



Standard Guide for Installing Plastic DWV Piping Suspended from On-Grade Slabs¹

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1. Scope*

1.1 This guide provides procedures for the installation of DWV piping in buildings that are built where soil conditions require the use of pier or piling supported grade beam construction or in filled ground where the soil compaction is less than 95 %. These procedures are intended to ensure that the DWV piping suspended from the on grade concrete slabs is not damaged or destroyed by movement of the soil or fill under the slab after the building is completed and occupied.

1.2 In this type of construction, the area within the grade beams is filled with soil up to a level that allows the concrete slab to be poured directly on the fill without a supporting form. In this process the sanitary waste piping is installed by trenching into the fill, and then putting hangers with support rods on the pipes as they are installed. The hanger rods extending upward must be long enough so that the top of the rod will be embedded in and anchored in the concrete.

1.3 The hanger rods are intended to provide adequate strength and corrosion resistance to assure long term service.

1.4 The details of installation are intended to ensure that the rods remain vertical, that they extend into the concrete an adequate amount and that the upper ends are terminated so that they have adequate “pull out” strength.

1.5 The details of backfill are intended to limit or minimize the loads on the a suspended piping. These loads result from consolidation or movement of the soil/fill beneath the slab.

1.6 The values stated in inch-pound units are to be regarded as standard. No other units of measurement are included in this standard.

1.7 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

¹ This guide is under the jurisdiction of ASTM Committee F17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.63 on DWV.

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1.8 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

D653 Terminology Relating to Soil, Rock, and Contained Fluids

D2665 Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings

F412 Terminology Relating to Plastic Piping Systems

3. Terminology

3.1 *General*—Definitions used in this guide are in accordance with Terminologies in F412 and D653 unless otherwise indicated.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *grade beams*—concrete beams around the perimeter of a building and within the building. They support the slabs, the exterior walls and interior bearing walls.

3.2.2 *piers & pilings*—these are the supporting members that carry the grade beams and transmit the loads to adequate bearing soils and strata.

3.2.3 *on grade slabs*—these are reinforced concrete slabs poured directly on the fill without a form under the slab. They are supported by the Grade Beams.

NOTE 1—PPGB is the acronym for pier piling grade beam construction covered by this guide.

4. Significance and Use

4.1 This guide is for use by designers, specifiers, installation contractors, regulatory agencies, owners and inspection organizations who are involved in these piping installations in buildings of this type.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

*A Summary of Changes section appears at the end of this standard