



Standard Specification for Heavy Duty Shielded Couplings Joining Hubless Cast Iron Soil Pipe and Fittings¹

This standard is issued under the fixed designation C 1540; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers the evaluating of the performance of heavy duty shielded couplings to join hubless cast iron soil pipe and fittings.

1.2 Couplings covered by this standard shall have minimum dimensions as found in Table 1 and Fig. 1 of this standard.

1.3 The values stated in inch-pound units are to be regarded as the standard. The SI units given in parentheses are for information only.

1.4 The committee with jurisdiction over this standard is aware of comparable standards published by other organizations, namely Cast Iron Soil Pipe Institute specification CISPI 310 and Factory Mutual Research standard FM 1680.

1.5 The following precautionary caveat pertains only to the test method portion, Section 7, of this specification. *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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

A 240 Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip²

A 493 Specification for Stainless Wire and Wire Rods for Cold Heating and Cold Forging²

A 888 Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary, Storm and Drain, Waste, and Vent Piping Applications²

C 564 Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings²

C 717 Terminology of Building Seals and Sealants²

2.2 CISPI Standards:

CISPI-301 Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste and Vent Piping Applications

CISPI-310 Specification for coupling for use in Connection

¹ This specification is under the jurisdiction of ASTM Committee C24 on Building Seals and Sealants and is the direct responsibility of Subcommittee C24.75 on Gaskets and Couplings for Plumbing and Sewer Piping.

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² Annual Book of ASTM Standards, Vol.

TABLE 1

Nominal Pipe Size	Coupling Width
1½ to 4 in. (38 to 100 mm)	3 in. (76 mm) Minimum Width
5 to 10 in. (127 to 254 mm)	4 in. (100 mm) Minimum Width
12 to 15 in. (305 to 381 mm)	5½ in. (140 mm) Minimum Width

with Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste and Vent Piping Applications
FM 1680 Approval Standard Couplings used in Hubless Cast Iron Systems for Drain, Waste or Vent Systems above or below ground Industrial, Commercial, and Residential

3. Terminology

3.1 Definitions:

3.1.1 Definitions of the following terms used in this specification are found in Terminology C 717.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *center stop, n*—an integral part of the gasket centered on the axial length of the gasket intended to limit the insertion depth of the pipe to be coupled.

3.2.2 *clamp assembly, n*—that portion of the coupling excluding the gasket.

3.2.3 *coupling, n*—the complete assembly.

3.2.4 *fitting, n*—parts of a pipeline other than straight pipes, valves, or couplings.

3.2.5 *gasket, n*—the elastomeric portion of the coupling.

3.2.6 *heavy duty coupling, n*—a shielded coupling that has dimensions not less than those detailed in Table 1 and Fig. 1.

3.2.7 *joint, n*—the point of assembly consisting of the coupling and the joined pipes or fittings, or both.

3.2.8 *shield, n*—an external metallic protective device designed to protect the sealing gasket from external elements that could cause failure of the sealing assembly.

4. Materials and Manufacture

4.1 Physical properties of gaskets shall comply with Specification C 564 using the applicable durometer hardness requirement of the column of Table 2 of that document as specified by the manufacturer.

4.2 Clamp assembly screws or bolts shall not have screw-driver slots.

4.3 All stainless steel shall meet the physical requirements of Specification A 240.