

PART 1 - GENERAL**1.1 SECTION INCLUDES**

- .1 Materials and installation for piping, valves, and fittings for gas fired equipment systems in building services piping.

1.2 RELATED SECTIONS

- .1 Section 23 05 05 - Installation Pipework.

1.3 REFERENCE

- .1 Unless otherwise indicated, all of the Works will be done in accordance with the in force edition of the National Building Code.
- .2 Furthermore, the Works will be done in accordance to any other code or standard having jurisdiction, as per the latest edition, notably including, but not limited to:
 - .1 American Society of Mechanical Engineers (ASME).
 - .1 ASME B16.5-03, Pipe Flanges and Flanged Fittings.
 - .2 ASME B16.18-2012, Cast Copper Alloy Solder Joint Pressure Fittings.
 - .3 ASME B16.22-2001, Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings.
 - .4 ASME B18.2.1-96, Square and Hex Bolts and Screws Inch Series.
 - .2 American Society for Testing and Materials International, (ASTM).
 - .1 ASTM A47/A47M-99(2004), Standard Specification for Ferritic Malleable Iron Castings.
 - .2 ASTM A53/A53M-10, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc Coated Welded and Seamless.
 - .3 ASTM B75M-99, Standard Specification for Seamless Copper Tube Metric.
 - .4 ASTM B837-01, Standard Specification for Seamless Copper Tube for Natural Gas and Liquefied Petroleum (LP) Gas Fuel Distribution Systems.

- .3 Canadian Standards Association (CSA International).
 - .1 CSA W47.1-03, Certification of Companies for Fusion Welding of Steel.
- .4 Canadian Standards Association (CSA)/Canadian Gas Association (CGA)
 - .1 CAN/CSA B149.1.10 HB-00, Natural Gas and Propane Installation Code Handbook.

1.4 SUBMITTALS

- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Closeout Submittals.
 - .1 Provide maintenance data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals and include following:
 - .1 Product data from manufacturer must specify servicing requirements.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Waste Management and Disposal.
 - .1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

PART 2 - PRODUCTS

2.1 BLACK STEEL PIPE

- .1 Steel Pipe for Heating: Complying with ASTM A53/A53M Standard, grade B, schedule 40.
 - .1 NPS to 2: Screwed
 - .2 NPS 2½ and above: Plain end.

2.2 PIPE JOINTS FOR BLACK STEEL

- .1 Screwed Fittings: PTFE tape or lead-free pipe dope.
- .2 Welded Joints: To CSA W47.1 Standard.

2.3 FITTINGS

- .1 Fittings for Piping: Screwed or welded end to end:
 - .1 Screwed Fittings: Malleable iron, to ASME B16.3 Standard, Class 150.
 - .2 Butt-Welding Fittings.
 - .3 Unions: Malleable iron, in accordance to ASTM A47/A47M Standard.

PART 3 - EXECUTION

3.1 PIPING INSTALLATION

- .1 Install pipe work in accordance with Section 23 05 05 - Installation of Pipework.

3.2 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: Comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage, installation instructions, and datasheet.

3.3 PIPING

- .1 Install in accordance with Section 23 05 05 - Installation of Pipework, applicable Provincial/Territorial Codes, CAN/CSA B149.1-10 Standard, supplemented as specified.
- .2 Install Drip Points:
 - .1 At low points in piping system.

3.4 FIELD QUALITY CONTROL

- .1 Site Tests/Inspection:
 - .1 Test system in accordance with CAN/CSA B149.1-10 and requirements of authorities having jurisdiction.

3.5 ADJUSTING

- .1 Purging: Purge after pressure test in accordance with CAN/CSA B149.1 Standard.

3.6 CLEANING

- .1 Cleaning: In accordance with CAN/CSA B149.1-10 Standard, supplemented as specified.
- .2 Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools, and equipment.

END OF SECTION