

**Polyethylene (PE)
Pressure Pipe
Coil Dimensions
TN-6/2001**



Foreword

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

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Polyethylene (PE) Pressure Pipe Coil Dimensions

1. Introduction

This Technical Note lists the smallest coil inside diameters for polyethylene pressure pipe reported in a 1999 survey of pipe manufacturers. The reported values may be used as guidelines for establishing coiling dimensions.

2. Material

The materials used to manufacture the pipe and tubing in this survey were either medium density pipe grade resin with a cell classification per ASTM D 3350-96 of 234363E or high density pipe grade resin with a cell classification of 345444C. Other polyethylene materials may have different coiling limitations.

3. 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. Survey

Tables 1 and 2 summarize the minimum coil inside diameters currently used in the pressure pipe industry as well as list the maximum DR's that are coiled at that inside diameter. Industry practice has led to specific coil diameters to accommodate field handling limitations and installation equipment, including re-rounding equipment. Minimum coil diameters do not necessarily represent minimum coil inside diameter limits, rather they are what is being produced at the time of this writing. Special coiling techniques and conditions may allow smaller coil inside diameters to be used.

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

Nominal IPS/DIPS Pipe Size (in)	Pipe Dimension Ratio (DR)*	Minimum Inside Coil Diameter (in)
1/2	£9.3	28
3/4	£11	28
1	£11	28
1-1/4	£15.5	30
1-1/2	£15.5	44
2	£17	48
2-1/2	£17	48
3	£17	68
4	£15.5	68
5	£15.5	84
6	£15.5	84

Table 2. Current Industry Coiling Practice (CTS)

Nominal CTS Tubing Size (in)	Tubing Dimension Ratio (DR)*	Minimum Coil Inside Diameter (in)
1/2	£7	26
3/4	£9.8	26
1	£12.5	26
1-1/4	£15.3	30

***Dimension Ratio indicates largest DR that can be called at the given minimum coil inside diameter.**