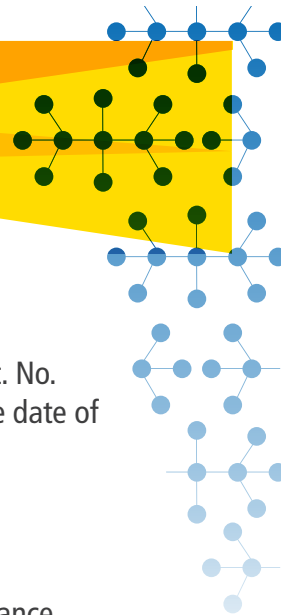


INFO BRIEF 19-4.1 (1/21/19)

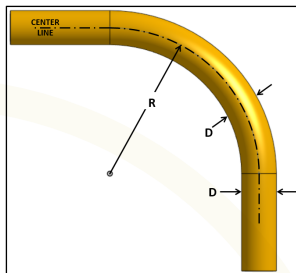


Recommended Minimum Bend Radius

The Pipeline Safety Plastic Pipe Rule, 49 CFR Part 192 – Docket No. PHMSA-2014-0098: Amdt. No. 192-124, RIN 2137-AE93 was published to the Federal Register on 11/20/18 with an effective date of 1/22/19.

In this Rule, the **bend radius** for polyethylene pipe is "limited to the manufacturers recommendations."

PolyPipe recommends that minimum bend radius be determined in accordance with the guidance provided in Chapter 7, pages 291 & 292 of the Plastics Pipe Institute, PPI, Handbook of PE Pipe, 2nd ed. <https://plasticpipe.org/pdf/chapter07.pdf>.



The formula for determining minimum bend radius, ft, is:

Where, R_{min} = minimum bend radius, ft.
 D_o = pipe diameter, in.
 f_R = bend factor, see below

$$R_{min} = \frac{D_o}{12} * f_R$$

DR	f_R
7, 7.3, 9	20
11, 13.5	25
17, 21	27

This guidance is for field or "cold" bending of PE pipe during installation. Bend radii on system components, such as risers, may be smaller. These bends are manufactured in a controlled environment and, therefore, are not limited to the field bend minimum radii.

Fittings and mechanical connections are rigid compared to the pipe. If a fitting or mechanical connection is present in the bend, the minimum bend radius is 100 times the pipe's outside diameter (OD) for a distance of about 5 times the pipe diameter on either side of the fitting.

Additional questions regarding this topic should be directed to PolyPipe Engineering/Technical Support at questions@polypipeusa.com.