

SECTION 22 05 11
COMMON WORK RESULTS FOR PLUMBING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The requirements of this Section shall apply to all sections of Division 22.
- B. Definitions:
 - 1. Exposed: Piping and equipment exposed to view in finished rooms.
 - 2. Option or optional: Contractor's choice of an alternate material or method.

1.2 RELATED WORK

- A. Section 01 00 00, GENERAL REQUIREMENTS.
- B. Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- C. Section 07 60 00, FLASHING AND SHEET METAL: Flashing for Wall and Roof Penetrations.
- D. Section 07 92 00, JOINT SEALANTS.

1.3 QUALITY ASSURANCE

- A. Products Criteria:
 - 1. Standard Products: Material and equipment shall be the standard products of a manufacturer regularly engaged in the manufacture of the products for at least 3 years.
 - 2. All items furnished shall be free from defects that would adversely affect the performance, maintainability and appearance of individual components and overall assembly.
 - 3. The products and execution of work specified in Division 22 shall conform to the referenced codes and standards as required by the specifications. Local codes and amendments enforced by the local code official shall be enforced, if required by local authorities such as the natural gas supplier. If the local codes are more stringent, then the local code shall apply. Any conflicts shall be brought to the attention of the Resident Engineer (RE).
 - 4. Multiple Units: When two or more units of materials or equipment of the same type or class are required, these units shall be products of one manufacturer.

5. Asbestos products or equipment or materials containing asbestos shall not be used.
- B. Manufacturer's Recommendations: Where installation procedures or any part thereof are required to be in accordance with the recommendations of the manufacturer of the material being installed, printed copies of these recommendations shall be furnished to the Resident Engineer prior to installation. Installation of the item will not be allowed to proceed until the recommendations are received. Failure to furnish these recommendations can be cause for rejection of the material.
- C. Execution (Installation, Construction) Quality:
 1. All items shall be applied and installed in accordance with manufacturer's written instructions. Conflicts between the manufacturer's instructions and the contract drawings and specifications shall be referred to the RE/COTR for resolution. Written hard copies or computer files of manufacturer's installation instructions shall be provided to the RE/COTR at least two weeks prior to commencing installation of any item.
- D. Guaranty: Warranty of Construction, FAR clause 52.246-21.
- E. Plumbing Systems: IPC, International Plumbing Code.

1.4 SUBMITTALS

- A. Submittals shall be submitted in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, and SAMPLES.
- B. Information and material submitted under this section shall be marked "SUBMITTED UNDER SECTION 22 05 11, COMMON WORK RESULTS FOR PLUMBING", with applicable paragraph identification.
- C. Contractor shall make all necessary field measurements and investigations to assure that the equipment and assemblies will meet contract requirements.
- D. If equipment is submitted which differs in arrangement from that shown, provide drawings that show the rearrangement of all associated systems. Approval will be given only if all features of the equipment and associated systems, including accessibility, are equivalent to that required by the contract.
- E. Prior to submitting shop drawings for approval, contractor shall certify in writing that manufacturers of all major items of equipment have each reviewed drawings and specifications, and have jointly coordinated and properly integrated their equipment and controls to provide a complete and efficient installation.

- F. Upon request by Government, lists of previous installations for selected items of equipment shall be provided. Contact persons who will serve as references, with telephone numbers and e-mail addresses shall be submitted with the references.
- G. Manufacturer's Literature and Data: Manufacturer's literature shall be submitted under the pertinent section rather than under this section.
 - 1. Equipment and materials identification.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Protection of Equipment:
 - 1. Equipment and material placed on the job site shall remain in the custody of the Contractor until phased acceptance, whether or not the Government has reimbursed the Contractor for the equipment and material. The Contractor is solely responsible for the protection of such equipment and material against any damage.
 - 2. Damaged equipment shall be replaced with an identical unit as determined and directed by the RE/COTR. Such replacement shall be at no additional cost to the Government.
 - 3. Interiors of new equipment and piping systems shall be protected against entry of foreign matter. Both inside and outside shall be cleaned before painting or placing equipment in operation.
 - 4. Existing equipment and piping being worked on by the Contractor shall be under the custody and responsibility of the Contractor and shall be protected as required for new work.

1.6 APPLICABLE PUBLICATIONS

- A. The publications listed below shall form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. American Society of Mechanical Engineers (ASME):
 - Boiler and Pressure Vessel Code (BPVC):
 - SEC IX-2007.....Boiler and Pressure Vessel Code; Section IX, Welding and Brazing Qualifications.
- C. American Society for Testing and Materials (ASTM):
 - A36/A36M-2008.....Standard Specification for Carbon Structural Steel
 - A575-96 (R 2007).....Standard Specification for Steel Bars, Carbon, Merchant Quality, M-Grades R (2002)
 - E84-2005.....Standard Test Method for Surface Burning Characteristics of Building Materials

E119-2008a.....Standard Test Methods for Fire Tests of
Building Construction and Materials

D. Manufacturers Standardization Society (MSS) of the Valve and Fittings
Industry, Inc:

SP-58-02.....Pipe Hangers and Supports-Materials, Design and
Manufacture

SP 69-2003 (R 2004).....Pipe Hangers and Supports-Selection and
Application

E. National Electrical Manufacturers Association (NEMA):

MG1-2003, Rev. 1-2007...Motors and Generators

F. International Code Council, (ICC):

IBC-06, (R 2007).....International Building Code

IPC-06, (R 2007).....International Plumbing Code

PART 2 - PRODUCTS

2.1 FACTORY-ASSEMBLED PRODUCTS

A. STANDARDIZATION OF COMPONENTS SHALL BE MAXIMIZED TO REDUCE SPARE PART
requirements.

B. Manufacturers of equipment assemblies that include components made by
others shall assume complete responsibility for final assembled unit.

1. All components of an assembled unit need not be products of same
manufacturer.

2. Constituent parts that are alike shall be products of a single
manufacturer.

3. Components shall be compatible with each other and with the total
assembly for intended service.

4. Contractor shall guarantee performance of assemblies of components,
and shall repair or replace elements of the assemblies as required
to deliver specified performance of the complete assembly.

C. Components of equipment shall bear manufacturer's name and trademark,
model number, serial number and performance data on a name plate
securely affixed in a conspicuous place, or cast integral with, stamped
or otherwise permanently marked upon the components of the equipment.

D. Major items of equipment, which serve the same function, shall be the
same make and model

2.2 COMPATIBILITY OF RELATED EQUIPMENT

A. Equipment and materials installed shall be compatible in all respects
with other items being furnished and with existing items so that the

result will be a complete and fully operational system that conforms to contract requirements.

2.3 TOOLS AND LUBRICANTS

- A. Furnish, and turn over to the Resident Engineer, special tools not readily available commercially, that are required for disassembly or adjustment of equipment and machinery furnished.

2.4 ASBESTOS

- A. Materials containing asbestos are not permitted.

PART 3 - EXECUTION

3.1 ARRANGEMENT AND INSTALLATION OF EQUIPMENT AND PIPING

- A. Location of piping, roof drains, access provisions shall be coordinated with the work of all trades.
 - 1. Waterproof membrane shall not be penetrated. Pipe floor penetration block outs shall be provided outside the extents of the waterproof membrane.
- B. Protection and Cleaning:
 - 1. Equipment and materials shall be carefully handled, properly stored, and adequately protected to prevent damage before and during installation, in accordance with the manufacturer's recommendations and as approved by the Resident Engineer. Damaged or defective items in the opinion of the Resident Engineer, shall be replaced.
- C. Work in Existing Building:
 - 1. Perform as specified in Article, OPERATIONS AND STORAGE AREAS, Article, ALTERATIONS, and Article, RESTORATION of the Section 01 00 00, GENERAL REQUIREMENTS for relocation of existing equipment, alterations and restoration of existing building(s).
 - 2. As specified in Section 01 00 00, GENERAL REQUIREMENTS, Article, OPERATIONS AND STORAGE AREAS, make alterations to existing service piping at times that will cause the least interfere with normal operation of the facility.

3.2 OPERATING AND PERFORMANCE TESTS

- A. Prior to the final inspection, all required tests shall be performed as specified in Section 01 00 00, GENERAL REQUIREMENTS, Article, TESTS and submit the test reports and records to the Resident Engineer.
- B. Should evidence of malfunction in any tested system, or piece of equipment or component part thereof, occur during or as a result of tests, make proper corrections, repairs or replacements, and repeat tests at no additional cost to the Government.

Replace Roof Phase V James J. Peters Medical Center

- C. When completion of certain work or system occurs at a time when final control settings and adjustments cannot be properly made to make performance tests, then make performance tests such systems respectively during first actual seasonal use of respective systems following completion of work.

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