

## BOILERMAKER

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### Occupation Description

A Boilermaker is a tradesperson who possesses the full range of knowledge, abilities and skills required to fabricate, construct, install, assemble, erect, demolish, repair and maintain a wide variety of vessels, tanks, towers, boilers, hoists and other structures, ancillary equipment and fixtures made of steel, other metals, fiberglass, and other materials. The broad scope of the boilermaker trade includes the construction and maintenance activities performed in the field and in industrial and commercial plants.

*Optional Endorsement:* “Marine Fitter” means a person who is a qualified Boilermaker and/or Metal Fabricator (Fitter) who is able to cut and fit metal plates and other components in the process of assembling, constructing and repairing large vessels in the shipbuilding and repair industry.

For detailed information on the scope of knowledge and skills taught and assessed in this program refer to the Program Outline, available on the ITA website.

### Pathways to Certification

In BC, an individual can become certified as a Boilermaker by completing the Boilermaker program or by challenging the certification. Apprenticeship programs are for individuals who have an employer to sponsor them and challenge programs are for individuals who have extensive experience working in the occupation and wish to challenge the certification.

Youth can begin an apprenticeship in high school through the Youth Train in Trades or Youth Work in Trades programs. The Youth Work in Trades program is available for any trade if an employer is willing to sponsor the student. Trades offered through the Youth Train in Trades vary by region; contact your local school district to find out which technical training programs are being offered through the Youth Train in Trades program in your region.

### Recommended Education

The following education is recommended for apprentices entering this occupation. These are not prerequisites, but rather a desired level of skill or knowledge that will contribute to success in the industry.

- Grade 10 or equivalent including English 10, Mathematics 10 and Science 10
- Preferred: Grade 12

### ITA Registration

Individuals who wish to begin an apprenticeship in this program must register with ITA along with their sponsor. Application forms for all programs are available from ITA’s website. Online registration is also available for most programs through ITA’s website.

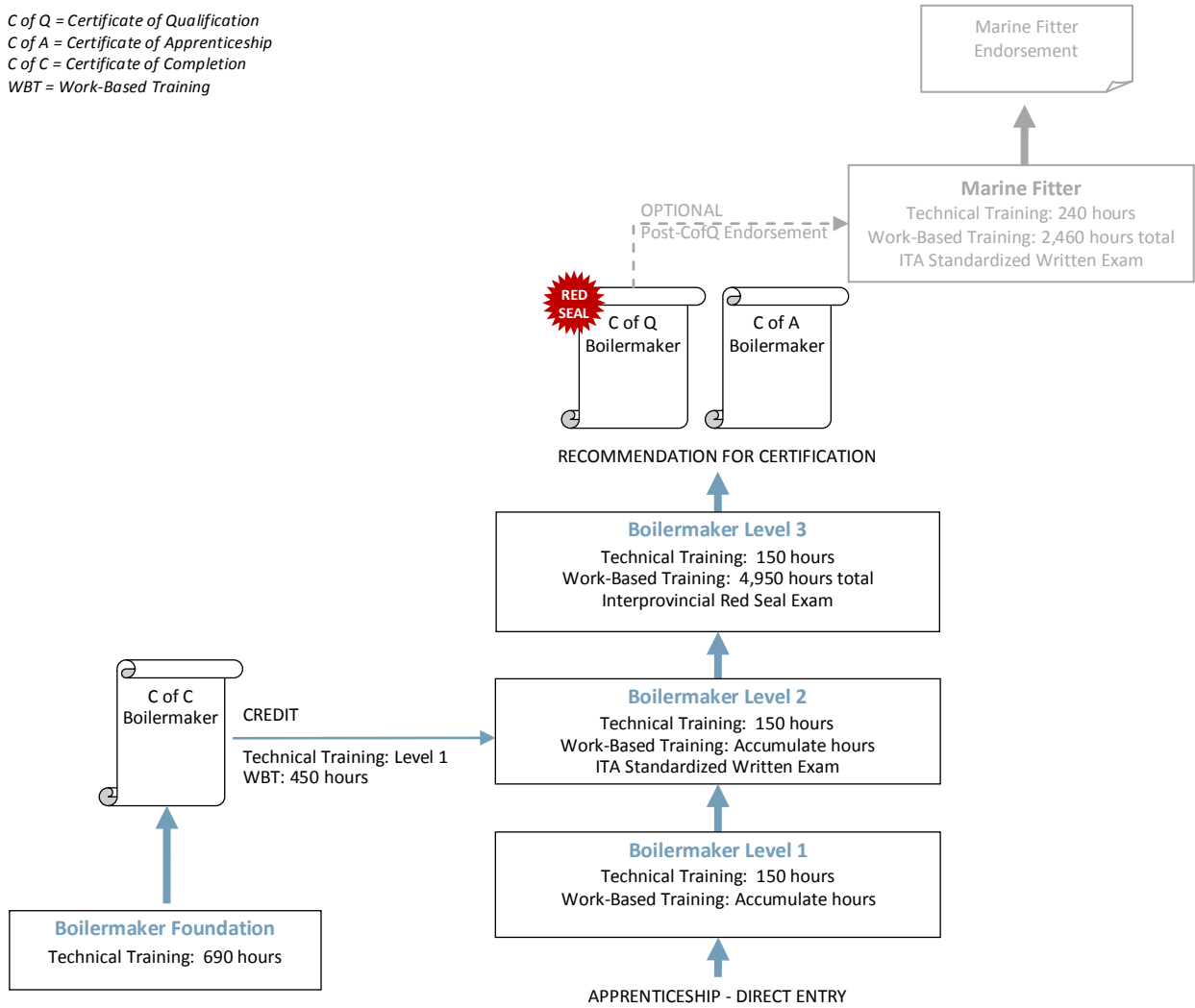
Those who wish to challenge the Boilermaker certification must complete the Boilermaker Challenge Application and submit it to ITA. Challenge applications are assessed for proof of workplace hours and scope of experience prior to acceptance of the individual into the Challenge pathway.

Those who wish to challenge the optional Marine Fitter Endorsement must complete the Marine Fitter Endorsement Challenge Application and submit it to ITA. Challenge applications are assessed for proof of workplace hours and scope of experience prior to acceptance of the individual into the Challenge pathway.

## Apprenticeship Pathway with Optional Endorsement

This graphic provides an overview of the Boilermaker apprenticeship pathway.

*C of Q = Certificate of Qualification*  
*C of A = Certificate of Apprenticeship*  
*C of C = Certificate of Completion*  
*WBT = Work-Based Training*



### CROSS-PROGRAM CREDITS

*Individuals who hold the credentials listed below are entitled to receive partial credit toward the completion requirements of this program*

None



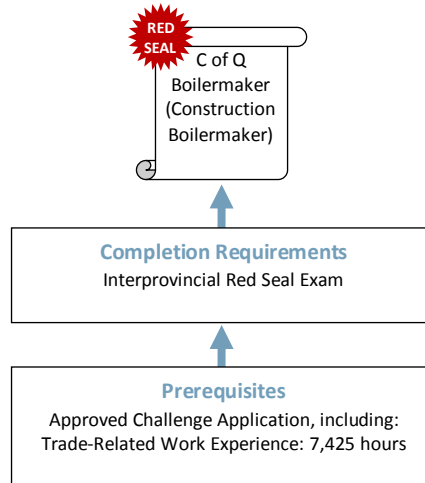
### Apprenticeship Program Standards

<b>Credentials Awarded</b>	<ul style="list-style-type: none"> <li>▪ Boilemaker– Certificate of Qualification with Interprovincial Red Seal endorsement</li> <li>▪ Boilemaker– Certificate of Apprenticeship</li> </ul> <p><b>Note:</b> Refer to the Marine Fitter Endorsement Program Standards below to see how this endorsement fits into the apprenticeship pathway for this occupation.</p>											
<b>ITA Registration Prerequisites</b>	<ul style="list-style-type: none"> <li>▪ Agreement signed by the employer to sponsor the apprentice</li> <li>▪ Boilemaker Foundation – Certificate of Completion</li> </ul>											
<b>Completion Requirements</b>	<p>Certification as a Boilemaker is awarded upon successful completion of:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Requirement</th> <th style="text-align: left; border-bottom: 1px solid black;">Level of Achievement Required</th> </tr> </thead> <tbody> <tr> <td style="border-bottom: 1px solid black;">Technical Training</td> <td style="border-bottom: 1px solid black;">                     Minimum 70% in each level of technical training:                     <ul style="list-style-type: none"> <li>▪ Level 1: 150 hours</li> <li>▪ Level 2: 150 hours and ITA standardized written exam</li> <li>▪ Level 3: 150 hours</li> </ul> </td> </tr> <tr> <td style="border-bottom: 1px solid black;">Interprovincial Red Seal Exam</td> <td style="border-bottom: 1px solid black;"> <ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul> </td> </tr> <tr> <td style="border-bottom: 1px solid black;">Work-Based Training</td> <td style="border-bottom: 1px solid black;"> <ul style="list-style-type: none"> <li>▪ 4,950 hours</li> </ul> </td> </tr> <tr> <td style="border-bottom: 1px solid black;">Recommendation for Certification</td> <td style="border-bottom: 1px solid black;"> <ul style="list-style-type: none"> <li>▪ Recommendation for certification signed by the Sponsor and an individual holding credentials eligible for sign-off authority</li> </ul> </td> </tr> </tbody> </table>		Requirement	Level of Achievement Required	Technical Training	Minimum 70% in each level of technical training: <ul style="list-style-type: none"> <li>▪ Level 1: 150 hours</li> <li>▪ Level 2: 150 hours and ITA standardized written exam</li> <li>▪ Level 3: 150 hours</li> </ul>	Interprovincial Red Seal Exam	<ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul>	Work-Based Training	<ul style="list-style-type: none"> <li>▪ 4,950 hours</li> </ul>	Recommendation for Certification	<ul style="list-style-type: none"> <li>▪ Recommendation for certification signed by the Sponsor and an individual holding credentials eligible for sign-off authority</li> </ul>
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Recommendation for Certification	<ul style="list-style-type: none"> <li>▪ Recommendation for certification signed by the Sponsor and an individual holding credentials eligible for sign-off authority</li> </ul>											
<b>Program Duration</b>	<p>Duration varies depending on how training is delivered, but the program generally takes 3-5 years to complete.</p> <p>The technical training requirement is typically met through block-release training (full-time, at school) delivered by an ITA-approved training provider. It can also be met through approved alternative training models (e.g., distance education, online, part-time) and/or level challenge where these options are available.</p>											
<b>Sign-off Authority</b>	<p>Credentials eligible to sign-off on the Recommendation for Certification:</p> <ul style="list-style-type: none"> <li>▪ Boilemaker – Certificate of Qualification</li> <li>▪ Boilemaker– Interprovincial Red Seal endorsement</li> <li>▪ ITA-issued letter authorizing supervision and sign-off of apprentices in this occupation</li> </ul>											
<b>Challenging a Level</b>	<p>The following levels of technical training can be challenged for advanced placement in this program:</p> <ul style="list-style-type: none"> <li>▪ Level 2</li> </ul>											
<b>Cross-Program Credits</b>	<p>Individuals who hold the credentials listed below are entitled to receive partial credit toward the completion requirements of this program</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Credential</th> <th style="text-align: left; border-bottom: 1px solid black;">Credit(s) Granted</th> </tr> </thead> <tbody> <tr> <td style="border-bottom: 1px solid black;"> <ul style="list-style-type: none"> <li>▪ None</li> </ul> </td> <td style="border-bottom: 1px solid black;"> <ul style="list-style-type: none"> <li>▪ N/A</li> </ul> </td> </tr> </tbody> </table>		Credential	Credit(s) Granted	<ul style="list-style-type: none"> <li>▪ None</li> </ul>	<ul style="list-style-type: none"> <li>▪ N/A</li> </ul>						
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## Challenge Pathway

This graphic provides an overview of the Boilermaker challenge pathway.

*C of Q = Certificate of Qualification*



### CREDIT FOR PRIOR LEARNING

*Individuals who hold the credentials listed below are entitled to receive partial credit toward the completion requirements of this program*

None

## Challenge Program Standards

**Credentials Awarded** Boilermaker – Certificate of Qualification with Interprovincial Red Seal endorsement

**ITA Registration Prerequisites** An approved Challenge Application, which includes:

- 7,425 documented hours of directly related experience working in the occupation

**Credit for Prior Learning** Individuals who hold the credentials listed below are considered to have met the prerequisites for challenging this program:

Credential	Credit(s) Granted
None	N/A

**Completion Requirements** Certification as a Boilermaker is awarded upon successful completion of:

Requirement	Level of Achievement Required
Interprovincial Red Seal Exam	Minimum 70%



## Foundation Program

Refer to the Apprenticeship pathway diagram for this program to see how the Boilermaker Foundation program leads to apprenticeship in this trade.

### Foundation Program Standards

<b>Credentials Awarded</b>	Boilermaker – Certificate of Completion				
<b>Enrollment Prerequisites</b>	Contact training provider. Prerequisites vary between training institutions				
<b>Completion Requirements</b>	A Certificate of Completion in this program is awarded upon successful completion of: <table border="1" data-bbox="511 651 1453 766"> <thead> <tr> <th>Requirement</th> <th>Level of Achievement Required</th> </tr> </thead> <tbody> <tr> <td>Technical Training</td> <td> <ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul> </td> </tr> </tbody> </table>	Requirement	Level of Achievement Required	Technical Training	<ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul>
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Technical Training	<ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul>				
<b>Program Duration</b>	Duration varies depending on how training is delivered, but program generally takes 23 weeks to complete, assuming 30 hours in school per week				
<b>Credit toward Apprenticeship</b>	<p>Successful completion of the Boilermaker Foundation program is a prerequisite to the Boilermaker apprentice program.</p> <p>Individuals who complete the Boilermaker Foundation program will receive the following credit toward completion of the Boilermaker apprenticeship program:</p> <ul style="list-style-type: none"> <li>▪ Technical Training: Level 1</li> <li>▪ Work-Based Training: 450 hours</li> </ul>				



## Marine Fitter Endorsement Program

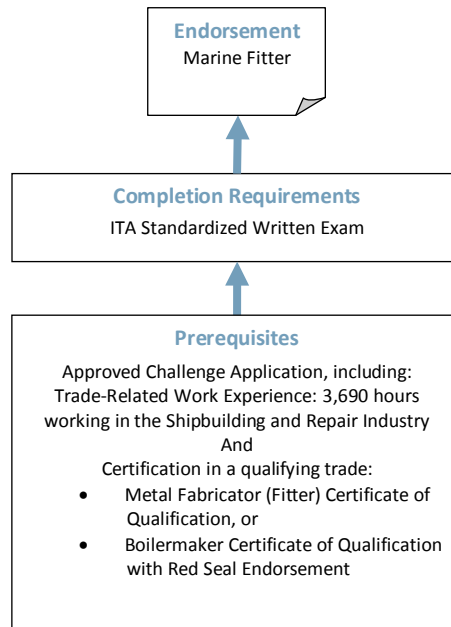
Refer to the Apprenticeship pathway diagram for this program to see how the Marine Fitter Endorsement program fits into the apprenticeship pathway for this occupation.

### Marine Fitter Endorsement Program Standards

<b>Credentials Awarded</b>	<ul style="list-style-type: none"> <li>▪ Marine Fitter Endorsement</li> </ul>										
<b>ITA Registration Prerequisites</b>	<ul style="list-style-type: none"> <li>▪ Agreement signed by the employer to sponsor the apprentice</li> <li>▪ Certification in a qualifying trade:               <ul style="list-style-type: none"> <li>○ Boilermaker Certificate of Qualification with Red Seal Endorsement, OR</li> <li>○ Metal Fabricator (Fitter) Certificate of Qualification</li> </ul> </li> </ul>										
<b>Completion Requirements</b>	<p>The Marine Fitter Endorsement will be awarded and included on the apprentice's original Boilermaker Certificate of Qualification with Red Seal Endorsement upon successful completion of:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Requirement</th> <th style="text-align: left;">Level of Achievement Required</th> </tr> </thead> <tbody> <tr> <td>Technical Training</td> <td>           Minimum 70% in technical training:           <ul style="list-style-type: none"> <li>▪ Level 1: 240 hours</li> </ul> </td> </tr> <tr> <td>ITA Standardized Written Exam</td> <td> <ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul> </td> </tr> <tr> <td>Work-Based Training</td> <td> <ul style="list-style-type: none"> <li>▪ 2,460 hours</li> </ul> </td> </tr> <tr> <td>Recommendation for Certification</td> <td> <ul style="list-style-type: none"> <li>▪ Recommendation for certification signed by the Sponsor and an individual holding credentials eligible for sign-off authority</li> </ul> </td> </tr> </tbody> </table>	Requirement	Level of Achievement Required	Technical Training	Minimum 70% in technical training: <ul style="list-style-type: none"> <li>▪ Level 1: 240 hours</li> </ul>	ITA Standardized Written Exam	<ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul>	Work-Based Training	<ul style="list-style-type: none"> <li>▪ 2,460 hours</li> </ul>	Recommendation for Certification	<ul style="list-style-type: none"> <li>▪ Recommendation for certification signed by the Sponsor and an individual holding credentials eligible for sign-off authority</li> </ul>
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<b>Program Duration</b>	<p>Duration varies depending on how training is delivered, but the program generally takes 2 years to complete.</p> <p>The technical training requirement is typically met through block-release training (full-time, at school) delivered by an ITA-approved training provider. It can also be met through approved alternative training models (e.g., distance education, online, part-time) and/or level challenge where these options are available.</p>										
<b>Sign-off Authority</b>	<p>Credentials eligible to sign-off on the Recommendation for Certification:</p> <ul style="list-style-type: none"> <li>▪ Marine Fitter Endorsement</li> <li>▪ ITA-issued letter authorizing supervision and sign-off of apprentices in this occupation</li> </ul>										
<b>Challenging a Level</b>	<p>The following levels of technical training can be challenged for advanced placement in this program:</p> <ul style="list-style-type: none"> <li>▪ None</li> </ul>										
<b>Cross-Program Credits</b>	<p>Individuals who hold the credentials listed below are entitled to receive partial credit toward the completion requirements of this program</p> <ul style="list-style-type: none"> <li>▪ None</li> </ul>										

## Challenge Pathway – Marine Fitter Endorsement

This graphic provides an overview of the Marine Fitter challenge pathway.




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### CREDIT FOR PRIOR LEARNING

*Individuals who hold the credential(s) listed below are considered to have met, or partially met, the prerequisites for challenging this program:*

None



**Challenge Program Standards – Marine Fitter Endorsement**

<b>Credentials Awarded</b>	<ul style="list-style-type: none"> <li>▪ Marine Fitter Endorsement</li> </ul>				
<b>Registration Prerequisites</b>	<p>An approved Challenge Application, which includes:</p> <ul style="list-style-type: none"> <li>▪ 3,690 documented hours of directly related experience working in the Shipbuilding and Repair Industry</li> </ul> <p>And</p> <ul style="list-style-type: none"> <li>▪ Certification in a qualifying trade:             <ul style="list-style-type: none"> <li>○ Boilermaker Certificate of Qualification with Red Seal Endorsement</li> <li>Or</li> <li>○ Metal Fabricator Certificate of Qualification</li> </ul> </li> </ul>				
<b>Credit for Prior Learning</b>	<p>Individuals who hold the credentials listed below are considered to have met, or partially met, the prerequisites for challenging this program:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Credential</th> <th style="text-align: left;">Credit(s) Granted</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>▪ None</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>▪ None</li> </ul> </td> </tr> </tbody> </table>	Credential	Credit(s) Granted	<ul style="list-style-type: none"> <li>▪ None</li> </ul>	<ul style="list-style-type: none"> <li>▪ None</li> </ul>
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ITA Standardized Written Exam	<ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul>				





## Supporting Documents

Boilermaker Program Outline (2017) – Defines the full scope of knowledge and skills required to competently perform the occupation in BC. Available from ITA's website.

Boilermaker (Red Seal Occupational Standard 2017) – Prepared by industry experts, under the guidance of the federal government, for Red Seal trades to define the national standard of competence for the trade. Available from the Red Seal website: [www.red-seal.ca](http://www.red-seal.ca).

## Contacts

The **Industry Training Authority** (ITA) manages B.C.'s industry training and apprenticeship programs. Contact ITA Customer service if you have any questions regarding registration, examinations or certification for this program.

Telephone: 778-328-8700  
Toll Free (within BC): 1-866-660-6011  
Website: [www.itabc.ca](http://www.itabc.ca)

Fax: 778-328-8701  
Email: [customerservice@itabc.ca](mailto:customerservice@itabc.ca)

## Revision History

The standards for this program were reviewed and/or updated on the dates below.

Program Standards Approved: March 2002  
Updated: January 2006  
December 2017  
June 2019

Program Profiles are updated regularly. Visit [www.itabc.ca](http://www.itabc.ca) for the most current version.