



EIFS Quality Assurance Program Inc...

...a collaborative initiative!

**EIFS Protocol Document, an overview of the critical elements of the EIFS
Industry's Quality Assurance Program.**

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The Quality Assurance Program (QAP) Practice Manual represents the program's primary and most comprehensive document. The intent of the Practice Manual is to provide those companies that are participants in the program a clear and detailed understanding of duties and responsibilities within the program.

The QAP Protocol Document represents a condensed and abbreviated summary of the EIFS Industry Quality Assurance Program. It is the intent of this document to familiarize interested audiences with a general understanding of the program's structure as well as with the various groups that are integrated into a comprehensive and collaborative quality assurance process.

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1. Executive Summary

1.1 History of the EIFS Council of Canada (ECC)

The ECC was founded in 1987 to provide an industry forum and the basis for the development of new technologies resulting in the continuous improvement of Exterior Insulation & Finish Systems.

The EIFS Industry and manufacturer members specifically, have and will continue to invest significantly in product and systems development. These investments have been made on both an individual and cooperative basis, and include;

- Participation in the MEWS study with NRCC.
- Wall performance study conducted by Oak Ridge National Laboratories.
- Development of CCMC Technical Guide for EIFS.
- Development of Standard Specifications for the installation of EIFS.
- Development of the ULC 716 family of Standards.
- Technical bulletins on EIFS to address a range of fundamental industry subjects.
- Design and development of the EIFS Quality Assurance Program.

1.2 Current Business Situation Analysis

The corporate structure of the ECC was modified to encourage growth of the Council into a responsive, national organization. Since this initiative, the membership has expanded to include over 90 members representing manufacturers, contractors, distributors, component suppliers and consultants across five provinces. The Board of Directors has been re-configured to represent both the regions of Canada as well as the segments of the industry appropriately

The EIFS Council has been and continues to deliver presentations on the EIFS-QAP throughout the contractor community to introduce the program and solicit input.

1.3 Rationale for the EIFS – QAP

Over the past 25 years EIFS has become an extremely popular choice among wall claddings. Over 4 billion square feet of EIFS have been installed in commercial and residential construction in North America over this time frame. An even greater volume has been installed in Europe which pre-dates the introduction of EIFS to North America. EIF systems are cost effective versus alternative claddings, lightweight and extremely versatile in terms of design freedom and environmentally friendly. EIFS inherently provide an effective thermal layer at the outermost part of the building envelope and thereby offer the greatest thermal efficiency possible among cladding options. In today's marketplace EIFS options include multiple elements of protection against moisture ingress, such as secondary weather resistive barriers and drainage mechanisms to facilitate exit of incidental moisture that may breach the exterior plane of the wall assembly such as at window and jointing details.

The origin of EIFS dates back to post WWII Europe where thermal efficiency, speed of installation and a lightweight nature all represented attractive attributes in rebuilding a devastated landscape.

In today's marketplace there appears to be a full circle return to designing and constructing structures with utmost respect for our environment as design professionals explore ways to provide carbon neutral architecture.

In keeping with the construction industry's renewed commitment to sustainable and durable design, the EIFS industry through introduction of a Quality Assurance Program intends to re-affirm its position as a cladding option of choice based upon dedication to quality assurance from design through manufacturing of materials to assembly and in-place performance.

1.4 Proper interfacing is Fundamental

The development of the EIFS-QAP has been undertaken with the understanding that correct interface between cladding components such as EIFS and fenestration is fundamental to the program and its intended goals. As with all enclosure systems, the appropriate connection of air/vapour and moisture barriers incorporated within the EIFS assembly to sub-assemblies consistent with code requirements is critical to protect against moisture intrusion.

The EIFS contractor recognizes the importance of these interface details and will assume responsibility for the execution of the interface connections consistent with code, fundamental building science and good construction practices.

1.5 EIFS-QAP – A Living Document

The EIFS-QAP is intended to be a living program. As the program is delivered across Canada, feedback from users shall be used to continually strengthen and enhance the program.

Changes to the program will be considered and implemented on an annual basis as an element of continuous improvement.

2. Quality Assurance Program Overview

In November 2006, the EIFS Council of Canada formed a corporation called the EIFS Quality Assurance Program Inc. (EQI). EQI owns the rights to EIFS-QAP and will be responsible to monitor and ensure appropriate program administration.

2.1 EIFS-QAP Key Components

- **Research & Development** – R & D is carried out on a continual basis by EIFS manufacturers.
- **Standards & Specifications** – Both the recognition of existing relevant standards and the development of new standards and specifications as required.
- **Manufacturer Evaluations & Licensing** – The manufacturer's products and systems are evaluated against established criteria and if successful the manufacturer is licensed to use the QAP logo in promotional materials.
- **Contractor Accreditation & Licensing** – The EIFS trade contractor is accredited based upon compliance with all administrative procedures and processes required by QAP and is licensed to use the QAP logo in promotional materials.
- **Installer Certification** – EIFS mechanics (individual workers) undertake a certification process in accordance with ISO 17024 Conformity Assessment whereby their knowledge of EIFS installations is confirmed against installation standards and manufacturer's instructions.
- **Documentation** – The mechanic is required to document the installation process in order to confirm that the project requirements as they relate to installation have been met.

- **Site Audits** – Each project will have site audits conducted according to the frequency outlined in the program. Site audits shall be conducted in accordance with ISO 17020 General Criteria for the operations of individuals performing inspection.
- **Conflict Resolution** – Conflict resolution is an integral part of the EIFS-QAP and includes an appeal process as a fair and reasonable means of assessing and allocating responsibility.
- **Data Base** – Results of site audits will be tracked to assist all parties in continual improvement.
- **Financial Instrument** – Manufacturers and contractors are both required to put in place a financial instrument as a mandatory element of program entry.
- **3rd Party Warranty** – The program includes a 3rd party warranty, which provides coverage when the manufacturer and/or contractor is/are unable or unwilling to correct defects.
- **Continuous Improvement** – The EIFS-QAP is a living program which will utilize feedback and input from its users for continual improvement of the program.

2.2 Program Administration

The day to day administration of the program is to be provided by Building Professionals Consortium (BPC), headquartered in Winnipeg, Manitoba. BPC has provided consulting services for the development of the EIFS-QAP. BPC provides administration services to a number of site quality assurance programs in the construction marketplace..

The EIFS-QAP is similar to effective programs currently in use by several other organizations. These organizations include; Canadian Urethane Foam Contractors Association, National Air Barrier Association and Air Barrier Association of America.

Experience has shown that quality assurance programs are only effective when they include and operate with all components working interactively together to properly manage risk. None of the components of a quality assurance program can be effective when implemented independently. Only when active as a coordinated system of checks and balances can the overall goal of the program be realized as a means of ensuring compliance with established guidelines and thereby achieving the program's objectives.

2.3 CMHC (Canada Mortgage and Housing Corporation) Best Practice Guide

EIFS-QAP shall be implemented in keeping with the intent of CMHC's Best Practice Guide for EIFS as a minimum requirement in all phases of EIFS installations, including but not limited to requirements for design, materials and installation.

The CMHC Best Practice Guide for EIFS provides a baseline for the industry to work from, guidance to the design professional and direction to the EIFS mechanic. This document is also a living document and shall incorporate modifications and additions as deemed appropriate to reflect industry advances.

This CMHC Best Practice Guide outlines design and installation requirements for the EIFS-QAP.

2.4 EIFS-QAP Program Objectives

The objective of the EIFS-QAP is to provide the building owner with a cladding, which as performs as intended, giving the long-term satisfaction and superior performance of the chosen Exterior Insulation & Finish System, by;

- a. Holding the designer, general contractor, EIFS trade contractor and mechanics, EIFS manufacturer and associated parties to a common program of quality control and continuous improvement in the manufacture, design and installation of EIFS.
- b. Requiring designers to provide comprehensive project specifications and design details as a standard policy.
- c. Implementing mandatory safeguards at five key stages of the project development, notably; design, tender, award, pre-construction and execution.

2.5 Participants in the EIFS-QAP

All of the participants in the successful completion of an EIFS installation have specific responsibilities.

Installation starts with the design professional producing comprehensive and detailed project documents.

The manufacturer providing proof of having a valid CCMC Evaluation Report, ensuring EIFS materials supplied will perform as intended.

The EIFS contractor procuring the required materials as directed by the manufacturer, using trained and certified labor as outlined in the EIFS-QAP and installing the EIF system in accordance with the installation standard and manufacturer's instructions.

2.5.1 Designer's Responsibilities.

Architects and professional design consultants are intended to be strategic partners in the EIFS-QAP process.

The architect or professional design consultant will be encouraged to participate in the EIFS-QAP by;

- a. Attending educational sessions developed or sponsored by EIFS-QAP.
- b. Provide appropriate designs for the application of EIFS in agreement with the CMHC Best Practice Guide.
- c. Provide designs that are consistent with manufacturer guidelines while addressing the specific needs of the project.
- d. Provide dedicated attention to the sequencing of EIFS materials assembly to permit proper installation.

2.5.2 Manufacturer's Responsibilities.

The manufacturer shall comply with the specific requirements of the program. The manufacturer's compliance will be objectively and independently monitored by BPC.

The Manufacturer shall;

- a. Obtain, maintain and provide proof of having a CCMC (Canadian Construction Materials Center) evaluation report for their system.
- b. Provide installation instructions and details that comply with industry standards and the CMHC Best Practice Guide.
- c. Consistently uphold the principles of the EIFS-QAP.

- d. Provide the building owner with a five year warranty on EIFS materials.
- e. Participate in conflict resolution procedures and comply with directives from the EIFS-QAP and/or 3rd Party Warranty provider.
- f. Certify their Technical Sales Representatives in accordance with the Certification Scheme specifically created for manufacturer sales personnel.
- g. Have their marketing or technical documents registered with the EIFS-QAP to confirm compliance with EIFS-QAP requirements.
- h. Provide a financial instrument to the EIFS-QAP to be used in the event the manufacturer is unable or unwilling to address defects deemed to be the result of its product's failure.

2.5.3 EIFS Contractor's Responsibilities.

The EIFS contractor shall comply with the specific requirements of the program and their compliance will be objectively and independently monitored by BPC.

The Contractor shall;

- a. Meet the criteria set out in the EIFS-QAP for accreditation.
- b. Based upon their ranking level within the Contractor Ranking Matrix, provide a financial instrument to EIFS-QAP in the pre-determined and appropriate amount.
- c. Employ at least one full time EIFS-QAP certified site foreperson per EIFS-QAP governed project.
- d. Maintain the correct ratio of apprentices to EIFS-QAP mechanics on all EIFS-QAP governed projects.
- e. Install only complete "systems" as declared by the EIFS manufacturer and using only manufacturer approved materials and components.
- f. Adhere to the CMHC Best Practice Guide for EIFS.
- g. Provide a five year installation warranty.

- h. Participate in conflict resolution procedures and comply with directives from the EIFS-QAP and/or 3rd Party Warranty provider.
- i. Attend and participate in all pre-construction meetings.
- j. Cooperate with EIFS-QAP site auditors.
- k. Include the supply and installation of components that form the “interface gap” from the weather resistive barrier outward.

2.6 Applicable Warranties

The building owner shall benefit from three warranties provided on all QAP governed projects. These include;

- i. A manufacturer’s minimum five year warranty on all EIFS materials.
- ii. A contractor’s five year warranty on installations of EIFS.
- iii. A 3rd Party Warranty where the manufacturer and/or contractor are unable or unwilling to comply with EIFS-QAP directives.

2.7 Site Audits

The EIFS-QAP will require timely, random site audits as an integral part of the program. Site audits will be conducted by independent professional consultants who report directly and independently to the QAP administrator, i.e. BPC and when necessary to the designer, general contractor and/or owner.

3. Benefits of Manufacturer Evaluation and Licensing, Contractor Accreditation and Licensing and Mechanic Certification.

Increased awareness and monitoring of designs, materials and installation techniques will benefit all participants in the program, but the ultimate beneficiaries will be building owners.

The EIFS-QAP sets out requirements for the designer, manufacturer, contractor and mechanic. By having the manufacturer evaluated and licensed by the program, the contractor accredited and licensed by the program and the mechanic certified by the program, along with the designer and general contractor, all parties work collaboratively together to produce an EIFS installation that performs as intended. This working

relationship will result in continued performance and improvement of the industry.

4. Benefits of QAP to the Design Community and Their Insurers.

A formal design document shall enable the professional designer to access information over and above what is provided by the system manufacturers. This will enable them to design more effectively and to have the means for review of their own designs.

The industry, guided by the principles of the EIFS-QAP shall complete the development of the CAN/ULC S716 family of National Standards for EIFS, which are expected to be referenced in the National Building Code.

A conflict resolution process shall address disputes in the course of a project in a timely and efficient manner.

The EIFS-QAP shall monitor all parties to ensure compliance with the program, standards and requirements. When required, EIFS-QAP will issue compliance directives.

Random site audits are structured to ensure compliance to EIFS-QAP.

5. Marketing EIFS-QAP on a National Basis.

- It is intention of the EIFS Council of Canada to introduce the EIFS-QAP on a regional basis beginning with the Ontario market. Once its introduction has progressed sufficiently, the program will be marketed nationally to all industry stakeholders, including; professional liability insurers, new home warranty providers and the general construction industry.