



**Summary of Substantive Changes
between the 2011 and the 2014 editions of
ASTM C1540 “Heavy Duty Shielded Couplings
Joining Hubless Cast Iron Soil Pipe and Fittings”**

Presented to the IAPMO Standards Review Committee on May 4, 2015

General: The change to this standard might have an impact on currently listed products. The substantive changes are:

- Added requirements for gaskets to comply with the applicable chemical properties of ASTM C564 (see Section 4, Table 2 and Figure 2).
- Added dimensional requirements for gaskets (see Section 4, Table 2, and Figure 2).
- Added additional material and dimensional requirements for clamps (see Section 6, Table 3, and Figure 3).
- Changed the allowable size tolerances for some of the pipes and fittings used in the unrestrained hydrostatic test (see Table 4).

Section 4, Materials and Manufacture: Clarified that gaskets must comply with the applicable chemical properties of ASTM C564 and added dimensional requirements as follows:

4.1 Physical and chemical properties of gaskets shall comply with Specification C564 ~~using the applicable durometer hardness requirement of the column of Table 2 of that document as specified by the manufacturer in accordance with Column “C” of Table 1 of that document. Typical dimensions shall be in accordance with Fig. 2 and Table 2.~~

Section 5, Elastomeric Gasket Requirements: Clarified the manufacturer production testing as follows:

5.2 The elastomeric gasket shall consist of one piece construction conforming to the physical requirements of Specification C564. The gaskets shall be tested by the gasket manufacturer for compliance to Specification C564 ~~during the course of production not to exceed 24 hours for each size of gasket being produced. These tests shall be performed at the manufacturer location during the~~ minimum of 24 hours after production, but not longer than 72 hours after time of production. These tests shall include hardness, elongation and tensile strength, tear strength and compression set. Heat, aging, water absorption, ozone resistance and oil immersion tests shall be conducted annually or when a formulation changes, or a supplier changes, whichever occurs first.

Section 6, Clamp Assembly Requirements: Added additional material and dimensional requirements for the clamp assembly as follows:

6.1 The clamp assembly shall be made of material conforming to the requirements as outlined in Sections 4 and 6, Table 3, and Fig. 3.

Section 8, Markings and Identification: Added allowance to mark the shield as follows:

8.1 Permanently mark each clamp assembly or shield with the manufacturer’s name or U.S. registered trademark, country of origin, all stainless and the pipe size for which it is designed. Marking shall be visible after installation.



Table 1, Dimensions and Tolerances for Hubless Pipe and Fittings: Changed the specifications for the coupling width from minimum dimensions to nominal dimensions.

Table ~~24~~, Dimensions and Tolerances for Hubless Pipe and Fittings: Changed the allowable tolerances for some of the pipe and fitting sizes.

The following tables were added:

[Table 2 Dimensional Tolerances for Rubber—Standard Dimensional Tolerances RMA CLASS 3](#)

[Table 3 Material Specifications](#)

Figure ~~24~~ Deflection Test

Figure ~~35~~ Shear Test

Figure ~~46~~ Unrestrained Hydrostatic Joint Testing Apparatus

The following figures were added:

[Figure 2 Rubber Gasket](#)

[Figure 3 Shield and Clamp Assembly](#)