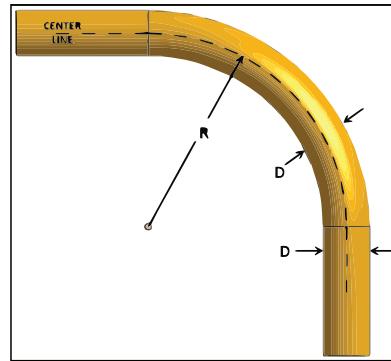


Recommended Minimum Bend Radius

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:

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.