

# Trade Profile

## Roofer



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# **RED SEAL**

# **TRADE PROFILE**

## **ROOFER**



# STRUCTURE OF THE TRADE PROFILE

This profile has two sections that provide a snapshot of the trade's description, and all trade activities as they are organized in the Red Seal Occupational Standard:

**Description of the Roofer trade:** an overview of the trade's duties, work environment, job requirements, similar occupations and career progression

**Task Matrix:** a chart which outlines graphically the major work activities, tasks and sub-tasks of this trade

**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

A complete version of the occupational standard, which provides additional detail for the trade activities, skills and knowledge can be found at [www.red-seal.ca](http://www.red-seal.ca).

# DESCRIPTION OF THE ROOFER TRADE

“Roofer” is this trade’s official Red Seal occupational title approved by the CCDA. This standard covers tasks performed by roofers whose occupational title has been identified by some provinces and territories of Canada under the following names:

	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
Roofer	■	■	■	■	■	■	■	■	■		■	■	■
Roofer (Roofer, Damp and Waterproof)										■			

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.

# TRENDS IN THE ROOFER TRADE

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## NEW PRODUCTS

There is an increase in the types of roofing system designs available to meet the ever-changing Canadian environment. Eco-friendlier roof designs such as green roofs and reflective roof materials are more common. In addition, more environmentally friendly products are being used, such as single-ply membranes, cold-applied and mechanically fastened systems, rather than hot-applied bitumen.

Due to the environmental impacts and health risks of hot asphalt products, new innovations such as low-rise adhesives are replacing these products in many roof system designs. These adhesives may have their own risks and must be used according to manufacturers' specifications.

On low slope roofing, chemical adhesives are reducing the need for asphalt and mechanical fasteners. In many roof applications, there are more self-adhesive materials that are used. The use of adhesives reduces thermal bridging that is inherent with mechanical fasteners.

There are new adhesives on the market that are low-volatile organic compounds (LVOC) that are replacing solvent-based adhesives which are used for the securement of roofing components. These new adhesives reduce volatile off-gassing in confined spaces.

Cold applied systems reduce the risk of fire during installation. Insurance companies and manufacturers are supporting this method as a safer way to install the roofing system.

There is an increase in synthetic underlayments on the market. These are applied under a steep slope roof and are lighter and last longer than traditional barriers.

Terminology in the industry is evolving as well. For example, the acronyms MARS, AARS and PARS are entering the roofing vocabulary. MARS stands for mechanically attached roofing system. AARS stands for adhesive adhered roofing system. PARS stands for partially adhered roofing system.

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## TOOLS AND EQUIPMENT

The trade has become more mechanized with many pieces of equipment such as automatic membrane installation equipment and heat induction equipment. These have increased productivity and efficiency and may reduce labour requirements. They may also help reduce the risk of personal injury and property damage. Roofers need to be trained in the proper use and maintenance of this new equipment.

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## HEALTH AND SAFETY

There is more emphasis on safety training and orientation in the workplace. In some jurisdictions, it is mandatory for employees to take fall protection / working at heights, and site and task specific safety policy and procedures training.

Mobile fall protection systems are now being used to reduce risk and injury on buildings that do not have permanent anchoring systems in place.

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## ENVIRONMENTAL

Recycling roofing materials and refacing are becoming more popular due to environmental concerns and LEED requirements on construction projects. These new practices may reduce disposal costs.

# ROOFER

## TASK MATRIX

### A – Performs common occupational skills

**18%**

<b>Task A-1</b> <b>Performs safety-related functions</b> <b>32%</b>	<b>A-1.01 Maintains safe work environment</b>	<b>A-1.02 Uses personal protective equipment (PPE) and safety equipment</b>	
<b>Task A-2</b> <b>Uses tools and equipment</b> <b>30%</b>	<b>A-2.01 Uses hand tools</b>	<b>A-2.02 Uses power tools, pneumatic tools, and hot-air welding, induction and fuelled equipment</b>	<b>A-2.03 Uses hoisting, lifting and rigging equipment</b>
	<b>A-2.04 Uses access equipment</b>	<b>A-2.05 Uses hot process equipment</b>	<b>A-2.06 Uses motorized equipment</b>
<b>Task A-3</b> <b>Organizes Work</b> <b>24%</b>	<b>A-3.01 Uses documentation and reference materials</b>	<b>A-3.02 Interprets blueprints and drawings</b>	<b>A-3.03 Estimates material</b>
	<b>A-3.04 Assesses worksite conditions</b>	<b>A-3.05 Positions equipment and material on the ground and on the roof</b>	<b>A-3.06 Prepares material disposal systems</b>
	<b>A-3.07 Evaluates roof conditions near rooftop equipment installations</b>		
<b>Task A-4</b> <b>Uses communication and mentoring techniques</b> <b>14%</b>	<b>A-4.01 Uses communication techniques</b>		<b>A-4.02 Uses mentoring techniques</b>

## B – Prepares roof and deck

14%

**Task B-5**  
**Prepares roof for replacement**  
**53%**

<b>B-5.01 Protects surrounding area</b>	<b>B-5.02 Removes loose debris</b>	<b>B-5.03 Removes roofing and flashings</b>
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<b>B-5.04 Prepares roof substrate</b>	<b>B-5.05 Performs minor adjustments to penetrations, curbs and parapets</b>
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**Task B-6**  
**Prepares deck for roof installation**  
**47%**

<b>B-6.01 Inspects deck</b>	<b>B-6.02 Cleans surface of deck</b>	<b>B-6.03 Verifies placement of roof penetrations, curbs and parapets</b>
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<b>B-6.04 Dries deck</b>
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## C – Installs low slope roofing

**31%**

**Task C-7**  
**Applies low slope roofing components**  
**49%**

<b>C-7.01 Installs support panels</b>	<b>C-7.02 Primes substrate</b>	<b>C-7.03 Applies vapour retarder, vapour barrier and air barrier</b>
<b>C-7.04 Installs insulation</b>	<b>C-7.05 Installs cover board</b>	<b>C-7.06 Installs drains, vents, curbs and penetrations</b>
<b>C-7.07 Applies ballast, walkways and protective surfaces</b>	<b>C-7.08 Installs metal flashings</b>	

**Task C-8**  
**Applies low slope roofing membranes**  
**51%**

<b>C-8.01 Relaxes membranes</b>	<b>C-8.02 Sets membranes</b>	<b>C-8.03 Applies membranes using hot-liquid process</b>
<b>C-8.04 Applies membranes using torched-on method</b>	<b>C-8.05 Applies membranes using hot-air welding</b>	<b>C-8.06 Applies membranes using cold applied methods</b>
<b>C-8.07 Applies membranes using mechanical fasteners</b>	<b>C-8.08 Applies loose-laid membranes</b>	<b>C-8.09 Applies liquid-applied membranes</b>
<b>C-8.10 Installs membrane flashings</b>	<b>C-8.11 Installs temporary seals and temporary drains</b>	

# D – Installs steep slope roofing

**13%**

**Task D-9**  
**Performs common steep slope practices**  
**34%**

<b>D-9.01 Installs steep slope underlayment</b>	<b>D-9.02 Installs steep slope venting</b>	<b>D-9.03 Installs steep slope valley applications</b>
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<b>D-9.04 Installs steep slope saddles/crickets</b>	<b>D-9.05 Installs steep slope penetration flashings</b>
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**Task D-10**  
**Applies shingles**  
**33%**

<b>D-10.01 Determines layout of shingles</b>	<b>D-10.02 Installs starter strip and starter course</b>	<b>D-10.03 Fastens shingles</b>
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<b>D-10.04 Cuts shingles</b>	<b>D-10.05 Tabs shingles</b>	<b>D-10.06 Installs metal flashings for shingled roofs</b>
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**Task D-11**  
**Applies roof tiles**  
**14%**

<b>D-11.01 Installs battens/strapping for roof tiles</b>	<b>D-11.02 Fastens roof tiles</b>	<b>D-11.03 Cuts roof tiles</b>
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<b>D-11.04 Installs closure strips for roof tiles</b>	<b>D-11.05 Installs ridge and hip caps</b>	<b>D-11.06 Installs metal flashings for tiled roofs</b>
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**Task D-12**  
**Applies pre-formed metal roofing**  
**19%**

<b>D-12.01 Installs battens/strapping for pre-formed metal roofing</b>	<b>D-12.02 Fastens pre-formed metal roofing</b>	<b>D-12.03 Cuts sheet metal</b>
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<b>D-12.04 Installs closure strips for pre-formed metal roofing</b>	<b>D-12.05 Installs snow guards</b>	<b>D-12.06 Installs metal flashings for pre-formed metal roofs</b>
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## E – Waterproofs and damp-proofs surfaces

**10%**

<b>Task E-13</b> <b>Waterproofs surfaces</b> <b>65%</b>	<b>E-13.01 Prepares waterproofing substrates</b>	<b>E-13.02 Applies waterproofing membrane</b>	<b>E-13.03 Installs green, sustainable, vegetative and protected membrane components</b>
<b>Task E-14</b> <b>Damp-proofs surfaces</b> <b>35%</b>	<b>E-14.01 Applies damp-proofing materials</b>	<b>E-14.02 Applies protection layer</b>	

## F – Assesses, maintains and repairs roof

**14%**

<b>Task F-15</b> <b>Assesses roof condition</b> <b>30%</b>	<b>F-15.01 Performs roof inspections</b>	<b>F-15.02 Performs cut test</b>	<b>F-15.03 Determines maintenance or repair required</b>
<b>Task F-16</b> <b>Maintains and repairs low slope roofing</b> <b>42%</b>	<b>F-16.01 Maintains low slope roofing</b>	<b>F-16.02 Repairs low slope roofing</b>	
<b>Task F-17</b> <b>Maintains and repairs steep slope roofing</b> <b>28%</b>	<b>F-17.01 Maintains steep slope roofing</b>	<b>F-17.02 Repairs steep slope roofing</b>	