



## Candidates Guide

*for*

## Certified Ventilation Consultant (CVC)

The Certified Ventilation Consultant (CVC) is an advanced, comprehensive certification targeted to highly qualified experts in the field of HVAC inspection, cleaning and restoration. This credential covers the knowledge, skills and abilities required to inspect, clean and remediate HVAC systems, combined with 5 years of industry field experience which include residential, commercial and institutional markets. This certification requires a working knowledge of HVAC systems, including basic operations and troubleshooting.

## **Introduction**

NADCA's ASCS certification was developed to recognize those industry professionals involved in the proper cleaning of HVAC systems, which has been very successful over the years. Today, many job specifications require that a certified ASCS be on a project. While the ASCS certification is both necessary and valid, a need has arisen for the industry to recognize an individual's scope of work involved in a complete HVAC inspection, cleaning, and restoration project beyond just the cleaning process.

This advanced certification provides individuals with the opportunity to be recognized for their knowledge and skill sets in managing a complete HVAC system cleaning project from initial scope of work, to project management, and through to completion within all building classifications. Individuals who hold this designation will be qualified to manage any type of HVAC cleaning project for all building types.

## **Who Is Eligible?**

In order to sit for the CVC examination, a candidate must first hold the ASCS, CVI and VSMR certifications. In addition, a candidate must demonstrate the equivalent of 5 years of industry experience.

## **Examination Description**

The examination consists of 115 multiple choice questions. Candidates will have 3 ½ hours to complete the exam. The passing score will be determined after review of statistical analysis following the first exam administration.

The content of the examination is based on a scientific survey of NADCA members, certificant holders, and industry professionals who engage in the practice of HVAC system inspection, cleaning and restoration. This survey evaluated the relative importance of the knowledge and skills that comprise the practice of managing an entire HVAC system cleaning project for all building classifications. The content areas tested, and their relative emphasis are provided in the examination content outline beginning on page three of this Guide.

### **Examination Delivery**

The CVC certification exam will be available at standardized testing centers around the globe. It will also be administered during NADCA's Annual Meeting and other scheduled training conferences. All pre-requisites must be met before an individual can sit for the exam.

### **Maintaining the Credential**

Candidates who successfully pass the exam will hold the designation for 5 years, and it will be renewable every 5 years. Candidates will renew by obtaining 40 continuing education credits (CECs) and submitting a renewal fee of \$495 member/ \$1200 non-member.

### **Recommended Reading**

This exam places a strong emphasis on field experience and knowledge. While the items listed below will assist in preparing for the CVC exam, this is not a comprehensive and exhaustive list of everything covered in the exam.

In addition to holding ASCS, VSMR and CVI certifications, candidates should review the following resource materials.

#### **NADCA Standards**

##### **ASHRAE**

- Standard 55 (thermal comfort)
- Standard 62.1 and 62.2 (ventilation air)
- Standard 52.2 (air filter standard)
- Standard 180 (HVAC inspection and maintenance)

##### **NFPA**

- Standard 90-A - Standard for the Installation of Air-Conditioning and Ventilation Systems
- Standard 90-B – Standard for the Installation of Warm Air Heating and Air-Conditioning Systems
- Standard 96 (Ventilation control)
- Standard 255 (Surface burning characteristic)

##### **SMACNA**

- HVAC Duct Construction
- Fibrous Glass Duct Construction

##### **NAIMA AH 122**

##### **IICRC**

- S-500 (water restoration)
- S-520 (mold remediation)

Air Diffusion Council Flexible Duct Performance and Installation Standard

## Examination Content

The content of the CVC certification is organized into four domains:

Domain	% of Questions
I. Project Management	14%
II. Health & Safety	15%
III. HVAC Equipment Inspection, Maintenance and Restoration	60%
IV. Standards and Guidelines	30%

*All exam items are referenced to the exam content outline below.*

### I. Project Management

- A. Project assessment
  - 1. Initial site visit
  - 2. Scope of work
- B. Other requirements
  - 1. Understand mechanical drawings and specifications
  - 2. Prepare take-offs
  - 3. Perform quality control audits according to current industry standards

### II. Health & Safety

- A. Employee safety  
Understanding OSHA requirements as they pertain to employee safety such as PPE, Lockout/tag out, GFCI, confined space, fall protection, etc.
- B. Environment safety  
Understanding proper environmental safety requirements applied during a project including but not limited to cross-contamination procedures, fire safety, engineering controls, project hazards, etc.
- C. Occupant safety
- D. Containment strategies
- E. Understand tool, equipment, and instrumentation use and safety

### III. HVAC Equipment Inspection, Maintenance and Restoration

- A. Understand HVAC systems  
Includes basic HVAC design theory, knowledge of all system components, system operation and controls, and general industry knowledge.
- B. Understand system components and restoration techniques  
To include types of coils, drain lines and pans, fans, types of ductwork, and all other components found within or part of the HVAC system.
- C. Inspection of HVAC systems  
Understanding types of equipment used, how to conduct an inspection, and reporting on the findings.

- D. Maintenance (cleaning) of HVAC systems
  - 1. Choosing appropriate cleaning techniques
  - 2. Understanding the use of tools and equipment
  - 3. Perform accessing and closing the system
- E. Restoration of HVAC system components
  - 1. Remove fiberglass insulation
  - 2. Re-line or re-insulate system components
  - 3. Refurbish components
- F. Products and supplies
  - 1. Provide and follow Material Safety Data Sheet (MSDS)
  - 2. Understand product application/limitation

#### IV. Standards and Guidelines

- A. Microbiological remediation guidelines
  - 1. Understand microbiological agents and concepts
  - 2. Understand factors associated with microbiological growth
  - 3. Establish remediation plan
  - 4. Understand factors contributing to microbiological development
  - 5. Work with professionals in contamination assessment, remediation and restoration
- B. Standards
  - 1. NADCA
  - 2. ASHRAE
  - 3. NFPA
  - 4. SMACNA
  - 5. NAIMA AH 122
  - 6. IICRC
  - 7. Air Diffusion Council Flexible Duct Performance and Installation Standard
  - 8. Understand regulatory agencies having jurisdiction
  - 9. Understand other applicable industry standards
- C. Guidelines
  - 1. NADCA Guidelines
  - 2. NYC DOH Guidelines
  - 3. NAIMA HVAC Fibrous Glass Duct Construction Guidelines
  - 4. NAFA Guide to Air Filtration
  - 5. Other Applicable Guidelines