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INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS

IAPMO GUIDE CRITERIA FOR

LONGITUDINALLY WELDED HOT-DIP GALVANIZED STEEL PIPE AND FITTINGS FOR WASTEWATER SYSTEMS

IGC 270-2008

1. PURPOSE

- 1.1** The purpose of this standard is to establish a generally acceptable standard for longitudinally welded hot-dip galvanized steel pipe and fittings for wastewater systems. 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 longitudinally welded hot-dip galvanized steel pipe and fittings for wastewater systems 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 applies to longitudinally welded hot-dip galvanized steel pipe and fittings for wastewater systems and covers general requirements and performance tests for such products, in addition to method of markings and identification.
- 2.2** Components within this system comprise of longitudinally welded hot-dip galvanized steel pipe and fittings having spigot and socket end connections usually operating under gravity or at a low head of pressure.

3. REFERENCED STANDARDS

- 3.1** All standards referenced herein shall be the current edition of the standards.

ISO 37	Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain properties
ISO 48	Rubber, vulcanized or thermoplastic - Determination of hardness (Hardness between 10 IRHD and 100 IRHD)
ISO 559	Steel tubes for water and sewage

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ISO 815	Rubber, vulcanized or thermoplastic - Determination of compression set at ambient, elevated or low temperatures
ISO 1461	Hot dip galvanized coatings on fabricated ferrous products - Specifications
ISO 3306	Plain end as-welded and sized precision steel tubes - Technical conditions for delivery
ISO 8770	High-density polyethylene (PE-HD) pipes and fittings for soil and waste discharge (low and high temperature) systems inside buildings - Specifications

4. GENERAL REQUIREMENTS

4.1 Materials. Unalloyed steel material shall be a minimum type R33 in accordance with ISO 3306.

4.2 Piping. Pipes shall be straight and shall be cut perpendicular to the pipe axis with all burrs removed. The bend over a length of 3.0 feet (1 m) shall not be more than 0.059 inches (1.5 mm) in the pipe axis. The pipe ends with nominal sizes larger than DN/ID 100 the deviation of the right angle, shall not be more than 1°45'.

The inner surface of the pipe shall be smooth, completely galvanized and free from cracks, blowholes and any other impurities that may affect the flow. The outside surface of the pipe shall be smooth and free from any sharp irregularities that would damage the seals during installation.

Welding burrs or occlusions shall be small to accept hot-dip galvanization. Any burrs, edges and lugs in welded areas should be avoided. The inner burr of the longitudinal weld shall be worked down to a maximum of 0.0118 inches (0.3 mm) in accordance with ISO 559. The weld shall be watertight at internal pressures of 0 psi (0 kPa) to 7.25 psi (50 kPa)

Piping dimensions and tolerances shall comply with the dimensional requirements in BS EN 1123-2

4.3 Fitting. Fittings shall be cut perpendicular to the pipe axis with all burrs removed. The fittings ends with nominal sizes larger than DN/ID 100 the deviation of the right angle, shall not be more than 1°45'. For fittings that are up to DN/ID 100 a variation of the right angle of up to 3° is allowed.

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