R017	2.6	3.7	6.4	16.8	289	102.3	20.7	73.3	0.5	72.8	0.7	13-May

*Yin. Zhang*

Accepted by: \_\_\_\_\_ on behalf of Arrowhead

Date 3-Jun-21

# Arrowhead Industrial Services USA Inc.



Manufactured By: Shanghai Tianhai Composite Cylinders Co.,Ltd

Autofrettage pressure: 8410 psi 58.0 Mpa

Hold for: 60 Seconds


Part Number: 4.7L 31A/31B3 Composite Cylinder Test Date: 13-May-21

Testing pressure: 7500 psi 51.7 Mpa

Serial Number: B321018 to B321034 inclusive.

Hold for: 60 Seconds

Cylinder Serial Number	Liner Cast Code/Lot No.	Weight				Volume cu. in	Autofrettage		Hydrostatic Test			Perm	Testing date
		Liner	Composite	Tare	Full		Total	Perm	Total	Perm	Elastic	Ratio	
		lbs	lbs	lbs	lbs		Expansion	Expansion	Expansion	Expansion	Expansion	to Ttl.	
B321018	207R018	2.6	3.7	6.4	16.8	289	101.9	20.7	72.5	0.0	72.5	0.0	13-May
B321019	207R019	2.6	3.8	6.4	16.9	289	97.2	17.4	72.1	0.3	71.8	0.4	13-May
B321020	207R020	2.6	3.9	6.5	17.0	289	101.3	20.8	72.5	0.2	72.3	0.3	13-May
B321021	207R021	2.6	3.7	6.4	16.8	289	106.5	24.8	73.7	1.3	72.4	1.8	13-May
B321022	207R022	2.6	3.8	6.4	16.9	289	109.9	27.3	74.5	1.6	72.9	2.1	13-May
B321023	207R023	2.6	3.8	6.5	16.9	289	104.8	23.5	74.0	1.4	72.6	1.9	13-May
B321024	207R024	2.6	3.8	6.5	16.9	288	103.3	22.0	73.1	1.2	71.9	1.6	13-May
B321025	207R025	2.6	3.9	6.5	17.0	289	103.7	22.7	74.1	1.6	72.5	2.2	13-May
B321026	207R026	2.6	3.7	6.3	16.8	289	100.7	19.5	73.3	0.5	72.8	0.7	13-May
B321027	207R027	2.6	3.8	6.5	16.9	289	102.6	21.5	74.5	1.7	72.8	2.3	13-May
B321028	207R028	2.6	3.8	6.4	16.9	289	103.5	23.3	74.1	1.3	72.8	1.8	13-May
B321029	207R029	2.6	3.7	6.4	16.8	289	101.7	20.2	74.7	2.8	71.9	3.7	13-May
B321030	207R030	2.6	3.9	6.5	17.0	289	100.9	19.2	74.9	2.9	72.0	3.9	13-May
B321031	207R031	2.6	3.7	6.4	16.8	289	98.1	16.5	75.0	2.8	72.2	3.7	13-May
B321032	207R032	2.6	3.8	6.5	16.9	289	103.7	25.5	74.2	2	72.2	2.7	13-May
B321033	207R033	2.6	3.8	6.4	16.8	289	102.9	21.1	74.9	1.9	73	2.5	13-May
B321034	207R034	2.6	3.8	6.4	16.9	289	101.6	20.9	74.3	1.9	72.4	2.6	13-May

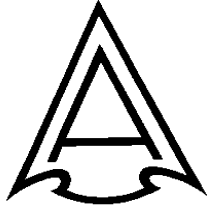
*Yim. Zhang*  


Accepted by: \_\_\_\_\_ on behalf of Arrowhead

Date 3-Jun-21



# Arrowhead Industrial Services USA Inc.



Manufactured By: Shanghai Tianhai Composite Cylinders Co.,Ltd

Autofrettage pressure: 8410 psi 58.0 Mpa

Hold for: 60 Seconds


Part Number: 4.7L 31A/31B3 Composite Cylinder Test Date: 13-May-21

Testing pressure: 7500 psi 51.7 Mpa

Serial Number: B321035 to B321051 inclusive.

Hold for: 60 Seconds

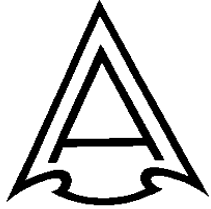
Cylinder Serial Number	Liner Cast Code/Lot No.	Weight				Volume cu. in	Autofrettage		Hydrostatic Test			Perm	Testing date
		Liner	Composite	Tare	Full		Total	Perm	Total	Perm	Elastic	Ratio	
		lbs	lbs	lbs	lbs		Expansion	Expansion	Expansion	Expansion	Expansion	to Ttl.	
B321035	207R035	2.6	3.9	6.5	16.9	289	102.4	21.5	74.8	2.2	72.6	2.9	13-May
B321036	207R036	2.6	3.7	6.4	16.8	289	101.5	18.8	74.6	1.5	73.1	2.0	13-May
B321037	207R037	2.6	3.8	6.5	16.9	289	101.9	21.5	72.3	1.3	71.0	1.8	13-May
B321038	207R038	2.6	3.8	6.4	16.9	289	101.5	20.6	72.3	1.0	71.3	1.4	13-May
B321039	207R039	2.6	3.8	6.4	16.8	289	97.3	16.1	72.5	1.4	71.1	1.9	13-May
B321040	207R040	2.6	3.9	6.5	16.9	288	101.5	20.8	72.6	1.4	71.2	1.9	13-May
B321041	207R041	2.6	3.7	6.4	16.8	288	104.9	23.4	73.4	0.8	72.6	1.1	13-May
B321042	207R042	2.6	3.9	6.5	16.9	288	101.6	20.5	72.9	0.7	72.2	1.0	13-May
B321043	207R043	2.6	3.8	6.5	16.9	289	106.1	25.0	73.9	1.3	72.6	1.8	13-May
B321044	207R044	2.6	3.8	6.4	16.8	289	103.5	21.4	73.6	0.5	73.1	0.7	13-May
B321045	207R045	2.6	3.9	6.5	16.9	288	102.4	21.4	73.6	1.4	72.2	1.9	13-May
B321046	207R046	2.6	3.7	6.3	16.8	289	105.2	24.5	73.4	1.3	72.1	1.8	13-May
B321047	207R047	2.6	3.8	6.4	16.9	289	99.6	19.3	74.2	1.8	72.4	2.4	13-May
B321048	207R048	2.6	3.8	6.4	16.9	289	99.1	17.9	75.6	2.4	73.2	3.2	13-May
B321049	207R049	2.6	3.7	6.4	16.8	289	103.9	20.6	76.1	2.5	73.6	3.3	13-May
B321050	207R050	2.6	3.8	6.5	16.9	289	99.9	18.7	74.6	2.1	72.5	2.8	13-May
B321051	207R051	2.6	3.7	6.4	16.8	289	97.9	16.9	73.5	1.1	72.4	1.5	13-May

*Yim. Zhang*  


Accepted by: \_\_\_\_\_ on behalf of Arrowhead

Date 3-Jun-21

# Arrowhead Industrial Services USA Inc.



Manufactured By: Shanghai Tianhai Composite Cylinders Co.,Ltd

Autofrettage pressure: 8410 psi 58.0 Mpa

Hold for: 60 Seconds

Part Number: 4.7L 31A/31B3 Composite Cylinder Test Date: 13-May-21

Testing pressure: 7500 psi 51.7 Mpa

Serial Number: B321052 to B321068 inclusive.

Hold for: 60 Seconds

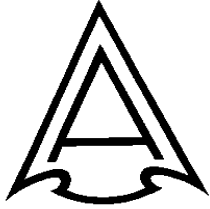
Cylinder Serial Number	Liner Cast Code/Lot No.	Weight				Volume cu. in	Autofrettage		Hydrostatic Test			Perm	Testing date
		Liner	Composite	Tare	Full		Total	Perm	Total	Perm	Elastic	Ratio	
		lbs	lbs	lbs	lbs		Expansion	Expansion	Expansion	Expansion	Expansion	to Ttl.	
B321052	207R172	2.6	3.8	6.5	16.9	289	102.7	19.9	74.2	1.5	72.7	2.0	13-May
B321053	207R053	2.6	3.8	6.4	16.9	289	100.0	18.0	73.9	1.3	72.6	1.8	13-May
B321054	207R054	2.6	3.7	6.4	16.8	289	100.6	18.2	74.5	1.7	72.8	2.3	13-May
B321055	207R055	2.6	3.9	6.5	16.9	288	102.3	20.5	73.2	0.7	72.5	1.0	13-May
B321056	207R056	2.6	3.7	6.4	16.8	288	98.5	17.4	73.0	0.6	72.4	0.8	13-May
B321057	207R057	2.6	3.8	6.5	16.9	289	105.6	24.8	75.0	1.9	73.1	2.5	13-May
B321058	207R058	2.6	3.8	6.4	16.9	289	106.8	26.1	73.9	0.9	73.0	1.2	13-May
B321059	207R059	2.6	3.7	6.4	16.8	289	107.1	24.6	75.0	1.1	73.9	1.5	13-May
B321060	207R060	2.6	3.8	6.5	16.9	289	104.8	22.6	75.4	2.9	72.5	3.8	13-May
B321061	207R061	2.6	3.7	6.4	16.8	288	101.2	19.3	75.2	2.8	72.4	3.7	13-May
B321062	207R062	2.6	3.8	6.4	16.8	288	101.8	20.4	74.8	2.7	72.1	3.6	13-May
B321063	207R063	2.6	3.8	6.4	16.8	288	103.8	24.4	74.8	2.2	72.6	2.9	13-May
B321064	207R064	2.6	3.7	6.4	16.8	289	101.6	18.3	75.2	2.7	72.5	3.6	13-May
B321065	207R065	2.6	3.9	6.5	17.0	289	102.9	21.1	73.7	0.7	73.0	0.9	13-May
B321066	207R066	2.6	3.7	6.4	16.9	290	104.5	23.0	73.6	0.8	72.8	1.1	13-May
B321067	207R067	2.6	3.8	6.5	16.9	290	102.0	20.7	73.4	0.6	72.8	0.8	13-May
B321068	207R068	2.6	3.8	6.5	17.0	290	103.8	22.3	73.4	0.3	73.1	0.4	13-May

*Yim. Zhang*

Accepted by: \_\_\_\_\_ on behalf of Arrowhead

Date 3-Jun-21

# Arrowhead Industrial Services USA Inc.



Manufactured By: Shanghai Tianhai Composite Cylinders Co.,Ltd

Autofrettage pressure: 8410 psi 58.0 Mpa

Hold for: 60 Seconds


Part Number: 4.7L 31A/31B3 Composite Cylinder Test Date: 13-May-21

Testing pressure: 7500 psi 51.7 Mpa

Serial Number: B321069 to B321085 inclusive.

Hold for: 60 Seconds

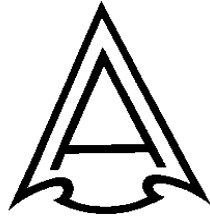
Cylinder Serial Number	Liner Cast Code/Lot No.	Weight				Volume cu. in	Autofrettage		Hydrostatic Test			Perm	Testing date
		Liner	Composite	Tare	Full		Total	Perm	Total	Perm	Elastic	Ratio	
		lbs	lbs	lbs	lbs		Expansion	Expansion	Expansion	Expansion	Expansion	to Ttl.	
B321069	207R069	2.6	3.8	6.4	16.9	289	108.8	26.2	74.7	2.2	72.5	2.9	13-May
B321070	207R070	2.6	3.9	6.5	17.0	290	106.1	24.5	74.2	2.4	71.8	3.2	13-May
B321071	TP 207R071	2.6	3.7	6.4	16.8	289	104.6	22.3	73.5	1.7	71.8	2.3	13-May
B321072	207R072	2.6	3.8	6.4	16.9	289	109.0	26.9	73.7	1.6	72.1	2.2	13-May
B321073	207R073	2.6	3.8	6.5	16.9	289	107.5	27.0	73.3	0.9	72.4	1.2	13-May
B321074	207R074	2.6	3.7	6.4	16.8	289	104.5	22.8	74.2	1.4	72.8	1.9	13-May
B321075	207R075	2.6	3.8	6.5	16.9	289	102.8	22.3	73.8	1.5	72.3	2.0	13-May
B321076	207R076	2.6	3.7	6.4	16.8	289	105.1	25.3	73.3	0.7	72.6	1.0	13-May
B321077	207R077	2.6	3.8	6.4	16.9	289	104.4	23.3	74.3	2.2	72.1	3.0	13-May
B321078	207R078	2.6	3.8	6.4	16.9	289	100.4	19.2	73.7	1.5	72.2	2.0	13-May
B321079	207R079	2.6	3.8	6.4	16.9	289	101.8	21.4	73.8	2.0	71.8	2.7	13-May
B321080	207R080	2.6	3.9	6.5	16.9	289	104.8	25.0	73.6	1.6	72.0	2.2	13-May
B321081	207R081	2.6	3.7	6.3	16.8	289	102.7	22.1	73.5	1.7	71.8	2.3	13-May
B321082	207R082	2.6	3.7	6.4	16.8	289	104.6	24.4	72.8	1.2	71.6	1.6	13-May
B321083	207R083	2.6	3.8	6.5	16.9	289	106.1	26.8	72.4	0.6	71.8	0.8	13-May
B321084	207R084	2.6	3.7	6.4	16.8	289	105.5	24.1	74.5	1.7	72.8	2.3	13-May
B321085	207R085	2.6	3.9	6.5	17.0	290	100.7	19.0	74.6	2.3	72.3	3.1	13-May

Yim. Zhang 

Accepted by: \_\_\_\_\_ on behalf of Arrowhead

Date 3-Jun-21

# Arrowhead Industrial Services USA Inc.



Manufactured By: Shanghai Tianhai Composite Cylinders Co.,Ltd

Autofrettage pressure: 8410 psi 58.0 Mpa

Hold for: 60 Seconds

Part Number: 4.7L 31A/31B3 Composite Cylinder Test Date: 13-May-21

Testing pressure: 7500 psi 51.7 Mpa

Serial Number: B321086 to B321102 inclusive.

Hold for: 60 Seconds

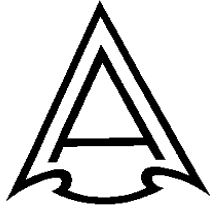
Cylinder Serial Number	Liner Cast Code/Lot No.	Weight				Volume cu. in	Autofrettage		Hydrostatic Test			Perm	Testing date
		Liner	Composite	Tare	Full		Total	Perm	Total	Perm	Elastic	Ratio	
		lbs	lbs	lbs	lbs		Expansion	Expansion	Expansion	Expansion	Expansion	to Ttl.	
B321086	207R086	2.6	3.7	6.4	16.8	289	100.8	19.0	74.7	2.5	72.2	3.3	13-May
B321087	207R087	2.6	3.8	6.4	16.9	289	102.9	22.6	73.9	2.1	71.8	2.8	13-May
B321088	207R088	2.6	3.9	6.5	17.0	289	103.6	21.8	75.0	2.9	72.1	3.9	13-May
B321089	207R089	2.6	3.8	6.4	16.8	289	106.2	23.7	75.9	2.5	73.4	3.3	13-May
B321090	207R090	2.6	3.8	6.5	17.0	290	105.7	24.7	74.4	2.0	72.4	2.7	13-May
B321091	207R091	2.6	3.7	6.4	16.8	289	103.9	22.9	73.9	1.4	72.5	1.9	13-May
B321092	207R092	2.6	3.7	6.3	16.8	289	100.5	18.9	74.6	1.6	73.0	2.1	13-May
B321093	207R093	2.6	3.8	6.5	16.9	289	107.2	26.0	74.1	1.8	72.3	2.4	13-May
B321094	207R094	2.6	3.7	6.4	16.9	290	103.0	21.3	73.4	0.5	72.9	0.7	13-May
B321095	207R095	2.6	3.9	6.5	17.0	289	105.7	24.4	73.2	0.6	72.6	0.8	13-May
B321096	207R096	2.6	3.7	6.4	16.9	290	105.2	22.2	73.6	0.4	73.2	0.5	13-May
B321097	207R097	2.6	3.8	6.4	16.9	289	105.0	23.4	75.5	1.8	73.7	2.4	13-May
B321098	207R098	2.6	3.9	6.5	17.0	289	104.6	23.1	75.8	2.4	73.4	3.2	13-May
B321099	207R099	2.6	3.8	6.4	16.9	289	103.4	21.6	75.8	1.4	74.4	1.8	13-May
B321100	207R100	2.6	3.9	6.5	17.0	289	99.9	18.5	74.8	1.2	73.6	1.6	13-May
B321101	207R101	2.6	3.7	6.4	16.8	289	102.7	20.3	75.1	2.3	72.8	3.1	13-May
B321102	207R102	2.6	3.8	6.4	16.9	290	102.2	19.4	76.1	2.8	73.3	3.7	13-May

Yim. Zhang

Accepted by: \_\_\_\_\_ on behalf of Arrowhead

Date 3-Jun-21

# Arrowhead Industrial Services USA Inc.



Manufactured By: Shanghai Tianhai Composite Cylinders Co.,Ltd

Autofrettage pressure: 8410 psi 58.0 Mpa

Hold for: 60 Seconds

Part Number: 4.7L 31A/31B3 Composite Cylinder Test Date: 13-May-21

Testing pressure: 7500 psi 51.7 Mpa

Serial Number: B321103 to B321119 inclusive.

Hold for: 60 Seconds

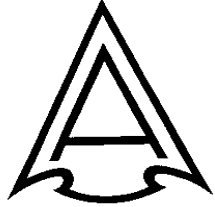
Cylinder Serial Number	Liner Cast Code/Lot No.	Weight				Volume cu. in	Autofrettage		Hydrostatic Test			Perm	Testing date
		Liner	Composite	Tare	Full		Total	Perm	Total	Perm	Elastic	Ratio	
		lbs	lbs	lbs	lbs		Expansion	Expansion	Expansion	Expansion	Expansion	to Ttl.	
B321103	207R103	2.6	3.9	6.5	17.0	289	107.0	24.9	75.3	2.7	72.6	3.6	13-May
B321104	207R104	2.6	3.8	6.4	16.9	289	102.4	20.8	75.2	2.2	73.0	2.9	13-May
B321105	207R105	2.6	3.9	6.5	17.0	290	108.0	27.1	74.1	0.5	73.6	0.7	13-May
B321106	207R106	2.6	3.7	6.4	16.8	289	105.6	24.8	73.9	0.1	73.8	0.1	13-May
B321107	207R107	2.6	3.8	6.5	16.9	289	103.9	23.2	74.0	0.5	73.5	0.7	13-May
B321108	207R108	2.6	3.9	6.5	17.0	290	102.7	21.5	73.5	0.0	73.5	0.0	13-May
B321109	207R109	2.6	3.8	6.4	16.9	289	101.7	20.4	73.5	1.7	71.8	2.3	13-May
B321110	207R110	2.6	3.9	6.5	17.0	289	106.6	25.3	74.1	2.5	71.6	3.4	13-May
B321111	207R111	2.6	3.7	6.4	16.8	289	107.0	24.6	74.3	1.6	72.7	2.2	13-May
B321112	207R112	2.6	3.8	6.4	16.9	290	102.1	19.7	76.0	2.8	73.2	3.7	13-May
B321113	207R113	2.6	3.9	6.6	17.0	289	100.1	18.4	73.3	0.3	73.0	0.4	13-May
B321114	207R114	2.6	3.8	6.5	16.9	289	104.6	23.5	72.8	0.1	72.7	0.1	13-May
B321115	207R115	2.6	3.9	6.5	17.0	290	104.6	23.5	72.6	0.0	72.6	0.0	13-May
B321116	207R116	2.6	3.7	6.4	16.8	290	106.9	24.5	73.2	0.0	73.2	0.0	13-May
B321117	207R117	2.6	3.8	6.4	16.9	289	104.9	22.8	74.5	2.6	71.9	3.5	13-May
B321118	207R118	2.6	3.9	6.5	17.0	289	101.4	20.4	74.1	2.8	71.3	3.8	13-May
B321119	207R119	2.6	3.8	6.4	16.9	290	100.3	18.7	74.0	2.5	71.5	3.4	13-May

Yim. Zhang

Accepted by: \_\_\_\_\_ on behalf of Arrowhead


Date 3-Jun-21

# Arrowhead Industrial Services USA Inc.



Manufactured By: Shanghai Tianhai Composite Cylinders Co.,Ltd Autofrettage pressure: 8410 psi 58.0 Mpa  
 Hold for: 60 Seconds  
 Part Number: 4.7L 31A/31B3 Composite Cylinder Test Date: 13-May-21 Testing pressure: 7500 psi 51.7 Mpa  
 Serial Number: B321120 to B321136 inclusive. Hold for: 60 Seconds

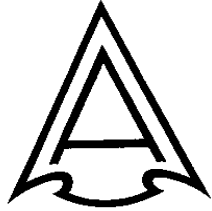
Cylinder Serial Number	Liner Cast Code/Lot No.	Weight				Volume cu. in	Autofrettage		Hydrostatic Test			Perm	Testing date
		Liner	Composite	Tare	Full		Total	Perm	Total	Perm	Elastic	Ratio	
		lbs	lbs	lbs	lbs		Expansion	Expansion	Expansion	Expansion	Expansion	to Ttl.	
B321120	207R120	2.6	3.9	6.5	17.0	289	101.9	19.8	73.5	1.8	71.7	2.4	13-May
B321121	207R121	2.6	3.7	6.4	16.8	289	106.6	24.0	75.7	2.7	73.0	3.6	13-May
B321122	207R122	2.6	3.8	6.4	16.8	289	103.3	22.1	74.6	2.8	71.8	3.8	13-May
B321123	207R123	2.6	3.8	6.5	16.9	289	97.7	16.6	74.1	2.4	71.7	3.2	13-May
B321124	207R124	2.6	3.8	6.4	16.9	289	101.1	19.1	74.5	2.6	71.9	3.5	13-May
B321125	207R125	2.6	3.9	6.5	17.0	289	105.4	24.7	73.1	1.1	72.0	1.5	13-May
B321126	207R126	2.6	3.6	6.3	16.7	289	100.0	19.3	72.4	0.5	71.9	0.7	13-May
B321127	207R127	2.6	3.6	6.3	16.7	289	98.6	17.2	72.5	0.3	72.2	0.4	13-May
B321128	207R128	2.6	3.7	6.3	16.8	289	99.3	17.6	72.5	0.3	72.2	0.4	13-May
B321129	207R129	2.6	3.7	6.3	16.8	288	99.2	16.9	73.7	1.2	72.5	1.6	13-May
B321130	207R130	2.6	3.9	6.5	17.0	289	96.2	14.1	73.1	0.7	72.4	1.0	13-May
B321131	207R131	2.6	3.8	6.4	16.8	288	100.3	17.8	73.5	0.5	73.0	0.7	13-May
B321132	207R132	2.6	3.7	6.3	16.8	289	98.4	17.6	73.5	0.8	72.7	1.1	13-May
B321133	207R133	2.6	3.7	6.4	16.8	288	102.2	20.9	73.4	1.4	72.0	1.9	13-May
B321134	207R134	2.6	3.7	6.3	16.8	289	99.9	18.8	73.4	1.4	72.0	1.9	13-May
B321135	207R135	2.6	3.7	6.4	16.8	288	101.6	20.8	74.0	1.7	72.3	2.3	13-May
B321136	207R136	2.6	3.7	6.3	16.8	288	103.8	21.8	73.6	1.0	72.6	1.4	13-May

Yim. Zhang 

Accepted by: \_\_\_\_\_ on behalf of Arrowhead

Date 3-Jun-21

# Arrowhead Industrial Services USA Inc.



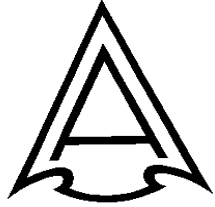
Manufactured By: Shanghai Tianhai Composite Cylinders Co.,Ltd      Autofrettage pressure: 8410 psi      58.0 Mpa  
 Hold for: 60 Seconds  
 Part Number: 4.7L 31A/31B3 Composite Cylinder      Test Date: 13-May-21      Testing pressure: 7500 psi      51.7 Mpa  
 Serial Number: B321137 to B321153 inclusive.      Hold for: 60 Seconds

Cylinder Serial Number	Liner Cast Code/Lot No.	Weight				Volume cu. in	Autofrettage		Hydrostatic Test			Perm Ratio to Ttl.	Testing date
		Liner	Composite	Tare	Full		Total	Perm	Total	Perm	Elastic		
		lbs	lbs	lbs	lbs		Expansion	Expansion	Expansion	Expansion	Expansion		
B321137	207R137	2.6	3.7	6.3	16.7	288	100.1	19.1	73.0	0.9	72.1	1.2	13-May
B321138	207R138	2.6	3.7	6.4	16.8	289	101.2	19.4	73.5	0.6	72.9	0.8	13-May
B321139	207R139	2.6	3.7	6.3	16.7	288	100.4	20.2	72.5	0.3	72.2	0.4	13-May
B321140	207R140	2.6	3.7	6.3	16.7	287	96.5	16.1	72.1	0.3	71.8	0.4	13-May
B321141	207R141	2.6	3.7	6.3	16.8	288	100.2	19.2	72.6	0.8	71.8	1.1	13-May
B321142	207R142	2.6	3.7	6.3	16.8	289	103.0	21.6	73.0	0.8	72.2	1.1	13-May
B321143	207R143	2.6	3.7	6.4	16.8	289	101.8	20.6	73.2	1.2	72.0	1.6	13-May
B321144	207R144	2.6	3.7	6.3	16.8	289	102.3	20.1	73.0	0.8	72.2	1.1	13-May
B321145	207R145	2.6	3.7	6.4	16.8	289	101.1	19.1	75.8	2.3	73.5	3.0	13-May
B321146	207R146	2.6	3.7	6.4	16.8	289	101.3	18.1	76.3	1.8	74.5	2.4	13-May
B321147	207R147	2.6	3.7	6.4	16.8	289	102.7	20.3	75.8	1.7	74.1	2.2	13-May
B321148	207R148	2.6	3.8	6.5	16.9	290	104.7	22.3	75.6	1.4	74.2	1.9	13-May
B321149	207R149	2.6	3.8	6.5	16.9	289	104.3	22.7	74.1	1.5	72.6	2.0	13-May
B321150	207R150	2.6	3.8	6.5	16.9	289	104.0	23.2	73.8	1.3	72.5	1.8	13-May
B321151	207R151	2.6	3.7	6.3	16.8	289	102.3	20.2	74.1	1.0	73.1	1.3	13-May
B321152	207R152	2.6	3.8	6.4	16.9	289	108.1	26.0	74.2	1.3	72.9	1.8	13-May
B321153	207R153	2.6	3.7	6.3	16.8	290	104.0	21.8	73.9	1.4	72.5	1.9	13-May

*Yim. Zhang*

Accepted by: \_\_\_\_\_ on behalf of Arrowhead      Date: 3-Jun-21

# Arrowhead Industrial Services USA Inc.



Manufactured By: Shanghai Tianhai Composite Cylinders Co.,Ltd

Autofrettage pressure: 8410 psi 58.0 Mpa

Hold for: 60 Seconds


Part Number: 4.7L 31A/31B3 Composite Cylinder Test Date: 13-May-21

Testing pressure: 7500 psi 51.7 Mpa

Serial Number: B321154 to B321170 inclusive.

Hold for: 60 Seconds

Cylinder Serial Number	Liner Cast Code/Lot No.	Weight				Volume cu. in	Autofrettage		Hydrostatic Test			Perm	Testing date
		Liner	Composite	Tare	Full		Total	Perm	Total	Perm	Elastic	Ratio	
		lbs	lbs	lbs	lbs		Expansion	Expansion	Expansion	Expansion	Expansion	to Ttl.	
B321154	207R154	2.6	3.7	6.3	16.8	289	101.2	19.1	73.9	1.5	72.4	2.0	13-May
B321155	207R155	2.6	3.8	6.4	16.8	288	102.5	22.1	73.1	1.4	71.7	1.9	13-May
B321156	207R156	2.6	3.8	6.4	16.8	289	105.8	22.7	74.7	1.4	73.3	1.9	13-May
B321157	207R157	2.6	3.8	6.4	16.8	289	103.1	20.8	75.5	2.4	73.1	3.2	13-May
B321158	207R158	2.6	3.7	6.3	16.8	290	99.9	18.8	74.8	1.8	73.0	2.4	13-May
B321159	207R159	2.6	3.7	6.3	16.7	288	95.6	14.9	74.5	2.0	72.5	2.7	13-May
B321160	207R160	2.6	3.7	6.4	16.8	289	95.8	14.6	74.5	1.5	73.0	2.0	13-May
B321161	207R161	2.6	3.7	6.3	16.8	289	104.3	21.7	73.8	0.6	73.2	0.8	13-May
B321162	207R162	2.6	3.8	6.5	16.9	289	107.0	25.7	73.2	0.6	72.6	0.8	13-May
B321163	207R163	2.6	3.9	6.6	16.9	287	109.0	26.7	73.7	0.5	73.2	0.7	13-May
B321164	207R164	2.6	3.9	6.5	17.0	289	102.2	21.7	73.1	0.7	72.4	1.0	13-May
B321165	207R165	2.6	3.7	6.4	16.8	289	101.5	20.6	73.9	0.4	73.5	0.5	13-May
B321166	207R166	2.6	3.6	6.2	16.7	289	104.6	22.8	74.4	0.0	74.4	0.0	13-May
B321167	207R167	2.6	3.7	6.3	16.8	289	106.9	26.0	74.1	0.0	74.1	0.0	13-May
B321168	207R168	2.6	3.9	6.5	16.9	288	105.3	26.2	74.9	0.5	74.4	0.7	13-May
B321169	207R169	2.6	3.7	6.4	16.8	289	106.1	24.6	73.8	0.8	73.0	1.1	13-May
B321170	207R170	2.6	3.7	6.3	16.8	289	103.4	21.6	73.5	0.9	72.6	1.2	13-May

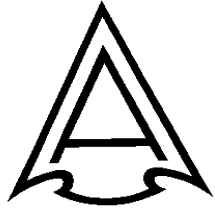
Yim. Zhang 

Accepted by: \_\_\_\_\_ on behalf of Arrowhead

Date 3-Jun-21



# Arrowhead Industrial Services USA Inc.



Manufactured By: Shanghai Tianhai Composite Cylinders Co.,Ltd

Autofrettage pressure: 8410 psi 58.0 Mpa

Hold for: 60 Seconds


Part Number: 4.7L 31A/31B3 Composite Cylinder Test Date: 13-May-21

Testing pressure: 7500 psi 51.7 Mpa

Serial Number: B321171 to B321187 inclusive.

Hold for: 60 Seconds

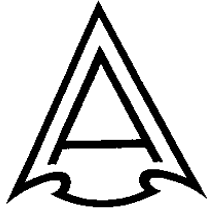
Cylinder Serial Number	Liner Cast Code/Lot No.	Weight				Volume cu. in	Autofrettage		Hydrostatic Test			Perm	Testing date
		Liner	Composite	Tare	Full		Total	Perm	Total	Perm	Elastic	Ratio	
		lbs	lbs	lbs	lbs		Expansion	Expansion	Expansion	Expansion	Expansion	to Ttl.	
B321171	207R171	2.6	3.6	6.3	16.7	289	102.6	19.6	74.2	0.7	73.5	0.9	13-May
B321172	196R001	2.6	3.7	6.3	16.8	289	100.0	18.1	74.2	2.4	71.8	3.2	13-May
B321173	196R002	2.6	3.8	6.5	16.9	289	105.6	22.1	75.3	2.3	73.0	3.1	13-May
B321174	196R003	2.6	3.8	6.4	16.9	289	102.7	20.3	73.9	2.3	71.6	3.1	13-May
B321175	196R004	2.6	3.7	6.3	16.8	289	98.0	16.5	73.7	2.1	71.6	2.8	13-May
B321176	196R005	2.6	3.6	6.3	16.7	289	103.4	20.0	75.9	2.3	73.6	3.0	13-May
B321177	196R006	2.6	3.7	6.3	16.8	289	105.6	22.5	75.3	2.3	73.0	3.1	13-May
B321178	196R007	2.6	3.8	6.4	16.9	289	106.6	22.8	76.4	2.4	74.0	3.1	13-May
B321179	196R008	2.6	3.8	6.4	16.8	288	102.3	19.3	76.2	2.7	73.5	3.5	13-May
B321180	196R009	2.6	3.7	6.3	16.8	289	105.6	23.8	74.6	1.9	72.7	2.5	13-May
B321181	196R010	2.6	3.6	6.3	16.7	289	107.3	24.1	74.8	1.4	73.4	1.9	13-May
B321182	196R011	2.6	3.7	6.3	16.7	289	108.4	25.3	75.0	1.8	73.2	2.4	13-May
B321183	196R012	2.6	3.7	6.4	16.8	289	110.9	27.1	75.5	1.5	74.0	2.0	13-May
B321184	196R013	2.6	3.8	6.4	16.8	289	104.2	22.3	74.6	2.3	72.3	3.1	13-May
B321185	196R014	2.6	3.7	6.3	16.8	289	103.6	21.6	74.6	2.1	72.5	2.8	13-May
B321186	196R016	2.6	3.6	6.3	16.7	289	102.9	19.9	75.0	1.6	73.4	2.1	13-May
B321187	196R017	2.6	3.7	6.3	16.8	289	104.9	23.3	75.0	1.8	73.2	2.4	13-May

Yim. Zhang 

Accepted by: \_\_\_\_\_ on behalf of Arrowhead

Date 3-Jun-21

# Arrowhead Industrial Services USA Inc.



Manufactured By: Shanghai Tianhai Composite Cylinders Co.,Ltd      Autofrettage pressure: 8410 psi      58.0 Mpa  
 Hold for: 60 Seconds  
 Part Number: 4.7L 31A/31B3 Composite Cylinder      Test Date: 13-May-21      Testing pressure: 7500 psi      51.7 Mpa  
 Serial Number: B321188 to B321199 inclusive.      Hold for: 60 Seconds

Cylinder Serial Number	Liner Cast Code/Lot No.	Weight				Volume cu. in	Autofrettage		Hydrostatic Test			Perm	Testing date
		Liner	Composite	Tare	Full		Total	Perm	Total	Perm	Elastic	Ratio	
		lbs	lbs	lbs	lbs		Expansion	Expansion	Expansion	Expansion	Expansion	to Ttl.	
B321188	196R018	2.6	3.8	6.5	16.9	289	113.7	30.2	74.3	1.0	73.3	1.3	13-May
B321189	196R019	2.6	3.8	6.4	16.8	288	108.7	27.4	72.5	0.9	71.6	1.2	13-May
B321190	196R020	2.6	3.7	6.4	16.8	289	106.1	25.0	72.9	1.0	71.9	1.4	13-May
B321191	196R021	2.6	3.7	6.4	16.8	289	110.6	27.0	75.3	1.7	73.6	2.3	13-May
B321192	196R022	2.6	3.6	6.3	16.7	289	103.0	20.7	73.4	0.0	73.4	0.0	13-May
B321193	196R023	2.6	3.9	6.5	17.0	290	104.3	22.4	73.5	0.0	73.5	0.0	13-May
B321194	196R024	2.6	3.7	6.4	16.8	289	108.5	25.9	73.3	0.0	73.3	0.0	13-May
B321195	196R025	2.6	3.8	6.4	16.9	289	104.5	22.2	73.1	0.0	73.1	0.0	13-May
B321196	196R026	2.6	3.7	6.3	16.8	289	103.9	21.5	74.6	2.3	72.3	3.1	13-May
B321197	196R027	2.6	3.7	6.4	16.8	289	102.2	20.8	73.9	2.1	71.8	2.8	13-May
B321198	196R028	2.6	3.6	6.3	16.7	288	102.0	18.7	75.1	2.1	73.0	2.8	13-May
B321199	196R029	2.6	3.8	6.5	16.9	289	104.0	22.1	74.2	2.1	72.1	2.8	13-May

*Yim. Zhang*

Accepted by: \_\_\_\_\_ on behalf of Arrowhead      Date      3-Jun-21

# Attachment A

## THREAD CODE

### WARNING:

Training is REQUIRED BEFORE use or maintenance of this equipment. Inspect after each use. Repair only by properly trained personnel. Manufactured in PRC. IMPROPER USE OF THIS EQUIPMENT MAY RESULT IN DEATH OR SERIOUS INJURY. REINSPECT AND RETEST HYDROSTATICALLY EVERY 5 YEARS IN ACCORDANCE WITH DOT-SP 14621 AND TC-3CCM

- DO NOT fill if cylinder has visible damage, strand unraveling or charring of the carbon fibers has occurred.
- DO NOT fill if cylinder retest date is out of prescribed period.
- DO NOT exceed maximum charge pressure.
- DO NOT use unless cylinder is charged to the full pressure.
- DO NOT alter, modify or substitute any components.
- DO NOT carry the cylinder by the valve handwheel.
- DO NOT drop cylinder or bump handwheel. Valve could partially open causing cylinder to become an airborne projectile under its own pressure.

### CAUTION:

- HIGH PRESSURE GAS-MAY ACCELERATE COMBUSTION.
- Keep oil and gas away.
  - Use equipment rated for cylinder pressure.
  - Cylinder temperature should not exceed 125°F or 52°C.
  - CLOSE VALVE AFTER EACH USE AND WHEN EMPTY.

DOT-SP 14621-4500 PSI  
 TC-3CCM-310 BAR  
 4731-XXXXXX M0807  
 XXXXXX  
 30 MINUTES

MM  YY  
 MANUFACTURE DATE

REE:XXX  
 AIR, COMPRESSED  
 Respirable D Air

CONTENTS: AIR, 45 SCF AT 4500 PSIG-310 BAR



AIR, COMPRESSED  
 UN 1002



12345678

### NOTES:

1. The size of the letters and numbers used those on the right must be at least 0.64cm(1/4inch) high if space permits.
2. The thread code are shown in the table below.

THREAD CODE
ISO M18×1.5-6H
7/8-14 UNF-2B



Digitally signed by Bing Zhang  
 DN: cn=Bing Zhang, o=AISL, ou=UK,  
 email=bing.zhang@arrowheadis.com, c=GB  
 Reason: I have reviewed this document  
 Date: 2020.07.14 21:42:18 +08'00'

REV	0.1			4.7L COMPOSITE CYLINDER LABEL DRAWING	TC4731A-M		
NO	INDEX	SIGN	DATE		QUANTITY	WEIGHT	SCALE
DESN	Wang.Y.X	REVD	F.W.Shi				
DRAN		APPD		BEIJING TIANHAI INDUSTRY CO., LTD.			
CHKD	Yue.Z.Z						
		DATE	2020.07.14	TOTAL 1 PAGE			