

Code of Federal Regulations  
 Title 49. Transportation  
 Subtitle B. Other Regulations Relating to Transportation  
 Chapter I. Pipeline and Hazardous Materials Safety Administration, Department of Transportation (Refs & Annos)  
 Subchapter D. Pipeline Safety  
 Part 192. Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards (Refs & Annos)  
 Subpart C. Pipe Design

49 C.F.R. § 192.111

§ 192.111 Design factor (F) for steel pipe.

Currentness

(a) Except as otherwise provided in paragraphs (b), (c), and (d) of this section, the design factor to be used in the design formula in § 192.105 is determined in accordance with the following table:

Class location	Design factor (F)
1.....	0.72
2.....	0.60
3.....	0.50
4.....	0.40

(b) A design factor of 0.60 or less must be used in the design formula in § 192.105 for steel pipe in Class 1 locations that:

- (1) Crosses the right-of-way of an unimproved public road, without a casing;
- (2) Crosses without a casing, or makes a parallel encroachment on, the right-of-way of either a hard surfaced road, a highway, a public street, or a railroad;
- (3) Is supported by a vehicular, pedestrian, railroad, or pipeline bridge; or
- (4) Is used in a fabricated assembly, (including separators, mainline valve assemblies, cross-connections, and river crossing headers) or is used within five pipe diameters in any direction from the last fitting of a fabricated assembly, other than a transition piece or an elbow used in place of a pipe bend which is not associated with a fabricated assembly.

(c) For Class 2 locations, a design factor of 0.50, or less, must be used in the design formula in § 192.105 for uncased steel pipe that crosses the right-of-way of a hard surfaced road, a highway, a public street, or a railroad.

(d) For Class 1 and Class 2 locations, a design factor of 0.50, or less, must be used in the design formula in § 192.105 for—

(1) Steel pipe in a compressor station, regulating station, or measuring station; and

(2) Steel pipe, including a pipe riser, on a platform located offshore or in inland navigable waters.

#### Credits

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192–27, 41 FR 34605, Aug. 16, 1976]

SOURCE: 35 FR 13257, Aug. 19, 1970; 52 FR 32800, Aug. 31, 1987; 53 FR 1635, Jan. 21, 1988; Amdt. 192–73, 60 FR 14650, March 20, 1995; Amdt. 192–3, 60 FR 41828, Aug. 14, 1995; Amdt. 192–75, 61 FR 18516, April 26, 1996; 61 FR 38403, July 24, 1996; 70 FR 8302, Feb. 18, 2005; Amdt. 192–111, 74 FR 62505, Nov. 30, 2009; Amdt. 192–112, 74 FR 63326, Dec. 3, 2009; Amdt. 192–120, 80 FR 12777, March 11, 2015; Amdt. 192–119, 80 FR 46847, Aug. 6, 2015; Amdt. 192–122, 81 FR 91872, Dec. 19, 2016; Amdt. 192–123, 82 FR 7997, Jan. 23, 2017; Amdt. 192–124, 83 FR 58715, Nov. 20, 2018; Amdt. 192–125, 84 FR 52243, Oct. 1, 2019, unless otherwise noted.

AUTHORITY: 30 U.S.C. 185(w)(3), 49 U.S.C. 5103, 60101 et. seq., and 49 CFR 1.97.

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