

Piping






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Piping

- Two primary types of thermoplastic pipes used in irrigation
 - PVC - polyvinyl chloride
 - PE - polyethylene



Piping Terminology

- **Nominal Pipe Size:** refers to a names size of pipe which is usually not the actual dimensions of the product; *this varies according to the pressure rating of the pipe*
 ½-inch SCD 40 is not ½-inch ID or OD
- **Outside Diameter Pipe Size**
 - refers to the actual diameter of the pipe



Piping Terminology

Type of pipe	Described in terms of...
PVC	OD
Iron	IPS
PE	ID



Pipe wall thickness

- **Class** – older term
- **SDR** – Standard Dimension Ratio
 - Uniform pressure for all nominal pipe sizes
- **Schedule**
 - Designation of a standard series of pipe wall thickness; used for various pressure applications of the same size pipe



Pipe Terminology

- **Schedule**
 - Designation of a standard series of pipe wall thickness; used for various pressure applications of the same size pipe
 - Schedule 40, 80, 120, 160
 - As the schedule number increases, so does the wall thickness

Material Designations



- Plastic pipe are coded by letters representing the kind of material plus four digits.
 - First two – *Type and Grade of materials*
 - Last two – *Hydrostatic design stress in units of 100 psi*



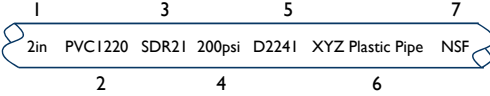
Material Designations

- Example: PVC1220
 - PVC = Poly (Vinyl Chloride)
 - 1 = Type I
 - 2 = Grade 2
 - 20 = 2000 psi hydrostatic design stress



Not a quality indication



Pipe Markings



- 1 = Nominal pipe size
- 2 = Type of plastic
- 3 = Pipe dimension ration or schedule (SCD 40)
- 4 = Pressure in psi
- 5 = ASTM designation
- 6 = Manufacturer's name
- 7 = Mark or seal of evaluating laboratory



Review Piping



Piping



- What is the difference between nominal and outside diameter pipes?

Nominal Pipe Size

- refers to a names size of pipe which is usually not the actual dimensions of the product



Outside Diameter Pipe Size

- refers to the actual diameter of the pipe





Piping

- What is the relationship between schedule pipe size and wall thickness?
 - As the schedule number increases the wall thickness increases

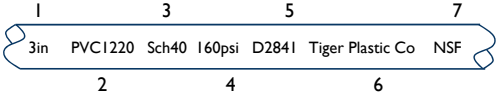


Piping



- What are the two types of thermoplastic pipe?
 - PVC
 - PE



Identify the pipe markings.





- 1 = Nominal pipe size = 3in
- 2 = Type of plastic = PVC
- 3 = Schedule = Sch 40
- 4 = Pressure in psi = 160 psi
- 5 = ASTM designation = D2841
- 6 = Manufacturer = Tiger Plastic Co
- 7 = Evaluating laboratory = NSF





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- What are the two main designations of wall thickness in PVC and PE pipe?
 - Class
 - Schedule



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- Match the following pipe type with the controlling dimension (ID or OD).
 - SDR-PR PE pipe ID
 - PVC OD



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