

### **Brazer/Brazing Operator Certificate**

**Technical Standards and Safety Act**Boilers and Pressure Vessels Regulation

No.

			<del></del>			
Brazer Last Name:	First Na	ame:	Signature:		Stamp/ID No.:	
Date Coupon Brazed:	Provincial Reg	. No.:	Company PQR No.:		Company BPS No.:	
Employer Name and Address:						
Testing Variables and Ranges Qualified:						
Material specificati		·				
Material specification of		upon base metal:				
Brazing Var	iables:		Actual Values:		Range Qualified:	
Brazing process(es) (QB-401)						
Type of brazing (manual, semi-automa						
Torch brazing: manual, machine, or se	, ,	-410)				
Base metal P-Number to P-Number (Q	,					
AWS BM No. to AWS BM No. (QB-402	,					
Plate Pipe/Tube (enter diameter	,					
First base metal thickness [in(mm)] (QE						
To second base metal thickness [in(mn	,. ,					
Joint type (butt, lap, scarf, socket, etc.)						
If lap or socket, overlap length [in(mm)]	(QB-408)					
Joint clearance [(in(mm)] (QB-408)  Filler metal (SFA) specification(s) (info.	anh ()					
, , ,	Offiy)					
Filler metal classification(s) (info. only) Filler metal / F-Number (QB-403)	_	_	_			
Filler metal / F-Number (QB-403)  Filler metal product form (QB-403)						
Filler metal product form (QB-403)	d or manual (OR	403)				
First brazing flow position (QB-407)	ر Ui Illailuai رهي	-403)				
Second brazing flow position (QB-407)						
Occord brazing now position (45 .5.,						
		TESTING ANI	D RESULTS			
Visual Examination	of Completed J	oint (QB-141.6):				
	nanical Test:	Peel (QB-462.3)	Section (QB-462.4)	Tension (QB	3-462.1)	
		Transverse Bends [Ql	` ,	`	Bends [QB-462.2(b)]	
		Transverse Denas [Q	D 402.2(α)]	Longitualiiai	Dends [QD 402.2(b)]	
Position	Result	Position	Result	Position	Result	1
						]
						]
Brazing supervised by (print name):			Company:			
Mechanical tests conducted by (print	name).		Company			
Specimens evaluated by (print name): Company: Company:						
Laboratory Test No.:						
We certify that the statements in this record and Pressure Vessel Code. When there is a						
and ressure vesser dode. When there is a	specific reason to q	Boiler and Pressu		ne may be revoked p	er dection ix, ww-322.1(b) of the Ac	,WL
Company:						
Certified by (print name):					Date:	
Certified by (print name).		Oignature			Datc.	
		FOR TSSA INSPEC	CTOR USE ONLY			
The Brazer named above has passed the brazin	g test required under		ds and Safety Act, Boilers and Pr	ressure Vessels Regi	ulation and is hereby authorized, su	bject to
The Brazer Hamed above the passes the brazer						
·		the illilitation of	uno continuato.			
Check the applicable box below:	ed above only.	the inilitation of		cate expires:		
·	ed above only.	the initiation of		icate expires:	(dd/mm/yyyy)	
Check the applicable box below:  To braze for the Employer nam	ed above only.	the initiation of		icate expires:		



# **Brazer/Brazing Operator Certificate Guideline**

#### Technical Standards and Safety Act

Boilers and Pressure Vessels Regulation



Technical Standards and Safety Authority 345 Carlingview Drive Toronto, Ontario, M9W 6N9 www.tssa.org

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Technical Standards and Safety Act
Boilers and Pressure Vessels Regulation No.

Material specification Brazing Va Brazing process(es) (QB-401) Type of brazing (manual, semi-autom Forch brazing: manual or mechanical Base metal P-Number to P-Number (GAWS BM No. to AWS BM No. (QB-40 Plate Pipe/Tube (enter diamete	ariables:	Testing Variables a	Company PQR No.:	<b>0</b>	Company BPS No.:	(8)
Material specifica Material specification Brazing Va Brazing process(es) (QB-401) Type of brazing (manual, semi-autom: Forch brazing: manual or mechanical Base metal P-Number to P-Number (CAWS BM No. to AWS BM No. (QB-40	n of second test co 'ariables:	upon base metal:	nd Ranges Qualified:		15 TANK TANK TO SEE THE SECOND SECTION	(0)
Material specification  Brazing Va  Brazing Pocess(es) (QB-401)  Sype of brazing (manual, semi-automorch brazing: manual or mechanical  Base metal P-Number to P-Number (GWS BM No. to AWS BM No. (QB-40)  Plate Pipe/Tube (enter diameter	n of second test co 'ariables:	upon base metal:	nd Ranges Qualified:			
Material specification  Brazing Va  razing process(es) (QB-401)  ype of brazing: manual, semi-autom orch brazing: manual or mechanical lase metal P-Number to P-Number (0  WS BM No. to AWS BM No. (QB-40  Plate Pipe/Tube (enter diamete	n of second test co 'ariables:	upon base metal:	nd Ranges Qualified:			
Material specification  Brazing Varazing process(es) (QB-401)  ype of brazing: manual, semi-automorch brazing: manual or mechanical ase metal P-Number to P-Number (GWS BM No. (QB-40)  Plate Pipe/Tube (enter diamete	n of second test co 'ariables:	DEPLOY OF THE YORK OF THE STATE OF	7			
Brazing Va razing process(es) (QB-401) ype of brazing (manual, semi-automorch brazing: manual or mechanical ase metal P-Number to P-Number (0 WS BM No. to AWS BM No. (QB-40 Plate Pipe/Tube (enter diamete	ariables:	CONTRACTOR OF THE PROPERTY OF THE PARTY OF T	(10)			
razing process(es) (QB-401)  ype of brazing (manual, semi-automorch brazing: manual or mechanical ase metal P-Number to P-Number ( WS BM No. to AWS BM No. (QB-40)  Plate Pipe/Tube (enter diamete		upon base metal:	(11)			
ype of brazing (manual, semi-automorch brazing: manual or mechanical ase metal P-Number to P-Number ( WS BM No. to AWS BM No. (QB-40 Plate Pipe/Tube (enter diamete	natic, automatic, ma		Actual Values:	18	Range Qualifie	1:
orch brazing: manual or mechanical ase metal P-Number to P-Number ( WS BM No. to AWS BM No. (QB-40 Plate Pipe/Tube (enter diamete	natic, automatic, ma	3	(12)	55	(13)	
ase metal P-Number to P-Number ( WS BM No. to AWS BM No. (QB-40 Plate Pipe/Tube (enter diameter		schine) (QB-351)	(14)		(15)	
WS BM No. to AWS BM No. (QB-40 Plate Pipe/Tube (enter diamete		N 1000	(16)		(17)	
Plate Pipe/Tube (enter diameter			(18)	- 8)	(19)	
	7-		<u>20</u>	93	21)	
rst base metal thickness (in.) (OR-4)					24)	
First base metal thickness (in.) (QB-402)			25)		(26)	
second base metal thickness (in.)			27	- 8	28	
oint type (butt, lap, scarf, socket, etc.	AND CONTRACTOR OF THE PARTY OF		(29)	0.5	30	
lap or socket, overlap length (in.) (Q	26-408)		(31)		(32)	
oint clearance (in.) (QB-408)			(33)		(34)	
iller metal (SFA) specification(s) (info	**		(35)			
ller metal classification(s) (info. only	/)		(36)		(6.6)	
iller metal / F-Number (QB-403)		-	<u> </u>		(38)	
iller metal product form (QB-403)			(39) (41)	- 59	(40) (42)	
irst brazing flow position (QB-407) econd brazing flow position (QB-407	7\				-	
Visual Examination		TESTING A pint (QB-141.6): Peel (QB-462.3)	(43) ND RESULTS (45) Section (QB-462.4)	Tension (QB	<u>(44)</u> -482.1)	
Visual Examination	n of Completed J	oint (QB-141.6):	ND RESULTS 45 Section (QB-462.4)			
Visual Examination	n of Completed J	pint (QB-141.6): Peel (QB-462.3)	ND RESULTS 45 Section (QB-462.4)		462.1)	
Visual Examination  Med	n of Completed Jochanical Test:	pint (QB-141.6): Peel (QB-462.3) Transverse Bends [	ND RESULTS  Section (QB-462.4)  QB-462.2(a)]	Longitudinal	.462.1) Bends [QB-462.2(b)]	255
Visual Examination  Med	n of Completed Jochanical Test:	Peel (QB-462.3) Transverse Bends [ Position	ND RESULTS  Section (QB-462.4)  QB-462.2(a)]	Longitudinal	-482.1) Bends [QB-482.2(b)] Result	25° 100 100
Visual Examination  Med	n of Completed Jochanical Test:  Result	point (QB-141.6): Peel (QB-462.3) Transverse Bends [ Position	ND RESULTS  Section (QB-462.4)  QB-462.2(a)]  Result	Longitudinal	-482.1) Bends [QB-482.2(b)] Result	150
Visual Examination  Med  Position  (47)	n of Completed Jochanical Test:  Result (48)	Peel (QB-141.6): Peel (QB-462.3) Transverse Bends [ Position	Section (QB-462.4) QB-462.2(a)]  Result  Company	Longitudinal Position	-482.1) Bends [QB-482.2(b)] Result	
Visual Examination  Med  Position  (47)  Brazing supervised by (print name):	n of Completed Jochanical Test:  Result (48)	point (QB-141.6): Peel (QB-462.3) Transverse Bends [ Position	ND RESULTS  Section (QB-462.4)  QB-462.2(a)]  Result  Company Company	Position	-482.1) Bends [QB-482.2(b)] Result	55 5 7 7
Visual Examination  Med  Position  47)  Brazing supervised by (print name):  Mechanical tests conducted by (print name)	n of Completed Jochanical Test:  Result (48)	Peel (QB-141.6): Peel (QB-462.3) Transverse Bends [ Position	Section (QB-462.4) QB-462.2(a)]  Result  Company	Position	-482.1) Bends [QB-482.2(b)] Result	
Position Pos	Result (48)	Peel (QB-141.6): Peel (QB-462.3) Transverse Bends [ Position  49  51)  53	Section (QB-462.4)  QB-462.2(a)]  Result  Company Company Company	Position  Position	-482.1) Bends [QB-482.2(b)] Result 50 52 54	
Position Pos	Result  On name):  e):  ord are correct and that is a specific reason to question.	Peel (QB-141.6): Peel (QB-462.3) Transverse Bends [ Position  49  51)  53	Section (QB-462.4)  QB-462.2(a)]  Result  Company  Company  Company  ared, brazed, and tested in accoing operator's ability, this Certifi	Position  Position	-482.1) Bends [QB-482.2(b)] Result 50 52 54	the ABME

PV 09398 (02/26/21)

Inspector Name and Number (print)

"information provided in this application is releasable under the Freedom of Information and Privacy Protection Act and may be disclosed upon request.

Inspector Signature and Date

## **Brazer/Brazing Operator Certificate Guideline**

**Technical Standards and Safety Act**Boilers and Pressure Vessels Regulation

## **Guideline for completing the Brazer/Brazing Operator Certificate**

NOTE: This is a general guideline. The examples stated are for information purposes only. Please refer to ASME Section IX for Code requirements and actual ranges qualified. All Code paragraphs or tables referenced are specific to ASME Section IX unless otherwise noted. State "N/A" for any item that does not apply to the coupon brazed.

brazed.					
Item #	Description	Example			
1	This unique certificate number will be provided by the TSSA Authorized Inspector.	0123456			
2	Record the brazer's Last Name and First Name.	Smith, John			
3	The signature of the brazer.				
4	A unique identification number shall be provided to the brazer. This number is used to identify brazes made by the brazer on the part or braze map per QB-301.3 and QG-106.2(f).	John Smith: JS, 01, Smith, etc.			
5	Provide the date the coupon was brazed.	Jan.1, 2020			
6	Provide the Provincial Registration Number of the Procedure Qualification Record used for the brazed coupon.	BP-12345.5			
7	Provide the Procedure Qualification Record Number used for brazing the coupon.	PQR #1			
8	Provide the Brazing Procedure Specification Number used for brazing the coupon.	BPS #1			
9	Record employer name and address (if applicable).				
10	Record the material specification of the first test coupon base metal.	ASTM B280, ASTM B819, etc.			
11	Record the material specification of the second test coupon base metal.	ASTM B75, ASME B16.22, etc.			
12	Record the brazing process per QB-401.1 and QB-351.	Torch Brazing			
13	Record the range qualified for the brazing process per QB-351.	Torch Brazing Only			
14	Record the type of brazing performed per QB-351.1.	Manual			
15	Record the range qualified for the type of brazing performed per QB-351.1 and QB-351.2.	Manual Only			
16	Record the type of torch brazing: manual or mechanical per QB-410.5.	Manual, N/A, etc.			
17	Record the range qualified for the type of torch brazing per QB-410.5.	Manual only			
18	Record the base metal P-Number to P-Number per QB-402.	P-No.107 to P-No.107			
19	Record the range qualified of the P-Number(s) used per QB-402.	P-No.107 to P-No.107			
20	Record the AWS BM Number to AWS BM Number per QB-406.1 (if applicable)	AWS BM No.300 to AWS BM No.300			
21	Record the range qualified of the AWS BM Number(s) used per QB-406.1 (if applicable).	AWS BM No.300 to AWS BM No.300			
22	Select the appropriate box to indicate whether the brazed coupon is performed on plate or pipe/tube.	Tube			
23	Record the diameter of the coupon/production pipe or tube. If on plate, record thickness of the plate.	1-1/8" OD, etc.			
24	Record the range qualified for the pipe or tube as per the combination of lap length and base metal thickness per QB-408.1 and QB-402.3.	3/8" OD to 1-5/8" OD, etc.			
25	Record the thickness of the first base metal per QB-402.3.	0.050", 0.070", etc.			
26	Record the range qualified of the first base metal thickness per QB-452.	0.025" to 0.100", 0.035" to 0.140", etc.			
27	Record the thickness of the second base metal per QB-402.3.	0.040", 0.059", etc.			
28	Record the range qualified of the second base metal thickness per QB-452.	0.020" to 0.080", 0.030" to 0.118", etc.			
29	Record the joint type per QB-408.1.	Lap, socket, etc.			
30	Record the range qualified of the joint type per QB-408.1.	Lap only, socket only, etc.			
31	Record the lap or socket overlap length per QB-408.	0.91", etc.			
32	Record the range qualified of the lap or socket overlap length per QB-408.1.	Up to 1.14" max.			



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33	Record the joint clearance per QB-408.	0.002", etc.
34	Record the range qualified of the joint clearance per QB-408.2 & QB-408.3.	0.002" to 0.005", etc.
35	Record the filler metal SFA specification(s).	SFA-5.8, etc.
36	Record the filler metal classification(s).	BCuP-5, etc.
37	Record the filler metal F-Number used per QB-403.	F-No. 103, etc.
38	Record the range qualified of the F-Number used per QB-403.1.	F-No. 103, etc.
39	Record the filler metal product form per QB-403.	Solid, etc.
40	Record the range qualified of the filler metal product form per QB-403.2.	Solid, etc.
41	Record the first brazing flow position per QB-407.	Vertical up, etc.
42	Record the range qualified of the first brazing flow position per QB-407.1.	Vertical up and vertical down, etc.
43	Record the second brazing flow position per QB-407.	Horizontal
44	Record the range qualified of the second brazing flow position per QB-407.1.	Horizontal
45	Record the results of the visual examination of completed braze(s) prior to cutting the test specimens per QB-141.6.	Acceptable, Satisfactory, etc.
46	Select the appropriate boxes for the testing completed on the brazed coupons per QB-462.3, QB-462.4, QB-462.1, QB-462.2(a), and QB-462.2(b).	
47	Record the position of the coupon tested.	Vertical up, etc.
48	Record the result of the coupon tested.	Acceptable, Satisfactory, etc.
49	Record the name of the individual responsible for supervising the brazing.	
50	Record the name of the company responsible for supervising the brazing.	
51	Record the name of the individual responsible for conducting the mechanical tests.	
52	Record the name of the company responsible for conducting the mechanical tests.	
53	Record the name of the individual responsible for evaluating the specimens.	
54	Record the name of the company responsible for evaluating the specimens.	
55	Record the laboratory test report number for any testing completed at a laboratory.	
56	Record the name of the company responsible for certifying the Brazer/Brazing Operator Certificate.	
57	Record the name of the individual responsible for certifying the Brazer/Brazing Operator Certificate.	
58	Signature of the individual responsible for certifying the Brazer/Brazing Operator Certificate.	
59	Record the date the Brazer/Brazing Operator Certificate was signed.	
60	To be completed by TSSA. Select the appropriate box for the Brazer/Brazing Operator to braze for the employer named on the certificate, or for the brazer seeking employment only.	
61	To be completed by TSSA. Record the expiration of the certificate (one year from the date the coupon was brazed), or state "Per ASME Section IX" (if applicable).	
62	To be completed by TSSA. Record the name and Ontario Certificate of Competency Number of the Authorized Inspector.	
63	To be completed by TSSA. Signature and date of the TSSA Authorized Inspector.	