

IAPMO IGC 414-202y



PUBLIC REVIEW DRAFT

Industry Standard for
Tapped No Hub Couplings - DRAFT



IAPMO Standard

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Preface

This is the first edition of IAPMO IGC 426, Tapped No-Hub Couplings.

This Standard was developed by the IAPMO Standards Review Committee (SRC) in accordance with the policies and procedures regulating IAPMO industry standards development, Policy S-001, Standards Development Process. This Standard was approved as an IAPMO Industry Standard on Month DD, YYYY.

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 - (b) *relevant section, table, or figure number, as applicable;*
 - (c) *wording of the proposed change, tracking the changes between the original and the proposed wording; and*
 - (d) *rationale for the change.*
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 - (a) *the edition of the standard for which the interpretation is being requested;*
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- (12) Proposals for amendments to this Standard will be processed in accordance with the standards-writing procedures of IAPMO industry standards development, Policy S-001, Standards Development Process.*

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IAPMO IGC 414-2025

Tapped No-Hub Couplings

1 Scope

1.1 Scope

This Standard covers tapped no-hub couplings, specialized plumbing fittings designed to connect primer lines to plastic and/or cast-iron P-trap assemblies in drainage systems and specifies requirements for materials, physical characteristics, performance testing, and markings.

These couplings feature a rotatable tee or pipe stub for the primer line, embedded rigid bands for structural support, external metal sheaths for reinforcement, and gasketed ends with paired pipe clamps for secure sealing. Tapped no-hub couplings are intended for use in commercial and residential plumbing systems where a primer line must be connected to a P-trap, typically in floor drains, floor sinks, or similar drainage fixtures. The design allows for flexible orientation and elevation of the primer line connection, facilitating installation and maintenance while ensuring a reliable seal and mechanical integrity.

1.2 Alternative Materials

The requirements of this Standard are not intended to prevent the use of alternative materials or methods of construction provided such alternatives meet the intent and requirements of this Standard.

1.3 Terminology

In this Standard,

- (a) “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy to comply with the Standard;
- (b) “should” is used to express a recommendation, but not a requirement;
- (c) “may” is used to express an option or something permissible within the scope of the Standard; and
- (d) “can” is used to express a possibility or a capability.

Notes accompanying sections of the Standard do not specify requirements or alternative requirements; their purpose is to separate explanatory or informative material from the text. Notes to tables and figures are considered part of the table or figure and can be written as requirements.

1.4 Units of Measurement

SI units are the primary units of record in global commerce. In this Standard, the inch/pound units are shown in parentheses. The values stated in each measurement system are equivalent in application, but each unit system is to be used independently. All references to gallons are to U.S. gallons.

2 Reference Publications

This Standard refers to the following publications and, where such reference is made, it shall be to the current edition of those publications, including all amendments published thereto.

ASTM International

A240/A240M

Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

ASTM A493

Standard Specification for Stainless Steel Wire and Wire Rods for Cold Heading and Cold Forging

ASTM A666

Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar

ASTM C564

Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings

3 Definitions and Abbreviations

3.1 Definitions

The following definitions shall apply in this Standard

Coupling – a device used to join two sections of pipe or fittings

Tapped No-Hub Coupling – A no-hub coupling assembly incorporating a rotatable tee or pipe stub designed to accept a primer line, used for connecting a primer line to a cast iron P-trap assembly

Gasket – an elastomeric sealing component used within the coupling to provide a watertight seal between joined pipe ends

Primer Line – A water supply line connected to a P-trap to maintain a water seal and prevent sewer gas ingress by ensuring the trap remains primed (wetted)

Clamp Assembly – The set of stainless-steel bands, screws, and related hardware used to compress the coupling and gasket around the pipe ends

3.2 Abbreviations

This section is reserved for later use.

4 General Requirements

4.1 Materials

4.1.1 Elastomeric Gasket

The elastomeric gasket shall consist of one piece conforming with the physical properties of ASTM C564.

4.1.1.1 The elastomeric gasket shall have an inside center stop-ring spaced equal-distance from the ends to serve as a stop between the pipe/fitting ends. The inside center stop-ring shall not:

- a) Create an enlargement chamber;
- b) Recess with a ledge or shoulder;
- c) Reduce pipe area; or
- d) Obstruct the flow

4.1.1.2 The elastomeric gasket shall be free of defects such as cracks, holes, blisters, tears and/or pockets that may affect their use and serviceability.

4.1.2 Clamp Assembly

4.1.2.1 The clamp assembly shall be made of AISI 300 series stainless steel conforming to the requirements of ASTM A240/A240M or ASTM A666.

4.1.2.2 The worm drive screw shall be AISI Type 305 stainless steel and shall conform to the requirements of ASTM A493.

4.1.2.3 All clamp assemblies shall be designed and manufactured so as to be capable of being torqued to a minimum of 115% of their rated torque as specified by the manufacturer.

4.1.2.4 Clamp assembly screws or bolts shall be AISI Type 305 stainless steel and shall not have screwdriver slots.

4.2 Obstruction

The device shall not obstruct the waterway.

5 Testing Requirements

5.1 Thrust Test

5.1.1 Test Apparatus

The test apparatus for the unrestrained hydrostatic test shall be constructed as follows:

- a) Machine the plain ends of the pipe to be used for the test to the correct diameters;
- b) The assembly shall consist of a maximum outside diameter pipe connected to a minimum outside diameter pipe with diameters in accordance with Table 1;
- c) Plain ends shall have a 0.38 mm (0.015 in) deep grooves machine circumferentially around them at 3.18 mm (0.125 in) intervals down the pipe section for a distance equal to that covered by the elastomeric sleeve.
- d) The tool used to machine the grooves shall have a 60-degree inclined angle and shall cut into the pipe from a perpendicular position;
- e) The surface between the grooves shall be a lathe turned surface of 125 RMS; and
- f) The plain ends of the pipe for the test are to be uncoated and must be cleaned with acetone and thoroughly dried before each assembly.

5.1.2 Test Procedure

The unrestrained hydrostatic test shall be conducted as follows:

- a) Install each coupling in accordance with the manufacturer's instructions between two 254-305 mm (10-12 in) long new sections of machined galvanized standard weight steel (Schedule 40) pipe;
- b) Support the pipe assemblies in a manner that does not restrain joint movement as shown in Figure 1.
- c) Seal the tapping element.
- d) Fill the pipe assembly with water, expelling all air and increase the hydrostatic pressure at a rate of 6.9 kPa (1 psi) every 30 seconds until the target pressure is reached.
- e) The target pressure is
 - a. 138 kPa (20 psi) for 38 mm (1.5 in) through 127 (5 in);
 - b. 124 kPa (18 psi) for 152 mm (6 in);
- f) Once the target pressure is reached, hold for 10 min.

5.1.3 Performance Requirement

There shall be no leakage or axial joint movement of more than 3.8 mm (0.15 in).

5.2 Rotational Alignment Test

5.2.1 Test Procedure

The rotational alignment test shall be conducted as follows:

- a) Install each coupling in accordance with the manufacturer's installation requirements between two sections of randomly selected hubless cast iron soil pipe. Do not tighten assembly.
- b) Rotate the tee or pipe stub through a minimum of 180 to demonstrate adjustability.
- c) Tighten the clamp assemblies to the manufacturer's recommended torque.
- d) Repeat the hydrostatic leak test (Section 5.1)

5.2.2 Performance Requirement

The coupling shall allow for rotational alignment as described and shall not leak.

5.3 Deflection Test**5.3.1 Test Procedure**

The deflection test shall be conducted as follows:

- a) Install each coupling in accordance with the manufacturer's installation requirements between two sections of randomly selected hubless cast iron soil pipe as shown in Figure 2.
- b) Install pipe sizes that are 127 mm (5 in) through 381 mm (15 in) restrained if the manufacturer's installation instructions require restraint.
- c) Close the outbound ends of the pipe with test plugs;
- d) Fill the assembly with water and apply a hydrostatic pressure of 103.4 kPa (15 psi) or the manufacturer's rated working pressure (whichever is higher);
- e) Rigidly support one pipe, and while the assembly is under pressure, raise the opposite end of the other pipe 25.4 mm per 0.3 m (1 in per 1 ft) of pipe; and
- f) Maintain the pressure for 5 min.

5.3.2 Performance Requirement

There shall be no leakage.

5.4 Shear Test**5.4.1 Test Procedure**

The shear test shall be conducted as follows:

- a) Install each coupling in accordance with the manufacturer's installation requirements between two 1.5 m (5 ft) lengths of randomly selected hubless cast iron soil pipe on blocks at three locations as shown in Figure 3.
- b) Support the first length on blocks:
 - a. One near the uncoupled end; and
 - b. The other immediately adjacent to the couplings
- c) Firmly restrain the length adjacent to the coupling in position;
- d) Support the other coupled length by a single block at the end of the pipe;
- e) Install pipe sizes 127 mm (5 in) through 381 mm (15 in) restrained if the manufacturer's installation instructions require restraint;
- f) Apply a load of 1.8 kg/mm (100 lb/in) of nominal diameter at a point 152.4 mm (6 in) from the edge of the coupling upon a 305 mm (12 in) length of (3 x 3) angle iron or load distributing pad located on the top of the pipe immediately adjacent to the coupling of the pipe having one support only;
- g) Apply an internal pressure of 103.4 kPa (15 psi) or the manufacturer's rated working pressure (whichever is higher); and
- h) Maintain the load and internal pressure for 15 min.

5.4.2 Performance Requirement

There shall be no visible leakage or displacement of more than 9.5 mm (0.375 in) from true alignment under the applied load.

5.5 Bending Moment Test

5.5.1 Test Procedure

The bending moment test shall be conducted as follows:

- a) Install each coupling in accordance with the manufacturer's installation requirements between two 1.5 m (5 ft) lengths of randomly selected hubless cast iron soil pipe. Restrain the assembly to prohibit rotation.
- b) Install a 0.3 m (1 ft) CTS Type L copper tube into the compression fitting and seal the end. The copper tube shall be parallel to the floor.
- c) Expel air and pressurize to test pressures in Section 5.1.2 (e) .
- d) Hang a 2.27 kg (5 lb) weight at the end of the copper tube furthest from the tapped adapter.
- e) Leave in place for 5 minutes.

5.5.2 Test Criteria

There shall be no leakage at the tapping after 5 minutes.

6 Markings and Accompanying Literature

6.1 Product Markings

Each clamp assembly covered by this Standard shall be marked with the

- a) Manufacturer's name or trademark;
- b) Country of origin;
- c) Pipe size;
- d) Clamp torque; and
- e) Rated working pressure

6.1.2 Each gasket covered by this Standard shall be marked with raised letters with the

- a) manufacturer's name or trademark;
- b) country of origin;
- c) pipe size; and
- d) ASTM C564

6.1.3 The product shall also have any other markings as required by law.

6.2 Visibility

Markings shall be permanent and legible.

Table 1

Dimensions and Tolerances for Hubless Pipe and Fittings

Outside Size mm (in)	Diameter mm (in)
38 (1.5)	48.26 ± 1.52 (1.90 ± 0.06)
51 (2)	59.69 ± 2.29 (2.35 ± 0.09)
76 (3)	85.09 ± 2.29 (3.35 ± 0.09)
102 (4)	106.93 ± 2.29/-1.27 (4.38 ± 0.09/-0.05)
127 (5)	134.62 ± 2.29/-1.27 (5.30 ± 0.09/-0.05)
152 (6)	159.26 ± 2.29/-1.27 (6.30 ± 0.09/-0.05)
203 (8)	212.85 ± 3.30/-2.29 (8.38 ± 0.13/-0.09)
254 (10)	266.7 ± 2.29 (10.59 ± 0.09)
305 (12)	317.5 ± 2.29 (12.50 ± 0.09)
381 (15)	388.62 ± 2.29 (15.83 ± 0.09)

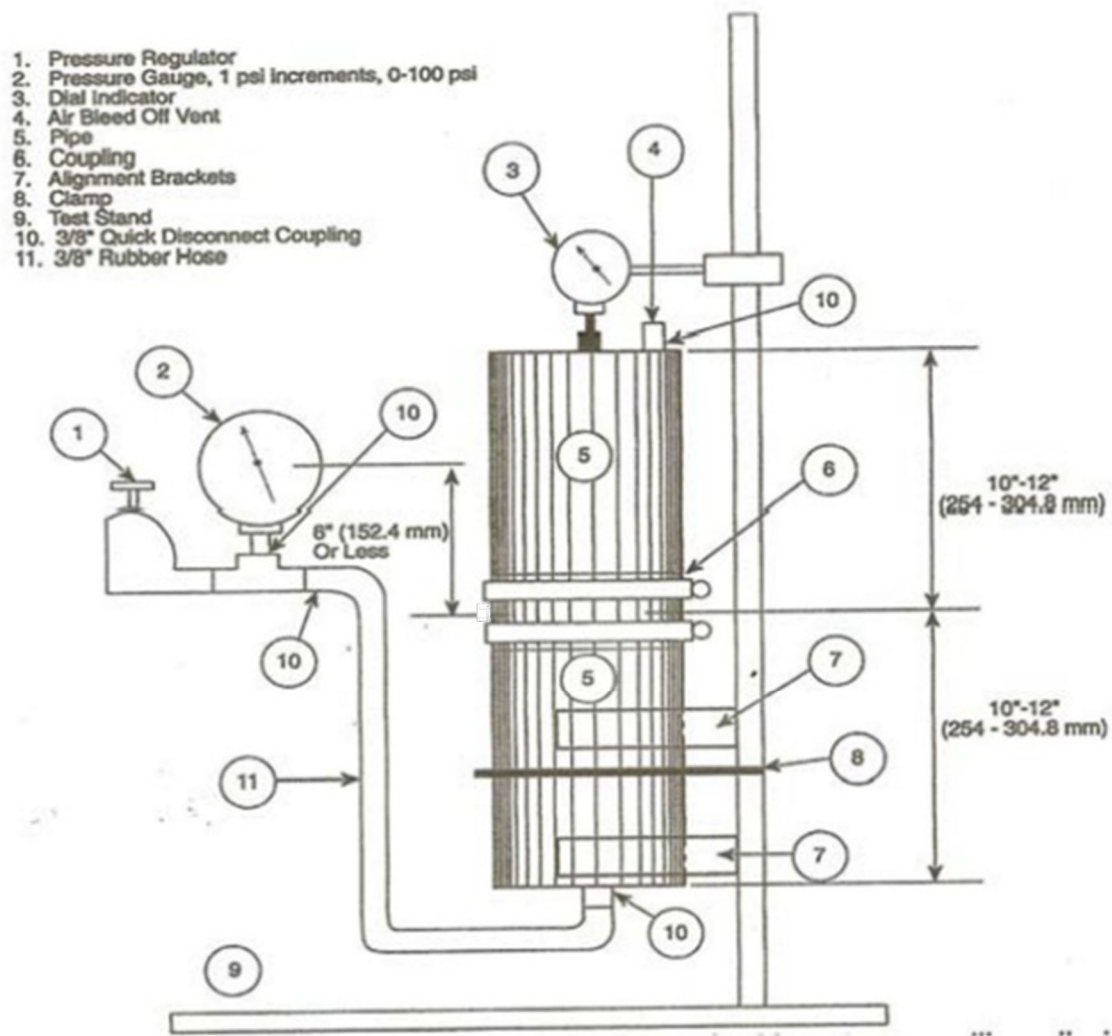


Figure 1 – Thrust Test

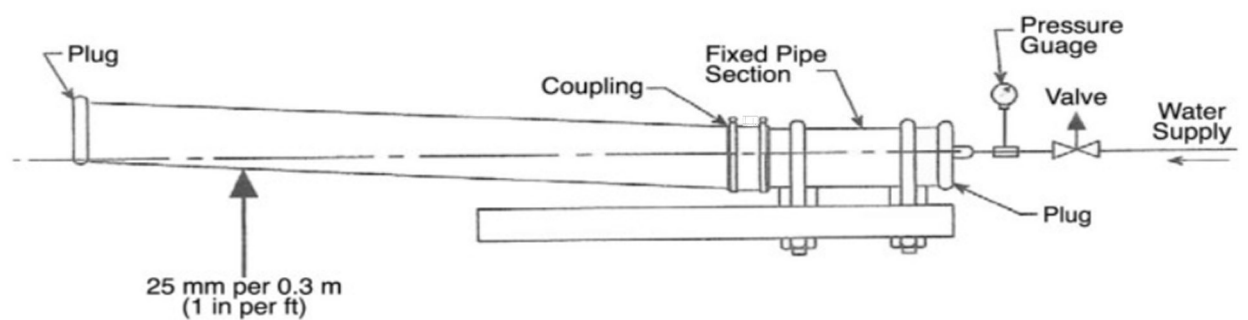


Figure 2– Deflection Test

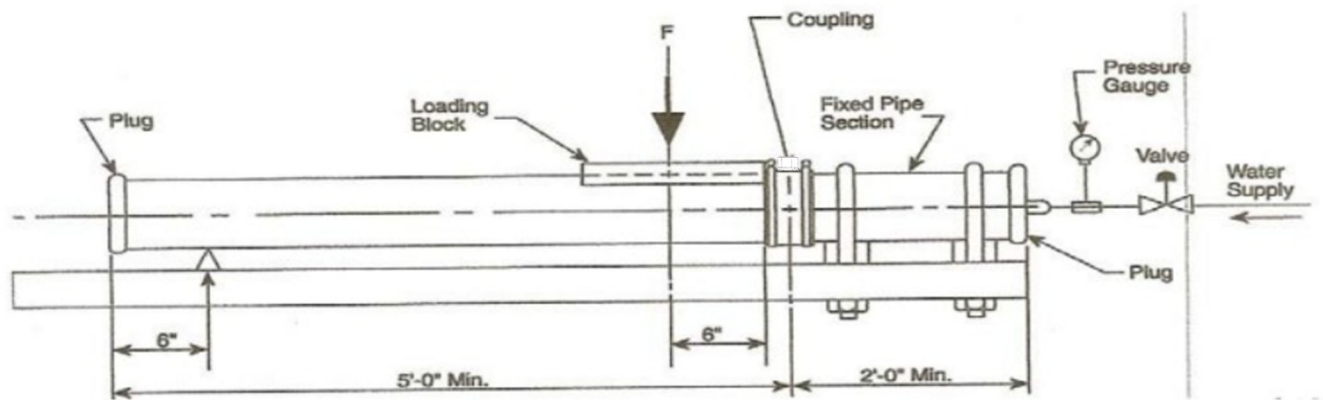


Figure 3 – Shear Test



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