

**POLYETHYLENE (PE)
PRESSURE PIPE
COIL DIMENSIONS**

TN-6

2021



Foreword

This technical note was developed and published with the technical help and financial support of the members of the PPI (Plastics Pipe Institute, Inc.). The members have shown their interest in quality products by assisting independent standards-making and user organizations in the development of standards, and also by developing reports on an industry-wide basis to help engineers, code officials, specifying groups, and users.

The purpose of this technical note is to provide general information on polyethylene pressure pipe coil dimensions.

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The Plastics Pipe Institute, Inc.

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This Technical Note, TN-6, was first issued in 2001 and was revised in February 2021.

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POLYETHYLENE (PE) PRESSURE PIPE COIL DIMENSIONS

1.0 INTRODUCTION

This Technical Note lists the smallest coil inside diameters for polyethylene pressure pipe reported in a 2020 survey of pipe manufacturers and/or review of publicly available data from pipe manufacturer websites. The reported values may be used as guidelines for establishing coiling dimensions. The user should verify these dimensions are suitable for their materials and conditions.

2.0 MATERIAL

The materials used to manufacture the pipe and tubing in this survey were polyethylene used in pressure applications. Non-pressure pipe polyethylene materials may have different coiling dimensions.

3.0 MINIMUM COIL INSIDE DIAMETER

The minimum coil inside diameter should be sufficiently large so that the pipe (tubing) wall will not buckle (kink) during coiling. Appropriate coiling equipment, techniques, and process conditions are required to avoid buckling or kinking during coiling.

4.0 SURVEY

Tables 1 and 2 summarize the minimum coil inside diameters currently used in the pressure pipe industry as well as list common DR's that are coiled at that inside diameter. Industry practice has led to specific coil diameters to accommodate shipping limitations, field handling limitations, and installation equipment (including re-rounding equipment). Minimum coil diameters do not necessarily represent minimum coil inside diameter limits, rather the data indicate current practice at the time of this writing. Special coiling techniques and conditions may allow smaller coil inside diameters to be used. Contact the pipe manufacturer to verify the actual coil dimensions.

Table 1: Current Industry Coiling Practice (IPS/DIPS)

Nominal IPS/DIPS Pipe Size (in)	Pipe Dimension Ratio (DR)*	Typical Minimum Inside Coil Diameter (in)
½	9, 11	23
½	7	30
¾	9, 11, 13.5	23
¾	7	30
1	9, 11, 13.5	24
1	7	30
1-1/4	7, 9, 11	30
1-1/2	7, 9, 11	47
2	7, 9, 11, 13.5, 15.5, 17	48
3	7, 9, 11	62
3	13.5, 15.5, 17	70
4	7, 9, 11, 13.5, 15.5, 17	70
6	7, 9, 11, 13.5, 15.5, 17	70

*Not all DRs are offered by each manufacturer.

Table 2: Current Industry Coiling Practice (CTS)

Nominal CTS Tubing Size (in)	Tubing Dimension Ratio (DR)*	Typical Minimum Coil Inside Diameter (in)
½	7, 9.3	30
¾	9.7, 11	24
1	11, 11.5, 12.5	30
1-1/4	10, 11, 15.3	30
1-1/2	7, 9, 11, 11.5	34
2	7, 9, 11, 11.5	48

*Not all DRs are offered by each manufacturer.