

Approved: 2012-12-31

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section

1.2 REFERENCE STANDARDS

.1 ASTM International (ASTM)

.1 ASTM A126-04 (2009), Standard Specification for Gray Iron Castings for Valves, Flanges and Pipe Fittings.

.2 ASTM B62-09, Standard Specification for Composition Bronze or Ounce Metal Castings.

.2 CSA Group (CSA)

.1 CSA B79-08, Commercial and Residential Drains and Cleanouts.

.3 Efficiency Valuation Organization (EVO)

.1 International Performance Measurement and Verification Protocol (IPMVP).

.1 IPMVP 2007 Version.

.4 National Research Council Canada (NRC)

.1 National Plumbing Code of Canada 2015 (NPC).

.5 Plumbing and Drainage Institute (PDI)

.1 PDI-WH201-R2010, Water Hammer Arresters Standard.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with division 1:

.1 Submit manufacturer s instructions, printed product literature and data sheets for plumbing products and include product characteristics, performance criteria, physical size, finish and limitations.

.2 Submit 2 copies of WHMIS SDS in accordance with division 1.

.2 Shop Drawings:

.1 Submit drawings stamped and signed by professional engineer registered or licensed in Ontario Canada.

.2 Indicate on drawings to indicate method of anchorage, number of anchors, construction and assembly details, materials, dimensions, finishes, accessories.

.3 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

.4 Instructions: submit manufacturer s installation instructions.

.5 Manufacturers Field Reports: manufacturer’s field reports specified.

1.4 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with division 1.
- .2 Operation and Maintenance Data: submit operation and maintenance data for plumbing specialties and accessories for incorporation into manual.
 - .1 Description of plumbing specialties and accessories, giving manufacturers name, type, model, year and capacity.
 - .2 Details of operation, servicing and maintenance.
 - .3 Recommended spare parts list.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with division 1.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer s name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials indoors and in accordance with manufacturer s recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect plumbing materials from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

Part 2 Products

2.1 CLEANOUTS

- .1 Cleanout Plugs: heavy cast iron male ferrule with brass screws and threaded brass or bronze plug. Sealing-caulked lead seat or neoprene gasket.
- .2 Access Covers:
 - .1 Wall Access: face or wall type, polished nickel bronze round stainless steel cover with flush head securing screws, bevelled edge frame, complete with anchoring lugs.

2.2 WATER HAMMER ARRESTORS

- .1 Copper construction, piston type: to PDI-WH201.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for plumbing specialties and accessories installation in accordance with manufacturer s written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.

- .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 MANUFACTURER S INSTRUCTIONS

- .1 Compliance: comply with manufacturer s written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheet.

3.3 INSTALLATION

- .1 Install in accordance with National Plumbing Code of Canada (NPC).
- .2 Install in accordance with manufacturer s instructions and as specified.

3.4 CLEANOUTS

- .1 Install cleanouts at base of soil and waste stacks, and rainwater leaders, at locations required code, and as indicated.
- .2 Bring cleanouts to wall or finished floor unless serviceable from below floor.
- .3 Building drain cleanout and stack base cleanouts: line size to maximum NPS 4.

3.5 WATER HAMMER ARRESTORS

- .1 Install on branch supplies to fixtures or group of fixtures.

3.6 START-UP

- .1 General:
 - .1 In accordance with division 1: General Requirements, supplemented as specified herein.
- .2 Timing: start-up only after:
 - .1 Pressure tests have been completed.
 - .2 Disinfection procedures have been completed.
 - .3 Certificate of static completion has been issued.
 - .4 Water treatment systems operational.
- .3 Provide continuous supervision during start-up.

3.7 TESTING AND ADJUSTING

- .1 General:
 - .1 Test and adjust plumbing specialties and accessories in accordance with division 1: General Requirements, supplemented as specified.
- .2 Timing:
 - .1 After start-up deficiencies rectified.

- .2 After certificate of completion has been issued by authority having jurisdiction.
- .3 Application tolerances:
 - .1 Pressure at fixtures: +/- 70 kPa.
 - .2 Flow rate at fixtures: +/- 20%.
- .4 Adjustments:
 - .1 Verify that flow rate and pressure meet design criteria.
 - .2 Make adjustments while flow rate or withdrawal is (1) maximum and (2) 25% of maximum and while pressure is (1) maximum and (2) minimum.
- .5 Cleanouts:
 - .1 Verify covers are gas-tight, secure, yet readily removable.

3.8 CLOSEOUT ACTIVITIES

- .1 Commissioning Reports: in accordance with division 1: reports, supplemented as specified.
- .2 Training: provide training in accordance with division 1: Training of O M Personnel, supplemented as specified.

3.9 CLEANING

- .1 Progress Cleaning: clean in accordance with division 1.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with division 1.

3.10 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by plumbing specialties and accessories installation.

END OF SECTION