



Explanation of Material / SDR relationship

The pressure rating of a pipe (PN) is determined by the diameter, wall thickness, and material type and is expressed as

PN - Pipe pressure rating at 20 °C (MPa x 10)

The basic polyethylene (PE) material types used for pipe production are PE 63, PE 80 and PE 100, the number indicating long term strength.

The term SDR, Standard Dimension Ratio, is introduced to describe the pipe, in combination with the material type.

$$\text{SDR} = \frac{\text{Min. OD}}{\text{Min. Wall Thickness}}$$

where OD refers to the Outside Diameter of the pipe.

The higher the SDR, the thinner the pipe, and the lower the pressure rating.

AS/NZS 4130 uses a standard SDR series, in combination with the three material types, to provide standard pipe pressure ratings as shown in the table.

SDR	PE 63	PE 80	PE 100
41		PN 3.2	PN 4
33	PN 3.2	PN 4	
26	PN 4		PN 6.3
21		PN 6.3	PN 8
17	PN 6.3	PN 8	PN 10
13.6	PN 8	PN 10	PN 12.5
11	PN 10	PN 12.5	PN 16
9	PN 12.5	PN 16	PN 20
7.4	PN 16	PN 20	PN 25

For Further information please contact :
 Plastics Industry Pipe Association of Australia Ltd
 Suite 246, 813 Pacific Hwy, Chatswood NSW 2067
 or email plasticpipe@pipa.com.au