DIVISION 15 - MECHANICAL

Section 15480 - Plumbing Special Systems

Introduction

Special plumbing systems including:

LABORATORY WATER SYSTEMS, MEDICAL GAS SYSTEMS, COMPRESSED AIR SYSTEMS, VACUUM SYSTEMS

Part 1 - General

- Refer to section 15990 For testing requirements

Part 2 - Products

- Pipe Schedule

<table>
<thead>
<tr>
<th>Service</th>
<th>Size</th>
<th>Pipe</th>
<th>Fittings</th>
<th>Joints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory RO water</td>
<td>All</td>
<td>Schedule 80 PVC</td>
<td>Schedule 80 PVC</td>
<td>Solvent Welded</td>
</tr>
<tr>
<td>High Purity Water</td>
<td>All</td>
<td>Polypropylene Type 1 Schedule 80</td>
<td>Polypropylene Type 1 Schedule 80</td>
<td>Fusion Weld Mechanical Joint</td>
</tr>
<tr>
<td>Medical Gas</td>
<td>All</td>
<td>Copper Type “L” Oxygen Grade</td>
<td>Wrought Copper</td>
<td>15%silver Solder</td>
</tr>
<tr>
<td>Compressed Air</td>
<td>All</td>
<td>Copper Type “L”</td>
<td>Wrought Copper</td>
<td>Less Than 0.2% Lead Alloy Solder</td>
</tr>
<tr>
<td>Lab Vacuum</td>
<td>All</td>
<td>Copper Type “L”</td>
<td>Wrought Copper or Cast Brass</td>
<td>Less Than 0.2% Lead Alloy Solder</td>
</tr>
<tr>
<td>Specialty Gases</td>
<td>All</td>
<td>Review with User for requirements and discuss with PD&amp;C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Laboratory High Purity Water Systems

  - Utilize campus-wide RO water system where available with local filtration purifiers where required by user.
  - Where building wide high purity water is required, utilize a complete system by a single manufacturer to ensure a single point of responsibility.
  - Piping system shall be Schedule 80 PVC solvent welded for campus-wide RO system.
  - No tapered connectors shall be utilized on faucets.
  - Sterilize system before handover to U of A.

- Compressed Air Systems shall be/provided with:

  - Oil-less compression for medical application.
  - Automatic drain valve c/w isolation valve.
  - Air dryer with air dryer bypass valve (if required).
  - Conditioned inlet air preferred.
  - Filter inlet.
  - Oil and moisture separators.

Part 3 - Execution

- Workmanship

  - System Cleaning - fill laboratory water systems and hold water for 24 hours prior to flush. Flush clean 3 times.
• All vacuum pumps must be vented to the exterior of the building.
• Vacuum pump tanks must be drained to waste container.
• Provide bypass around filter assembly for servicing.
• Purge medical gas systems with nitrogen during soldering.