

JOB TASK ANALYSIS



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ARCHITECTURAL METAL FLASHINGS AND ACCESSORIES INSTALLER



NATIONAL ROOFING CONTRACTORS ASSOCIATION





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Job Task Analysis for ProCertified® Architectural Metal Flashings and Accessories Installer Certification

Introduction

This document presents an in-depth Job Task Analysis for professionals who install architectural metal flashings and related accessories. A committee of subject matter experts who have extensive experience with installing these systems participated in developing this JTA to create the NRCA ProCertified® Architectural Metal Flashings and Accessories Installer 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 professional installers of architectural metal flashing components and related accessories.

A JTA is a foundational document for developing all certification programs. It helps define the requirements for the assessment and credentialing of system installers. 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 all-inclusive of the knowledge, skills, abilities and attitudes expected for any qualified installer of architectural metal flashings and related accessories.

Limits and Exceptions

In general, the job tasks listed in this document are grouped into common themes, or domains, which include project safety; general work practices and communications; system materials; tools and equipment; materials installation; and job-site housekeeping. Note the listed general workplace safety and general work practices and communication tasks are common to most system installations.

As noted, this JTA includes specific knowledge, skills and abilities for installing architectural metal flashing components and accessories and related components.

The NRCA ProCertified Architectural Metal Flashings and Accessories Installer certification is not a license to practice nor does it supersede any licensing requirements. It is assumed NRCA ProCertified Architectural Metal Flashings and Accessories Installers 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.



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**NRCA ProCertified® Architectural Metal Flashings and Accessories Installer
Examination Specifications**

DOMAIN	DESCRIPTION	PERCENTAGE
1	Project safety	20%
2	General work practices and communications	3%
3	System materials	5%
4	Tools and equipment	14%
5	Materials installation	55%
6	Job-site housekeeping	3%
	Total:	100%



Job Description		Given instructions for installing specific architectural metal flashings and accessories on a given project, a ProCertified® Architectural Metal Flashings and Accessories Installer must be able to:
DOMAIN 1	PROJECT SAFETY	20%
<i>General workplace safety</i>		
1.1	Comply with all employer’s safety instructions, policies and rules	
1.2	Participate actively in discussions with supervisors (such as foreman, superintendent or safety director) 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 to explain unclear safety instructions	
1.4	Notify supervisors and other crew members immediately of any unsafe work conditions discovered during construction and implement corrective actions, if feasible, to ensure safety of others.	
1.5	Recognize the specific safety regulations published by the Occupational Safety and Health Administration (OSHA) or other organizations with jurisdiction that may apply to a given job site	
<i>Specific workplace safety</i>		
1.6	Confirm fall-protection systems are set up during all construction phases	
1.7	Use and maintain fall-protection system(s) following manufacturer’s and employer’s policies and instructions	
1.8	Identify safety equipment and devices required to meet project requirements	
1.9	Locate safety data sheets (SDS) for all materials being used on the job	
1.10	Review and implement the information provided in SDSs	
1.11	Select and wear required personal protective equipment (PPE) when hazards are present	
1.12	Maintain PPE following manufacturer’s and employer’s policies and instructions	
1.13	Determine safe and efficient roof access locations	
1.14	Select, set up and use ladders following manufacturer’s and employer’s instructions and policies before each day’s use	
1.15	Lift, move and set materials without injuring yourself or others	
1.16	Use hand and power tools only after receiving training	
1.17	Inspect all hand and power tools and equipment for damage prior to use	
1.18	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	
1.19	Confirm an adequate ground fault circuit interrupter-protected power source for each tool before use	
1.20	Identify electrical hazards specific to sheet metal work	
1.21	Identify hazards when handling and cutting sharp-edged materials	



DOMAIN 2	GENERAL WORK PRACTICES AND COMMUNICATIONS	3%
2.1	Define basic roofing terminology	
2.2	Perform basic roof calculations and measurements	
2.3	Accurately follow all instructions given for a projects' specification	
2.4	Ask questions to review and clarify instructions	
2.5	Review work goals, tasks and objectives with supervisor to start each day	
2.6	Remain flexible when work conditions unexpectedly change	
2.7	Participate in and contribute to problem-solving discussions	
2.8	Collaborate with other team members	
2.9	Share work experience and knowledge with others	
2.10	Arrive at job sites on time	
2.11	Express ideas about ways to improve work processes	
2.12	Respect everyone	
2.13	Actively seek feedback on one's performance	
2.14	Notify supervisors when resources are running low	
2.15	Perform all tasks with pride and seek to achieve high-quality standards	
2.16	Take personal responsibility for and report mistakes	
2.17	Continuously seek and actively participate in education and training opportunities that enhance and grow a professional career	
DOMAIN 3	SYSTEM MATERIALS	5%
3.1	Explain the function(s) of various types of metal flashings and accessories	
3.2	Identify the various types of metal flashings and accessories	
3.3	Identify and select the materials and accessories required for a given specification	
3.4	Review and follow manufacturer's installation instructions provided with pre-manufactured flashings and accessories	
3.5	Identify underlayment types and coverage	
3.6	Identify various metal types including polymer-coated metals	
3.7	Describe the general working characteristics of various types of metal	
3.8	Identify incompatible metals, sealants, materials and substrates	
3.9	Recognize and separate incompatible materials to prevent adverse effect (such as galvanic corrosion, staining)	
3.10	Recognize potential hazards when handling and cutting materials	
3.11	Explain the effects of expansion and contraction on various metals	
3.12	Explain the effects different weather conditions may have when installing metal flashings and accessories	
3.13	Maintain protective film when storing and handling finished metal	



3.14	Recognize and react to defective or damaged materials following employer's policies and manufacturer's recommendations	
DOMAIN 4	TOOLS AND EQUIPMENT	14%
4.1	Select the required tools and equipment for a given task	
4.2	Inspect tool and equipment condition before every use	
4.3	Use tools and equipment only for their intended purposes	
4.4	Transport, set up, operate and maintain portable metal forming brakes, shears and roll formers	
4.5	Only operate powered tools and equipment that you have been trained to use and follow manufacturer's instructions	
4.6	Maintain tools and equipment per manufacturer's instructions	
4.7	Select electrical extension cords to match the power requirement of a tool	
4.8	Clean tools and equipment per manufacturer's instructions after use	
DOMAIN 5	MATERIALS INSTALLATION	55%
<i>General preparation</i>		
5.1	Set up and inspect all safety-related equipment and devices	
5.2	Determine the installation sequence for all required metal flashing and accessory components	
5.3	Stage and position all required materials, tools and equipment	
5.4	Inspect all materials and accessories for damage; replace as necessary	
5.5	Visually inspect wood nailers and substrate to ensure they are secure, firm, smooth, clean, frost-free and dry before installing materials	
5.6	Notify supervisor and other crew members immediately of any deteriorated substrate conditions discovered and implement corrective actions, if feasible, to ensure safety of others	
5.7	Repair wood nailer or substrate defects as instructed by supervisor	
5.8	Install various types of weatherproofing underlayments to meet job requirements	
<i>Metal flashing and accessory field layout and attachment</i>		
5.9	Determine metal component installation sequence and fit to meet project requirements and related manufacturer's instructions	
5.10	Confirm sealant locations and fastener types, lengths and pattern meet project requirements	
5.11	Cut, form and fold various types of metals in the field to ensure squared and tight fit without oil-canning or buckles	
5.12	Cut metal without damaging underlying materials	
5.13	Remove protective film from finished metal before attachment	
5.14	Set, align and fasten retaining clips and continuous cleats to meet project requirements	
5.15	Ensure all fasteners are driven in specified locations, flush and tight with all metal components and not under-driven or overdriven	



5.16	Set, align and attach all metal components to ensure water flows over lapped seams and not against them
5.17	Maintain continuously straight alignment with all metal lengths
5.18	Set, align and fully engage metal components into retaining clips and continuous cleats without gaps or loose connections
<i>Metal joinery</i>	
5.19	Confirm appropriate fastening methods for metal joints to meet job-site conditions
5.20	Crimp and lock metal joints to meet job-site conditions
5.21	Solder metal joints to meet job-site requirements
5.22	Identify locations and apply sealants or gaskets where required at all metal joints and seams to meet project requirements
5.23	Join metal components using various seaming methods <ul style="list-style-type: none"> • Overlapped standing seam • Single-lock standing seam • Double-lock standing seam • Capped standing seam • Flat-lock seam • Double flat-lock seam • Drive cleat seam • “S” cleat seam • Double “S” cleat seam • Cover plate seam • Concealed backer plate seam • Lap seam • Pittsburgh lock seam
<i>Metal flashing and accessory installation</i>	
5.24	Miter corners for all types of metal flashing and accessory components
5.25	Install sheet metal coping systems
5.26	Install sheet metal fascia systems
5.27	Install various edge metal profiles
5.28	Install reglets in or to masonry or concrete
5.29	Install various counterflashing profiles <ul style="list-style-type: none"> • Slip-type • Two-piece (receiver and counterflashing) • Raglet • Surface mounted
5.30	Install various types of expansion joint and area divider covers
5.31	Install sheet metal enclosures at penetration curb chases
5.32	Install open and through-wall scuppers and conductor heads



5.33	Install sheet metal flashing sleeves and rain collars at pipe penetrations
5.34	Install sheet metal penetration pockets
5.35	Install various profiles of metal valley flashings
5.36	Install chimney crickets and saddles
5.37	Install and solder flat seam panels
5.38	Install metal headwall flashings
5.39	Install various profiles of built-in gutters
5.40	Install externally attached gutters and downspout profiles and outlet tubes, including elbows, with various types of support straps and brackets
DOMAIN 6	JOB SITE HOUSEKEEPING 3%
6.1	Continuously remove all construction waste and debris from all substrates, roof surfaces, curbs, chimneys, vents, skylights or other surfaces
6.2	Immediately clean spills of mastics, sealants, solvents or chemicals from roof surfaces
6.3	Continuously maintain gutters or other roof drainage systems clear of materials or debris
6.4	Maintain clean footwear on all installed roof surfaces
6.5	Ensure sharp-edged materials, fasteners, tools and equipment do not cut, puncture or scrape installed roof surfaces
6.6	Protect installed roof surfaces from damage during installation
6.7	Immediately correct any incidental damage to newly installed metal materials following manufacturer's guidelines
6.8	Immediately mark and then report to a supervisor any roof system damage
6.9	Ensure every completed roofing project is left clean and free of scrap, excess fasteners, waste materials or other debris