

JOB TASK ANALYSIS



NRCA
PROCertification®

SERVICE AND MAINTENANCE TECHNICIAN



NATIONAL ROOFING CONTRACTORS ASSOCIATION





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Job Task Analysis for PROCertified® Service and Maintenance Technician Certification

Introduction

This document presents an in-depth Job Task Analysis for professionals who service and maintain roof systems. A committee of subject matter experts with extensive experience with these systems participated in developing this JTA to create the NRCA PROCertified Service and Maintenance Technician Certification. This document also adopts applicable knowledge, skills and abilities referenced in The NRCA Roofing Manual.

Purpose and Scope

This JTA defines the general body of knowledge, skills and abilities typically performed by professionals who service and maintain roof systems.

A JTA is a foundational document for developing all certification programs. It helps define the requirements for the assessment and credentialing of system installers, roofing foremen and roof service technicians. Further, it helps establish the requirements for recognizing or accrediting related training and educational programs and in developing curricula. The tasks listed in this document—or modified versions thereof—may be used by states or organizations that wish to develop requirements for education or training to qualify existing or new industry installers. This JTA is intended to be a robust but not exhaustive list of the knowledge, skills, abilities, and attitudes the NRCA expects from any qualified technician who service and maintain roof systems.

Limits and Exceptions

In general, the job tasks listed in this document are grouped into common themes, or domains, which include project safety; customer service; communicate; diagnosis, repair and document; roof system assembly; general work practices; housekeeping; roof system repairs—steep slope; roof system repairs—low slope. Note the safety, general work practices and communication domains are common to most system installations.

As noted, this JTA includes specific knowledge, skills and abilities for servicing and maintaining roof systems.

NRCA ProCertified service and maintenance technician certification is not a license to practice nor does it supersede any licensing requirements. It is assumed NRCA PROCertified service and maintenance technicians will comply with applicable federal, state and local laws and regulations. The tasks listed in this JTA will not all be relevant to every installation. Rather, they are meant as a comprehensive list of all tasks that could apply depending on the scope and complexity of any given installation. It also should be noted the tasks under each subsection are not necessarily listed in a prioritized order within a topic area.

Job Description for Service and Maintenance Technicians applicable to all types of roof systems:

1. Identify job-site safety hazards, properly set up safety equipment before work is performed and follow safety practices.
2. Assess the condition of the overall roof and its substructure to:
 - a. Identify areas of concern and potential future failures.
 - b. Identify roof damage(s), leaks and the source of the leak(s).
3. Work with service managers and crew members to repair roofs and complete roof upgrades so the roof complies with third parties’ specifications and meets customers’ satisfaction.
4. Document their findings and repair methods using reports supported by photos and sketches in ways that are accurate, complete and readable.
5. Communicate their findings and recommendations by sharing the appropriate information with the appropriate people at the appropriate level of detail in a timely manner.
6. Accurately document crew time and materials consumed.
7. Maintain an adequate supply of materials and working tools used in the diagnosis and repair of roofs.
8. Collaborate with and coordinate crew efforts to deliver quality work and customer satisfaction.
9. Train their crew in proper safety, repair and maintenance practices.
10. Have a general understanding of building construction, the elements and how the elements interact.
11. Have the physical ability to perform the work, such as climb ladders, work at heights, lift, carry up to 70 pounds and hear instructions and alarms.
12. May identify if additional maintenance is needed.

NRCA PROCertified Service and Maintenance Technician Examination Specifications

DOMAIN	DESCRIPTION	PERCENTAGE
1	Project safety	20%
2	Customer service	10%
3	Communicate	10%
4	Diagnose, repair and document	20%
5	Roof system and assembly	5%
6	General work practices	5%
7	Housekeeping	10%
8	Roof system repairs—steep slope (For the steep-slope designation only)	20%
9	Roof system repairs—low slope (For the low-slope designation only)	20%
	Total:	100%

Job Description	Given instructions for servicing and maintaining roof systems, a PROCertified® Service and Maintenance Technician must be able to:	
DOMAIN 1	PROJECT SAFETY	20%
<i>General workplace safety</i>		
1.1	Follow all employer and customer safety instructions, policies and rules.	
1.2	Participate actively in discussions with supervisors, service managers and crew about specific hazards likely to be found on a job site and their controls before the start of each day's work.	
1.3	Ask supervisors or a competent person to explain unclear safety instructions.	
1.4	Notify supervisors and other crew members immediately of any unsafe work conditions discovered during the repair and implement corrective actions, if feasible, to ensure the safety of others.	
1.5	Recognize when specific safety regulations published by the Occupational Safety and Health Administration or other organizations having jurisdiction apply to a given job site.	
<i>Specific workplace safety</i>		
1.6	Follow safe torching requirements if an open flame torch is used in any capacity and perform a fire watch per CERTA requirements.	
1.7	Use and maintain fall-protection system(s) following manufacturer's, customer's and employer's policies and instructions.	
1.8	Identify and document safety hazards, safety equipment and safety devices required to perform the work.	
1.9	Locate, review and maintain safety data sheets for all materials being used on the job.	
1.10	Select and wear the required personal protective equipment per employer and/or OSHA requirements.	
1.11	Maintain PPE following manufacturer's instructions and employer's and OSHA policies and procedures.	
1.12	Set up and inspect all safety-related equipment and devices such as guard rails and skylight fall protection.	
1.13	Determine safe and efficient roof access locations. If appropriate, select, set up and use ladders following manufacturer's, employer's and customer's instructions and policies before each day's use.	
1.14	Lift, move and set materials without injuring oneself or others or damaging property.	
1.15	Inspect all hand and power tools and equipment for damage prior to use.	
1.16	Tag and remove damaged tools or equipment from job sites and report them to supervisors and other crew members following employer's policies and instructions.	
1.17	Use hand and power tools according to manufacturer's instructions and employer's policies and procedures.	
1.18	Identify work processes that could generate static electricity hazards.	
1.19	Identify and avoid overhead hazards.	
1.20	Provide adequate ground fault circuit interrupter-protected power source.	
1.21	Identify, collect, package and dispose of hazardous materials per local requirements.	

DOMAIN 2	CUSTOMER SERVICE	10%
2.1	Confirm customers' expectations.	
2.2	Share the appropriate information at the appropriate level of detail with customers.	
2.3	Use words customers understand.	
2.4	Overtly acknowledge customers' concerns and needs.	
2.5	Check back with customers (status, answers to questions) in the time agreed on.	
2.6	Follow expected work practices (parking, housekeeping, work hours).	
2.7	Develop an appropriate working relationship with customers.	
2.8	Present a professional appearance.	
DOMAIN 3	COMMUNICATE	10%
3.1	Review work goals, tasks and objectives with crew each day.	
3.2	Inform home office about what was or was not done each day and report any additional maintenance items needed.	
3.3	Ask questions and clarify instructions.	
3.4	Notify home office when a problem arises or is bigger than expected.	
3.5	Ask for help when needed.	
3.6	Train or coach crew as needed.	
3.7	Use the employer's information and communication technologies.	
DOMAIN 4	DIAGNOSE, REPAIR AND DOCUMENT	20%
4.1	Begin investigations by examining at the inside/interiors before examining the roof's exterior. Interview the occupants about the problem history, if possible.	
4.2	Accurately diagnose, repair if possible and document the problem (leak source or damage).	
4.3	Assess the overall condition of the roof and document findings including warrantable and non-warrantable repairs.	
4.4	Accurately determine and properly document what can and cannot be repaired	
4.5	Accurately document time spent on tasks (timecards), materials consumed, and material and equipment failures.	
DOMAIN 5	ROOF SYSTEMS AND ASSEMBLY	5%
5.1	Correctly identify the roof system, its materials and components.	
5.2	Correctly identify how flashing details are constructed for each system.	
5.3	Explain generic roof systems, what distinguishes them and how they are installed.	

DOMAIN 6	GENERAL WORK PRACTICES	5%
6.1	Select, inspect and set up all tools, materials and equipment required to meet manufacturer's instructions and specifications.	
6.2	Ensure all substrates, membrane seams, and surfaces remain clean, dry and free of dust, dirt or other contaminants.	
6.3	Maintain, operate and use tools and equipment according to manufacturer's instructions.	
6.4	Confirm a safe, adequate power source for each tool before use, such as use electrical extension cords rated for power delivery that matches the power requirement of a tool.	
6.5	Select the required tools and equipment for a given task.	
6.6	Use tools and equipment only for their intended purposes.	
DOMAIN 7	HOUSEKEEPING	10%
7.1	Continuously remove debris generated by the work including from the immediate work area and other areas such as rooftop surfaces, curbs, HVAC equipment, skylights, grounds and other surfaces.	
7.2	Immediately clean spills of adhesives, solvents or chemicals created during the repair work.	
7.3	Wear and maintain clean footwear on all membrane surfaces and interior spaces.	
7.4	Make sure sharp-edged materials, fasteners, tools and equipment do not cut, puncture or scrape finished membrane surfaces.	
7.5	Protect all finished membrane surfaces and interior spaces, such as carpets, office equipment and walls from damage, dirt and other construction debris throughout a project's duration.	
7.6	Organize materials in the truck so space is optimized and materials easily located.	
7.7	Restock materials so work is completed on schedule.	
7.8	Clean tools and equipment after each use.	
DOMAIN 8	ROOF SYSTEM REPAIRS—STEEP-SLOPE	20%
8.1	Determine whether a roof system repair is necessary.	
8.2	Determine the installation sequence for all required system components.	
8.3	Stage and position all required materials, tools and equipment.	
8.4	Inspect all materials and accessories for damage; replace as necessary.	
8.5	Determine the source of debris, vegetation or contamination when a membrane surface has deteriorated as a result of accumulation of debris or exposure to contaminants and eliminate the source of contamination if possible.	
8.6	Remove and replace roof system components to return the roof cover to water-shedding condition.	
8.7	Correct isolated fastener deficiencies.	
8.8	Correct problems with attachment of roof-to-wall flashings and terminations.	

8.9	Repair or install roofing components such as metal edge flashing, drainage- related flashing, pipe flashing, roof drainage components and so forth.	
DOMAIN 9	ROOF SYSTEM REPAIRS—LOW-SLOPE	20%
9.1	Determine whether a roof system repair is necessary.	
9.2	Determine the installation sequence for all required system components.	
9.3	Stage and position all required materials, tools and equipment.	
9.4	Inspect all materials and accessories for damage; replace as necessary.	
9.5	Determine the source of debris, vegetation or contamination when a membrane surface has deteriorated due to accumulation of debris or exposure to contaminants and eliminate the source of contamination if possible.	
9.6	Cut and patch a roof system to return the membrane to watertight condition.	
9.7	Cut and patch fishmouths, ridges and buckles when membrane is damaged or visibly strained.	
9.8	Correct isolated fastener backout.	
9.9	Correct problems with attachment of wall and base flashings and terminations.	
9.10	Repair base flashing deficiencies.	
9.11	Repair or install roof system components such as metal edge flashing, penetration pockets, scupper flashing, liquid-applied pipe flashing, roof drainage components and so forth.	