

# CANADIAN PRECAST CONCRETE QUALITY ASSURANCE (CPCQA) CERTIFICATION PROGRAM

CPCQA  
PRECAST CONCRETE MANUFACTURER  
GUIDE SPECIFICATION

(Version – 10.11.19)

## Why Specify CPCQA Plant Certification

On January 1, 2018, the Canadian Precast/Prestressed Concrete Institute (CPCI) and the Canadian Concrete Pipe and Precast Association (CCPPA) merged their existing certification programs, the CPCI Certification Program for Structural, Architectural and Specialty Products and Production Processes (CPCI Certification) and the Plant Prequalification Program for Precast Concrete Drainage Products (PPP), creating a more independently administered third-party audited certification program, **the Canadian Precast Concrete Quality Assurance (CPCQA) Certification**. The CPCQA Certification Program is a self-governed, independently operated certification program, separate from the CPCI and CCPPA. It offers the highest level of certification available in North America; it combines the strengths and brands of the two existing programs into the strongest and the most comprehensive program in North America that offers the widest range of precast products certified, continuous quality assurance improvement through excellence in auditing, and a Quality Assurance Council with membership from precasters and MOTs across Canada.

## How to Specify CPCQA Certification

Specifying precast concrete products from a CPCQA-certified plant ensures that the manufacturers are prequalified for the project, have an ongoing quality management system in place, and proven capability to deliver high-quality products for the type of project being considered.

## Precast Concrete Manufacturer Qualifications

The initial specification development process should consider the types or precast concrete products required for the project and choose from the following recommended specification language.

### **For Architectural Precast Concrete Products:**

#### Precast Concrete Manufacturer Qualifications

1. Precast concrete manufacturers to be certified to Canadian Precast Concrete Quality Assurance (CPCQA) Certification Program in [Architectural Precast Concrete Products, A1,] [Subcategory AT] prior to the time of bid.

# CANADIAN PRECAST CONCRETE QUALITY ASSURANCE (CPCQA) CERTIFICATION PROGRAM

2. Precast concrete fabrication to meet the requirements of CAN/CSA-A23.4-16, including Annexes A and B, together with PCI MNL-116 and 117 and CPCQA certification requirements.
3. Only precast concrete elements fabricated under the CPCQA plant certification program to be acceptable, and plant certification is to be maintained for the duration of fabrication, [erection,] and until warranty expires.

For a complete architectural precast concrete guide specification follow this link:

<http://www.cpci.ca/en/resources/specifications/>

Note: For the CSA A23.4 Group A architectural precast product group descriptions follow this link: [https://www.precastcertification.ca/en/certified\\_plants/product\\_groups/](https://www.precastcertification.ca/en/certified_plants/product_groups/) (Reference CAN/CSA-A23.4-16, Clause 4.1)

## **For Structural Precast Concrete Products:**

### Precast Concrete Manufacturer Qualifications

1. Precast concrete manufacturers to be certified to Canadian Precast Concrete Quality Assurance (CPCQA) Certification Program in [Precast and Prestressed Bridge Products, B,] [Subcategory] [B1] [BA1] [B2] [BA2] [B3] [BA3] [B4] [BA4] [Commercial Precast and Prestressed Concrete Products (Structural), C,] [Subcategory] [C1] [CA1] [C2] [CA2] [C3] [CA3] [C4] [CA4] [Precast Concrete Drainage Products, D,] [Subcategory] [D1] [Standard Products, S] prior to the time of bid.
2. Precast concrete fabrication to meet the requirements of CAN/CSA-A23.4-16, including Annexes A and B, together with PCI MNL-116 and 117 and CPCQA certification requirements.
3. Only precast concrete elements fabricated under the CPCQA plant certification program to be acceptable, and plant certification is to be maintained for the duration of fabrication, [erection,] and until warranty expires.

For a complete structural precast concrete guide specification follow this link:

<http://www.cpci.ca/en/resources/specifications/>

Notes: For the CSA A23.4 Group B and C structural and product group descriptions follow this link: [https://www.precastcertification.ca/en/certified\\_plants/product\\_groups/](https://www.precastcertification.ca/en/certified_plants/product_groups/) (Reference CAN/CSA-A23.4-16, Clause 4.1).

# CANADIAN PRECAST CONCRETE QUALITY ASSURANCE (CPCQA) CERTIFICATION PROGRAM

## Additional Product-Specific Notes:

Additional examples of products typically covered under subcategory C1 or C1A, depending on whether an architectural finish is specified, include curbs, planter boxes, retaining walls, stairs/steps, etc.

Reinforced earth wall panels are typically be covered under subcategory B1, B1A, C1 or C1A, again depending on whether an architectural finish is specified.

Utility boxes/vaults, water valve chambers, etc. are typically covered under subcategory C1, D1 or S, depending on the type of application.

For any needed support in clarifying the applicable category / subcategory for your products of interest, do not hesitate to contact CPCQA directly.

## **For Precast Concrete Hollowcore Roof and Floor Slabs:**

### Precast Concrete Manufacturer Qualifications

1. Precast concrete manufacturers to be certified to Canadian Precast Concrete Quality Assurance (CPCQA) Certification Program in Commercial Precast and Prestressed Concrete Products (Structural) Category C2 prior to the time of bid.
2. Precast concrete fabrication to meet the requirements of CAN/CSA-A23.4-16, including Annexes A and B, together with PCI MNL-116 and 117 and CPCQA certification requirements.
3. Only precast concrete elements fabricated under the CPCQA plant certification program to be acceptable, and plant certification is to be maintained for the duration of fabrication, [erection,] and until warranty expires.

For a complete hollowcore floor and roof slab precast concrete guide specification follow this link: <http://www.cpci.ca/en/resources/specifications/>

Note: For the CSA A23.4 Group C structural product group description follow this link: [https://www.precastcertification.ca/en/certified\\_plants/product\\_groups/](https://www.precastcertification.ca/en/certified_plants/product_groups/)  
(Reference CAN/CSA-A23.4-16, Clause 4.1)

# CANADIAN PRECAST CONCRETE QUALITY ASSURANCE (CPCQA) CERTIFICATION PROGRAM

## **For Concrete Pipe, Manhole Sections, and Precast Concrete Drainage Products:**

### Precast Concrete Manufacturer Qualifications

1. Precast concrete drainage products to be supplied from a manufacturer that is prequalified by the Canadian Precast Concrete Quality Assurance (CPCQA) Certification Program prior to the time of bid.
2. Circular and elliptical concrete pipe and fittings to meet the requirements of [CSA A257 Series] [OPSS 1820] [AWWA C302] [ASTM] [C14] [C76] [C507] [C1417] [ASCE/CI 27].
3. Circular concrete manhole and catchbasin components to meet the requirements of [CSA A257 Series] [OPSS 1351] [ASTM C478].
4. Precast concrete box units with span less than or equal to 3m to meet the requirements of [OPSS 1821] [ASTM C1433].
5. All precast concrete drainage products covered in this Section to be marked in accordance with the relevant manufacturing standard in a position readily visible for inspection. The CPCQA certification logo as shown below is also to be marked on every precast concrete component. Only precast concrete elements fabricated under the CPCQA plant certification program to be acceptable, and plant certification is to be maintained for the duration of fabrication, [installation,] and until warranty expires.



### **References:**

CAN/CSA-A23.4	Precast Concrete - Materials and Construction
PCI MNL-116	Manual for Quality Control for Plants and Production of Structural Precast Concrete Products
PCI MNL-117	Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products
CSA A257 Series	Concrete Pipe and Manhole Sections

# CANADIAN PRECAST CONCRETE QUALITY ASSURANCE (CPCQA) CERTIFICATION PROGRAM

OPSS 1820	Material Specification for Circular and Elliptical Concrete Pipe
AWWA C302	Reinforced Concrete Pressure Pipe, Noncylinder Type
ASTM C14	Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C507	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe
ASTM C1417	Standard Specification for Manufacture of Reinforced Concrete Sewer, Storm Drain, and Culvert Pipe for Direct Design
ASCE/CI 27	Standard Practice for Direct Design of Precast Concrete Pipe for Jacking in Trenchless Construction
OPSS 1351	Material Specification for Precast Reinforced Concrete Components for Maintenance Holes, Catch Basins, Ditch Inlets, and Valve Covers
ASTM C478	Standard Specification for Circular Precast Reinforced Concrete Manhole Sections
OPSS1821	Material Specification for Precast Reinforced Concrete Box Culverts and Box Sewers
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers