



LC-102
Concrete Laboratory and Technician
Certification Program

This document has been issued by the CCIL Certification Office and has been approved by the Concrete Certification Program Administration Committee (CPAC).

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Concrete Laboratory Certification Program

1.0 Introduction

1.1 Background

- 1.1.1 The concrete laboratory certification program is intended to provide a means of independent evaluation of the concrete testing laboratory's capabilities to test concrete materials, plastic concrete and hardened concrete in compliance with CSA Standard A283-24, "Certification of laboratories for concrete" and the requirements of this document, Where the requirements of CSA A283-24 and this document differ, the requirements of this document shall take precedence. The objective of testing concrete materials is to determine whether the properties measured are in compliance with applicable standards and project specifications.
- 1.1.2 The certification program is open to all concrete testing laboratories providing design, quality control and/or quality assurance services. Laboratories will be charged an annual maintenance fee and a fee for the annual or biennial audit to cover the overall costs involved.

1.2 References

- Canadian Standards Association (CSA) Standard A283-24, Certification of laboratories for concrete, published in December 2024.
- Canadian Standards Association (CSA) Standard A283.2-24, Test methods and Standard Practices for concrete, published in June 2024.

1.3 Definitions

- Laboratory: a workplace that performs one or more of the following activities:
 - testing,
 - calibration,
 - sampling; associated with subsequent testing or calibration.
- Permanent Laboratory: a laboratory located in a non-movable structure on a fixed foundation.
- Mobile Laboratory: a laboratory located in a movable trailer capable of being relocated, without a fixed foundation and usually connected to on-site utilities.
- Certification: to attest meeting the CSA A283-24 standard as identified by the CCIL Concrete Certification Program Administration Committee (Concrete CPAC) and the LC-102 – Concrete Laboratory and Technician Certification Program.
- Audit: the procedure contained in CSA A283-24 and LC-102 required to grant, maintain or amend certification.
- Inspection: the visit (virtually or in-person) by a qualified individual reporting to the Certification Program Manager to verify compliance with the requirements of CSA A283-24 and LC-102. The product of the visit is a Compliance Report provided to the laboratory.

2.0 Responsibilities of the CCIL Board of Directors

The Board of Directors (BOD) of CCIL is responsible for

- The overall management of CCIL and approval of corporate wide procedures and policies.
- The appointment of the Certification Program Manager, ensuring the Certification Program Manager is qualified and a Professional Engineer.
- Ensuring that an independent audit of the certification program is conducted annually to verify that the operation of the certification program complies with the requirements of CSA A283.

3.0 Responsibilities of the Executive Committee of the CCIL Board of Directors

The Executive Committee is responsible for the overall administration of the concrete laboratory certification program and handling all disputes that arise from decisions on appeal. The Executive Committee is responsible for approval of the members of the Concrete CPAC and for determining the annual fees assessed to applicants and the certified laboratories. The Executive Committee, in consultation with the Concrete CPAC, shall have final judgment on all cases of potential conflicts of interest that have been referred to the Executive Committee by CPAC.

4.0 Certification Program Administration Committees (CPAC)

- 4.0.1 The Concrete CPAC reports to the Executive Committee and provides technical support for the operation of the CCIL Concrete Laboratory Certification Program. Membership of the Concrete CPAC as well as changes in the existing Concrete CPAC membership is approved by the Executive Committee and reflects the geographic aspect of the program.
- 4.0.2 The mandate of the Concrete CPAC is to establish and direct the technical elements of the Certification Program. The operation of the Concrete Laboratories Certification Program is managed by CCIL's Certification Program Manager. The Concrete CPAC shall provide technical direction to the Certification Program Manager for delivering the program. The Concrete CPAC is also responsible for the withdrawal of certifications, based on the recommendations of the Certification Program Manager.

4.1 Duties and Responsibilities of CPAC

- 4.1.1 The Concrete CPAC shall address all potential conflicts of interest as identified by the Certification Program Manager and refer the issues to the Executive Committee as necessary.
- 4.1.2 The Concrete CPAC shall monitor an ongoing laboratory audit program as conducted by the Certified Program Manager. The Concrete CPAC shall review the reports from the Certification Program Manager, including actions taken by the Certified Program Manager in cases of a laboratory's non-conformance to certification requirements. In cases of continued non-conformance by the laboratory resulting from an on-site inspection or a complaint, a recommendation for withdrawal of certification shall be made by the Certification Program Manager for approval by the Concrete CPAC.

4.1.3 The Concrete CPAC is responsible for convening a subcommittee to hear any appeals by laboratories on certification decisions made by the CCIL Certification Office. The members of these subcommittees are to advise the CPM of any potential issues related to confidentiality and impartiality in accordance with CCIL policy on Confidentiality and Impartiality. Members of these subcommittees are to sign the Confidentiality and Impartiality Agreement (located in Appendix C of the Policy on Confidentiality and Impartiality) prior to gaining access to any confidential documents.

4.2 Composition of Concrete CPAC

4.2.1 The structure of the Concrete Laboratory Certification Program Administration Committee shall consist of the following:

- Three (3) CCIL members (including the chair).
- One (1) Provincial Government representative.
- One (1) Ready Mix Producer member.
- One (1) Municipal representative.

4.2.2 The CCIL members and the ready-mix producer member of the Concrete CPAC must be from firms or organizations that have CCIL certified concrete materials testing laboratories and who have a responsibility in the operation of these laboratories. The CCIL Program Manager and/or his designate shall attend the CPAC meetings.

4.2.3 The qualification requirements for the Concrete CPAC, members are contained in the document “Roles and Responsibilities of Concrete CPAC and Qualifications of Concrete CPAC Members”.

5.0 Certification Program Manager

The Certification Program Manager shall be retained by the CCIL. In carrying out his/her duties, the Certification Program Manager shall represent the CCIL and shall be responsible to the Concrete CPAC for the following tasks:

5.1 General Duties

The Certification Program Manager shall:

- Provide reports to the Concrete CPAC on the Concrete Certification Program.
- Provide technical support and consultation to certified or applicant laboratories.
- Manage the operation of the laboratory and technician certification programs.

5.2 Certification Decisions

5.2.1 The Certification Program Manager is responsible for the decisions to carry out the Concrete Certification Program including those for granting, amending and suspending of certification. The Certification Program Manager is also responsible for making recommendations for the withdrawal of certifications to the Concrete CPAC.

5.2.2 The Certification Program Manager shall carry out his responsibilities in accordance with the certification program policies and procedures, including “CCIL Procedure for the Processing of Applications for Certification”, “CCIL Procedure for Suspension, Withdrawal, Appeals and Disputes of Certification”, “CCIL Concrete Testing Laboratory and Technician Certification Program”, and “CCIL Procedure for Granting, Amending Certification”.

5.3 Laboratory Audit Programs

5.3.1 An individual qualified in inspections and audits and reporting to the Certification Program Manager shall carry out laboratory audits in accordance with the requirements of CSA Standard A283-24 and other certification requirements as may be established by the CCIL Certification Office. The requirements for the selection, training, approval and monitoring of inspectors are contained in the document “CCIL Procedure for the Selection, Training, Approval and Monitoring of Inspectors”.

5.3.2 Following the inspection, the Certification Program Manager or his/her designate shall prepare a Compliance report confirming conformance of non-conformance with the CCIL Concrete Testing Laboratory and Technician Certification Program.

5.4 Confidentiality of the Program

All information pertaining to the Concrete Laboratory Certification Program, except for the listing of certified laboratories, shall be in strict confidence between the laboratory involved, CCIL personnel, and the members of the Board of Directors and various Committees that may have access to confidential information through their activities in the certification process, such as Appeals and Disputes. All CCIL Board and Committee members that have access to proprietary and confidential information must agree to comply with the CCIL Confidentiality and Impartiality Policy by signing the CCIL “Personnel/Contractor Confidentiality and Impartiality Declaration Form” Appendix C, before access to such information is provided. The Certification Program Manager shall ensure that the confidentiality of the program is maintained at all times. Specifically, the Certification Program Manager shall ensure that the identities of the laboratories under discussion by the Concrete CPAC or Executive Committee are not known to the committee members. If a laboratory chooses to challenge a certification decision, through the appeals or dispute mechanism, the committees addressing the appeal or dispute will be required to have access to sufficient information to make an informed decision.

5.5 Conflicts of Interest

The Certification Program Manager shall bring all conflicts of interest to the attention of the Concrete CPAC at the earliest opportunity. The Concrete CPAC Chair will keep the Executive Committee apprised of all cases of conflicts of interest.

6.0 Certification Program

6.1 Requirements for Certification

To obtain certification, a laboratory shall demonstrate to the Certification Program Manager that it complies with the requirements of CSA A283-24 and all other requirements established by the CCIL Certification Office. The certification program shall:

- Verify the competence of the laboratory and its personnel to perform the required test procedures;
- Confirm the laboratory has established traceability of all test records and reports; and
- Conduct laboratory audits to verify compliance with this Standard on a biennial basis as a minimum. In the absence of any of the following: an established Quality Management System meeting the requirements of 6.3, a satisfactory internal audit and successful participation in an annual proficiency program, conduct laboratory audits on an annual basis.

Note: *Traceability means the ability to trace the complete history and condition of a sample through the chain of custody, with an unbroken record of documentation, maintained by competent parties.*

6.2 Laboratory Certification Procedures

6.2.1 As a condition of receiving certification, a laboratory shall comply with the following procedures:

- It shall execute a formal undertaking signed by the Supervising Engineer to abide by the test methods and procedures outlined in CSA A283-24 in the performance of its duties. This clause shall not be considered to preclude a laboratory from conducting tests additional to those listed in Clause 6 of the Standard.
- The Supervising Engineer shall monitor the intra-laboratory strength proficiency in accordance with Clause 7 of the Standard, excluding test results for cylinders not prepared by the testing laboratory.
- Laboratories shall, as a minimum, participate annually in an inter-laboratory compressive strength proficiency program to assess their proficiency. If the agency responsible for the conduct of the proficiency program is other than CCIL, Ontario Ministry of Transportation or Concrete Alberta, the proficiency program shall be conducted in accordance with Annex A of the Standard and the agency shall be independent of the participants. If the departure of a participating laboratory is greater than three coefficients of variation, the Certification Program Manager shall make a decision regarding the certification of the laboratory.

6.2.2 Inspections will take place when the laboratories are in operation. Disruption will be kept to a minimum and adequate notice will be provided to ensure that the Supervising Engineer and technical personnel

are available, and that testing can be viewed in progress. At the completion of an inspection, the Inspector will provide the laboratory with a Compliance Report that outlines the results of the inspection. Certified laboratories shall respond in the CCIL portal within 30 days of the inspection and provide supporting documents and records to the satisfaction of the Inspector. If the Inspector finds that the items provided need further revisions to satisfy the intent of the Compliance Report, the inspector may request further clarification, explanations, and revisions. This audit process is expected to be completed, with all deficiencies resolved to the satisfaction of CCIL within 30 days following the inspection. If the laboratory does not initiate the necessary action within thirty (30) days of the date of the Compliance Report, certification may be suspended in accordance with "CCIL Procedure for Suspension, Withdrawal, Appeals and Disputes of Certification". Suspension will remain until the requested action has been taken and verified by the Certification Program Manager or the certification is withdrawn.

- 6.2.3 A laboratory audit will be scheduled for a new applicant as soon as possible after the receipt of the application and payment of fees. A satisfactory audit is required prior to initial certification.
- 6.2.4 The certification process must be completed within one year of the initial inspection of the laboratory. If the process is not completed within one year, CCIL will cancel the application, and the laboratory may reapply for certification at a future date.
- 6.2.5 Laboratories to be inspected are scheduled by the Certification Program Manager or on the recommendation of the Concrete CPAC.

6.3 Quality Management System

If a laboratory quality management system is implemented, it should be aligned with the principles of ISO/IEC 17025. The Quality Manual shall be acceptable to the Certification Program Manager and, as a minimum, shall address:

- Details of management policy and commitment.
- Organization structure.
- Management and laboratory personnel capabilities and responsibilities. and specifically, the responsibilities of the Supervising Engineer.
- Documentation of the training of technicians.
- Inventory of test equipment.
- Procedures for the maintenance and calibration of equipment.
- Maintaining an up-to-date current record of standards, specification, and test methods.
- Control of documents, records, and data.
- Control of test samples.
- Control of non-conforming product.
- Control of subcontracting.
- Corrective and preventative actions and improvements.
- Laboratory certification documentation.

- Results and summary of internal audits; and
- Process for handling complaints

The laboratory shall conduct an internal audit not less frequently than once a year of its operations and the Quality Management System by a person, or persons, not responsible for the original test results.

6.4 Supervising Engineer

6.4.1 The Supervising Engineer of the laboratory shall meet the requirements of CSA A283-24 and be approved by the Certification Program Manager.

The laboratory shall advise CCIL of a change in the Supervising Engineer within 30 calendar days. The certification of a laboratory which fails to notify CCIL of a change in Supervising Engineer within 30 calendar days, or operates without a Supervising Engineer for more than 30 calendar days, may be suspended in accordance with the CCIL Certification Procedure for the Suspension, Withdrawal, Appeals and Disputes of Certification.

6.4.2 A Supervising Engineer may manage multiple laboratory locations.

Approval by the Certification Manager is contingent upon the Supervising Engineer demonstrating the capacity for effective oversight of all facilities. CCIL may reject applications where the number or dispersion of certifications raises concerns regarding consistent compliance with certification requirements.

6.5 Responsibilities of the Supervising Engineer

In addition to the requirements stated elsewhere in the latest edition of CSA A283, the Supervising Engineer shall:

- Be present in the laboratory on a full-time basis or available for consultation on a full-time basis, when the laboratory is in operation.
- If not present in the laboratory on a full-time basis, visit the laboratory at a minimum frequency of at least once every 30 days (for seasonal laboratories at least once every 30 days during the period of operation) and maintain other means of communication with the laboratory between visits.

Note: *alternate visits may be virtual*

- Ensure documented test procedures are current and are reviewed at a minimum frequency of not less than once annually with technicians conducting testing.
- Review material test results and test reports for accuracy and completeness on an ongoing basis.
- Review the intra-laboratory proficiency data weekly, when the laboratory is in operation, in accordance with Clause 7 of the Standard.
- Review certification audit reports and respond to certification agency requests and direction.

- Ensure that any non-compliances related to the operation of the laboratory, identified through the above reviews and investigation, or through any other means, are effectively addressed and impacted parties advised, in the timely manner.
- Be able to demonstrate that they maintain membership in good standing with the applicable body responsible for governing the profession.

6.6 Technician Certification Program

Technicians shall satisfy the requirements of CSA Standard A283-24, the CCIL Concrete Testing Technician Certification Program Description document and all other requirements established by the CCIL Certification Office.

6.7 Subcontracting

Where a laboratory sub-contracts any part of the testing specified in CCIL LC-102 (ie a CCIL certified test), the work shall be performed by a laboratory currently certified for those specific tests. The Quality Manual of the laboratory subcontracting the testing must demonstrate how the quality of the testing by the subcontracted laboratory will be maintained and verified. In the absence of a Quality Manual, testing shall not be subcontracted without the prior approval of the Certification Program Manager.

6.8 Application and Certification Processes

Information on the application and certification processes can be found on the CCIL website (www.ccil.com) and the CCIL portal (www.portal.ccil.com).

6.9 Laboratory Relocation or Sale of Facilities

- 6.9.1 The Certification Program Manager shall be advised in writing not less than 30 days in advance of a relocation or transfer of ownership.
- 6.9.2 When a Permanent Laboratory (as defined in 1.3) is relocated, the laboratory shall be audited at the new location. A laboratory certificate for the new location will be issued upon approval of the audit. During the interim period the Certification of the laboratory shall remain in force.
- 6.9.3 When a Mobile Laboratory is relocated, an audit shall be conducted at the discretion of the Certification Program Manager.
- 6.9.4 When a CCIL certified laboratory is purchased by a corporate entity that owns one or more CCIL certified concrete laboratories, the laboratory which changed ownership will be deemed to continue to be certified pending an audit. The time of the audit is at the discretion of the Certification Program Manager, based on continuity of location, equipment and staff.
- 6.9.5 When a CCIL certified laboratory is purchased by a corporate entity that does not own a CCIL certified laboratory, the Certification Program

Manager will determine, based on continuity of location, equipment, and staff, whether certification will continue pending an audit or will be revoked. Where certification is revoked, the laboratory will be considered as a new laboratory by CCIL, and the new owner must initiate the certification process in accordance with 6.2. The laboratory will be audited at the earliest opportunity and must complete all requirements before a new certificate will be issued.

7.0 Suspension and Withdrawal of Certification and Appeals and Disputes of Certification Decisions

- 7.1** The certification of any laboratory or laboratory technician found not to comply with the requirements of the certification program may be suspended or withdrawn. Any suspension or withdrawal of certification will follow CCIL Certification Procedure for the Suspension, Withdrawal, Appeals and Disputes of Certification.
- 7.2** Suspension or withdrawal of certification may also be invoked by the Certification Program Manager for administrative reasons such as lack of timely payment of outstanding fees, lack of response to requests for information or action, or failure of a laboratory to comply with the CCIL Memorandum of Understanding, CCIL Certification Procedure for the Suspension, Withdrawal, Appeals and Disputes of Certification also applies in these situations.
- 7.3** The laboratory has the right to appeal certification decisions, such as those for the suspension or withdrawal, within five (5) business days of being advised of the decision, in person or by appropriate telecommunications to the Certification Program Manager. The appeal process shall be in accordance with Section 5 of the CCIL Certification Procedure for the Suspension, Withdrawal, Appeals and Disputes of Certification. The laboratory will be notified in writing on the decision of the subcommittee within five (5) business days of the appeal hearing.
- 7.4** If after reviewing the appeal and supporting information, this subcommittee decides that certification should be restored, the certification status will be reinstated and, if necessary, a certificate will be issued, and the company's name will appear on the CCIL List of Certified Laboratories. If not, the laboratory will be advised that a second level final appeal (dispute mechanism) is available.
- 7.5** If the appeal does not result in re-instatement of the laboratory's certification, the laboratory may initiate a dispute to be presented in writing to the Executive Committee within five (5) business days of the date of notification of denial. The dispute process shall be in accordance with Section 6 of the CCIL Certification Procedure for the Suspension, Withdrawal, Appeals and Disputes of Certification. The Executive Committee will set a time and date within thirty (30) days of the date the dispute was received to study the appeal of the laboratory as well as the decision of the Concrete CPAC.

- 7.6** All costs related to the appeal and dispute mechanisms will be borne by the laboratory.
- 7.7** Withdrawal of certification will not preclude a laboratory from applying for certification at a future date.
- 7.8** CCIL and the Certification Office staff, contractors and committees shall not be liable for damages, of any nature or kind, howsoever caused, as a result of suspension or withdrawal of certification of a laboratory or technician.

8.0 Complaints

An individual or corporate identity may file a complaint relating to CCIL practices or the activities of a certified laboratory or a certified technician in accordance with the procedures described in the document “CCIL Procedure for Handling Complaints”.

9.0 Use of the CCIL Logo

The CCIL Certification Office has established policies and procedures for the correct use of the CCIL Certification logo. Certified laboratories requesting the use of the CCIL logo must enter into a Memorandum of Understanding with the CCIL Certification Office prior to its use.