

LC-102
Concrete Laboratory and Technician
Certification Program

This document has been issued by the CCIL Certification Office and has been approved by the CCIL Board of Directors.

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Concrete Laboratory Certification Program

1. 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 Canadian Standards Association Canadian Standards Association (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 either an annual or biennial audit.

1.2 References

- Canadian Standards Association (CSA) Standard A283-24, Certification of laboratories for concrete, published in December 2024.
- Canadian Standards Association (CSA) Standard A23.2, 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: an independent assessment and attestation that a laboratory has met the specified requirements as identified CSA A283-24 standard 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. The visit (virtually or in-person) by a qualified individual reporting to the Certification Program Manager (CPM) 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. Responsibilities of the CCIL Board of Directors

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

- The overall governance of CCIL and approval of corporate wide procedures and policies.
- The responsibility for the operations of the certification program is assigned by the Board to the Chief Executive Officer (CEO).
- Directors shall not exercise any authority in the operations of the Certification Program.
- 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 A283-24.

3. Responsibilities of the Chief Executive Officer

The CEO is responsible for the overall administration of the concrete laboratory certification program and handling all disputes that arise from decisions on appeal. The BOD is responsible for approval of the members of the Concrete CPAC and for determining the annual fees assessed to applicants and the certified laboratories based on the recommendations of the CEO. The CEO will be the Chair of the CPAC.

4. Certification Program Advisory Committee (CPAC)

The Concrete CPAC reports to the CEO and provides stakeholder input 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 BOD and reflects the geographic aspect of the program. The CPAC will meet at a minimum of once a year. The ultimate decisions with respect to the operations of the program will remain with the CEO.

4.1 Duties and Responsibilities of CPAC

- 4.1.1 The CPAC will meet at a minimum of once a year and will be hosted virtually unless otherwise approved by the CCIL BOD. The ultimate decisions with respect to the operations of the program will remain with the CEO.
- 4.1.2 When requested by the CEO, the Concrete CPAC will also be 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:
- CEO (Chair)
 - Three (3) CCIL members.
 - 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 CPM and the Assistant Program Manager (APM) 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. Certification Program Manager

The CPM shall be employed by the CCIL. In carrying out their duties, the CPM shall represent the CCIL and shall be responsible for the following tasks:

5.1 General Duties

The CPM shall:

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

5.2 Certification Decisions

- 5.2.1 The CPM is responsible for the decisions to carry out the Concrete Certification Program including those for granting, amending and suspending of certification. The CPM is also responsible for making recommendations for the withdrawal of certifications.
- 5.2.2 The CPM shall carry out their 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 Annual Inter-Laboratory Correlation Program

The CPM shall:

- Prepare the terms of reference and specifications for annual correlation sample preparation;
- In consultation with the CEO, evaluate, award and implement the selection of laboratories to carry out the preparation of the correlation samples;
- oversee correlation sample preparation to ensure that it is in conformance with the specifications;
- oversee the quality assurance testing of the correlation samples to ensure that the samples are suitable for distribution to the laboratories;
- oversee the distribution of the correlation samples to the laboratories;
- receive, record, summarize, evaluate, and publish the results of annual correlation testing program; and
- based on the results of the annual correlation testing program, make a decision regarding the certification of laboratories.

5.4 Laboratory Audit Programs

- 5.4.1 An individual qualified in audits and reporting to the CPM 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”.
- 5.4.2 Following the audit, the CPM or their designate shall prepare a Compliance report confirming conformance or non-conformance with the CCIL Concrete Testing Laboratory and Technician Certification Program.

5.5 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 various Committees that may have access to confidential information through their activities in the certification process, such as Appeals and Disputes. All CCIL 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 CPM shall ensure that the confidentiality of the program is maintained at all times. Specifically, the CPM shall ensure that the identities of the laboratories under discussion by the Concrete CPAC 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.

6. Conflicts of Interest

The CEO shall bring all conflicts of interest to the attention of the BOD and the Concrete CPAC at the earliest opportunity. The CEO will keep the BOD apprised of all cases of conflicts of interest.

7. Certification Program

7.1 Requirements for Certification

To obtain certification, a laboratory shall demonstrate to the CPM 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.*

7.2 Laboratory Certification Procedures

7.2.1 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 CPM shall make a decision regarding the certification of the laboratory.

7.2.2 Audits 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 audit, the Inspector will provide the laboratory with a Compliance Report that outlines the results of the audit. Certified laboratories shall respond to any identified deficiencies in the CCIL portal within 30 days of the audit 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 audit. 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 CPM or the certification is withdrawn.

- 7.2.3 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.
- 7.2.4 The certification process must be completed within one year of the initial audit of the laboratory. If the process is not completed within one year, an additional audit will be required at the sole expense of the laboratory.
- 7.2.5 Laboratories to be inspected are scheduled by the CPM.

7.3 Quality Management System

If a laboratory quality management system is implemented, it should be aligned with the principles of ISO/IEC 17025 in addition to those noted in CSA A-283. The Quality Manual shall be acceptable to the CPM and, as a minimum, shall address:

- Details of management policy and commitment.
- Organization structure.
- Management and laboratory personnel
- 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, specifications, and test methods.
- Control of documents, records, and data.
- Control of test samples.
- Control of non-conforming product.
- 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.

7.4 Supervising Engineer

- 7.4.1 The Supervising Engineer of the laboratory shall meet the requirements of CSA A283-24 and be approved by the CPM. 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.
- 7.4.2 A Supervising Engineer may manage multiple laboratory locations. Approval by the CPM 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.

7.5 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.

Note: The Certification Agency noted above refers to CCIL

7.6 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.

7.7 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 CPM.

7.8 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).

7.9 Laboratory Relocation or Sale of Facilities

- 7.9.1 The CPM shall be advised in writing not less than 30 days in advance of a relocation or transfer of ownership.
- 7.9.2 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.
- 7.9.3 When a Mobile Laboratory is relocated, an audit shall be conducted at the discretion of the CPM.
- 7.9.4 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 CPM, based on continuity of location, equipment and staff.

- 7.9.5 When a CCIL certified laboratory is purchased by a corporate entity that does not own a CCIL certified laboratory, the CPM 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 7. The laboratory will be audited at the earliest opportunity and must complete all requirements before a new certificate will be issued.

8. Suspension and Withdrawal of Certification and Appeals and Disputes of Certification Decisions

- 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.
- Suspension or withdrawal of certification may also be invoked by the CPM 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 Logo Use Agreement, CCIL Certification Procedure for the Suspension, Withdrawal, Appeals and Disputes of Certification also applies in these situations.
- 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 CPM. 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.
- If after reviewing the appeal and supporting information, this subcommittee decides that certification should be restored, the certification status will be re-instated 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.
- 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.
- All costs related to the appeal and dispute mechanisms will be borne by the laboratory.

- Withdrawal of certification will not preclude a laboratory from applying for certification at a future date.
- 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.

9. 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”.

10. 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 sign and return the CCIL Logo Use Agreement to the Certification Office prior to its use.