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INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS

IAPMO GUIDE CRITERIA

FOR

POLYPROPYLENE INSPECTION CHAMBERS

IGC 242-2007

1. PURPOSE

- 1.1** The purpose of this standard is to establish a generally acceptable standard for Polypropylene Inspection Chambers (here after called "PPIC") for installation in underground drainage pipework. Its purpose is to serve as a guide for producers, distributors, architects, engineers, contractors, installers, inspectors and users; to promote understanding regarding materials, manufacture and installation; and to provide for identifying pipework for connection to the PPIC complying with this standard.
- 1.2** The provisions of this standard are not intended to prevent the use of any alternate material or method of construction provided any such alternate meets the intent and requirements of this document and changes are amended to this standard.

2. SCOPE

- 2.1** This standard covers minimum standards for materials in the construction of the PPIC, and to prescribe minimum test requirements for the performance of the PPIC, together with methods of marking and identification.

3. REFERENCED STANDARDS

- 3.1** All standards referenced herein shall be the current edition of that standard.
- | | |
|-------------|---|
| ASTM A 536 | Ductile Iron Castings |
| ASTM D 2240 | Rubber Property—Durometer Hardness |
| ASTM D 2665 | Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings |
| ASTM D 3034 | Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings |
| ASTM D 4101 | Polypropylene Injection and Extrusion Materials |

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ASTM F 477

Elastomeric Seals (Gaskets) for Joining Plastic Pipe

4. GENERAL REQUIREMENTS

- 4.1** The polypropylene base and shaft of the PPIC shall meet the material requirements of ASTM D 4101 having a minimum cell class of PP0326.
- 4.2** Seals shall be made of a non-toxic synthetic rubber that will meet the requirements of ASTM F 477 (Table 1).
- 4.3** Where a ductile iron cover is fitted to the PPIC it shall meet the material requirements of ASTM A 536 having a minimum classification of 60-40-18.
- 4.4** Where a polypropylene cover is fitted to the PPIC it shall meet the material requirements of ASTM D 4101 having a minimum cell class of PP0326.
- 4.5 Pipework Connections**
 - 4.5.1** The inlet(s) and outlet from the base of the PPIC shall have connections that are compatible with SDR 35 sewer pipe manufactured to ASTM D 3034 and schedule 40 DWV pipe manufactured to ASTM D 2665. Such connections may require the use of adapters.
- 4.6 Cover and Frame**
 - 4.6.1** For chambers deeper than 48" the diameter of the clear opening shall be no greater than 14" in order to restrict human entry.
 - 4.6.2** Means shall be provided to enable the Frame to be secured to the shaft
 - 4.6.3** Means shall be provided to secure the Cover to the Frame. This fixing will require the use of a specialist tool to release.
 - 4.6.4** Means shall be provided to enable the Cover to form an airtight seal with the Frame. This seal should comply with the test requirements found in Section 5.6 of this standard.
- 4.7 Chamber Base**
 - 4.7.1** The channels at the base of the chamber shall provide an uninterrupted flow to the pipe line and not constitute any potential for blockage. A ball 90% of nominal pipe ID shall be able to roll freely from inlet to outlet.
 - 4.7.2** There shall be adequate fall between all of the inlets and the outlet.

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- 4.7.3** There shall be a step between the inverts of any side inlet and that of the through channel to discourage backflow from the main channel.
- 4.7.4** The Chamber base shall provide good access to enable testing equipment to be fitted to individual inlet and outlet connections.
- 4.7.5** The Chamber base shall be supplied with blanking stoppers to enable unused connection ports to be permanently sealed off.
- 4.7.6** The underside of the chamber base shall be such that it enables the product to stand upright and remain stable during transport, storage and installation.
- 4.8 Riser/Shaft**
 - 4.8.1** A sealed connection shall be provided between the shaft and base components.
 - 4.8.2** Where the shaft comprises multiple sections seals shall be provided between the sections.
 - 4.8.3** For Chambers less than 24" deep the internal diameter shall be greater than 10" to allow sufficient access for pipeline inspection, maintenance and rehabilitation equipment.
 - 4.8.4** For Chambers greater than 24" deep the internal diameter shall be greater than 18" to allow sufficient access for pipeline inspection maintenance and rehabilitation equipment.

5. TESTING REQUIREMENTS

Note: An individual sample shall be used for each test

5.1 Watertightness

5.1.1 Apparatus

- 5.1.1.1** Watertight seals and/or plugs, to suit open connections or ends on each inlet and outlet on the inspection chamber or pipes or fittings connected thereto.
- 5.1.1.2** Vessel or jacket suitable for containing water, surrounding the test assembly in accordance with Section 5.1.3 of this standard.

5.1.2 Test Assembly

The test assembly shall comprise an inspection chamber assembled in accordance with the manufacturer's instructions together with watertight seals and plugs (Section 5.1.1.1) secured to suit each inlet and outlet of the assembly

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