



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

# Welder/Welding Operator Certificate

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

Welder's Last Name:		First Name:		Signature:		Stamp/ID No.:	
Date Coupon Welded:		Provincial Reg. No.:		Company PQR No.:		Company WPS No.:	
Employer Name and Address:							
<b>Welding Process(es) Used:</b>				<b>Type(s):</b>		<b>Manual      Machine      Semi-Automatic      Automatic</b>	
<b>Base Metal Spec. and Type/Grade or UNS No.:</b>				<b>Thickness(es):</b>		<b>Test Coupon      Production Welding</b>	

Variables for all processes:	Actual Values:	Range Qualified:
Backing (with/without) (QW-402)		
Base metal P-Number to P-Number (QW-403)		
Base metal: Plate Pipe (enter diameter if pipe or tube) (QW-403)		
Filler metal specification (SFA) and classification (info only) (QW-404)		
Consumable insert for GTAW or PAW (QW-404)		
Welding position (1G, 5G, etc.) (QW-405)		
Manual or Semi-automatic Variables (QW-350):	Actual Values:	Range Qualified:
Filler metal F-Number (QW-404)		
Filler metal product form for GTAW, PAW (QW-404)		
Weld deposit thickness for each process (QW-404):		
Process 1:                      3 layers minimum      Yes      No		
Process 2:                      3 layers minimum      Yes      No		
Vertical progression (uphill/downhill) (QW-405)		
GTAW, PAW or GMAW backing gas; or OFW fuel gas (QW-408)		
GMAW transfer mode (spray/globular or pulse to short circuit) (QW-409)		
GTAW welding current type & polarity (AC, DCEP, DCEN) (QW-409)		
Machine Welding Variables (QW-361.2)	Actual Values:	Range Qualified:
Direct or remote visual control		
Automatic arc voltage control (GTAW)		
Automatic joint tracking		
Multiple or single pass per side		
Automatic Welding Variables (QW-361.1)	Actual Values:	Range Qualified:
Filler metal used      Yes      No (EBW or LBW)		
Laser type for LBW		
Continuous drive or inertia welding (FW)		
Vacuum or out of vacuum (EBW)		
Tube-to-Tubesheet Variables (QW-388)	Actual Values:	Range Qualified:
Ligament size (QW-402)		
Joint configuration (QW-402)		
Preplaced filler metal (QW-404)		
Amperage (QW-409)		

Note: Values in "Range Qualified" are valid only when used with a Qualified Welding Procedure.

### RESULTS

Visual Examination of Completed Weld (QW-302.4): \_\_\_\_\_

Transverse root and face bends [QW-462.3(a)]      Longitudinal root and face bends [QW-462.3(b)]      Side Bends [QW-462.2]  
Pipe bend specimen, corrosion-resistant overlay [QW-462.5(c)]      Plate bend specimen, corrosion-resistant overlay [QW-462.5(d)]  
Pipe specimen, macro test for fusion [QW-462.5(b)]      Plate specimen, macro test for fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result	Type	Result

Alternative Volumetric examination results (QW-191): \_\_\_\_\_ RT      UT (check one)

Fillet welds: Fracture test results (QW-181.2 or QW-181.2.1): \_\_\_\_\_      Fillet welds in plate [QW-462.4(b)]      Fillet welds in pipe [QW-462.4(c)]

Length and percent of defects (QW-182): \_\_\_\_\_      Macro examination results (QW-184): \_\_\_\_\_

Fillet size [QW-184(c)] (in.): \_\_\_\_\_ x \_\_\_\_\_      Concavity/convexity [QW-184(b)] (in.): \_\_\_\_\_

Other tests (QW-190): \_\_\_\_\_

Film or specimens evaluated by (print name): \_\_\_\_\_ Company: \_\_\_\_\_

Mechanical tests conducted by (print name): \_\_\_\_\_ Laboratory test no.: \_\_\_\_\_

Welding supervised by (print name): \_\_\_\_\_ Company: \_\_\_\_\_

We certify that the statements in this record are correct and that the test coupons were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

Company: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### FOR TSSA INSPECTOR USE ONLY

The Welder named above has passed the welding test required under Ontario's Technical Standards and Safety Act, Boilers and Pressure Vessels Regulation and is hereby authorized, subject to the limitation of this certificate.

Check (X) applicable box below:

To weld for the Employer named above only.  
For seeking employment only.

This Certificate expires: \_\_\_\_\_  
(dd/mm/yyyy)

Inspector Name and Number (print)

Inspector Signature and Date



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**Welder/Welding Operator Certificate**  
**Technical Standards and Safety Act** No. **1**  
Boilers and Pressure Vessels Regulation

Welder's Last Name: <b>2</b>	First Name: <b>3</b>	Signature: <b>3</b>	Stamp/ID No.: <b>4</b>
Date Coupon Welded: <b>5</b>	Provincial Reg. No.: <b>6</b>	Company PQR No.: <b>7</b>	Company WPS No.: <b>8</b>
Employer Name and Address: <b>9</b>			
Welding Process(es) Used: <b>10</b>		Type(s): <b>11</b> Manual Machine Semi-Automatic Automatic	
Base Metal Spec. and Type/Grade or UNS No.: <b>12</b>		Thickness(es): <b>13</b>	<b>14</b> Test Coupon Production Welding

Variables for all processes:	Actual Values:	Range Qualified:
Backing (with/without) (QW-402)	<b>15</b>	<b>16</b>
Base metal P-Number to P-Number (QW-403)	<b>17</b>	<b>18</b>
Base metal: <b>19</b> Plate Pipe (enter diameter if pipe or tube) (QW-403)	<b>20</b>	<b>21</b>
Filler metal specification (SFA) and classification (info only) (QW-404)	<b>22</b>	
Consumable insert for GTAW or PAW (QW-404)	<b>23</b>	<b>24</b>
Welding position (1G, 5G, etc.) (QW-405)	<b>25</b>	<b>26</b>
Manual or Semi-automatic Variables (QW-350):	Actual Values:	Range Qualified:
Filler metal F-Number (QW-404)	<b>27</b>	<b>28</b>
Filler metal product form for GTAW, PAW (QW-404)	<b>29</b>	<b>30</b>
Weld deposit thickness for each process (QW-404):		
Process 1: <b>31</b> 3 layers minimum <b>32</b> Yes No	<b>33</b>	<b>34</b>
Process 2: <b>35</b> 3 layers minimum <b>36</b> Yes No	<b>37</b>	<b>38</b>
Vertical progression (uphill/downhill) (QW-405)	<b>39</b>	<b>40</b>
GTAW, PAW or GMAW backing gas; or OFW fuel gas (QW-408)	<b>41</b>	<b>42</b>
GMAW transfer mode (spray/globular or pulse to short circuit) (QW-409)	<b>43</b>	<b>44</b>
GTAW welding current type & polarity (AC, DCEP, DCEN) (QW-409)	<b>45</b>	<b>46</b>
Machine Welding Variables (QW-361.2)	Actual Values:	Range Qualified:
Direct or remote visual control	<b>47</b>	<b>48</b>
Automatic arc voltage control (GTAW)	<b>49</b>	<b>50</b>
Automatic joint tracking	<b>51</b>	<b>52</b>
Multiple or single pass per side	<b>53</b>	<b>54</b>
Automatic Welding Variables (QW-361.1)	Actual Values:	Range Qualified:
Filler metal used <b>55</b> Yes No (EBW or LBW)	<b>56</b>	<b>57</b>
Laser type for LBW	<b>58</b>	<b>59</b>
Continuous drive or inertia welding (FW)	<b>60</b>	<b>61</b>
Vacuum or out of vacuum (EBW)	<b>62</b>	<b>63</b>
Tube-to-Tubesheet Variables (QW-388)	Actual Values:	Range Qualified:
Ligament size (QW-402)	<b>64</b>	<b>65</b>
Joint configuration (QW-402)	<b>66</b>	<b>67</b>
Preplaced filler metal (QW-404)	<b>68</b>	<b>69</b>
Amperage (QW-409)	<b>70</b>	<b>71</b>

Note: Values in "Range Qualified" are valid only when used with a Qualified Welding Procedure.

**RESULTS**

Visual Examination of Completed Weld (QW-302.4): **72**  
**73** Transverse root and face bends [QW-462.3(a)] Longitudinal root and face bends [QW-462.3(b)] Side Bends (QW-462.2)  
 Pipe bend specimen, corrosion-resistant overlay [QW-462.5(c)] Plate bend specimen, corrosion-resistant overlay [QW-462.5(d)]  
 Pipe specimen, macro test for fusion [QW-462.5(b)] Plate specimen, macro test for fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result	Type	Result
<b>74</b>	<b>75</b>						

Alternative Volumetric examination results (QW-191): **76** **77** RT UT (check one)

Fillet welds: Fracture test results (QW-181.2 or QW-181.2.1): **78** **79** Fillet welds in plate [QW-462.4(b)] Fillet welds in pipe [QW-462.4(c)]

Length and percent of defects (QW-182): **80** Macro examination results (QW-184): **81**

Fillet size [QW-184(c)] (in.): **82** x **83** Concavity/convexity [QW-184(b)] (in.): **83**

Other tests (QW-190): **84**

Film or specimens evaluated by (print name): **85** Company: **86**

Mechanical tests conducted by (print name): **87** Laboratory test no.: **88**

Welding supervised by (print name): **89** Company: **90**

We certify that the statements in this record are correct and that the test coupons were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

Company: **91** Signature: **92** Date: **93**

**FOR TSSA INSPECTOR USE ONLY**

The Welder named above has passed the welding test required under Ontario's Technical Standards and Safety Act, Boilers and Pressure Vessels Regulation and is hereby authorized, subject to the limitation of this certificate.

Check (X) applicable box below:

**94** To weld for the Employer named above only.  
For seeking employment only. **96**

This Certificate expires: **95**  
(dd/mm/yyyy) **97**

Inspector Name and Number (print)

Inspector Signature and Date



### Guideline for completing the Welder/Welding 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 welded.**

Item #	Description	Example
1	This unique certificate number will be provided by the TSSA Authorized Inspector.	0123456
2	Record the welder's Last Name and First Name.	Smith, John
3	The signature of the welder.	
4	A unique identification number shall be provided to the welder. This number is used to identify welds made by the welder on the part or weld map per QW-301.3 and QG-106.2(f).	John Smith: JS, 01, Smith, etc.
5	Provide the date the coupon was welded. Certification of the welder begins on this date per QW-300.1.	Jan.1, 2020
6	Provide the Provincial Registration Number of the Procedure Qualification Record used for the welding coupon.	WP-12345.5
7	Provide the Procedure Qualification Record Number used for welding the coupon.	PQR #1
8	Provide the Welding Procedure Specification Number used for welding the coupon.	WPS #1
9	Record the employer name and address (if applicable).	
10	Record the welding process(es) used.	GTAW, SMAW, etc.
11	Select the appropriate box to indicate the type of process(es).	Manual
12	Record the base metal specification(s), type(s)/grade(s) or UNS Number(s).	SA-516-70, SA-106B, etc.
13	Record the thickness(es) of the base metal(s).	1/4", 0.125", etc.
14	Select the appropriate box to indicate whether the weld is completed on a test coupon or a production weld.	Test Coupon
15	Record each welding process and state whether the process was welded with (with) or without (w/o) backing.	GTAW w/o, SMAW with
16	Record the range qualified for each welding process per QW-402.	GTAW with or w/o, SMAW with
17	Record the base metal P-Number(s) used per Table QW/QB-422.	P-No.8 to P-No.8
18	Record the range qualified for the P-Number(s) used per QW-423.1.	P-No.1 to P-No.15F, P-No.34, P-No.41 to P-No.49
19	Select the appropriate box to indicate whether the coupon/production weld is performed on plate or pipe.	Pipe
20	Record the diameter of the coupon/production pipe or tube. If on plate, record thickness of the plate.	2.375" OD, 3/8", etc.
21	Record the range qualified for the pipe or tube per Table QW-452.3 and QW-452.6 (as applicable). If on plate, record limits per ASME Section IX, Table QW-461.9.	1" OD to unlimited, all fillets, Minimum 2-7/8" OD and over, etc.
22	Record the filler metal specification (SFA) and classification number. This is for information only.	SFA 5.18 (ER-70S-2)
23	Record the consumable insert used for GTAW or PAW. Specify type and grade of insert used. This insert should have the same F-Number as the filler metal used.	SFA 5.30 INMS-1
24	Record the range qualified for the consumable insert used (as applicable).	SFA 5.18 (ER-70S-2), all fillet welds, welds with backing
25	Record the position the coupon was welded per QW-461.	5G
26	Record the range qualified for the position the coupon was welded per QW-461.9.	F, V, O Grooves and all fillets, All positions, etc.



27	Record the filler metal F-Number(s) used per Table QW-432.	F-No.3
28	Record the range qualified for the F-Number(s) used per QW-433.	F-No.1 to F-No.3 with backing, F-No.3 w/o backing
29	Record the filler metal product form used for GTAW or PAW. Typically, the AWS Classification specifies the filler metal product form.	Bare; solid
30	Record the range qualified for the filler metal product form for GTAW or PAW. Examples of filler metal product forms can be found in QW-404.23.	Bare; solid or metal cored
31	Record the first process deposited in the coupon.	GTAW, SMAW, etc.
32	Select whether the first process consisted of 3 layers of deposited weld metal.	Yes or No
33	Record the thickness of deposited weld metal for the first process.	0.25", etc.
34	Record the range qualified of the first welding process per QW-452.1(b).	Up to 0.5" maximum, etc.
35	Record the second process deposited in the coupon (if applicable).	GTAW, SMAW, etc.
36	Select whether the second process consisted of 3 layers of deposited weld metal.	Yes or No
37	Record the thickness of deposited weld metal for the second process.	0.5", etc.
38	Record the range qualified of the second welding process per QW-452.1(b).	Maximum to be welded, etc.
39	Record the vertical progression of the weld.	Uphill
40	Record the range qualified of the vertical progression of the weld per QW-405.3.	Uphill only
41	Record the backing gas used for GTAW, PAW, GMAW or OFW fuel gas.	Without
42	Record the range qualified for the backing gas used for GTAW, PAW, GMAW or OFW fuel gas per QW-408.	With or without
43	Record the GMAW transfer mode used.	Spray
44	Record the range qualified for the GMAW transfer mode per QW-409.	Spray, Globular or Pulse
45	Record the current type and polarity used for GTAW.	DCEN
46	Record the range qualified for the current type and polarity used for GTAW per QW-409.	DCEN
47	Record if direct or remote visual control is used.	Direct visual control
48	Record the range qualified for the direct or remote visual control per QW-361.2(b).	Direct visual control
49	Record the automatic arc voltage control used for GTAW.	Without
50	Record the range qualified for the automatic arc voltage control used for GTAW per QW-361.2(c).	With or without
51	Record if automatic joint tracking is used.	Without
52	Record the range qualified for automatic joint tracking per QW-361.2(d).	With or without
53	Record multiple or single pass per side.	Multiple
54	Record the range qualified for multiple or single pass per side per QW-361.2(h).	Single or multiple
55	Select whether filler metal was used for EBW or LBW.	No
56	Record the filler metal used for EBW or LBW.	None
57	Record the range qualified for the filler metal used for EBW or LBW per QW-361.1(c).	None
58	Record the laser type for LBW.	CO <sub>2</sub>
59	Record the range qualified for the laser type for LBW per QW-361.1(d).	CO <sub>2</sub> only
60	Record continuous drive or inertia welding for FW.	Continuous drive
61	Record the range qualified for continuous drive or inertia welding for FW per QW-361.1(e).	Continuous drive only
62	Record the vacuum or out of vacuum for EBW.	Vacuum
63	Record the range qualified for vacuum or out of vacuum for EBW per QW-361.1(f).	Vacuum only
64	Record the size of the ligament used in the tube-to-tubesheet qualification.	0.25"
65	Record the range qualified for the ligament size.	0.25" to unlimited



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66	Record the joint configuration of the tube-to-tubesheet qualification.	Full Strength Weld
67	Record the range qualified for the joint configuration of the tube-to-tubesheet.	Full Strength Weld only
68	Record the preplaced filler metal for the tube-to-tubesheet qualification (if applicable).	SFA 5.18 (ER-70S-2)
69	Record the range qualified for the preplaced filler metal.	With or without
70	Record the amperage for the tube-to-tubesheet qualification.	250 Amps
71	Record the range qualified for the amperage of the tube-to-tubesheet.	250 Amps maximum
72	Record the results of the visual examination of completed welds prior to cutting the test specimens per QW-302.4.	Acceptable, Satisfactory, etc.
73	Select the appropriate boxes for the testing completed on the weld coupons per QW-462.3(a), QW-462.3(b), QW-462.2, QW-462.5(c), QW-462.5(b), QW-462.5(d) and QW-462.5(e).	Transverse root and face bends
74	Record the type of the coupon tested.	Face, Root, etc.
75	Record the result of the coupon tested.	Pass, Fail, etc.
76	Record the results of the alternative volumetric examination per QW-191).	Acceptable, Passed, etc.
77	Select the appropriate volumetric examination completed.	RT or UT
78	Record the type and results of the fillet weld fracture test per QW-181.2 or QW-181.2.1.	Performance Test Acceptable, Production Assembly Mock-Up Acceptable
79	Select the appropriate box if the fillet weld was tested in plate or pipe per QW-462.4(b) or QW-462.4(c).	Fillet weld in plate
80	Record the length and percent of defects found in the fillet weld fracture test per QW-182.	No defects, 1/8" porosity, etc.
81	Record the results of the macro examination test per QW-184.	Complete fusion, Acceptable
82	Record the fillet sizes of the macro examination test per QW-184(c).	0.25" X 0.25"
83	Record the concavity or convexity of the fillet welds in the macro examination test per QW-184(b).	0.02" Concavity
84	Record any other testing and results completed.	
85	Record the name of the individual responsible for evaluating the film or specimens.	
86	Record the name of the company responsible for evaluating the film or specimens.	
87	Record the name of the individual responsible for conducting the mechanical tests.	
88	Record the laboratory test number of the specimen (if applicable).	
89	Record the name of the individual responsible for supervising the welding.	
90	Record the name of the company responsible for supervising the welding.	
91	Record the name of the company responsible for certifying the Welder/Welding Operator Certificate.	
92	Signature of the individual responsible for certifying the Welder/Welding Operator Certificate of behalf of the company.	
93	Record the date the Welder/Welding Operator Certificate was signed.	
94	To be completed by TSSA. Select the appropriate box for the Welder/Welding Operator to weld for the employer named on the certificate, or for the welder seeking employment only.	
95	To be completed by TSSA. Record the expiration of the certificate (one year from the date the coupon was welded), or state "Per ASME Section IX" (if applicable).	
96	To be completed by TSSA. Record the name and Ontario Certificate of Competency Number of the Authorized Inspector.	
97	To be completed by TSSA. Signature and date of the TSSA Authorized Inspector.	