

February 27, 2015

**Attention:** Alicia Czerniawski  
ANRIC ENTERPRISES INC  
701 EVANS AVENUE STE 202  
TORONTO, ON M9C 1A3

The design submission, tracking number 2015-00588, originally received on January 22, 2015 was surveyed and accepted for registration as follows:

**CRN :** R1141.52

**Accepted on:** February 27, 2015

**Reg Type:** New Design

**Drawing No. :** 0038-02-00-00-CRN Rev F As Noted

Design registered in the name of : CP INDUSTRIES

Description	MAWP	Design Temperature
see drawings fro rating		

**The registration is conditional on your compliance with the following notes:**

*Vessels are designed to ANSI NGV2-2007 code.*

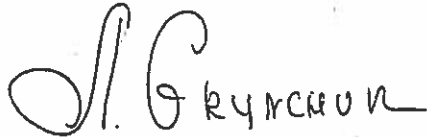
*This submission has been accepted for registration based review and acceptance of the design under CRN R1141.5 by another jurisdiction, in accordance with the Association of Chief Inspectors Policy on Reciprocal Recognition of Design Review for Fitting Design Registration."*

*Vessels are designed to ANSI NGV-2-2007 code*

An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.

Enclosed are stamped prints for your reference.

Sincerely,



GRYNCHUK, MILLA



# ARROWHEAD

INDUSTRIAL SERVICES USA, INC.

COMPRESSED GAS  
CONTAINER SPECIALISTS

## DESIGN APPROVAL CERTIFICATE

FOR  
COMPRESSED GAS CONTAINERS  
(ORIGINAL) Rev. A

THIS IS PART OF  
CRN **R1141.5**  
Technical Standards & Safety Authority  
Boilers & Pressure Vessels  
Safety Program

3537 S. NC 119  
PO Box 1000  
Graham, NC 27253-1000  
USA  
Phone: 336-578-2777  
Fax: 336-578-2929  
E-mail:  
AI01@arrowheadindustrial.com

**Designer**

CP Industries  
2214 Walnut St.  
McKeesport, PA 15132  
USA

**Manufacturer**

CP Industries  
2214 Walnut St.  
McKeesport, PA 15132  
USA

**Design Qualification No.**

**QTR-177-1868**

**Design Specifics**

Specification:	NGV2-07 / TYPE 4	
Cylinder Part No:	NGV 2-Type IV 21.25" Diameter-3600 psi	
Cylinder Service Life:	20 years	
Cylinder Drawing:	0038-01-00-00_f	Rev. f
Liner Drawing:	0038-00-01-00	Rev. a
Label Drawing:	0038-03-00-00	Rev. 0
Winding Summary:	ISA_2668-00-03-ROOP	Rev. 0
Approved Contents:	Compressed Natural Gas	

Pressures (Serv./Test):	3600 psi /	5400 psi
	248 bar /	372 bar

This certificate of design approval is hereby issued for Design Part Number NGV 2-Type IV 21.25" Diameter-3600 psi , manufactured in accordance with Design Qualification No. QTR-177-1868, dated November 2013, and the above stipulated criteria.

**Approved By:**

ARROWHEAD INDUSTRIAL SERVICES USA, INC.

Y. Julie Dahl, QA Engineer

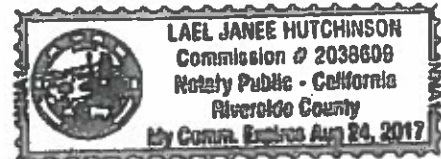
January 17, 2014

Date of Issue

STATE OF CALIFORNIA

COUNTY OF RIVERSIDE

)  
) SS



Witness my hand and Official Seal:

Notary Public

January 17, 2014

Date of Issue

Subscribed and sworn to (or affirmed) before me on this the 17th day of January, 2014 by Y. Julie Dahl personally known to me or proved to me on the basis of satisfactory evidence to be the person who appeared before me

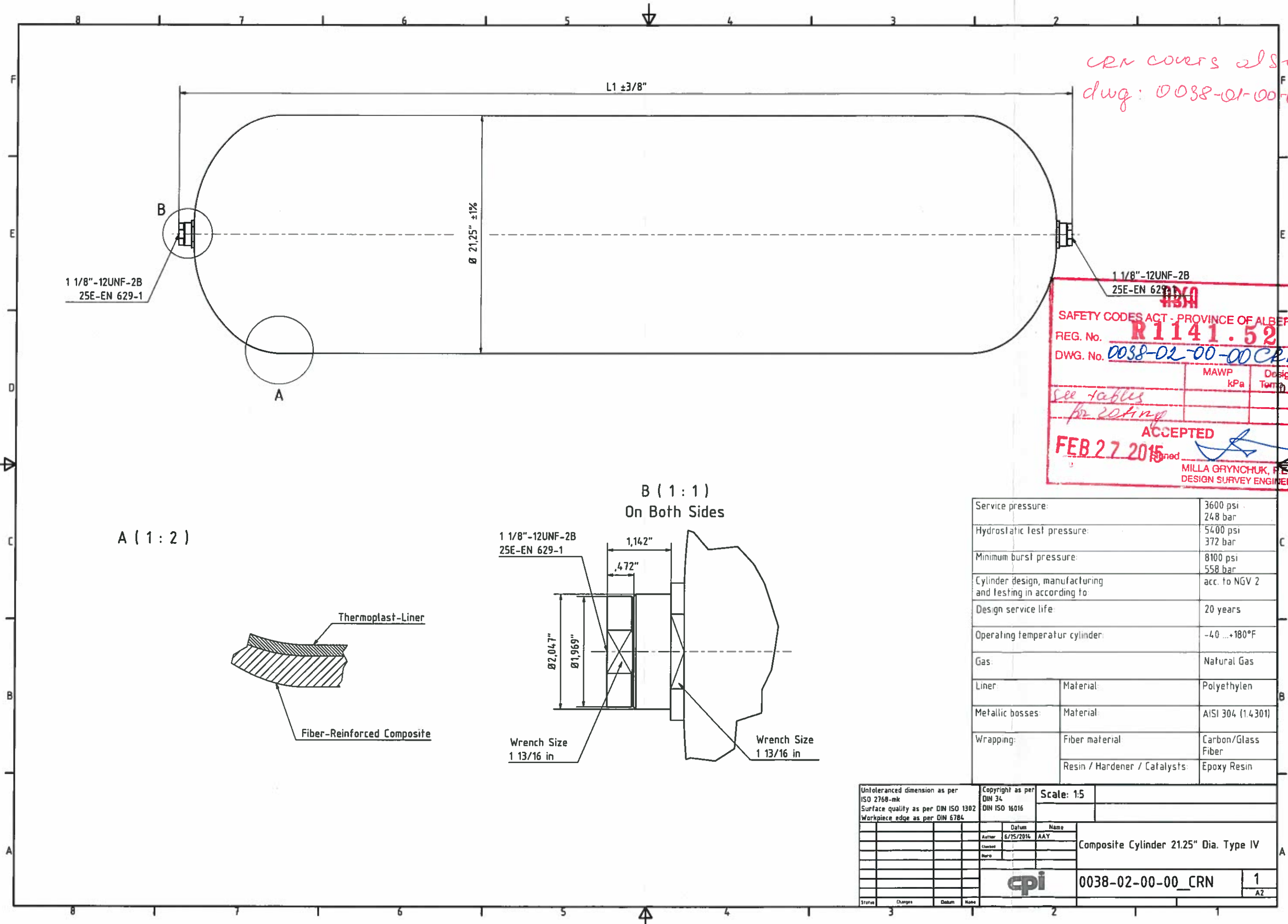
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www.arrowheadindustrial.com



CRN covers also  
 dwg: 0038-01-00-00 of Ref  
 L2



1 1/8" - 12UNF-2B  
 25E-EN 629-1

1 1/8" - 12UNF-2B  
 25E-EN 629-1

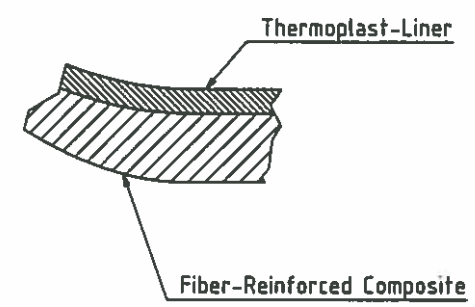
**ASCA**

SAFETY CODES ACT - PROVINCE OF ALBERTA  
 REG. No. **R1141.52**  
 DWG. No. **0038-02-00-00 CRN, R.1**

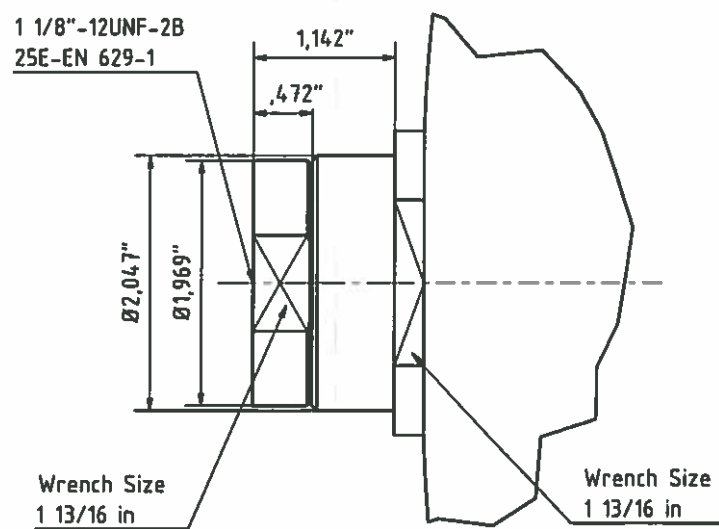
MAWP kPa	Design Temp °C
see tables for rating	

**ACCEPTED**  
**FEB 27 2015** Signed *[Signature]*  
 MILLA GRYNCHUK, P.Eng.  
 DESIGN SURVEY ENGINEER

A (1:2)



B (1:1)  
 On Both Sides



Service pressure:	3600 psi 248 bar
Hydrostatic test pressure:	5400 psi 372 bar
Minimum burst pressure:	8100 psi 558 bar
Cylinder design, manufacturing and testing in according to:	acc. to NGV 2
Design service life	20 years
Operating temperatur cylinder:	-40 ... +180°F
Gas:	Natural Gas
Liner:	Material: Polyethylen
Metallic bosses:	Material: AISI 304 (1.4301)
Wrapping:	Fiber material: Carbon/Glass Fiber
	Resin / Hardener / Catalysts: Epoxy Resin

Unintoleranced dimension as per ISO 2768-mk	Copyright as per DIN 34	Scale: 1:5
Surface quality as per DIN ISO 1302	DIN ISO 16016	
Workpiece edge as per DIN 6784		
Author	Datum	Name
6/25/2014	AAY	
Composite Cylinder 21.25" Dia. Type IV		
<b>cpi</b>		0038-02-00-00_CRN
		1
		A2

COMPOSITE CYLINDER SPECIFICATIONS			COMPOSITE CYLINDER SPECIFICATIONS		
Length L1 (in.) +- 1/2"	Volume @Pw +- 2% Liters	Weight +- 3% lbs	Length L1 (in.) +- 1/2"	Volume @Pw +- 2% Liters	Weight +- 3% lbs
60	246	177	91	398	277
61	251	180	92	403	280
62	256	184	93	408	283
63	261	187	94	413	286
64	266	190	95	418	289
65	271	193	96	422	292
66	275	197	97	427	296
67	280	200	98	432	299
68	285	203	99	437	302
69	290	206	100	442	305
70	295	210	101	447	308
71	300	213	102	452	311
72	305	216	103	457	314
73	310	219	104	462	318
74	315	223	105	467	321
75	320	226	106	471	324
76	324	229	107	476	327
77	329	232	108	481	330
78	334	236	109	486	333
79	339	239	110	491	337
80	344	242	111	496	340
81	349	245	112	501	343
82	354	248	113	506	346
83	359	251	114	511	349
84	364	255	115	516	352
85	369	258	116	520	355
86	373	261	117	525	359
87	378	264	118	530	362
88	383	267	119	535	365
89	388	270	120	540	368
90	393	274			

B1141.52

Untoleranced dimension as per ISO 2768-mk Surface quality as per DIN ISO 1302 Workpiece edge as per DIN 6784		Copyright as per DIN 34 DIN ISO 16016		Scale: 1:5
Author: 6/25/2016 Checked: Date:		Name: AAY		Composite Cylinder 21.25" Dia. Type IV
Status: Changes Datum None		0038-02-00-00_CRN		
				2 AZ