
PART 1 GENERAL

1.1 REFERENCE STANDARDS

- .1 American Society for Testing and Materials International (ASTM).
 - .1 ASTM A 126 (Latest Edition), Standard Specification for Gray Iron Castings for Valves, Flanges and Pipe Fittings.
 - .2 ASTM B 62 (Latest Edition), Standard Specification for Composition Bronze or Ounce Metal Castings.
- .2 American Water Works Association (AWWA).
 - .1 ANSI/AWWA C700 (Latest Edition), Standard for Cold Water Meters - Displacement Type, Bronze Main Case.
 - .2 ANSI/AWWA C701 (Latest Edition), Standard for Cold Water Meters - Turbine Type for Customer Service.
 - .3 ANSI/AWWA C702 (Latest Edition), Standard for Cold Water Meters - Compound Type.
- .3 Canadian Standards Association (CSA International).
 - .1 CSA-B64 Series (Latest Edition), Backflow Preventers and Vacuum Breakers.
 - .2 CSA-B79 (Latest Edition), Commercial and Residential Drains and Cleanouts.
 - .3 CAN/CSA-B356 (Latest Edition), Water Pressure Reducing Valves for Domestic Water Supply Systems.
- .4 National Research Council Canada (NRC).
 - .1 National Plumbing Code of Canada (NPC).
- .5 Health Canada/Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).
- .6 Plumbing and Drainage Institute (PDI).
 - .1 PDI-G101 (Latest Edition), Testing and Rating Procedure for Grease Interceptors with Appendix of Installation and Maintenance.
 - .2 PDI-WH201 (Latest Edition), Water Hammer Arresters Standard.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .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 MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements and 01 35 43 - Environmental Procedures. Indicate VOC's for adhesive and solvents during application and curing.

- .3 Shop Drawings:
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Newfoundland and Labrador, Canada.
 - .2 Submit shop drawings to indicate materials, finishes, method of anchorage, number of anchors, dimensions, construction and assembly details and accessories.
- .4 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
- .5 Instructions: submit manufacturer's installation instructions.
- .6 Manufacturers' Field Reports: manufacturers' field reports specified.

1.3 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .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.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labeled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground indoors in dry location 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 FLOOR DRAINS

- .1 Floor Drains and Trench Drains: to CSA B79.
- .2 FD-1: general duty; cast iron body round, adjustable head, sediment basket, heavy duty slotted grate 127 mm, integral seepage pan, and clamping collar.

2.2 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 or stainless steel square or round cover with flush head securing screws, bevelled edge frame complete with anchoring lugs.
 - .2 Floor Access: rectangular or round cast iron body and frame with adjustable secured nickel bronze top or cast box with anchor lugs and:
 - .1 Plugs: bolted bronze with neoprene gasket.
 - .2 Cover for Unfinished Concrete Floors: cast iron or nickel bronze round or square, gasket, vandal-proof screws.
 - .3 Cover for Terrazzo Finish: polished nickel bronze or brass with recessed cover for filling with terrazzo, vandal-proof locking screws.
 - .4 Cover for Tile and Linoleum Floors: polished nickel bronze with recessed cover for linoleum or tile infill, complete with vandal-proof locking screws.
 - .5 Cover for Carpeted Floors: polished nickel bronze with deep flange cover for carpet infill, complete with carpet retainer vandal-proof locking screws.

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), provincial codes, and local authority having jurisdiction.

- .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 by 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 START-UP

- .1 General:
 - .1 In accordance with Division 01 - 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.

3.6 TESTING AND ADJUSTING

- .1 General:
 - .1 In accordance with Division 01 - 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 Floor drains:
 - .1 Check operations of flushing features.
 - .2 Check security, accessibility, removeability of strainer.

- .3 Clean out baskets.
- .6 Access doors:
 - .1 Verify size and location relative to items to be accessed.
- .7 Cleanouts:
 - .1 Verify covers are gas-tight, secure, yet readily removable.

3.7 CLOSEOUT ACTIVITIES

- .1 Commissioning Reports: in accordance with Division 01 - General Requirements, supplemented as specified.
- .2 Training: provide training in accordance with Division 01 - General Requirements, supplemented as specified.

3.8 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .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 Section 01 74 11 - Cleaning.

3.9 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