



## SUBJECT

Overhead Piping

**CAN:** 5-311.9

**Effective:** 6/19/2008

**Revised:** 6/29/2011



## CODE SECTION

Section 311.9  
2010 California Plumbing Code (CPC)

### 2010 California Plumbing Code CHAPTER 3

*311.9 Drainage piping over operating and delivery rooms, nurseries, food preparation centers, food-serving facilities, food storage areas, and other sensitive areas shall be kept to a minimum and shall not be exposed. Special precautions shall be taken to protect these areas from possible leakage from necessary overhead drainage piping systems. Piping over switchboards, panel boards, and motor control centers are subject to restrictions of the California Electrical Code where applicable.*

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## PURPOSE

The code does not define what constitutes a "special precaution". Factory Mutual Research Corporation is a Nationally Recognized Testing Laboratory. Approval Standard Class Number 1680 is used to evaluate couplings used in drain, waste, vent, storm and sanitary systems for "their intended application of long term connection of hubless cast iron soil pipe both above and below ground". The types of tests performed are: hydrostatic strength, blockage, bending moment, deflection angle, sealing sleeve, clamp strength, thrust test, and salt spray.

Clamps with tie rods are a means of preventing movement in the longitudinal direction. Preventing longitudinal separation of the joint maintains maximum surface contact of the sealing sleeve which affords a factor of safety deemed an acceptable "special precaution."

For copper tubing, brazed joints provide greater strength than soldered (sweated) joints due to better bonding with the base metal and due to strength of the filler material. The greater joint strength provided by brazing is an acceptable special precaution.

The use of drain troughs under overhead piping in critical areas has been used as a "special precaution" on a case-by-case basis for many years with satisfactory results.

The interpretation provides staff and industry with "special precautions" that meet the intent of the code.

**INTERPRETATION**

Sanitary and storm drainage piping over operating rooms, delivery rooms, cesarean rooms, recovery rooms, nurseries, intensive care units, food preparation centers, food serving facilities, food storage areas, shall be kept to a minimum and shall not be exposed. When it becomes necessary to route this piping above the ceiling of these rooms, special precautions shall be taken to protect these areas from possible leakage. This Code Application Notice is not intended to address piping over electrical rooms, which is regulated by Article 110.26(F), 2010 California Electrical Code.

1. Acceptable "special precautions" for hubless cast iron pipe include, but are not limited to, the following:
  - (a) The use of couplings that have been tested and certified to conform to the performance requirements of Factory Mutual, Approval Standard 1680, Class I, by Factory Mutual Research or by a nationally recognized independent testing agency. The coupling shall be installed in accordance with the manufacturer's recommendations.
  - (b) "Heavy Duty" (i.e., four-band type) couplings that have been listed by International Association of Plumbing and Mechanical Officials (IAPMO) for conformance to ASTM C 1540, but have not been tested to FM 1680, Class I, may be installed when restrained to prevent joint separation. Such restraint shall be by means of pipe clamps on each side of the joint with not less than two tie rods or plates across the joint installed similar to Sheet Metal and Air Conditioning Contractors' National Association, Inc. (SMACNA) Seismic Restraint Manual, Guidelines for Mechanical Systems, Second Edition – February, 1998, Figure 9-10 or Cast Iron Soil Pipe (CISPI) Standard 310-04, Figure 4.
  - (c) Continuous sheet metal drain troughs under overhead hubless piping. Such troughs shall be sloped to drain with a properly identified air gap termination over an approved receptor.
2. For copper drainage tubing (DWV), an acceptable "special precaution" is the use of brazed joints on all piping that is routed above the ceiling.
3. Other proposed methods of compliance will be reviewed on a case by case basis.

Original Signed

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Date