## SKILLEDTRADES<sup>BC</sup>

## Personal Record Book Sheet Metal Worker

## This is your Record Book!

# DO NOT SUBMIT TO SKILLEDTRADESBC

This is not required to achieve certification

- It is a record of your progress towards achieving certification in the trade
- It provides a record of your experience
- It is your responsibility to keep it up-todate
- Take it with you if you change employers

Note: Employers and supervisors are not responsible for keeping your Record Book up-to-date. They are responsible for sign-off of hours and sign-off of competencies once you have achieved the required level of skills and knowledge.

## APPRENTICE IDENTIFICATION

#### Trade: SHEET METAL WORKER

Legal Last Name:	
Name:	
Province:	Postal Code:
Email Address:	
	Name: Province:

#### Work Safely!

A safe work attitude contributes to an accident free environment. Accident prevention and safe working conditions are the responsibility of both employers and employees.

Wear the required personal protective equipment, follow safe work practices and follow all safety regulations applicable to specific job activities.

#### Employer's responsibilities:

- Provide and maintain safety equipment and protective devices
- Ensure proper safe work clothing is worn
- Enforce safe work procedures
- Provide safeguards for machinery, equipment and tools
- Observe all accident prevention regulations
- Train employees in safe use and operation of equipment

#### Employee's responsibilities:

- Work in accordance with the safety regulations pertaining to job environment
- Work in such a way as not to endanger themselves or fellow workers.

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#### **EMPLOYER INFORMATION**

#### **Originating Employer**

Start Date:	End Date:
Employer:	
Contact Person:	
Address:	Phone:
	Email:
	Fax:
Supervisor/Journeyperson 1:	*TWID #:
	Phone:
	Email:
Supervisor/Journeyperson 2:	TWID #:
	Phone:
	Email:

\*TWID # - Trade Worker Identification Number

If you have more than one employer during your apprenticeship, record the information for subsequent employers on the following page(s).

If your job ends or you change employers...

Before leaving your place of employment:

- Please have your sponsor update your Work Based Training hours on their <u>SkilledTradesBC Portal account</u>.
- Update Record of Competencies with your supervisor.
- Confirm with your employer that your workplace hours have been reported to SkilledTradesBC, and if possible get a copy of all Work-Based Training Hours reports submitted.
- Notify SkilledTradesBC of the change in your employment by submitting an <u>Online</u> <u>Registration Request</u> with your new employer on the SkilledTradesBC Portal.

When re-employed...

You must be registered with your new employer before submitting any work-based training hours to SkilledTradesBC.

**Subsequent Employers** Start Date: End Date: Employer: Contact Person: Address: Phone: Email: Fax: Supervisor/Journeyperson 1: TWID #: Phone: Email: Supervisor/Journeyperson 2: TWID #: Phone: Email: Subsequent Employers Start Date: End Date: Employer: Contact Person: Address: Phone: Email: Fax: Supervisor/Journeyperson 1: TWID #: Phone:

Email:

TWID #:

Phone:

Email:

Supervisor/Journeyperson 2:

#### **WORKPLACE HOURS**

#### **Instructions**

Make an entry in this section each time your hours are reported to SkilledTradesBC.

- 1. Get a copy of the *Workplace Hours Report* from your employer.
- 2. Fill in the dates of the <u>reporting period</u> and the <u>hours</u> reported.
- 3. Enter your employer name, address and phone number.
- 4. Keep your Record Book in a safe place.

#### **Workplace Hours**

**Workplace hours** must be submitted to SkilledTradesBC by your employer on a regular basis. Your hours should be reported at least every six months; however, every three months is preferred.

At the beginning of your apprenticeship discuss the frequency of reporting with your employer.

Keeping Workplace hours up-to-date in your Record Book gives you the tools to better manage your apprenticeship. It provides you with the opportunity to:

- Follow up with your employer each reporting period to ensure your hours are reported on a regular basis.
- Discuss your progress with your direct supervisor/journeyperson on a regular basis.

DATE (TO-FROM)	EMPLOYER	HOURS
TOTAL HOURS		

## RECORD OF COMPETENCIES

#### **Instructions**

The Record of Competencies is filled out and signed-off by the journeyperson supervising your work.

- 1. Know what skills are expected at each level of the program.
- 2. Ask the journeyperson to sign off on the competency when you have acquired the skills and are able to perform the task without supervision.
- 3. If the journeyperson agrees that you have the required skills, he/she will:
  - Record the date that the competency was achieved
  - Sign off on the competency
  - Enter his/her Trades Worker Identification Number (TWID #)

#### What is a Record of Competencies?

The Record of Competencies lists all competencies you should be knowledgeable in prior to receiving your certification. Keeping this section up to date will allow you to track your progress towards certification and demonstrate proficiency in the skills within the scope of your trade. Completion of the entire program should result in you becoming a skilled and knowledgeable journeyperson.

- Refer to this section periodically to ensure you are getting the work experience you need.
- Use the competencies as a guide to ensure work tasks are assigned so that you acquire the skills and knowledge required to be successful in the trade.

Review the Record of Competencies on a regular basis with your direct supervisor/journeyperson to ensure they have been completed.

#### **Program Outline**

The Program Outline provides detailed information on the scope of knowledge and skills expected at each level of the program, further defining the competencies listed in the Record Book. The Program Outline is a great resource for developing a training plan.

Download from: skilledtradesbc.ca/sheet-metal-worker

#### Apprenticeship Toolkit

For general information on apprenticeship and tips for navigating the apprenticeship system in BC visit SkilledTradesBC's website to learn about the *apprenticeship basics*.

## LEVEL 1

## **IMPORTANT!**

Download the Program Outline!

https://skilledtradesbc.ca/sheet-metal-worker

Read the competency tables

Some competencies are taught in many levels

For detailed information about that competency, go to the Program Outline

#### **THEORY**

LINE	E A: PERFORM SAFETY RELATED FUNCTIONS
	Identify and describe workplace hazards  Describe non-emergency injury reporting procedures  Describe how worksite safety policies are established  Locate information in regulations and standards  Identify workplace lock-out procedures and policies  Identify energy sources  Describe the purpose of the Workplace Hazardous Materials Information System (WHMIS) regulations  Explain the contents of safety data sheets (SDS)  Explain the contents of a WHMIS label  EB: USE AND MAINTAIN TOOLS AND EQUIPMENT
	Describe soldering and brazing equipment and techniques  Describe ladders, and stationary and mobile scaffolds  Identify hoisting, lifting and rigging equipment  C: ORGANIZE WORK
	Describe pictorial drawing types Interpret the information on an orthographic projection drawing Describe considerations when handling materials

LINE	ED: USE COMMUNICATION AND MENTORING TECHNIQUES
	Describe methods of communication
	EF: FABRICATE SHEET METAL COMPONENTS FOR AIR AND ERIAL HANDLING SYSTEMS
	Describe materials used in the sheet metal trade  Describe insulation requirements, insulation types, fastener types and adhesives  Describe types of hanger systems, equipment bases and supports and their purpose
LINE	EK: LINE K: INSTALL AIR HANDLING SYSTEM COMPONENTS
	Describe air handlers Describe the installation of air handlers Describe installation procedure for duct work Describe inlet and outlet covers
Ш	Describe residential heating, ventilation and air conditioning systems

#### **PRACTICAL**

## LINE A: PERFORM SAFETY RELATED FUNCTIONS Select and use personal protective equipment Manage workplace hazards Demonstrate emergency procedures Select correct lock-out device Demonstrate competency in usage of selected devices Apply WHMIS regulations LINE B: USE AND MAINTAIN TOOLS AND EQUIPMENT Select hand and portable power tools appropriate to sheet metal processes Use hand and portable power tools Inspect and maintain tools (B1) Select shop equipment appropriate to sheet metal processes Use shop equipment Inspect and maintain shop equipment Weld using GMAW Weld using SMAW Cut using plasma and oxy-acetylene tools Use soldering techniques Select hand tools appropriate to sheet metal processes Use hand tools Inspect and maintain tools (B8) Use ladders and mobile and stationary scaffolds Tie knots, bends and hitches Select and use hoisting, lifting and rigging equipment

LINE	E C: ORGANIZE WORK
	Develop pictorial and orthographic drawings Select the proper procedure for handling materials Use mathematical formulas to solve problems relating to sheet metal work
LINE	E D: USE COMMUNICATION AND MENTORING TECHNIQUES
	Communicate with others
LINE	E E: PERFORM PATTERN DEVELOPMENT
	Develop patterns for duct fittings and sheet metal components  Develop patterns using parallel line development  Develop patterns using radial line development  Develop patterns using triangulation from the plan view
	E F: FABRICATE SHEET METAL COMPONENTS FOR AIR AND ERIAL HANDLING SYSTEMS
	Produce a cutting list and fabricate components  Fabricate knee bracket hanger systems, equipment bases and supports to specifications
LINE	EK: INSTALL AIR HANDLING SYSTEM COMPONENTS
	Install damper in duct work
	Install inlet and outlet covers Install residential heating, ventilation and air conditioning systems

NOTES FROM LEVEL 1	
Note:	

## LEVEL 2

## **IMPORTANT!**

Download the Program Outline!

https://skilledtradesbc.ca/sheet-metal-worker

Read the competency tables

Some competencies are taught in many levels

For detailed information about that competency, go to the Program Outline

#### **THEORY**

LINE	E B: USE AND MAINTAIN TOOLS AND EQUIPMENT
	Describe soldering and brazing equipment and techniques
LINE	E C: ORGANIZE WORK
	Describe drawings and specifications  Extract information from drawings and specifications
	E F: FABRICATE SHEET METAL COMPONENTS FOR AIR AND 'ERIAL HANDLING SYSTEMS
	Describe material handling system components and their fabrication
LINE	E G: FABRICATE ARCHITECTURAL SHEET METAL PRODUCTS
	Describe materials and applications of these materials used in architectural shee metal
	Describe roofing, decking and cladding and its purpose Describe wall panel systems
LINE	E I: PREPARE INSTALLATION SITE
	Describe preparing removal plan  Describe dismantling and removing materials

# LINE J: INSTALL AND CONNECT CHIMNEYS, BREECHING AND VENTING TO EXHAUST APPLIANCES AND MECHANICAL EQUIPMENT

	Describe venting and its purpose  Describe the connection of venting and breeching to appliances  Describe the installation of high efficiency appliances and mechanical equipment
LINE	EK: INSTALL AIR HANDLING SYSTEM COMPONENTS
	Describe built-up units and roof-top units  Describe the installation of an exhaust fan  Describe the installation of hangers, cables, braces and brackets  Describe fire dampers and the installation of fire dampers  Describe system component accessories and their installation  O: INSTALL METAL ROOFING AND CLADDING/SIDING  EMS
	Describe roofing, decking and cladding and their purposes  Describe the layout of roofing, decking and cladding  Describe the installation of roof and wall subsurface systems and their purposes  Describe the installation of roofing, cladding/siding and components  Describe sealants  Describe the installation of decking
LINE	EP: INSTALL EXTERIOR COMPONENTS
	Describe the preparation of a site for installation of external components  Describe the installation of exterior components

## **PRACTICAL**

LINE	EB: USE AND MAINTAIN TOOLS AND EQUIPMENT
	Select shop equipment appropriate to architectural sheet metal processes Use shop equipment Inspect and maintain shop equipment Weld using GMAW Weld using SMAW Use soldering techniques
LINE	E C: ORGANIZE WORK
LINE	Develop a shop drawing using manufacturer's drawings and technical reference material  Perform field measurements  Alter duct design to accommodate site conditions  Order duct fittings to accommodate changes  E: PERFORM PATTERN DEVELOPMENT
	Develop patterns for advanced sheet metal components and duct fittings  Develop patterns using parallel line development  Develop patterns for oblique cones using radial line development  Develop patterns using triangulation from elevation view
	E F: FABRICATE SHEET METAL COMPONENTS FOR AIR AND TERIAL HANDLING SYSTEMS
	Fabricate ductwork and assemble fittings with components Fabricate material handling system components
LINE	E G: FABRICATE ARCHITECTURAL SHEET METAL PRODUCTS
	Fabricate roofing, decking and cladding flashings

	Fabricate architectural sheet metal components
LINE	I: PREPARE INSTALLATION SITE
	Use construction drawings, specifications and codes to measure and position components
LINE SYST	O: INSTALL METAL ROOFING AND CLADDING/SIDING EMS
	Install roofing, cladding/siding and components Use sealants
Superviso	or Signature

NOTES FROM LEVEL 2		
Note:		

## LEVEL 3

## **IMPORTANT!**

Download the Program Outline!

https://skilledtradesbc.ca/sheet-metal-worker

Read the competency tables

Some competencies are taught in many levels

For detailed information about that competency, go to the Program Outline

#### **THEORY**

LINE F: FABRICATE SHEET METAL COMPONENTS FOR AIR AND MATERIAL HANDLING SYSTEMS		
	Describe types of basic industrial components and their purpose	
LINE	K: INSTALL AIR HANDLING SYSTEM COMPONENTS	
	Describe air handling systems and their purposes  Describe the installation of air handling systems  Describe terminal boxes and their installation  Describe coils and their installation  Describe system components and their installation  Describe commercial, industrial and institutional plenums and their installation	
LINE N: PERFORM LEAK TESTING, AIR BALANCING AND COMMISSIONING		
	Describe the purpose and application of leak testing  Describe the purpose and application of air balancing  Describe knowledge of commissioning and its purpose	

LINE	Q: INSTALL SPECIALTY PRODUCTS		
	Describe the installation of stainless steel specialty products  Describe the installation of specialty products		
LINE	LINE R: PERFORM SCHEDULED MAINTENANCE		
	Describe the normal operation of systems  Identify signs of abnormality		
Ш	Describe the servicing and repair of components		

## **PRACTICAL**

LINE	LINE B: USE AND MAINTAIN TOOLS AND EQUIPMENT		
	Select shop equipment appropriate to sheet metal processes Use shop equipment Inspect and maintain shop equipment Weld using GMAW Weld using GTAW		
LINE	E: PERFORM PATTERN DEVELOPMENT		
	Develop advanced patterns using parallel line development  Develop patterns for advanced fittings using radial line development  Develop complex patterns using triangulation		
	F: FABRICATE SHEET METAL COMPONENTS FOR AIR AND ERIAL HANDLING SYSTEMS		
	Fabricate ductwork and fittings Fabricate basic industrial components to specifications		
LINE	H: FABRICATE PRODUCTS FROM SPECIALTY MATERIALS		
	Select materials and fastenings for specialty products Select shop equipment for specialty products Fabricate specialty products		
	N: PERFORM LEAK TESTING, AIR BALANCING AND IMISSIONING		
	Calculate air flow system variables		

	Install marine products
Superviso	or Signature

LINE Q: INSTALL SPECIALTY PRODUCTS

NOTES FROM LEVEL 3		
Note:		

## **LEVEL 4**

## **IMPORTANT!**

**Download the Program Outline!** 

https://skilledtradesbc.ca/sheet-metal-worker

Read the competency tables
Some competencies are taught in many levels
For detailed information about that competency, go to the Program Outline

#### **THEORY**

LINE B: USE AND MAINTAIN TOOLS AND EQUIPMENT		
	Describe specialized welding processes  Describe hoisting, lifting and rigging equipment	
LINE	D: USE COMMUNICATION AND MENTORING TECHNIQUES	
	Describe mentoring	
	EF: FABRICATE SHEET METAL COMPONENTS FOR AIR AND ERIAL HANDLING SYSTEMS	
	Describe types of advanced industrial components and their purposes  Describe types of dampers	
LINE	K: INSTALL AIR HANDLING SYSTEM COMPONENTS	
	Describe air handling systems and their purposes  Describe the installation of air handling systems  Describe system component accessories and their installation	

Describe pneumatic material and dust handling systems and their purpose  Describe the installation of pneumatic material and dust handling systems  Describe gravity material handling systems and their purpose  Describe the installation of gravity material handling systems  Describe mechanized material handling systems and their purpose  Describe the installation of mechanized material handling systems
E M: APPLY THERMAL INSULATION, LAGGING, CLADDING AND SHING
Describe the purpose of cladding and lagging Describe the installation of cladding and lagging Describe the purpose of lagging flashings Describe the installation of lagging flashings
E N: PERFORM LEAK TESTING, AIR BALANCING AND IMISSIONING
Describe leak testing

LINE L: INSTALL MATERIAL HANDLING SYSTEM COMPONENTS

## **PRACTICAL**

LINE B: USE AND MAINTAIN TOOLS AND EQUIPMENT		
	Tie knots, bends and hitches Select and use hoisting, lifting and rigging equipment Calculate working load limits	
LINE	E D: USE COMMUNICATION AND MENTORING TECHNIQUES	
	Mentoring others	
LINE	E E: PERFORM PATTERN DEVELOPMENT	
	Develop complex patterns using triangulation  Develop patterns using computer technology	
LINE	F: FABRICATE SHEET METAL COMPONENTS FOR AIR AND	
	Fabricate complex ductwork and fittings Fabricate advanced industrial components to specifications Fabricate dampers to specifications	
	E N: PERFORM LEAK TESTING, AIR BALANCING AND IMISSIONING	
	Perform and calculate leak testing Apply air balancing techniques Calculate required system adjustments Complete commissioning report	
Superviso	or Signature	

NOTES FROM LEVEL 4
Note:

#### MISSING COMPETENCIES?

To develop the best journeyperson possible employers should attempt to provide training in all competencies for the trade. This is not always possible.

If your employer is unable to provide training in any competency required for your trade, note that competency below. Competencies listed here will remain unsigned until your employer can provide training in that area or until you find an alternate way to gain the experience needed.

Competency:	Date:
Reason:	
Alternate plan:	
Commentario	Data
Competency:	Date:
Reason:	
Alternate plan:	

## **TECHNICAL TRAINING**

## **Instructions**

Keep a record of each level of technical training completed.

_	1	-
10	TZOL	
	VCI	

Date Completed:	Training Provider:
Mark:	Instructor:

#### Level 2

Date Completed:	Training Provider:
Mark:	Instructor:

#### Level 3

Date Completed:	Training Provider:
Mark:	Instructor:

#### Level 4

Date Completed:	Training Provider:
Mark:	Instructor:

## **COMPLETION REQUIREMENTS**

#### **Instructions**

Keep a record of each program completion requirement achieved.

#### SHEET METAL WORKER

Ш	Level 1 - Technical Training
	Level 2 - Technical Training
	Level 3 - Technical Training
	Level 4 - Technical Training
	6,240 Work-Based Training Hours
	Interprovincial Red Seal examination
	Recommendation for Certification signed by sponsor

Note: After all other completion requirements have been met, SkilledTradesBC sends a Recommendation for Certification form to the sponsor requesting signoff.

## **CERTIFICATIONS**

#### **Instructions**

Keep a record of the credentials and endorsements you have earned, including the certification number and date of issue.

CREDENTIAL EARNED	NUMBER	DATE OF ISSUE

If you have any questions, please contact SkilledTradesBC Customer Service at <u>customerservice@skilledtradesbc.ca</u>
778-328-8700 or toll free (within BC) at 1-800-660-6011