

Quality Control

INFORMATIONAL LETTER TO PRESSURE WELDERS ABOUT THE ALBERTA PRESSURE WELDING PROGRAM

The requirements for welding on pressure equipment in Alberta are defined in the Alberta Boiler and Pressure Vessels Act and Regulations. In particular, Section 36(1) of the Act states: *No person shall weld or offer to weld a boiler, pressure vessel or pressure piping system or a fitting unless that person is the holder of a certificate of competency and a valid performance qualification card issued pursuant to the regulations authorizing him to do that type of welding.*

To perform pressure welding in Alberta, the welder must have an Certificate of Competency issued by the Alberta Boilers Branch. This certificate consists of an 8.5" by 11" certificate and a wallet- sized, plastic-coated white card signifying that the welder has successfully passed an examination conducted by the Alberta Boilers Branch. The details of the welding the welder is qualified to perform are specified on the blue Performance Qualification Card. To perform welding exceeding the limits specified on the Performance Qualification Card or to weld with another process, the welder must perform another qualification test at a facility accredited by the Boilers Branch. Performance Qualification Cards expire after two years therefore the welder must be requalified at an accredited facility.

Some of the highlights of the requirements of the Act and Regulations include:

1. *A pressure welder when engaged in pressure welding, shall carry on his person the performance qualification card authorizing him to perform the type of pressure welding in which he is engaged.*
2. *The holder of any Pressure Welder's ... Certificate of Competency shall take a performance qualification test at any time when, in the opinion of an inspector, a performance qualification test is warranted to determine the holder's welding ability.*
3. *If an inspector finds any welding that does not meet the requirements of the Act or any regulations made under the Act, the inspector, after determining who performed the welding, may suspend that person's applicable performance qualification card by taking possession of it or by informing him of the suspension by sending a registered letter to his last known address.*
4. *Any person who employs a pressure welder or a machine welding operator shall assign to him a symbol for the purpose of identifying the welds of the pressure welder while employed by that person. A pressure welder shall identify his welds by the symbol assigned to him by his employer.*
5. *Any person who contravenes this Act or the regulations is guilty of an offence and liable to a fine of not more than \$5000 and in default of payment to imprisonment for a term not exceeding one year or to both fine and imprisonment.*

A summary of the responsibilities of a pressure welder at a construction site are on the reverse side of this sheet.

ITEMS OF RELEVANCE TO PRESSURE WELDERS AT A CONSTRUCTION SITES

The Alberta Boilers and Pressure Vessels Act and Regulations specify requirements for the construction of pressure equipment in Alberta. As a pressure welder may also be held responsible if pressure system construction is performed in contravention of Alberta Regulations, he should assure himself that Boilers Branch requirements have been met.

To construct boilers, pressure vessels or pressure piping in Alberta, the organization doing so must

1. Register the design of the boiler, pressure vessel or pressure piping system with the Alberta Boilers Branch. (Except for pressure piping systems whose volume is less than 0.5 cubic metres.)
2. Register, with the Boilers Branch, the welding procedures that will be used in construction.
3. Use qualified pressure welders holding current qualification cards, for the welding procedures being used.
4. Have a quality control program registered with the Boilers Branch for the scope of work to be performed.

The welding procedure defines the limits between which the welder is to perform the welding. The welder should check the procedure to ensure that he is qualified to perform the welding and that he is aware of the details of the procedure which include:

1. welding process
2. type of electrode
3. weld position
4. type of weld bead
5. type of base metal
6. thickness and diameter limits
7. weld progression
8. electrical characteristics
9. deposited weld metal per pass and in total.
10. preheat and post weld heat treatment

The quality control program describes the procedures and responsibilities for the construction of the pressure equipment. The system is designed to ensure that all the required inspections and examinations are performed with the objective of preventing costly mistakes. Some of the duties which may be assigned to welders include:

1. Checking the material against the drawing for type, thickness, diameter, etc.
2. Checking the weld preparation and fit-up
3. Checking welding procedures to ensure they are applicable
4. Checking all welds visually for shape, defects, and welder's symbols

The pressure welder should clarify his responsibilities under the contract at the start of the job to avoid contravention of Boilers Branch requirements.