

February 04, 2019

Attention: Tim Cozens
A R THOMSON GROUP
215 CLEARSKYE WAY
RED DEER, AB T4E 0A1

Email: cozens.tim@arthomson.com

The design submission, tracking number 2019-00351, originally received on January 17, 2019 was surveyed and accepted for registration as follows:

CRN : 0A19316.2

Accepted on: February 04, 2019

Reg Type: NEW DESIGN

Expiry Date: February 04, 2029

Drawing No. : PS324 Rev 0

Fitting type: SPWA, IPWC & SPWC HOSE END FITTINGS

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

As indicated on AB-41 Statutory Declaration form and submitted documentation, the code of construction are CSA B51 and other engineering analysis.

- This registration is valid only for fittings fabricated at the location(s) covered by the QC certificate attached to the accepted AB-41 Statutory Declaration form.*
- This registration is valid only until the indicated expiry date and only if the Manufacturer maintains a valid quality management system approved by an acceptable third-party agency until that date.*
- Should the approval of the quality management system lapse before the expiry date indicated above, this registration shall become void.*

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

If you have any question don't hesitate to contact me by phone at (780) 433-0281 ext 3369 or fax (780) 437-7787 or e-mail Radisavljevic@absa.ca.

Sincerely,



RADISAVLJEVIC, ZANA, P. Tech. (Eng.)
DOP Cert. No. D00003136

STATUTORY DECLARATION Registration of Fittings

In this space, show facsimile of manufacturer's logo or trademark as it will appear on the fitting. A.R. Thomson Group

I, Tim Cozens, Engineering Manager of A.R. Thomson Group located at 215 ClearskyWay, Red Deer County, Alberta T4E 0A1

do solemnly declare that the fittings listed hereunder, which are subject to the Safety Codes Act (check one)

- comply with the requirements of ... which specifies the dimensions, materials of construction, pressure/temperature ratings and identification marking of the fittings, or are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with CSA B51-14 as supported by the attached data which identifies the dimensions, materials of construction, pressure/temperature ratings and the basis for such ratings, and the marking of the fittings for identification.

I further declare that the manufacture of these fittings is controlled by a quality control program which has been verified by the following authority, ABSA as being suitable for the manufacture of these fittings to the stated standard. The fittings covered by this declaration, for which I seek registration, are

ARTG Superlok Hose End Fittings SPWA, IPWC, SPWC

In support of this application, the following information, calculations and/or test data are attached:

PS324 (SPWA, IPWC and SPWC hose end fittings), Burst Test Record

DECLARED before me at Red Deer in the Province of Alberta this 10 day of January, 2019

NICKOLAS JAMES BAILEY Student-At-Law (a Commissioner of Oaths or Notary Public)

(sign) [Signature] (a Commissioner of Oaths or Notary Public)

[Signature] (signature of applicant)

For ABSA Office Use Only: See Acceptance Letter for the comments and/or conditions of registration.

To the best of my knowledge and belief, the application meets the requirements of the Safety Codes Act and CSA Standard B51, Clause 4.2, and is accepted for registration in Category A

Registration Number: 0A19316.2

[Signature] (Signature of the Administrator/SCO)

Date Registered: FEB 04 2019

Expiry Date: Feb 4, 2029

This form may be used to document the Design Scope for fittings that require registration in accordance with the PESR s14 and s17. In each column, provide the information required or list the document number where the information can be found. If the column is not applicable to the fitting design, then indicate N/A.

Note: This form shall be completed and submitted with Form AB-41 Statutory Declaration Registration of Fittings.

Product Description	Primary Pressure Bearing/ Retaining Component	Material of Construction	End Connections and Size Range	Design Condition		MDMT	Pressure Class or Schedule	Design Code of Construction or Standard	Catalog page or Drawing numbers
				Pressure at Ambient Temp.	Pressure at Design Temp.				
Example: SERIES XZ	Body A	Material for Body A ASTM A-XXX	Female NPT XX-YY (in.) Female ISO (Size Range)	### psi @ ## °F	### psi @ ## °F	- ## °F	Class XXX# or SCH XX	Std. B16.X	Series XZ Catalog Pages # & #

FOR ABSA USE ONLY:
Reference Tracking No. 2019-00351

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SPWA Fitting	Body	ASTM A193, ASTM A479 or ASTM A276, Grade 316/316L	Tube Compression x Weld 1/4" to 1"	See PS324	See PS324	-425F	N/A	CSA B51-14	PS324
IPWC Fitting	Body	ASTM A193, ASTM A479 or ASTM A276, Grade 316/316L	MNPT x Weld 1/4" to 1"	See PS324	See PS324	-425F	N/A	CSA B51-14	PS324
SPWC Fitting	Body	ASTM A193, ASTM A479 or ASTM A276, Grade 316/316L	Tube Compression x Weld 1/4" to 1"	See PS324	See PS324	-425F	N/A	CSA B51-14	PS324

FOR ABSA USE ONLY:
Reference Tracking No. 2019-00351

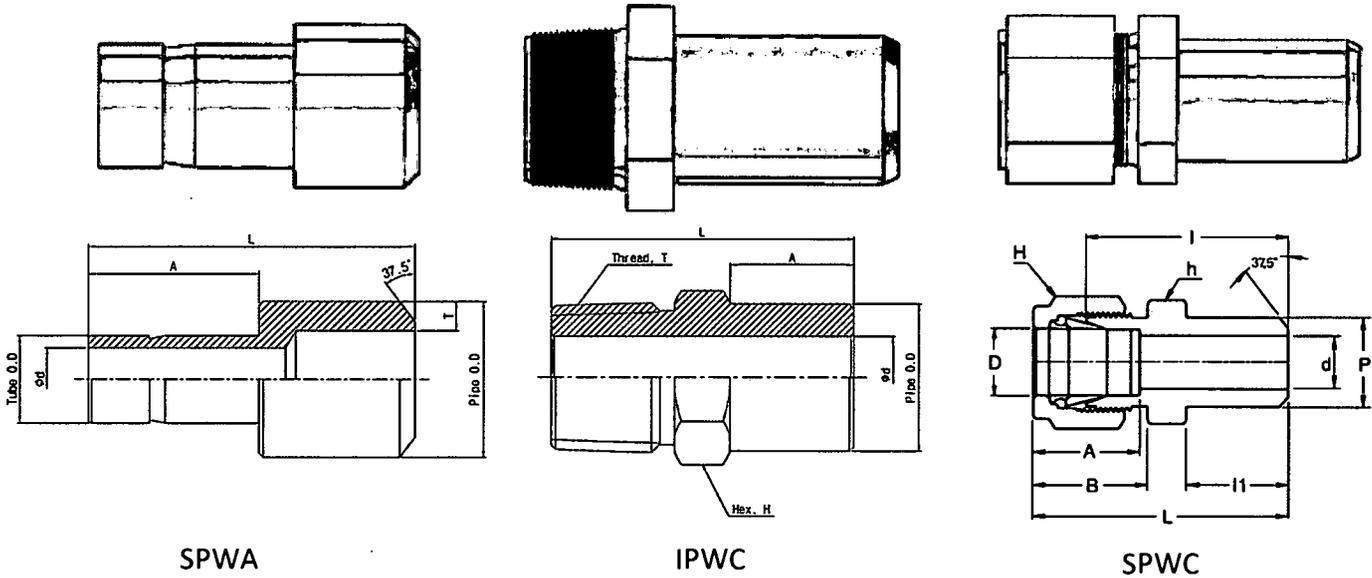
See Acceptance Letter for the comments and/or conditions of registration.

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FEB 0 4 2019

 A. R. Thomson Group		A.R. THOMSON GROUP – RED DEER PRODUCT SPECIFICATION		PS324 <small>PRODUCT SPECIFICATION NO.</small>	0 <small>REV.</small>
<small>R. Walker</small> <small>WRITTEN BY</small>	<small>Jan. 16, 19</small> <small>DATE</small>	<small>REVISOR</small>	<small>T. Cozens</small> <small>APPROVED BY</small>	<small>Jan. 16, 19</small> <small>DATE</small>	<small>1 3</small> <small>PAGE OF</small>
SUBJECT SPWA, IPWC and SPWC Hose End Fittings					DCN

A. CONFIGURATION



B. MATERIAL DESIGNATIONS

ASTM Specification	Type or Grade
ASTM A193	316/316L
ASTM A479	
ASTM A276 ¹	

See Acceptance Letter for the comments and/or conditions of registration.

1. When A 276 materials are used in the manufacture of these fittings, the Notes, minimum temperatures, and allowable stresses for comparable grades of A 240 materials shall apply as per ASME B31.3 notes for Appendix A Tables

ABCA

SAFETY CODES ACT - PROVINCE OF ALBERTA

REGISTRATION OF FITTINGS

REGISTRATION NO. **0 A 19316 . 2**

DWG. NO. or CAT. NO. PS 324 Rev. 0

TYPE OF FITTINGS SPWA, IPWC, SPWC *not end fittings*

FEB 04 2019 Date

ZANA RADISAVLJEVIC,
DESIGN SURVEYOR

 A. R. Thomson Group		A. R. THOMSON GROUP – RED DEER				PS324	0
		PRODUCT SPECIFICATION				PRODUCT SPECIFICATION NO.	REV.
R. Walker WRITTEN BY	Jan. 16, 19 DATE	REVISED BY	DATE	T. Cozens APPROVED BY	Jan. 16, 19 DATE	EFFECTIVE	2 PAGE
SUBJECT SPWA, IPWC and SPWC Hose End Fittings						3 OF	DCN

C. PRODUCT SPECIFICATIONS

FEB 04 2019

1. SPWA Fittings

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Part No.	Tube O.D. Inch	Pipe O.D.	Dimension, mm				MAWP @ 70° F
			L	A	T	Ød	
SPWA-4-4P-8S	¼	¼" (Ø13.72mm) Sch80S	33.4	16.4	3.02	4.4	4,000
SPWA-6-6P-8S	3/8	3/8" (Ø17.15mm) Sch 80S	35.5	18.5	3.2	6.9	4,000
SPWA-8-8P-8S	½	½" (Ø21.34mm) Sch80S	45.5	23.5	3.73	9.4	4,000
SPWA-12-12P-8S	¾	¾" (Ø26.67mm) Sch80S	47.5	25.5	3.91	14.8	3,500
SPWA-16-16P-8S	1	1" (Ø33.40mm) Sch80S	59	32	4.55	20.4	3,250

2. IPWC

Part No.	Thread, T (NPT)	Pipe O.D.	Dimension, mm				MAWP @ 70°F
			L	A	Ød	H	
IPWC-M4N-4P	1/4	1/4" (Ø13.72mm)	34.4	14.2	7.1	14.3	4,000
IPWC-M6N-6P	3/8	3/8" (Ø17.15mm)	34.8	14.4	9.6	17.5	4,000
IPWC-M8N-8P	1/2	1/2" (Ø21.34mm)	46.1	19.1	11.9	22.2	4,000
IPWC-M12N-12P	3/4	3/4" (Ø26.67mm)	47.8	19.1	15.7	27.0	3,500
IPWC-M16N-16P	1	1" (Ø33.40mm)	59.7	23.9	22.4	34.9	3,250

3. SPWC

Part No.	Tube O.D. D	Male Pipe Size P		d Min. (mm)	Width Across Flat		A (mm)	B (mm)	I (mm)	I1 (mm)	L (mm)	MAWP @ 70° F (psi)
		Nom.	O.D. (mm)		h (in)	H (in)						
SPWC-4-4P	1/4	1/4	13.70	4.82	9/16	9/16	15.24	17.78	30.48	14.22	37.84	4,000
SPWC-6-6P	3/8	3/8	17.10	7.11	11/16	11/16	16.76	19.30	32.51	14.22	39.87	4,000
SPWC-8-8P	1/2	1/2	21.30	10.41	7/8	7/8	22.86	21.84	38.86	19.05	49.02	3,500
SPWC-12-12P	3/4	3/4	26.67	15.74	1-1/16	1-1/8	24.38	21.84	40.38	19.05	50.54	3,500
SPWC-16-16P	1	1	33.40	22.35	1-3/8	1-1/2	31.24	26.41	50.03	23.87	62.23	3,250

 A. R. Thomson Group		A.R. THOMSON GROUP – RED DEER PRODUCT SPECIFICATION			PS324 <small>PRODUCT SPECIFICATION NO.</small>	0 <small>REV.</small>	
<small>R. Walker</small> <small>WRITTEN BY</small>	<small>Jan. 16, 19</small> <small>DATE</small>	<small>REVISOR</small> <small>DATE</small>	<small>T. Cozens</small> <small>APPROVED BY</small>	<small>Jan. 16, 19</small> <small>DATE</small>	<small>EFFECTIVE</small>	<small>3</small> <small>PAGE</small>	<small>3</small> <small>OF</small>
SUBJECT SPWA, IPWC and SPWC Hose End Fittings						DCN	

4. TEMPERATURE CORRECTION FACTOR (ASME B31.3 Table A-1)

Temp (°F)	Correction Factor		
	A193	A276 ^{1, 2, 3}	A479 ^{2, 4}
-425	1	1	1
-325	1	1	1
-50	1	1	1
-20	1	1	1
100	1	1	1
200	.920	1	1
300	.830	1	1
400	.761	.965	.965
500	.707	.900	.895
600	.670	.850	.845
650	.665	.830	.835
700	.665	.815	.815
750	.665	.805	.805
800	.665	.795	.795
850	.665	.780	.785
900	.665	.780	.775
950	.665	.770	.770
1000	.665	.765	.765
1050	.665	.755 ²	.725 ²
1100	...	.620 ²	.620 ²
1150	...	.490 ²	.490 ²
1200	...	.370 ²	.370 ²
1250	...	.275 ²	.275 ²
1300205 ²	.205 ²
1350155 ²	.155 ²
1400115 ²	.115 ²
1450085 ²	.085 ²
1500065 ²	.065 ²

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Notes:

- When A 276 materials are used in the manufacture of these fittings, the Notes, minimum temperatures, and allowable stresses for comparable grades of A 240 materials shall apply.
- For temperatures above 538°C (1000°F), these stress values apply only when the carbon content is 0.04% or higher.
- The specification permits this material to be furnished without solution heat treatment or with other than a solution heat treatment. When the material has not been solution heat treated, the minimum temperature shall be -29°C (-20°F) unless the material is impact tested per para. 323.3 of ASME B31.3-2016.
- For temperatures above 538°C (1000°F), these stress values may be used only if the material has been heat treated by heating to a minimum temperature of 1038°C (1900°F) and quenching in water or rapidly cooling by other means.



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www.tssa.org

March 04, 2019

CYNTHIA FORMANIUK
ALBERTA BOILERS SAFETY ASSOCIATION
9410-20 AVENUE
EDMONTON AB T6N 0A4
CA

Service Request Type: BPV-Fitting Registration
Service Request No.: 2518004
Your Reference No.:
Registered to: A R THOMSON GROUP

Dear CYNTHIA FORMANIUK,

Technical Standards and Safety Authority (TSSA) is pleased to inform you that your submission has been reviewed and registered as follows:

CRN No.: 0A19316.25
Main Design No.: SPWA, IPWC & SPWC HOSE END FITTINGS : DATA SHEET: PS324 REV 0 -
SEE SCOPE OF REGISTRATION
Expiry Date: 04-Feb-2029

Please be advised that a valid quality control system must be maintained for the fitting registration to remain valid until the expiry date.

The stamped copy of the approved registration and the invoice are mailed separately. Should you have any questions or require further assistance, please contact a Customer Service Advisor at 1.877.682.TSSA (8772) or e-mail customerservices@tssa.org. We will be happy to assist you. When contacting TSSA regarding this file, please refer to the Service Request number provided above.

Yours truly,

Charley Dong, M.Sc. P.Eng.
Mechanical Engineer

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Email: cdong@tssa.org