

PART 1 - GENERAL

- 1.1 SUMMARY .1 Section Includes:  
.1 Materials and installation for piping, fittings, equipment used in compressed air systems.
- 1.2 REFERENCES .1 American Society of Mechanical Engineers (ASME)  
.1 ASME B16.5-03, Pipe Flanges and Flanged Fittings.  
.2 ASME B16.11-01, Forged Fittings, Socket-Welding and Threaded.  
.2 American Society for Testing and Materials International (ASTM)  
.1 ASTM A 53/A 53M-04, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.  
.2 ASTM A 181/A 181M-01, Standard Specification for Carbon Steel Forgings for General Purpose Piping.  
.3 Canadian Standards Association (CSA International)  
.1 CSA B51-03, Boiler, Pressure Vessel, and Pressure Piping Code.  
.4 Health Canada/Workplace Hazardous Materials Information System (WHMIS)  
.1 Material Safety Data Sheets (MSDS).
- 1.3 ACTION AND INFORMATIONAL SUBMITTALS .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.  
.2 Product Data:  
.1 Submit manufacturer's printed product literature, specifications and datasheet for piping, fittings and equipment.  
.2 Submit WHMIS MSDS. Indicate VOC's for adhesive and solvents during application and curing.
- 1.4 QUALITY ASSURANCE .1 Health and Safety:  
.1 Do construction occupational health and safety in accordance with Section 01 35 29 - Health and Safety Requirements.

- 1.5 DELIVERY,  
STORAGE AND  
HANDLING
- .1 Waste Management and Disposal:  
.1 Separate waste materials for reuse and recycling in accordance with Section 01 10 10 - General Instructions.  
.2 Remove from site and dispose of packaging materials at appropriate recycling facilities.  
.3 Collect and separate for disposal paper plastic polystyrene corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan (WMP).  
.4 Separate for reuse and recycling and place in designated containers Steel Metal Plastic waste in accordance with Waste Management Plan (WMP).  
.5 Handle and dispose of hazardous materials in accordance with CEPA, TDGA, Regional and Municipal, regulations.  
.6 Divert unused metal materials from landfill to metal recycling facility as approved by Departmental Representative.

PART 2 - PRODUCTS

- 2.1 PIPING
- .1 Piping: copper to Section 22 11 16 - Domestic Water Piping.
- 2.2 BALL VALVES
- .1 To Section 23 05 23.01 - Valves-Bronze.

PART 3 - EXECUTION

- 3.1 MANUFACTURER'S  
INSTRUCTIONS
- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.
- 3.2 COMPRESSED AIR  
PIPING CONNECTIONS  
AND INSTALLATION
- .1 Install shut-off valves at outlets, major branch lines and in locations as indicated.
- .2 Install unions to permit removal or replacement of equipment.
- .3 Install tees in lieu of elbows at changes in direction of piping. Install plug in open ends of tees.

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- 3.2 COMPRESSED AIR PIPING CONNECTIONS AND INSTALLATION (Cont'd)
- .4 Grade piping at 1% slope minimum.
- .5 Install compressed air trap and pressure equalizing pipe at moisture collecting points. Drain pipe to nearest floor drain.
- .6 Make branch connections from top of main.
- .7 Install compressed air trap at bottom of risers and at low points in mains, piped to nearest drain. Distance between drain points to be 30 m maximum.
- 3.3 FIELD QUALITY CONTROL
- .1 Site Tests/Inspection:  
.1 Testing: pressure test in accordance with requirements of Section 21 05 01 - Common Work Results for Mechanical, for 4 h minimum, to 1100 kPa, with outlets closed and with compressor isolated from system. Pressure drop not to exceed 10 kPa.
- .2 Obtain reports within 3 days of review and submit immediately to Departmental Representative.
- 3.4 CLEANING
- .1 Cleaning: blow out piping to clean interior thoroughly of oil and foreign matter.
- .2 Check entire installation is approved by authority having jurisdiction.
- .3 Perform cleaning operations as specified in Section 01 10 10 - General Instructions and in accordance with manufacturer's recommendations.
- .4 Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.