



# **Installer Certification Handbook**

## **UFC Field Quality Assurance Program**

### **1. Scope**

Urethane Foam Consultants (UFC) Field Quality assurance program (FQAP) for spray polyurethane foam has been designed to provide a certification system to certify professional and competent installers of spray polyurethane foam. The UFC FQAP manual outlines the responsibilities of all of the parties involved. UFC is an IAS accredited personnel certification body in compliance with ISO 17024.

The intent of this program is to have sprayed polyurethane foam properly and professionally manufactured and installed in the field. This is accomplished by having a qualified, competent and professional installer meeting the precise requirements for the proper installation of spray polyurethane foam as outlined in the CAN/ULC S705.2, CAN/ULC S712.2 national standards and the manufacturer's instructions contained in the Manufacturers training manual. The obligations of the manufacturer and the installer are also identified. This handbook serves to summarize the pre-requisites, on-going requirements and re-certification steps required in order to maintain certification with UFC. .

### **2. Terms and Definitions**

#### *Accreditation*

Confirmation that a legal corporation has policies and procedures in place to meet the requirements of a certification scheme.

#### *Appeal*

Request by applicant, candidate or certified person for reconsideration of any adverse decision made by the certification organization related to her/his desired certification status.

#### *Candidate*

Applicant who has fulfilled specified prerequisites, allowing his/her participation in the certification process.

Certification administrator Person approved by UFC, competent to assess and approve an applicant for certification.

#### *Certification Process*

All activities by which a certification body establishes that a person fulfils specified competence requirements, including application, evaluation, decision on certification, surveillance and recertification, use of certificates and logo/marks.

#### *Certified Polyurethane Foam Sprayer*

Person who successfully passes the UFC written and field examination requirements for certification.

#### *Certification scheme*

All activities by which a certification body establishes that a person fulfils specified competence requirements, including application, evaluation, decision on certification, surveillance and recertification, use of certificates and logo/marks.

#### *Competence*

Demonstrated ability to apply knowledge and/or skills and, where relevant, demonstrated personal attributes, as defined in the certification scheme.



**Complaint**

Conformity assessment request, other than an appeal, by any organization or individual to a certification body, for corrective action relating to the activities of that body or to those of any of its customers.

**Evaluation**

Process that assesses a person’s fulfillment of the requirements of the scheme, leading to a decision on certification.

**Examination**

Mechanism that is part of the evaluation, which measures a candidate’s competence by one or more means such as written, oral, practical and observational

**Evaluators**

Individuals selected according to their experience and knowledge of the industry and the certification scheme, trained to administer written examinations and practicum evaluations.

**Qualification**

Demonstration of personal attributes, education, training and/or work experience

**Recertification**

Process of confirming conformity with current certification requirements.

**Scheme committee**

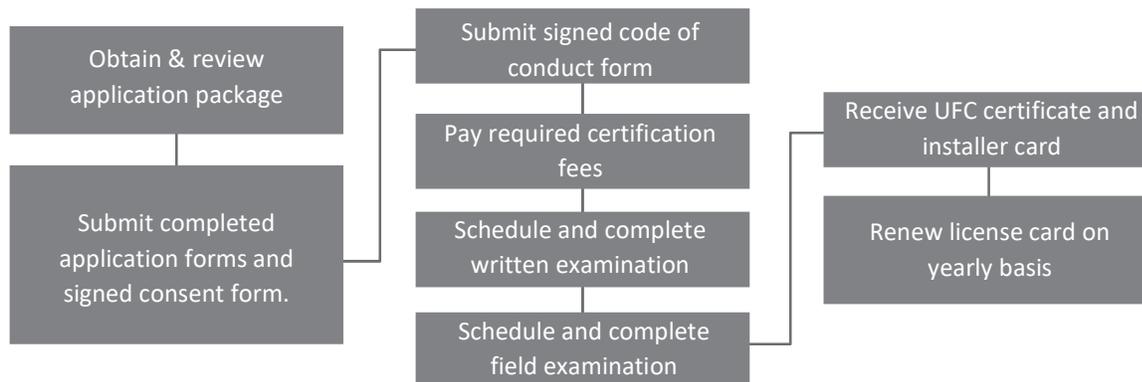
A group of stakeholders that provide input, recommendation, guidance and reviews of the certification scheme.

**Surveillance**

Surveillance is the periodic monitoring, between the periods of certification, of a certified person’s performance to ensure continued compliance with the certification scheme.

**3. Certification Process**

UFC uses product and installation standards along with installation specifications and combines these with the ISO 17024 quality standard to develop the requirements in the FQAP. The standards and specifications are used to form the backbone of the quality assurance program.





### 3.1 Summary of Qualifications

Installers wishing to achieve UFC Certification must demonstrate through written and practical evaluations, competency and knowledge of the following categories:

- Spray polyurethane product knowledge
- Equipment start-up, maintenance and adjustment procedures
- Job site setup and best-practices
- Health & Safety (Material Handling, PPE, Job Site, Regulatory Requirements)
- Field testing and quality control

An installer must successfully complete both written and practical evaluations in order to achieve a UFC certification. Should a failure be incurred in one of the evaluations, only the failed evaluation will have to be retaken.

#### Required Documentation

- Applicant must submit a completed and signed application form and code of conduct.
- Applicant must submit proof of \$2 million general liability insurance coverage. Any changes or updates to policy must be communicated to UFC.
- Applicant must submit payment of certification and evaluation fees.

The items above can be sent via email to [info@foamexperts.ca](mailto:info@foamexperts.ca)

### 3.2 Written Examination Procedures

The written test will be a multiple choice format test evaluating knowledge and skills in the following areas: material properties, equipment application and quality. The test area provided will include all supplies needed to complete the exam. The area will have adequate lighting, seating and working space to complete the test comfortably. Installers are required to achieve a minimum score of 67 out of 100 questions. A 3-hour time duration has been allocated. Below is a break-down of the content of the UFC written evaluation:

<u>Category</u>	<u>Weighting %</u>
Spray foam product knowledge	10%
Equipment knowledge	15%
Application knowledge	35%
Quality control	20%
Daily work recording	10%
Identification of sub-standard foam.	10%

#### 3.2.1 Test Results

The applicant will receive test results within 5-7 business days of completing the examination. Your scores will be based on out of 100 questions provided. A passing grade will be 67 questions correct out of the 100. The minimum passing requirement will be monitored and reviewed periodically by the scheme committee.

#### 3.2.2 Retesting

The applicant will be eligible to retake the test within 20 days; however the candidate / installer must present a letter from the manufacturers training provider stating that additional training has been given.

#### 3.2.3 Scheduling

Installer written evaluations are scheduled by UFC on a first-come, first-serve basis. We will endeavour to “batch” evaluations by geographic areas in order to minimize travel costs to installers. In order to secure your evaluation, please contact [info@foamexperts.ca](mailto:info@foamexperts.ca) or 905-702-2555.



### **3.2.4 Written Exam Fees**

The written examination fee of \$300 (plus applicable taxes) covers the cost of test delivery, provision of an appropriate location, review, production and scoring.

### **3.2.5 Allowed Documents during Examination**

The following is a list of items you are permitted to have with you and review during your examination:

- Training organization SPF manuals
- CAN/ULC S705.1 or/and S712.1 Standard
- CAN/ULC S705.2 or/and S712.2 Standard
- Manufacturer Instructions, guidelines and technical data sheets
- Equipment Manufacturer Operating Guidelines
- Light Density Installer's Manual

The following is a list of items you are not permitted to have during your examination:

- Papers or books other than the materials listed above.
- Food, beverages, bags (including pocketbooks and purses), or electronic devices

### **3.3 Field Test Evaluation**

The installer will be required to demonstrate and provide documentation proving a minimum required set of skills and understanding in order to obtain an installer certification. All required equipment and safety equipment needed to perform the examination will be provided by UFC

The Practicum evaluation can be done in a mockup situation or in the field (surveillance Audit). The installer will be observed and the evaluator will record whether the installer was installing the product correctly. The field exam will also include a series of major and minor skills. The installer will need to show compliance to all major skills in order to pass the examination. The installer must also show compliance with the minor skills. During the examination should the installer receive more than 100 demerit point from minor skills the examination will also be deemed a failure. The installer can inquire about major and minor skills by contacting the manufacturer's training provider. Installer will be required to show compliance with all of the CAN/ULC S 705.2 installer requirements.

#### **3.3.1 Required Documentation and Equipment**

As part of the UFC practical evaluation, the following items must be available:

1. Daily Work Records
2. MSDS for all materials
3. Technical Data Sheets
4. Job Site Label
5. Site test kit, meeting the requirements of CAN/ULC S705.2
6. Temperature (ambient and surface) meter, humidity meter and anemometer.

Should the candidate not have the above materials available, UFC can arrange to provide the required items. The candidate should inform UFC, in writing, at least 14 days prior to the evaluation, of what items that are unavailable.

#### **3.3.2 Suspension of Evaluation**

The UFC evaluator may choose to suspend the practical evaluation on the basis of the following factors:

1. The health and safety of the installer, evaluator or bystander is in jeopardy.
2. The required PPE, equipment or suitable work area is not available.
3. The equipment has suffered a catastrophic failure that cannot be repaired in a reasonable time frame.
4. The environmental conditions are not suitable for application of spray foam.



### **3.3.1 Test Results**

The applicant will receive test results within 5-7 business days of completing the examination. The failure point for the practical evaluation is 100 demerit points. The minimum passing requirement will be monitored and reviewed periodically by the scheme committee.

### **3.3.2 Retesting**

The applicant will be eligible to retake the test within 45 days; however the candidate / installer must present a letter from the manufacturers training course stating that additional training has been given. The candidate is responsible for paying all of the associated costs (testing cost, travel expenses) in order to retake the evaluation.

### **3.2.3 Scheduling**

Installer practical evaluations are scheduled by UFC on a first-come, first-serve basis. We will endeavour to “batch” evaluations by geographic areas in order to minimize travel costs to installers. In order to secure your evaluation, please contact [info@foamexperts.ca](mailto:info@foamexperts.ca) or 905-702-2555.

### **3.2.4 Practical Exam Fees**

The practical examination fee of \$200 (plus applicable taxes) covers the cost of test delivery, review, production and scoring. UFC is not responsible for the provision of a spray rig, provision of chemical or mock-up assembly for the delivery of the practical evaluation.

### **3.3 Travel Expenses**

The evaluation costs detailed above do not include the expenses associated with delivery. UFC will be the installer directly for the costs associated with test delivery and travel. Should multiple installers be present at an evaluation, UFC will evenly divide the travel expenses amongst the installer who attend. Travel expenses must be paid prior to the installer receiving their certification card.

## **4. Certification Maintenance**

Upon successful completion of the UFC certification requirements, the installer will be granted a certification valid for 5 year period. In order to maintain the certification in good standing, the installer must agree to meet the following requirements:

1. Comply with all regulations and process set forth in the UFC certification scheme ( i.e. surveillance audits, inspection and re-certification).
2. Install the product according to the CAN/ULC S705.2 application standard and any other application standard or specification that is relevant.
3. To make claims regarding certification only with respect to the scope for which certification has been granted (application of spray-applied polyurethane foam insulation).
4. Not to use the certification in such a manner as to bring the certification body into disrepute, and not to make any statement regarding the certification which the certification body considers misleading or unauthorized;
5. To discontinue the use of all claims to certification that contain any reference to the certification body or certification upon suspension or withdrawal of certification, and to return any certificates issued by the certification body;
6. Not to use the certificate in a misleading manner.
7. Advise the supervisor or contractor of any potential problems with the installation of the spray polyurethane foam material.
8. Provide all information requested to the UFC evaluator.
9. Approve UFC to provide current installer certification status to interested parties.
10. To only install spray polyurethane foam material which meets the appropriate standard or has received a Canadian Construction Material Center (CCMC) Evaluation Report or Listing.
11. Certified installer is to notify UFC of any changes to: personal or business contact information, insurance policy and current employer.
12. Daily Work Records are to be completed in full and retained for a period of 7 years by each spray foam contractor. Daily Work Records are to be submitted to UFC upon request.



13. The installer is subjected to a short-notice field evaluation once during the 5 year certification period. This surveillance audit is intended to verify that the certified installer is applying material in compliance with the current national standards, and the guidelines of the UFC quality assurance program.

Urethane Foam Consultants will evaluate the installer's compliance with the above requirements through short-notice surveillance audits as well as period reviews with distributors and chemical manufacturers.

## **5 Industry Standards**

The current national standards are CAN/ULC S705.1 including amendments 1 and 2, CAN/ULC S712.1 for the material and CAN/ULC S705.2, CAN/ULC S712.2 for the installer's responsibilities or application. These standards are published by Underwriters Laboratory of Canada and are listed in the National Building Code and the provincial building codes. The CAN/ULC 700 Task Group Committee continues to review the standards and the industry installation specifications to ensure they are current. The Canadian Construction Materials Center (CCMC) has published a Technical Guide for Spray Polyurethane Foam Insulation. This guide is also used as part of the UFC FQAP.

## **6 Specifications**

CAN/ULC committees have developed specific application installation specifications for the Industry. These specifications have been published for use by the industry. Specifications form an important part of ensuring that a quality installation is performed. The specifications always build on the national standard, but it allows much more detail for a particular application to be included. Each specification is focused on a particular application. As the specifications are much more specific, they are updated on an ongoing basis as new information is received from the field, suppliers, and research institutions. UFC provides these specifications to interested parties in both a hard copy and an electronic format. The specifications include a general specification for the requirement of the UFC. This is done in the master specification format so the user can "drop" the UFC specification into a job specification.

## **7 Educational Requirements**

One of the core principles of the UFC certification program is the assurance of knowledge and competency of each installer. The written and field evaluations are designed to provide an evaluation of the installer's knowledge of health & safety, material, application and practical skill. In order to meet the requirements of the program, the installer must provide proof of training by the manufacturers approved training program. Manufacturers can elect to provide their own training, or utilize a third-party, but the content must be compliant with the CAN/ULC S705.2 recommended topics.

Should an installer have already attended a manufacturer's training course, they have the option to "challenge" the tests. This allows them to attempt to complete a written and field evaluation, upon successful complete of which will earn them a license card and certification.

Education is an on-going requirement of the UFC certification process. UFC will work with the manufacturers, contractors and installers to ensure all parties have the most up to date information available.

### **7.1 Learning Objectives**

At the completion of the manufacturer's training program the participant should be able to:

- Describe how codes and standards are used and describe the most common ones used in the construction industry
- Describe the responsibilities of a certified installer
- Describe PPE implementation and product stewardship
- Describe the following in detail : MSDS, WHIMS and product labels



- Describe proper substrate conditions for application of specific spray polyurethane foam insulation materials
- Describe appropriate application technology
- Describe what is required for continuity / compatibility of components
- Describe detailed installation requirements
- Describe equipment components and their use
- Describe and conduct all required testing and site compliance inspections
- Describe and correctly complete all required documentation and reporting
- Describe trouble shooting requirements .

## 8 Field surveillance audits & Inspections

Field surveillance audits or installer site inspections may be conducted by UFC or a third party independent laboratory with inspectors that are approved Inspectors under the UFC quality assurance program. These random field surveillance audits are designed to ensure that the consumer is provided with a quality product in accordance with the national standards for material and installation, the manufacturer's instructions, any applicable installation specifications and the requirements of the UFC FQAP

### 8.1 Frequency of Field Audits

The number of field inspections will depend on the competence shown by the installer the initial assessment and feedback obtained by the UFC office. Should the installed pass the audit will be repeated at a minimum of every 5 years when the installer re-certifies

### 8.3 Skill Requirements and Demerit Points

The following is a list of necessary skills and installer must show the Inspector. The inspector may assess demerit points to the installer should the skill requirement not be met. The following is a summary of equipment and processes that the evaluator will assess during the surveillance audit.

#### UFC Surveillance Audit \* key skill major non conformance

- |   |  |
|---|--|
| - Fresh air respirator (in use) <b>(Key Requirement)</b>      | - Installer verified humidity (<80%)                                   |
| - Body Protection   | - Installer verified substrate temperature                             |
| - Safety Shoes  | - Installer has demonstrated density test                              |
| - Gloves  | - Drum Temperature   |
| - Safety Signs and Barrier Tape in position                   | - Hose Heat  |
| - Density Check <b>(Key Requirement)</b>                      | - Machine Temperature (Pre-heaters)                                    |
| - Adhesion Cohesion Check                                     | - Pressure Setting   |
| - Job Site Label  | - Power Up Equipment <b>(Key Requirement)</b>                          |
| - Analytical balance (0.01 g resolution)                      | - Fire extinguisher availability:                                      |
| - 50gr. Calibration weight                                    | - Spill containment materials available (on truck)                     |
| - Graduated cylinder (1000 ml min size, 10 ml max graduation) | - Manufacturer's instructions  |
| - Circular disk or hook (70mm max diameter)                   | - MSDS   |
| - Coring tool (70mm inside diameter)                          | - Technical Data Sheets Present  |
| - Calculator  | - Equipment manufacturer instructions                                  |
| - Thermometer and hygrometer                                  | - Foam surface smooth and consistent thickness                         |
| - Thickness gauge / test                                      | - Retrofit Installation Requirements:                                  |
| - Daily work sheet completed                                  | - Spray area isolated (Only apply to retrofit installation)            |
| - Ambient temperature verified                                | - Vents blocked (Only apply to retrofit installation)                  |
| - Wind speed verified   | - Verify ventilation is in place (Only apply to retrofit installation) |



- 15 min. eye wash station
- Installer has valid UFC card present
- Job Site Label
- Unsafe / Improper handling of drums  
**(Key Requirement)**

Should any above the above-indicated “key requirements” not be met during the surveillance audit, the installer will automatically be given a failure. They will be advised that they are to comply with remedial action set out by UFC in order to maintain their certification.

### **9. Certification Equivalency**

At this point UFC will not be excepting certification by another third party. Each installer must complete the written and practical evaluations in order to achieve UFC certification.

### **10. Qualified Trainers and Proxy’s**

It is critical that a high level of professionalism be maintained. To ensure this, UFC will work with the manufacturers to ensure they only use evaluators who have worked in all facets of the industry and have a minimum of 5 years minimum experience or certified to ISO 17020 with one year of site evaluation experience. The training program will be constantly monitored and updated on an annual basis. New entrants into the industry can be taken through a training session to become competent installers. This training program combines classroom instruction with follow up training in the field under the supervision of a “UFC qualified inspector”.

### **11. Installer UFC Certificate**

Upon completion of the training the Installer will receive a UFC Certificate. The Certificate indicates that the installer is certified by UFC. The certificate will outline that the installer has meet the requirements of UFC and is certified by an ISO 17024 certification body. Should the installer found to be not in compliance with the UFC Certification requirements, they will be required to forfeit the certificate to UFC upon request.

### **12. Scheme Committee**

The Urethane Foam Consultants Field Quality Assurance program is continually evolving with input from the scheme committee. The members of the scheme committee shall be comprise of the following individuals: The UFC management team plus but not limited to one elected individual from each manufacturer using UFC’s services. The maximum number of people on the scheme Committee at any time shall be six, if necessary to meet the six person limit, the number of persons sitting on the scheme committee shall be reduced accordingly excluding UFC personnel removal.

The scheme committee periodically reviews policy and procedures, but is not involved in the assessment of demerit points, suspension of certification or licenses, or re-instatement criteria, which are all to be administered by the UFC General Manager.

The scheme committee will be responsible for policy-making governing the development and operation of the UFC Quality assurance program. The scheme committee will meet as required at least once a year to review the UFC Field Quality assurance program

### **13. Conclusions**

The UFC has been designed to be an industry-run program ensuring the consumer consistently receives a quality product.

#### **13.2 General Objectives**

The Program meets the requirements of all governmental agencies by providing a comprehensive UFC Field Field Quality assurance program to benefit the consumer. The Program constantly monitors the product and the installers through the database and the field inspections. This guarantees that the skills



learned in the training sessions are maintained and used in the field. The program through its constant monitoring will notice trends and identify concerns before problems are created and allow the industry to take the necessary steps to correct the situation.

The Program satisfies the consumer or end-user of the spray polyurethane foam insulation system that it has been installed to the highest quality standard. The installer can open new markets as he/she will be able to provide the level of consumer confidence required to expand the use of the product.

### **13.3 Monitoring and Evaluation**

Constant feedback from consumers, manufacturers / suppliers, installers, inspections, and daily work sheets will allow for a continuous monitoring and evaluation of the UFC Quality assurance program. This feedback will be used to adjust and refine the UFC Field Quality assurance program on an ongoing basis. UFC will evaluate feedback as part of the annual management review.

