



Roofer

Guide to Course Content

2023

Online: www.saskapprenticeship.ca

Recognition:

To promote transparency and consistency, this document has been adapted from the 2020 Roofer Red Seal Occupational Standard (Employment and Social Development Canada).

A complete version of the Occupational Analysis can be found at www.red-seal.ca

Note: Roofer Apprenticeship Technical Training is now fully harmonized.

Roofer Technical Training is a distance learning format delivered through an online program served by Prairie Arctic Trades Training Centre.

STRUCTURE OF THE GUIDE TO COURSE CONTENT

To facilitate understanding of the occupation, this guide to course content contains the following sections:

Description of the Roofer trade: an overview of the trade's duties and training requirements.

Essential Skills Summary: an overview of how each of the six essential skills is applied in this trade.

Elements of harmonization of apprenticeship training: includes adoption of Red Seal trade name, number of levels of apprenticeship, total training hours (on-the-job and in-school) and consistent sequencing of technical training content. Implementation for harmonization will be implemented progressively.

Task Matrix: a chart which outlines graphically the major work activities, tasks and sub-tasks of this standard detailing the essential skills and the level of training where the content is covered.

Major Work Activity (MWA): the largest division within the standard that is comprised of a distinct set of trade activities.

Task: distinct actions that describe the activities within a major work activity.

Sub-task: distinct actions that describe the activities within a task.

Training Profile Chart: a chart which outlines the model for Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) technical training.

Technical Training Course Content for the Automotive Service Technician trade: a chart which outlines the model for SATCC technical training sequencing. For the harmonized level of training, a cross reference to the Harmonized apprenticeship technical training sequencing, at the learning outcome level, is provided.

Appendix A: Post Harmonization Training Profile Chart: a chart which outlines the finalized model for SATCC technical training sequencing with a cross reference to the Harmonized apprenticeship technical training sequencing, at the topic level.

The Red Seal Automotive Service Technician Curriculum Outline, which provides additional detail of the Harmonized technical training, can be found at www.red-seal.ca

DESCRIPTION OF THE ROOFER TRADE

Roofers install, repair, maintain and replace roofing systems. They work with membrane roofing systems that consist of a variety of materials with different application methods. They also install, replace, maintain and repair shingles, slates, shakes, roofing tiles, sheet metal and other pre-formed sheeting on sloped roofs.

Before the work begins, roofers may inspect existing roof systems and determine the extent and procedure for repair of the roofing assembly components or removal, re-covering and replacement of roofing materials. Some roofers may be involved in the estimating of material and installation costs. As part of the job preparation, roofers may set up scaffolding to provide safe access to the work area and may install fall protection systems. They also weatherproof, waterproof and damp-proof roofing surfaces, foundation walls, floor slabs and bridge decks. They may install roofing accessories such as sheet metal flashings, roof vent flashings, anchor tie-off flashings, drain inserts and clamps.

Roofers may be employed by roofing companies, general contractors or they may be self-employed. They may work on all types of roofs or may specialize in the low sloped roofs of commercial and industrial buildings or on the steep sloped roofs found in most residential buildings.

Key attributes for people in this trade are mechanical aptitude, manual dexterity and the ability to work in a team. Roofers work primarily outdoors and work may be seasonal. The work environment is exposed and may vary from extreme cold to extreme heat. Roofing is physically demanding work and requires considerable effort in lifting, climbing, bending, kneeling and balancing on high, sloped and sometimes slippery surfaces.

Roofers work in conjunction with other tradespeople in the construction trades such as sheet metal workers, mechanical contractors, electricians and carpenters in industrial, commercial, institutional and residential sectors. With additional training, roofers may transfer their skills to related occupations such as carpenter, sheet metal worker, bricklayer and glazier. With experience, they may advance to positions such as supervisors, estimators, project managers, contractors, consultants, technical representatives or inspectors.

Level One, Two and Three are completed through online distance learning combined with worksite competency completions and a worksite visit.

The information contained in this guide to course content details the technical training delivered for each level of apprenticeship. An apprentice spends approximately 15% of their apprenticeship term in a technical training institute learning the technical and theoretical aspects of the trade. The hours and percentages of technical and practical training may vary according to class needs and progress.

The content of the technical training components is subject to change without notice.

Entrance Requirements for Apprenticeship Training

Your grade twelve transcripts (with no modified classes) or GED 12 is your guarantee that you meet the educational entrance requirements for apprenticeship in Saskatchewan. In fact, employers prefer and recommend apprentices who have completed high school. This ensures the individual has all of the necessary skills required to successfully complete the apprenticeship program and receive journeyman certification.

Individuals with “modified” or “general” classes in math or science do not meet our entry requirements. These individuals are required to take an entrance assessment prescribed by the SATCC.

English is the language of instruction in all apprenticeship programs and is the common language for business in Saskatchewan. Before admission, all apprentices and/or “upgraders” must be able to understand and communicate in the English language. Applicants whose first language is not English must have a minimum Canadian Language Benchmark Assessment of six (CLB6).

Note: A CLB assessment is valid for a one-year period from date of issue.

Designated Trade Name	Math Credit at the Indicated Grade Level ❶	Science Credit at Grade Level (preferred class in brackets)
Roofer	Grade 10	Grade 10
<p>❶ (One of the following) WA – Workplace and Apprenticeship; or F – Foundations; or P – Pre-calculus, or a Math at the indicated grade level (Modified and General Math credits are not acceptable.).</p> <p>*Applicants who have graduated in advance of 2015-2016, or who do not have access to the revised Science curricula will require a Science at the minimum grade level indicated by trade.</p> <p>Individuals not meeting the entrance requirements will be subject to an assessment and any required training</p>		

ESSENTIAL SKILLS SUMMARY

Essential skills are needed for work, learning and life. They provide the foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change.

Through extensive research, the Government of Canada and other national and international agencies have identified and validated nine essential skills. These skills are used in nearly every occupation and throughout daily life in different ways.

A series of CCDA-endorsed tools have been developed to support apprentices in their training and to be better prepared for a career in the trades. The tools can be used independently or with the assistance of a tradesperson, trainer, employer, teacher or mentor to:

- understand how essential skills are used in the trades;
- learn about individual essential skills strengths and areas for improvement; and
- improve essential skills and increase success in an apprenticeship program.

The tools are available online or for order at: www.esdc.gc.ca/eng/jobs/les/profiles/index.shtml

The application of these skills may be described throughout this document within the skills and knowledge which support each sub-task of the trade. The most important essential skills for each sub-task have also been identified. The following are summaries of the requirements in each of the essential skills, taken from the essential skills profile. A link to the complete essential skills profile can be found at www.red-seal.ca.

READING

Roofers read instructions on work orders as well as application and installation instructions for roofing products and materials. They read information sheets to learn about new products and materials. They also need to refer to blueprints and specifications to complete roofing jobs.

DOCUMENT USE

Roofers reference documents such as work orders, plans and specifications and site-specific safety plans that are required for construction, alteration and repairs. They identify the location and orientation of parts in assembly drawings of equipment. Roofers read Workplace Hazardous Material Information System (WHMIS) documentation to obtain and follow safe handling and application procedures.

WRITING

Roofers may write in logbooks and on contract forms and work orders to describe the work that needs to be done. They may fill out maintenance and inspection reports. They are required to complete safety documents according to jurisdictional regulations.

ORAL COMMUNICATION

Roofers communicate with colleagues, other trade workers, manufacturers and supervisors to discuss and review job and safety requirements. They speak to customers to explain procedures used for application and disposal of roofing materials. They may also use specialized communication such as hand signals to communicate with crane or hoist operators when moving materials and equipment.

NUMERACY

Roofers measure the length, width and height of roof surfaces so they can order the correct amount of materials to complete a roofing job. They also use drawings to calculate material requirements. Roofers use numeracy skills to determine the layout of shingles. They may use thermometers to measure the temperature of roofing materials and working environments to ensure conditions are appropriate for application of the materials.

THINKING

Roofers use problem solving skills to address oversights and discrepancies on the job site. They assess roof conditions and consult with supervisors and clients to adjust the scope of a roofing job. They must anticipate changes in weather to prevent damage to an existing roofing structure and to roofing material. Roofers use decision making skills to decide the start and end of work considering factors such as weather and the availability of supplies and labour. They use critical thinking skills to judge the quality of finished roofing jobs. They also test to make sure roofing materials are sealed and have adhered properly.

DIGITAL TECHNOLOGY

Roofers may use digital technology to communicate with others in the industry. They may also use the Internet to look up product and safety information. Documentation is increasingly being accessed and completed with digital tools such as smart phones, tablets and laptops. Specialized apps are available for accessing manufacturers' information and installation instructions.

WORKING WITH OTHERS

Most roofers work collaboratively on teams to complete roofing projects. They discuss safety, work processes, installation improvements and quality control.

CONTINUOUS LEARNING

Roofers are continuously learning in order to keep abreast of new roofing products, application procedures and safety precautions. They take WHMIS and provincial/territorial construction safety courses, as well as other safety-related courses to stay current. Manufacturers sometimes provide training on their products. Roofers may also learn from manuals and newsletters

ELEMENTS OF HARMONIZATION FOR APPRENTICESHIP TRAINING

At the request of industry, the Harmonization Initiative was launched in 2013 to *substantively align* apprenticeship systems across Canada by making training requirements more consistent in the Red Seal trades. Harmonization aims to improve the mobility of apprentices, support an increase in their completion rates and enable employers to access a larger pool of apprentices.

As part of this work, the Canadian Council of the Directors of Apprenticeship (CCDA) identified four main harmonization priorities in consultation with industry and training stakeholders:

1. Trade name

The official Red Seal name for this trade is Roofer.

2. Number of Levels of Apprenticeship

The number of levels of technical training recommended for the Roofer trade is three.

3. Total Training Hours during Apprenticeship Training

The total hours of training, including both on-the-job and in-school training for the Roofer trade is 4500.

4. Consistent sequencing of training content (at each level) using the most recent Occupational Standard

Implementation for harmonization was implemented progressively. Level was implemented in 2020/2021, level two in 2021/2022, then level three in 2022/2023. See Appendix A for the finalized curriculum comparisons.

White boxes are “Topics,” grey boxes are “In Context”. In context means learning that has already taken place and is being applied to the applicable task. Learning outcomes for in context topics are accomplished in other topics in that level.

Level 1 (2020/2021 implementation)	Level 2 (2021/2022 implementation)	Level 3 (2022/2023 implementation)
	Performs Safety-Related Functions(In-context)	Performs Safety-Related Functions(In-context)
	Common Steep Slope Practices(In-context)	Common Steep Slope Practices(In-context)

Level 1 (2020/2021 implementation)	Level 2 (2021/2022 implementation)	Level 3 (2022/2023 implementation)
Performs Safety-Related Functions		
Uses Tools and Equipment (Overview)	Uses Tools and Equipment (Task Specific)	Uses Tools and Equipment (Task Specific)
Organizes Work	Organizes Work	Organizes Work
Uses Communication and Mentoring Techniques		Uses Communication and Mentoring Techniques
Prepares Roof for Replacement	Prepares Roof for Replacement	
Prepares Deck for Roof Installation	Prepares Deck for Roof Installation	Prepares Deck for Roof Installation
Applies Low Slope Roofing Components (Overview/ Identification of Components)	Applies Low Slope Roofing Components	Applies Low Slope Roofing Components (Trade Science/ Installation of Components)
Applies Low Slope Roofing Membranes (BUR)	Applies Low Slope Roofing Membranes (Modified Bitumen)	Applies Low Slope Roofing Membranes (Thermoplastics, Thermosets, Liquid-Applied, Trade Science)
Common Steep Slope Practices		
Applies Shingles (Asphalt)	Applies Shingles (Wood and Composite)	Applies Shingles (Metal)
		Applies Roof Tiles
		Applies Pre-Formed Metal Roofing
	Waterproofs Surfaces	Waterproofs Surfaces
	Damp-Proofs Surfaces	
		Assesses Roof Condition
	Maintains and Repairs Low Slope Roofing	Maintains and Repairs Low Slope Roofing
	Maintains and Repairs Steep Slope Roofing	Maintains and Repairs Steep Slope Roofing

ROOFER TASK MATRIX

This chart outlines the major work activities, tasks and sub-tasks from the 2020 Roofer Red Seal Occupational Standard (RSOS). Each sub-task details the corresponding essential skill and level of training (apprenticeship year) where the content is covered. *

* Sub Tasks with numbers in the boxes is where the content will be delivered in training. The Task Matrix Chart will be updated every year until Harmonization implementation is complete. Implementation for harmonization will take place progressively. Level one to be implemented in 2020/2021, level two in 2021/2022, and level three in 2022/2023.

A - Performs common occupational skills

Task A-1 Performs safety related functions	A-1.01 Maintains safe work environment 1 (2, 3 in context)	A-1.02 Uses personal protective equipment (PPE) and safety equipment 1 (2, 3 in context)			
Task A-2 Uses tools and equipment	A-2.01 Uses hand tools 1, 2, 3	A-2.02 Uses power tools, pneumatic tools, and hot-air welding, induction and fueled equipment 1, 2, 3	A-2.03 Uses hoisting, lifting and rigging equipment 1, 2, 3	A-2.04 Uses access equipment 1, 2, 3	A-2.05 Uses hot process equipment 1, 2, 3
	A-2.06 Uses motorized equipment 1, 2, 3				
Task A-3 Organizes Work	A-3.01 Uses documentation and reference materials 1, 2	A-3.02 Interprets blueprints and drawings 1, 2, 3	A-3.03 Estimates material 3	A-3.04 Assesses worksite conditions 1, 2	A-3.05 Positions equipment and material on the ground and on the roof 1, 2

Task A-4 Uses communication and mentoring techniques	A-3.06 Prepares material disposal systems 1, 2	A-3.07 Evaluates roof conditions near rooftop equipment installations 3
	A-4.01 Uses communication techniques 1, 3	A-4.02 Uses mentoring techniques 3

B – Prepares roof and deck

Task B-5 Prepares roof for replacement	B-5.01 Protects surrounding area 1	B-5.02 Removes loose debris 1	B-5.03 Removes roofing and flashing 1	B-5.04 Prepares roof substrate 2	B-5.05 Performs minor adjustments to penetrations, curbs and parapets 2
	Task B-6 Prepares deck for roof installation	B-6.01 Inspects deck 2, 3	B-6.02 Cleans surface of deck 1, 3	B-6.03 Verifies placement of roof penetrations, curbs and parapets 2, 3	B-6.04 Dries deck 1

C – Installs low slope roofing

Task C-7 Applies low slope roofing components	C-7.01 Installs support panels 1, 2, 3	C-7.02 Primes substrate 1, 2, 3	C-7.03 Applies vapour retarder, vapour barrier and air barrier 1, 2, 3	C-7.04 Installs insulation 1, 2, 3	C-7.05 Installs cover board 1, 2, 3
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	C-7.06 Installs drains, vents, curbs and penetrations 1, 2, 3	C-7.07 Applies ballast, walkways and protective surfaces 1, 2, 3	C-7.08 Installs metal flashings 1, 2, 3		
Task C-8 Applies low slope roofing membranes	C-8.01 Relaxes membranes 1, 2, 3	C-8.02 Sets membranes 1, 2, 3	C-8.03 Applies membranes using hot liquid process 1, 2, 3	C-8.04 Applies membranes using torched-on method 2	C-8.05 Applies membranes using hot-air welding 2, 3
	C-8.06 Applies membranes using cold applied methods 1, 2, 3	C-8.07 Applies membranes using mechanical fasteners 1, 2, 3	C-8.08 Applies loose-laid membranes 3	C-8.09 Applies liquid-applied membranes 3	C-8.10 Installs membrane flashings 1, 2, 3
	C-8.11 Installs temporary seals and temporary drains 1, 2, 3				

D – Installs steep slope roofing

Task D-9 Performs common steep slope practices	D-9.01 Installs steep slope underlayment 1	D-9.02 Installs steep slope venting 1	D-9.03 Installs steep slope valley applications 1	D-9.04 Installs steep slope saddles/ crickets 1	D-9.05 Installs steep slope penetration flashings 1
Task D-10 Applies shingles	D-10.01 Determines layout of shingles 1, 2, 3	D-10.02 Installs starter strip and starter course 1, 2, 3	D-10.03 Fastens shingles 1, 2, 3	D-10.04 Cuts shingles 1, 2, 3	D-10.05 Tabs shingles 1

D-10.06 Installs metal flashings for shingled roofs

1, 2, 3

Task D-11 Applies roof tiles

D-11.01 Installs battens/strapping for roof tiles

3

D-11.02 Fastens roof tiles

3

D-11.03 Cuts roof tiles

3

D-11.04 Installs closure strips for roof tiles

3

D-11.05 Installs ridge and hip caps

3

D-11.06 Installs metal flashings for tiled roofs

3

Task D-12 Applies pre-formed metal roofing

D-12.01 Installs battens/strapping for pre-formed metal roofing

3

D-12.02 Fastens pre-formed metal roofing

3

D-12.03 Cuts sheet metal

3

D-12.04 Installs closure strips for pre-formed metal roofing

3

D-12.05 Installs snow guards

3

D-12.06 Installs metal flashings for pre-formed metal roofs

3

E – Waterproofs and damp proofs surfaces

Task E-13 Waterproofs surfaces	E-13.01 Prepares waterproofing substrates 2	E-13.02 Applies waterproofing membrane 2	E-13.03 Installs green, sustainable, vegetative and protected membrane components 3
Task E-14 Damp-proofs surfaces	E-14.01 Applies damp-proofing materials 2	E-14.02 Applies protection layer 2	

F – Assesses, maintains and repairs roof

Task F-15 Assesses roof condition	F-15.01 Performs roof inspections 3	F-15.02 Performs cut test 3	F-15.03 Determines maintenance or repair required 3
Task F-16 Maintains and repairs low slope roofing	F-16.01 Maintains low slope roofing 2, 3	F-16.02 Repairs low slope roofing 2, 3	
Task F-17 Maintains and repairs steep slope roofing	F-17.01 Maintains steep slope roofing 2, 3	F-17.02 Repairs steep slope roofing 2, 3	

TRAINING PROFILE CHART

This Training Profile Chart represents Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) apprenticeship technical training at the topic level.

Level One	Transcript Code
Safety, Worksite, Ergonomics and General	RFH 100
Tools and Scaffold Safety	RFH 105
Rofer Workplace Skills	RFH 110
Built Up Roofing	RFH 115
Steep Roofing- Asphalt Shingles	RFH 120
Final Exam	RFH 125

Level Two	Transcript Code
Decks, Insulation, Vapour Barriers	RFH 200
Print Reading and Math	RFH 205
Air Tool Safety, Hydraulics and Small Motors	RFH 210
Power Roof Tools	RFH 215
Cedar Shakes and Shingles	RFH 220
SBS Modified Bitumen	RFH 225
Waterproofing	RFH 230
Final Exam	RFH 235

Level Three	Transcript Code
Estimating, Planning and WHMIS	RFH 300
Metal Flashing and Flat Roof	RFH 305
Metal Roofs	RFH 310
Concrete, Tile and Slate Roofs	RFH 315
Single Ply Membrane	RFH 320
EPDM	RFH 325
Waterproofing and Vegetative Roofing	RFH 330
Final Exam	RFH 335

TECHNICAL TRAINING COURSE CONTENT

This chart outlines the model for Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) technical training sequencing. For the harmonized level of training, a cross reference to the Red Seal Occupational Standard (RSOS) apprenticeship technical training sequencing, at the learning outcome level, is provided.

Implementation for harmonization took place progressively. Level one to be implemented in 2020/2021, level two in 2021/2022, level three in 2022/2023, and level four in 2023/2024.

The Red Seal Roofer Curriculum Outline, which provides additional detail of the Harmonized technical training, can be found at www.red-seal.ca

Level One

Safety, Worksite, Ergonomics and General

- uses PPE and safety equipment
- demonstrate good housekeeping
- describe roof safety
- describe fire safety

RSOS topics covered in this section of training:

A-1 Performs safety related function

A-1.01 maintains safe work environment

- safe work practices and procedures
- regulatory requirements pertaining to safety

A-1.02 uses personal protective equipment (PPE) and safety equipment

- PPE and safety equipment, their applications, limitations, maintenance, storage and procedures for use
- regulatory requirements pertaining to PPE and safety equipment

Tools and Scaffold Safety

- use basic hand tools
- use on-deck equipment
- use kettles, burners and propane
- use ladders, scaffolds, roof jacks and fall arrest equipment
- perform vehicle maintenance

RSOS topics covered in this section of training:

A-2 Uses tools and equipment

A-2.01 uses hand tools

- personal hand tools, their applications, maintenance and procedures for use
- company-used and specialty hand tools, their applications, maintenance and procedures for use

A-2.02 uses power tools, pneumatic tools and hot air welding, induction and fuelled equipment

- power tools, pneumatic tools and hot air welding induction and fuelled equipment, their applications, maintenance and procedures for use
- regulatory requirements pertaining to power tools, pneumatic tools and hot air welding, induction and fuelled equipment

- A-2.03 uses hoisting, lifting and rigging equipment
- hoisting lifting and rigging equipment, their applications, limitations and procedures for use
 - safe work practices and procedures pertaining to hoisting, lifting and rigging
 - regulatory requirements pertaining to hoisting, lifting and rigging
- A-2.04 Uses access equipment
- access equipment, its applications, limitations and maintenance
 - procedures for use of access equipment
- A-2.05 Uses hot process equipment
- hot process equipment, its applications, limitations and maintenance
 - procedures for use of hot process equipment
 - regulatory requirements pertaining to use of hot process equipment
- A-2.06 Uses motorized equipment
- motorized equipment, its applications, limitations and maintenance
 - procedures for use of motorized equipment
 - regulatory requirements pertaining to the use of motorized equipment
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Roofing Workplace Skills

- demonstrate knowledge of trade terminology
- identify types of roof structures
- identify roofing materials
- perform moving and storage of equipment and supplies
- interpret prints and working drawings
- uses communication techniques

RSOS topics covered in this section of training:

A-3 Organizes work

- A-3.01 Uses documentation and reference materials
- work-related and safety-related documentation, and reference materials and their applications
 - procedures used to prepare work-related and safety-related documentation
 - reference materials and their applications
 - regulatory requirements pertaining to work-related and safety-related documentation, and reference materials
- A-3.02 Interprets blueprints and drawings
- blueprints and drawings and their applications
 - procedures used to interpret and extract information from blueprints and drawings and their components
- A-3.04 Assesses worksite conditions
- procedures used to assess worksite conditions
 - procedures used to add or remove roof projections
- A-3.05 Positions equipment and material on the ground and on the roof
- procedures used to position equipment and material on ground and on roof
 - regulatory requirements pertaining to the securement and placement of equipment and material on ground and on roof

A-4 Uses communication and mentoring techniques

- A-4.01 Uses communication techniques
- trade terminology
 - effective communication practices

B-5 Prepares roof for replacement

- B-5.03 Removes roofing and flashing
- roofing systems and their components, characteristics and applications
 - procedures to remove roofing and flashings

Built up Roofing

- preparation of deck surfaces for covering
- describe sloped insulation principles
- identify types of built-up roofing (BUR) and styrene butadiene styrene (SBS) roofing
- identify types of BUR and SBS materials
- install BUR and SBS roofing

RSOS topics covered in this section of training:

B-6 Prepares deck for roof installation

B-6.01 Inspects deck

- roof decks, their characteristics and applications
- procedures to inspect deck

B-6.02 Cleans surface of deck

- roof decks, their characteristics and applications
- procedures to clean roof decks

B-6.04 Dries deck

- procedures to dry roof deck

C-7 Applies low sloping roofing components

C-7.01 Installs support panels

- support panels, their characteristics and applications
- procedures to install support panels

C-7.02 Primes substrate

- primers, their characteristics and applications
- procedures to apply primers to substrates

C-7.03 Applies vapour retarder, vapour barrier and air barrier

- vapour retarders, vapour barriers and air barriers, their characteristics and applications
- procedures to install vapour retarders, vapour barriers and air barriers
- regulatory requirements pertaining to installation of vapour retarders, vapour barriers and air barriers

C-7.04 Installs insulation

- insulation, its characteristics and applications
- procedures to install insulation
- regulatory requirements pertaining to insulation

C-7.05 Installs cover board

- cover boards, their characteristics and applications
- procedures to install cover boards

C-7.06 Installs drains, vents, curbs and penetrations

- drains, vents, curbs and penetrations, their characteristics and applications
- procedures to install drains, vents, curbs and penetrations
- regulatory requirements pertaining to drains, vents, curbs and penetrations

C-7.07 Applies ballast, walkways and protective surfaces

- ballast, walkways and protective surfaces, their characteristics and applications
- procedures to install ballast, walkways and protective surfaces

C-7.08 Installs metal flashings

- metal flashings, their characteristics and applications
- procedures to install metal flashings
- regulatory requirements pertaining to metal flashings

C-8 Applies low slope roofing membranes

C-8.01 Relaxes membrane

- procedures and techniques to relax membranes

C-8.02 Sets membrane

- procedures to set membranes

- C-8.03 Applies membranes using hot-liquid process
 - hot process applied membranes, their characteristics and applications
 - roofing asphalts used to apply membranes
 - procedures to apply membranes using hot-liquid process
 - regulatory requirements pertaining to installation of membranes
- C-8.04 Applies membranes using torched-on method
 - membranes using torched-on method, their characteristics and applications
 - procedures to apply membranes using torched-on method
 - regulatory requirements pertaining to installation of membranes using torched-on method
- C-8.05 Applies membranes using hot air welding
 - membranes that require hot air welding, their characteristics and applications
 - procedures to apply membranes using hot air welding
 - regulatory requirements pertaining to the installation of membranes
- C-8.06 Applies membranes using cold applied methods
 - cold applied adhesives, their characteristics and applications
 - cold applied membranes, their characteristics and applications
 - procedures to install cold applied membranes
 - regulatory requirements pertaining to installation of cold applied membranes
- C-8.07 Applies membranes using mechanical fasteners
 - mechanical fasteners, their characteristics and applications
 - procedures to apply membranes using mechanical fasteners
 - regulatory requirements pertaining to installation of membranes
- C-8.10 Installs membrane flashings
 - membrane flashings, their characteristics and applications
 - procedures to install membrane flashings
 - regulatory requirements pertaining to installation of membrane flashings
- C-8.11 Installs temporary seals and temporary drains
 - temporary seals and temporary drains, their characteristics and applications
 - procedures to install temporary seals and temporary drains

Steep Roofing - Asphalt Shingles

- install 3-tab and architectural asphalt shingles
- install mechanical fasteners
- apply sealants

RSOS topics covered in this section of training:

D-9 Performs common steep slope practices

- 9.01 Installs steep slope underlayment
 - steep slope underlayment, their characteristics, applications and termination heights
 - procedures to install steep slope underlayment
 - regulatory requirements pertaining to installation of steep slope underlayment
- 9.02 Installs steep slope venting
 - steep slope venting, their characteristics and applications
 - procedures to install steep slope venting
 - regulatory requirements pertaining to installation of steep slope venting
- 9.03 Install Installs steep slope valley applications
 - valley applications, their characteristics and styles
 - procedures to install valley applications
 - regulatory requirements pertaining to valley applications
- 9.04 Installs steep slope saddles/ crickets
 - saddles/crickets, their characteristics and applications
 - procedures to build and install saddles/crickets
 - regulatory requirements pertaining to saddles/crickets

9.05 Installs steep slope penetration flashings

- steep slope penetration flashings, their characteristics and applications
- procedures to install steep slope penetration flashings
- regulatory requirements pertaining to steep slope penetration flashings

D-10 Applies Shingles

10.01 Determines layout of shingles

- shingles, their characteristics and applications
- procedures to determine layout of shingles

10.02 Installs starter strip and starter course

- starter strips and starter courses, their characteristics and applications
- procedures to install starter strips and starter courses
- regulatory requirements pertaining to starter strips and starter courses

10.03 Fastens shingles

- shingles, their characteristics and applications
- procedures to fasten shingles

10.04 Cuts shingles

- shingles, their characteristics and applications
- procedures to cut shingles

10.05 Tab shingles

- shingles that require tabbing, their characteristics and applications
- procedures to tab shingles

10.06 Install metal flashings for shingled roofs

- metal flashings, their characteristics and applications
- procedures to install metal flashing for shingled roofs
- regulatory requirements pertaining to installation of metal flashings for shingled roofs

Fall Protection Certification

- pass/fail

Fire Extinguisher

- pass/fail

There are no Level One topics from the RSOS that are taught in context.

Level Two

Deck, Insulation, Vapour Barriers

- prepare deck
- identify roof deck types
- describe deck conditions
- identify insulation
- identify, interpret and install cover boards
- identify and install vapour barrier

RSOS topics covered in this section of training:

B-6 Prepares deck for roof installation

B-6.01 Inspects deck

- roof decks their characteristics and applications
- procedures to inspect deck

B-6.03 Verifies placement of roof penetrations, curbs and parapets

- procedures to verify placement of roof penetrations, curbs and parapets

C-7 Low slope roofing components

C-7.03 Applies vapour retarder, vapour barrier and air barrier

- vapour retarders, vapour barriers and air barriers, their characteristics and applications
- procedures to install vapour retarders, vapour barriers and air barriers
- regulatory requirements pertaining to installation of vapour retarders, vapour barriers and air barriers

C-7.04 Installs insulation

- insulation, its characteristics and applications
- procedures to install insulation
- regulatory requirements pertaining to insulation

C-7.05 Installs cover board

- over boards, their characteristics and applications
- procedures to install cover boards

Print Reading and Math

- interpret specifications
- interpret sketches
- prepare trade math calculations
- interpret prints and working drawings
- determine material quantities

RSOS topics covered in this section of training:

A-3 Organizes work

A-3.01 Uses documentation and reference materials

- work-related and safety-related documentation, and reference materials and their applications
- procedures used to prepare work-related and safety-related documentation
- reference materials and their applications
- regulatory requirements pertaining to work-related and safety-related documentation, and reference materials

A-3.02 Interprets blueprints and drawings

- blueprints and drawings, and their applications
- procedures used to interpret and extract information from blueprints and drawings and their components

A-3.03 Estimates material

- procedures used to estimate materials
- mathematical calculations required to estimate materials

Air Tools Safety, Hydraulics and Small Motors

- identify power tools and equipment
- tool safety practices
- hydraulic maintenance
- small engine troubleshooting

RSOS topics covered in this section of training:

A-2 Uses tools and equipment

A-2.02 Uses power tools, pneumatic tools and hot air welding, induction and fuelled equipment

- power tools, pneumatic tools and hot air welding, induction and fuelled equipment, their applications, maintenance and procedures for use
- regulatory requirements pertaining to power tools, pneumatic tools, and hot air welding, induction and fuelled equipment

A-2.03 Uses hoisting, lifting and rigging equipment

- hoisting, lifting and rigging equipment, their applications, limitations and procedures for use
- safe work practices and procedures pertaining to hoisting, lifting and rigging
- regulatory requirements pertaining to hoisting, lifting and rigging

A-2.04 Uses access equipment

- access equipment, its applications, limitations and maintenance
- procedures for use of access equipment

A-2.05 Uses hot process equipment

- procedures for use of hot process equipment
- regulatory requirements pertaining to use of hot process equipment

A-2.06 Uses motorized equipment

- motorized equipment, its applications, limitations and maintenance
- procedures for use of motorized equipment
- regulatory requirements pertaining to the use of motorized equipment

A-3 Organizes work

A-3.04 Assesses worksite conditions

- procedures used to assess worksite conditions
- procedures used to add or remove roof projections

A-3.05 Positions equipment and material on the ground and on the roof

- procedures used to position equipment and material on ground and on roof
- regulatory requirements pertaining to the securement and placement of equipment and material on ground and on roof

Power Roof Tools

- operate powered deck equipment
- operate hoists
- perform rigging operations

RSOS topics covered in this section of training:

A-2 Uses tools and equipment

A-2.03 Uses hoisting, lifting and rigging equipment

- hoisting, lifting and rigging equipment, their applications, limitations and procedures for use
- safe work practices and procedures pertaining to hoisting, lifting and rigging
- regulatory requirements pertaining to hoisting, lifting and rigging

A-2.04 Uses access equipment

- off access equipment, its applications, limitations and maintenance
- procedures for use of access equipment

A-2.05 Uses hot process equipment

- procedures for use of hot process equipment
- regulatory requirements pertaining to use of hot process equipment

Cedar Shakes and Shingles

- identify cedars shake and shingles
- identify steep roofing material
- cold roof system details
- prepare steep roof
- install cedar shakes and shingles

RSOS topics covered in this section of training:

D-10 Applies shingles

D-10.01 Determines layout of shingles

- shingles, their characteristics and applications
- procedures to determine layout of shingles

D-10.02 Installs starter strip and starter course

- starter strips and starter courses, their characteristics and applications
- procedures to install starter strips and starter courses
- regulatory requirements pertaining to starter strips and starter courses

D-10.03 Fastens shingles

- shingles, their characteristics and applications
- procedures to fasten shingles

D-10.04 Cuts shingles

- shingles, their characteristics and applications
- procedures to cut shingles

D-10.06 Installs metal flashings for shingled roofs

- shingles that require tabbing, their characteristics and applications
- procedures to tab shingles

SBS Modified Bitumen

- installs support panels, drains, vents, curbs and penetrations
- applies vapour barrier
- installs insulation
- installs substrate
- installs membrane and membrane flashings
- install protective coverings

RSOS topics covered in this section of training:

A-2 Uses tools and equipment

A-2.05 Uses hot process equipment

- procedures for use of hot process equipment
- regulatory requirements pertaining to use of hot process equipment

A-3 Organizes work

A-3.04 Assesses worksite conditions

- procedures used to assess worksite conditions
- procedures used to add or remove roof projections

C-5 Prepares roof for replacement

C-5.04 Prepares roof substrate

- roof substrates and their components, characteristics and applications
- procedures to prepare roof substrates

C-5.05 Performs minor adjustments to penetrations, curbs and parapets

- penetrations, curbs and parapets, their characteristics and applications
- procedures to perform minor adjustments to penetrations, curbs and parapets

C-7 Applies low slope roofing

C-7.01 Installs support panels

- support panels, their characteristics and applications
- procedures to install support panels

C-7.02 Primes substrate

- primers, their characteristics and applications
- procedures to apply primers to substrates

C-7.03 Applies vapour retarder, vapour barrier and air barrier

- vapour retarders, vapour barriers and air barriers, their characteristics and applications
- procedures to install vapour retarders, vapour barriers and air barriers
- regulatory requirements pertaining to installation of vapour retarders, vapour barriers and air barriers

C-7.04 Installs insulation

- insulation, its characteristics and applications
- procedures to install insulation
- regulatory requirements pertaining to insulation

C-7.06 Installs drains, vent curbs and penetrations

- drains, vents, curbs and penetrations, their characteristics and applications
- procedures to install drains, vents, curbs and penetrations
- regulatory requirements pertaining to drains, vents, curbs and penetrations

C-7.07 Applies ballast, walkways and protective surfaces

- ballast, walkways and protective surfaces, their characteristics and applications
- procedures to install ballast, walkways and protective surfaces

C-7.08 Installs metal flashings

- metal flashings, their characteristics and applications
- procedures to install metal flashings
- regulatory requirements pertaining to metal flashings

C-8 Applies low slope roofing membranes

C-8.01 Relaxes membrane

- procedures and techniques to relax membranes

C-8.02 Sets membrane

- procedures to set membranes

C-8.03 Applies membranes using hot liquid process

- hot process-applied membranes, their characteristics and applications
- roofing asphalts used to apply membranes
- procedures to apply membranes using hot-liquid process
- regulatory requirements pertaining to installation of membranes

C-8.04 Applies membrane using torched on method

- membranes using torched-on method, their characteristics and applications
- procedures to apply membranes using torched-on method

C-8.05 Applies membranes using hot air welding

- membranes that require hot air welding, their characteristics and applications
- procedures to apply membranes using hot air welding
- regulatory requirements pertaining to the installation of membranes

C-8.06 Applies membranes using cold applied methods

- cold applied adhesives, their characteristics and applications
- cold applied membranes, their characteristics and applications
- procedures to install cold applied membranes
- regulatory requirements pertaining to installation of cold applied membranes

C-8.07 Applies membranes using mechanical fasteners

- mechanical fasteners, their characteristics and applications
- procedures to apply membranes using mechanical fasteners
- regulatory requirements pertaining to installation of membranes

C-8.10 Installs membrane flashings

- membrane flashings, their characteristics and applications
- procedures to install membrane flashings
- regulatory requirements pertaining to installation of membrane flashings

C-8.11 Installs temporary seals and temporary drains

- temporary seals and temporary drains, their characteristics and applications
- procedures to install temporary seals and temporary drains

F-16 Maintains and repairs low slope roofing

F-16.01 Maintains low slope roofing

- tools and equipment used for maintenance of low slope roofing
- roof drains, gutters and scuppers, their components, characteristics and applications
- procedures to maintain roof drains, gutters and scuppers
- penetration pockets, their characteristics and applications
- procedures to refill penetration pockets
- caulking, its characteristics and applications
- procedures to replace deteriorated caulking
- membranes, their characteristics and applications
- ballast/surfacing, their characteristics and applications
- metal flashings, their characteristics and applications
- procedures to re-secure loose metal flashings
- excessive snow and ice removal practices

F-16.02 Repairs low slope roofing

- procedures to repair low slope roofing
- procedures to repair membrane defects
- procedures to reapply surfacing/ballast to bare areas

Waterproofing

- Identify rubberized roofing and application procedures
- Prepares waterproofing substrates
- Applies waterproofing membrane
- Maintains low slope roofing

RSOS topics covered in this section of training:

E-13 Waterproofs surfaces

E-13.01 Prepares waterproofing substrates

- procedures to prepare waterproofing substrates

E-13.02 Applies waterproofing membrane

- waterproofing membranes, their characteristics and applications
- procedures to apply waterproofing membranes
- regulatory requirements pertaining to the installation of waterproofing membranes

E-14 Damp-proof surfaces

E-14.01 Applies damp-proofing materials

- damp-proofing materials, their characteristics and applications
- procedures to apply damp-proofing materials
- regulatory requirements pertaining to application of damp-proofing materials

E-14.02 Applies protection layer

- protection layers, their characteristics and applications
- procedures to apply protection layers

Level Two topics from the RSOS that are taught in context:

A-Performs safety-related functions

D-Performs Common Steep Slope Practices

For details regarding the In Context Topic, see pages 24



Level Three

Estimating, Planning and WHIMIS

- determine equipment requirements
- calculate and order material calculation
- schedule a work crew
- perform troubleshooting

RSOS topics covered in this section of training:

A-2 Uses tools and equipment

A-2.01 uses hand tools

- personal hand tools, their applications, maintenance and procedures for use
- company-used and specialty hand tools, their applications, maintenance and procedures for use

A-2.02 uses power tools, pneumatic tools and hot air welding, induction and fuelled equipment

- power tools, pneumatic tools and hot air welding induction and fuelled equipment, their applications, maintenance and procedures for use
- regulatory requirements pertaining to power tools, pneumatic tools and hot air welding, induction and fuelled equipment

A-2.03 uses hoisting, lifting and rigging equipment

- hoisting lifting and rigging equipment, their applications, limitations and procedures for use
- safe work practices and procedures pertaining to hoisting, lifting and rigging
- regulatory requirements pertaining to hoisting, lifting and rigging

A-2.04 Uses access equipment

- access equipment, its applications, limitations and maintenance
- procedures for use of access equipment

A-2.05 Uses hot process equipment

- hot process equipment, its applications, limitations and maintenance
- procedures for use of hot process equipment
- regulatory requirements pertaining to use of hot process equipment

A-2.06 Uses motorized equipment

- motorized equipment, its applications, limitations and maintenance
- procedures for use of motorized equipment
- regulatory requirements pertaining to the use of motorized equipment

A-3 Organizes work

A-3.02 Interprets blueprints and drawings

- blueprints and drawings, and their applications

A-3.03 Estimates materials

- procedures used to estimate materials
- mathematical calculations required to estimate materials

A-3.07 Evaluates roof conditions near roof-top equipment installations

- specialty rooftop equipment and their components, their characteristics and applications

A-4 Uses communication and mentoring techniques

A-4.02 Uses mentoring techniques

- strategies for learning skills in the workplace
- strategies for teaching workplace skills

Metal Flashing and Flat Roof Flashing

- perform estimation of flashing requirements
- perform fabrication of roof flashing
- install roof flashing

- perform fabrication of a gum box
- maintains and repairs low slope roofing

RSOS topics covered in this section of training:

A-3 Organizes work

A-3.03 Estimates material

- procedures used to estimate materials
- mathematical calculations required to estimate materials

C-7 Applies low slope roofing components

C-7.08 Installs metal flashings

- metal flashings, their characteristics and applications
- procedures to install metal flashings
- regulatory requirements pertaining to metal flashings

C-8 Applies low slope roofing membranes

C-8.10 Installs membrane flashings

- membrane flashings, their characteristics and applications
- procedures to install membrane flashings
- regulatory requirements pertaining to installation of membrane flashings

D-10 Applies shingles

D-10.06 Installs metal flashings for shingled roofs

- shingles that require tabbing, their characteristics and applications
- procedures to tab shingles

D-11 Applies roof tiles

D-11.06 Installs metal flashings for tiled roof

- metal flashings, their characteristics and applications
- procedures to install metal flashings
- regulatory requirements pertaining to installation of metal flashings

Metal Roofs

- identifies metal roofing components
- prepares for metal roofing
- installs metal roofing

RSOS topics covered in this section of training:

D-12 Applies performed metal roofing

D-12.01 Installs battens/strapping for pre-formed metal roofing

- battens/strapping for preformed metal roofing, their characteristics and applications
- procedures to install battens/strapping for preformed metal roofing

D-12.02 Fastens pre-formed metal roofing

- preformed metal roofing, their characteristics and applications
- procedures to fasten preformed metal roofing
- regulatory requirements pertaining to installation of preformed metal roofing

D-12.03 Cuts sheet metal

- procedures to cut sheet metal

D-12.04 Installs closure strips for pre-formed metal roofing

- closure strips, their characteristics and applications
- procedures to secure closure strips

D-12.05 Installs snow guards

- snow guards their characteristics and applications
- procedures to install snow guards
- regulatory requirements pertaining to installation of snow guards.

- D-12.06 Installs metal flashings for pre-formed metal roofs
- metal flashings, their characteristics and applications
 - procedures to install metal flashings for performed metal roofs
 - regulatory requirements pertaining to installation of metal flashings
-

Concrete, Tile and Slate Roofs

- identifies roof components
- prepares roof and deck
- install concrete tiles

RSOS topics covered in this section of training:

D-11 Applies roof tiles

- D-11.01 Installs battens/strapping for roof tiles
- battens/strapping for roof tiles, their characteristics and applications
 - procedures to install battens/strapping for roof tiles
- D-11.02 Fastens roof tiles
- roof tiles, their characteristics and applications
 - procedures to fasten roof tiles
 - regulatory requirements pertaining to installation of roof tiles
- D-11.03 Cuts roof tiles
- procedures to cut roof tiles
- D-11.04 Installs closure strips for roof tiles
- closure strips, their characteristics and applications
 - procedures to install closure strip
- D-11.05 Installs ridge and hip caps
- ridges and hip caps, their characteristics and applications
 - procedures to install ridges and hip caps
- D-11.06 Installs metal flashings for tiled roofs
- metal flashings, their characteristics and applications
 - procedures to install metal flashings
 - regulatory requirements pertaining to installation of metal flashings
-

Single Ply Membrane

- identify types of single-ply roofs
- identify single-ply materials
- apply polyvinyl chloride (PVC) and thermoplastic (TPO) membranes

RSOS topics covered in this section of training:

Task C-8 Applies low slope roofing membranes

- C-8.01 Relaxes membrane
- procedures and techniques to relax membranes
- C-8.02 Sets membrane
- procedures to set membranes
- C-8.03 Applies membranes using hot liquid process
- hot process-applied membranes, their characteristics and applications
 - roofing asphalts used to apply membranes
 - procedures to apply membranes using hot-liquid process
 - regulatory requirements pertaining to installation of membranes
- C-8.04 Applies membrane using torched on method
- membranes using torched-on method, their characteristics and applications
 - procedures to apply membranes using torched-on method

- C-8.05 Applies membranes using hot air welding
 - membranes that require hot air welding, their characteristics and applications
 - procedures to apply membranes using hot air welding
 - regulatory requirements pertaining to the installation of membranes
 - C-8.06 Applies membranes using cold applied methods
 - cold applied adhesives, their characteristics and applications
 - cold applied membranes, their characteristics and applications
 - procedures to install cold applied membranes
 - regulatory requirements pertaining to installation of cold applied membranes
 - C-8.07 Applies membranes using mechanical fasteners
 - mechanical fasteners, their characteristics and applications
 - procedures to apply membranes using mechanical fasteners
 - regulatory requirements pertaining to installation of membranes
 - C-8.10 Installs membrane flashings
 - membrane flashings, their characteristics and applications
 - procedures to install membrane flashings
 - regulatory requirements pertaining to installation of membrane flashings
 - C-8.11 Installs temporary seals and temporary drains
 - temporary seals and temporary drains, their characteristics and applications
 - procedures to install temporary seals and temporary drains
-

EPDM

- prepare deck
- install ethylene propylene diene monomer (EPDM) roofing system
- determine material quantities

RSOS topics covered in this section of training:

Task C-8 Applies low slope roofing membranes

- C-8.01 Relaxes membrane
 - procedures and techniques to relax membranes
- C-8.02 Sets membrane
 - procedures to set membranes
- C-8.03 Applies membranes using hot liquid process
 - hot process-applied membranes, their characteristics and applications
 - roofing asphalts used to apply membranes
 - procedures to apply membranes using hot-liquid process
 - regulatory requirements pertaining to installation of membranes
- C-8.04 Applies membrane using torched on method
 - membranes using torched-on method, their characteristics and applications
 - procedures to apply membranes using torched-on method
- C-8.05 Applies membranes using hot air welding
 - membranes that require hot air welding, their characteristics and applications
 - procedures to apply membranes using hot air welding
 - regulatory requirements pertaining to the installation of membranes
- C-8.06 Applies membranes using cold applied methods
 - cold applied adhesives, their characteristics and applications
 - cold applied membranes, their characteristics and applications
 - procedures to install cold applied membranes
 - regulatory requirements pertaining to installation of cold applied membranes
- C-8.07 Applies membranes using mechanical fasteners
 - mechanical fasteners, their characteristics and applications
 - procedures to apply membranes using mechanical fasteners
 - regulatory requirements pertaining to installation of membranes

C-8.10 Installs membrane flashings

- membrane flashings, their characteristics and applications
- procedures to install membrane flashings
- regulatory requirements pertaining to installation of membrane flashings

C-8.11 Installs temporary seals and temporary drains

- temporary seals and temporary drains, their characteristics and applications
- procedures to install temporary seals and temporary drains

Waterproofing and Vegetative Roofing

- prepares waterproofing substrates
- identify procedures for applying hot rubberized material
- apply self-adhering modified bitumen membrane
- apply damp-proofing
- installs green, sustainable, vegetative and protected membrane components

RSOS topics covered in this section of training:

E-13 Waterproofs surfaces

E-13.01 Prepares waterproofing substrates

- procedures to prepare waterproofing substrates

E-13.02 Applies waterproofing membrane

- waterproofing membranes, their characteristics and applications
- procedures to apply waterproofing membranes
- regulatory requirements pertaining to the installation of waterproofing membranes

E-13.03 Installs green, sustainable, vegetative and protected membrane components

- green sustainable, vegetative and protected membrane components, their characteristics and applications
- procedures to install green, sustainable, vegetative and protected membrane components
- regulatory requirements pertaining to installation of green, sustainable, vegetative and protected membrane components

Level Three topics from the RSOS that are taught in context:

A-Performs safety-related functions

D-Performs Common Steep Slope Practices

For details regarding the In Context Topic, see pages 24

In Context Topics

In context means learning that has already taken place and is being applied to the applicable task. Learning outcomes for in context topics are accomplished in other topics in that level.

A-1 Performs safety related function

A-1.01 maintains safe work environment

- safe work practices and procedures
- regulatory requirements pertaining to safety

A-1.02 uses personal protective equipment (PPE) and safety equipment

- PPE and safety equipment, their applications, limitations, maintenance, storage and procedures for use
- regulatory requirements pertaining to PPE and safety equipment

D-9 Performs common steep slope practices

D-9.01 Installs steep slope underlayment

- steep slope underlayment, their characteristics, applications and termination heights
- procedures to install steep slope underlayment
- regulatory requirements pertaining to installation of steep slope underlayment

D-9.02 Installs steep slope venting

- steep slope venting, their characteristics and applications
- procedures to install steep slope venting
- regulatory requirements pertaining to installation of steep slope venting

D-9.03 Install Installs steep slope valley applications

- valley applications, their characteristics and styles
- procedures to install valley applications
- regulatory requirements pertaining to valley applications

D-9.04 Installs steep slope saddles/ crickets

- saddles/crickets, their characteristics and applications
- procedures to build and install saddles/crickets
- regulatory requirements pertaining to saddles/crickets

D-9.05 Installs steep slope penetration flashings

- steep slope penetration flashings, their characteristics and applications
- procedures to install steep slope penetration flashings
- regulatory requirements pertaining to steep slope penetration flashings



APPENDIX A: POST HARMONIZATION TRAINING PROFILE CHART

This chart which outlines the finalized model for SATCC technical training sequencing with a cross reference to the Harmonized apprenticeship technical training sequencing, at the topic level.

Implementation for harmonization was implemented progressively. Level one was implemented in 2017/2018, level two 2018/2019, level three 2019/2020, and level four in 2020/2021.

SATCC Level One	Transcript Code	Pan-Canadian Harmonized Level One
Safety, Worksite, Ergonomics and General	RFH 100	Performs safety-related functions Organizes work
Tools and Scaffold Safety	RFH 105	Uses tools and equipment
Roofer Workplace Skills	RFH 110	Organizes Work Uses communication techniques Prepares roof for replacement
Built Up Roofing	RFH 115	Prepares deck for roof installation Applies low slope roofing components Applies low slope roofing membranes
Steep Roofing-Asphalt Shingles	RFH 120	Common steep slope practices Applies shingles
Fall Protection Competency		Exceeds
Fire Extinguisher Competency		Exceeds

SATCC Level Two	Transcript Code	Pan-Canadian Harmonized Level Two
<i>*in context</i>		Performs safety-related functions (In-Context) Common steep slope practices (In-Context)
Decks, Insulation, Vapour Barriers	RFH 200	Prepares deck for roof installation Applies low slope roofing components Applies low slope roofing membranes
Print Reading and Math	RFH 205	Specifications, sketches, trade math, blueprints and drawings
Air Tools Safety, Hydraulics and Small Motors	RFH 210	<ul style="list-style-type: none"> Power tools and equipment Hydraulic maintenance Small engine troubleshooting
Power Roof Tools	RFH 215	Powered deck equipment, hoists and rigging operations
Cedar Shakes and Shingles	RFH 220	Applies shingles (Wood and Composite)
SBS Modified Bitumen	RFH 225	<ul style="list-style-type: none"> Prepares roof for replacement Applies low slope roofing membranes
Waterproofing	RFH 230	<ul style="list-style-type: none"> Waterproofs surfaces Damp-proofs surfaces

SATCC Level Three	Transcript Code	Pan-Canadian Harmonized Level Three
<i>*in context</i>		Performs safety-related functions (In-Context) Common steep slope practices (In-Context)
Estimating, Planning and WHMIS	RFH 300	Determine quantities and schedule job
Metal Flashing and Flat Roof Flashing	RFH 305	Performs fabrication, installation and maintenance for flashing on roof
Metal Roofs	RFH 310	Prepares and installs metal roofs
Concrete, Tile and Slate Roofs	RFH 315	Installation procedures for concrete, tile and slate roofs
Single Ply Membrane	RFH 320	Identify and apply PVC/TPO roofing membranes
EPDM	RFH 325	Prepare and install EPDM roofing system
Waterproofing and Vegetative Roofing	RFH 330	Waterproofs surfaces
		Installs green, sustainable, vegetative and protected membrane components

Exceed Topics

Throughout this guide to course content there are topics which exceed the minimum scope of work as set out in the Roofer RSOS. Industry in Saskatchewan has deemed certain topics to fall within the scope of work of the Roofer trade in Saskatchewan and therefore require technical training to cover these topics.