Reliance Foundry Co Ltd

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Email: info@reliance-foundry.com

Website: www.reliance-foundry.com

Reliance Foundry is an award-winning supplier of high quality stock and custom-designed site furnishings

for architectural, traffic management, and industrial applications. Reliance Foundry brings over 90 years of expertise to the design and manufacturing of our products.

Reliance Foundry bollards add architectural accents to your perimeter security, landscaping, traffic control, and streetscape projects. Use bollards as design features for new and existing buildings, for access control measures, traffic guidance, and as decorative covers over steel security posts. This section includes precast concrete bollards.

Specification Coordination: Edit this guide specification to meet project requirements. Coordinate with other specification sections as required. If using more than one bollard type, use the same designation in both drawings and specifications. Display hidden text to see or print notes to specifier.

Drawing Coordination: Show locations, sizes, layout, and spacing of each type of bollard or bollard cover required. Show footing and security post details, if required. Soft metric conversion is provided for all measurements.

**SECTION 03 48 13**

**PRECAST CONCRETE BOLLARDS**

1. GENERAL
	* + 1. SUMMARY
				1. Section Includes:

Precast concrete bollards.

Accessories

Edit following to coordinate with other specification sections in project.

* + - * 1. Related Requirements:

[Any Division 32 Section with "Bollards" in the title or Section 32 41 00 “Bollards” for bollards other than precast concrete bollards specified herein.]

* + - 1. REFERENCE STANDARDS
				1. ASTM C666 - Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing.
				2. ASTM C825 - Standard Specification for Precast Concrete Barriers.
				3. ASTM C979 - Standard Specification for Pigments for Integrally Colored Concrete.
			2. SUBMITTALS
				1. Comply with Section [01 33 00 – Submittal Procedures.] [\_\_\_\_\_\_\_\_\_.]
				2. Product Data: Provide for each type of bollard specified.
				3. Color Samples: [Submit manufacturer’s standard colors for selection.] [Submit sample of color specified.]
				4. Maintenance Data: Submit manufacturer’s field touch-up, cleaning, and maintenance instructions.
				5. Warranty Documentation: Submit sample of manufacturer’s warranty.
			3. QUALITY ASSURANCE
				1. Comply with Section [01 43 00 – Quality Assurance.] [\_\_\_\_\_\_\_\_\_.]
			4. DELIVERY, STORAGE AND HANDLING
				1. Comply with Section [01 66 00 – Product Storage and Handling Requirements.] [\_\_\_\_\_\_\_\_\_.]
				2. Protect bollards and accessories during delivery, storage, and handling.
			5. WARRANTY
				1. Comply with Section [01 78 36 – Warranties.] [\_\_\_\_\_\_\_\_\_.]
				2. Provide manufacturer’s standard warranty against defects in materials and workmanship.

Warranty Period: Five years from date of invoice.

1. PRODUCTS
	* + 1. MANUFACTURERS
				1. Manufacturer: Reliance Foundry Co. Ltd.

Phone: 604-547-0460 or 1-877-789-3245

Fax: 604-590-8875

Website: <http://www.reliance-foundry.com/bollard>

Email: info@reliance-foundry.com

* + - * 1. Substitutions: [Comply with provisions of [Section 01 25 00 "Substitution Procedures"] [\_\_\_\_\_\_\_\_\_] for substitution procedures.] [Not allowed.]
			1. PRECAST CONCRETE BOLLARDS

See http://www.reliance-foundry.com/bollard/ for assistance in selecting a bollard model.

Concrete bollards have variable weight. Actual weight may vary from listed weight.

* + - * 1. Material:

Concrete: Precast concrete with 5200-psi (36 MPa) minimum compressive strength.

Components: ASTM C150, Type I or III cement, with ASTM C33 aggregate.

Pigments: ASTM C979, natural mineral oxide pigments, temperature-stable and non-fading.

Reinforcing: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.

Steel Pipe: ASTM A 500, Grade B.

* + - * 1. Country of Origin: Canada.
				2. Installation: Direct Imbed.
				3. Precast Concrete Bollard [Designer’s Designation]:

Model: Reliance Foundry; **R-9701**.

Height: 36 inches (91.5 cm)

Base Diameter: 18 inches (45.7 cm)

Weight: 815 lbs. (370 kg).

Color: Mixed/Granite.

Finish: Exposed Aggregate.

Optional Finish: High-Gloss Acrylic Sealer.

* + - * 1. Precast Concrete Bollard [Designer’s Designation]:

Model: Reliance Foundry; **R-9702**.

Height: 39 1/2 inches (100.4 cm)

Base Diameter: 15 3/4 inches (40 cm)

Weight: 510 lbs. (231 kg).

Color: Mixed/Granite.

Finish: Exposed Aggregate.

Optional Finish: High-Gloss Acrylic Sealer.

* + - * 1. Precast Concrete Bollard [Designer’s Designation]:

Model: Reliance Foundry; **R-9703**.

Height: 32 inches (81.3 cm)

Base Width: 24 inches (61 cm) by 24 inches (61 cm)

Weight: 1200 lbs. (544 kg).

Color: Mixed/Granite.

Finish: Exposed Aggregate.

Optional Finish: High-Gloss Acrylic Sealer.

* + - * 1. Precast Concrete Bollard [Designer’s Designation]:

Model: Reliance Foundry **R-9704-36**

Height: 36 inches (91.4 cm)

Base Diameter: 11 inches (28 cm)

Weight: 310 lbs. (140 kg)

Color: Mixed/Granite.

Finish: Exposed Aggregate.

Optional Finish: High-Gloss Acrylic Sealer.

* + - * 1. Precast Concrete Bollard [Designer’s Designation]:

Model: Reliance Foundry; **R-9704-60**.

Height: 60 inches (152.5 cm)

Base Diameter: 11 inches (28 cm)

Weight: 510 lbs. (231 kg).

Color: Mixed/Granite.

Finish: Exposed Aggregate.

Optional Finish: High-Gloss Acrylic Sealer.

* + - * 1. Precast Concrete Bollard [Designer’s Designation]:

Model: Reliance Foundry; **R-9705**.

Height: 33 inches (83.8 cm)

Base Diameter: 10 inches (25.5 cm)

Weight: 220 lbs. (100 kg).

Color: Mixed/Granite.

Finish: Exposed Aggregate.

Optional Finish: High-Gloss Acrylic Sealer.

* + - 1. ACCESSORIES

Retain following if specified bollards require internal posts.

* + - * 1. Installation Materials:

Grout: Non-shrink, non-ferrous grout.

1. EXECUTION
	* + 1. EXAMINATION
				1. Examine paving or other substrates for compliance with manufacturer’s requirements for placement and location of embedded items, condition of substrate, and other conditions affecting installation of bollards.
				2. Proceed with installation only after unsatisfactory conditions have been corrected.
			2. INSTALLATION
				1. General: Comply with manufacturer’s installation instructions and setting drawings.
				2. Do not install damaged, cracked, chipped, deformed, or marred bollards. Field touch-up minor imperfections in accordance with manufacturer’s instructions. Replace bollards that cannot be field repaired.
				3. Direct Imbed: Support bollard during concrete placement and cure.
			3. CLEANING & PROTECTION

Normal cleaning may be done with clean water and a soft cloth. Detailed cleaning and inspection instructions are available at <http://www.reliance-foundry.com/site/documents/reliance-foundry-general-care-and-maintenance.pdf> .

* + - * 1. Protect bollards against damage.
				2. Immediately prior to Substantial Completion, clean bollards in accordance with manufacturer’s instructions to remove dust, dirt, adhesives, and other foreign materials.
				3. Touch up damaged finishes according to manufacturer’s instructions.
			1. CLOSEOUT ACTIVITIES
				1. Provide executed warranty.

END OF SECTION

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