

Pressure Pipe Virgin PE100/PE80 Data Sheet

1.0 General

1.1 Peak Pipe Systems polyethylene pipe is a solid wall pipe manufactured in accordance with EN 12201-2 under an ISO 9001:2015 (FM654870) Quality System.

1.2 Table 1: Available Pipe Ranges & Pressure Ratings

Virgin Material Grade	SDR	Pipe Series, S	Pressure Rating, PN	Outside Diameter (mm) Range	
PE80	9	4	16	20	63
PE80	11	5	12.5	20	63
PE100	7.4	3.2	25	50	450
PE100	9	4	20	20	630
PE100	11	5	16	20	630
PE100	13.6	6.3	12.5	25	630
PE100	17	8	10	40	630
PE100	21	10	8	50	630
PE100	26	12.5	6	50	630
PE100	33	16	5	315	630
PE100	41	20	4	315	630
PE100 Co-extruded	11	5	16	90	630
PE100 Co-extruded	17	8	10	90	630

- 20-180mm \varnothing Coils
- 50/100/150m are the typical length of coils; other lengths available by special request.
- 32-630mm \varnothing Pipe for Straight Sticks
- 6 / 12 m standard lengths; others lengths available by special request.

1.3 The finished product should be uniformly coloured and free from surface defects that may affect performance

1.4 All pipe information to be printed at 1 metre intervals to:

- EN12201-2 Marking Specification
- Standard Peak Pipe Systems Specification

BS EN 12201 PEAK PIPE SYSTEMS (PPS1) BUREAU VERITAS 1144/001 225 X 20.5 MM SDR11 PE100 PN 16 B1 BATCH NO. DATE/TIME POLYMER CODE E.G. (B9L) W/P; MO. No.

- Customer Marking Specification on request.

1.5 Peak Pipe Systems Polyethylene pipe can be joined by the following welding methods:

- Butt fusion- Using an Automated Butt Fusion machine and following the appropriate program for the pipe/application.
- Electro-fusion-Using correct size Electro-Fusion fittings to join the pipe together with an Automated Electro fusion machine.

2.0 Raw Material

2.1 All pipe to be manufactured from virgin polyethylene compound. Sourced by internationally recognised suppliers, see **Table 2** below:

Table 2: Raw Material

PPS1 –Peak Pipe Systems	PPS2 - Buxoplas
Ineos Eltex Tub 121N3000 (E10)(Black PE100)	Borealis Borsafe HE3490-LS (B9L)(Black PE100)
Borealis Borsafe HE3490-LS (B9L)(Black PE100)	Lyondell Basell Hostalen CRP100 (010) (Black PE100)
Sabic Vestolen A6060R10000 (VE6) (Black PE100)	Borealis Borsafe HE3494-LS-H (B94H) (Blue PE100)
Lyondell Basell Hostalen CRP100 (010) (Black PE100)	Lyondell Basell Hostalen CRP100W (011) (Blue PE100)
Borealis Borsafe HE3494-LS-H (B94H) (Blue PE100)	Ineos Eltex PC002-50R968 (Blue PE80)
Lyondell Basell Hostalen CRP100W (011) (Blue PE100)	Borealis Borsafe ME3444 (Blue PE80)

2.2 Table 3 Virgin PE100/PE80 Material Properties

Property	Unit	Test Method	Material	Range
Melt Flow Rate (MFR) (190°C, 5Kg)	g/ 10 minutes	ISO 1133	PE100	0.2-0.36*
			PE80	0.64-1.09*
Density	Kg/m ³	ISO1183	PE100	950-964*
			PE80	941-952*
Oxygen Induction Time (OIT)	minutes	ISO11357-6	PE80 & PE100	≥20
Carbon Black Content	%	ISO6964	PE80 & PE100	2-2.5
Carbon Black Dispersion	n/a	ISO18553	PE80 & PE100	≤3
Moisture Content	ppm or mg/Kg	ISO15512/EN12118	PE80 & PE100	≤300

* Combined Ranges from our Suppliers

- Raw Material Certificate of Analysis, available per batch.

4.0 Testing Regime

Table 5 Goods Inwards Testing for Virgin Material PE100/PE80 (In House Testing)

Property	Unit	Test Method		Range
Melt Flow Rate (MFR) (190°C, 5Kg)	g/ 10 minutes	EN ISO 1133	PE100	0.2-0.36*
			PE80	0.64-1.09*
Density	Kg/m ³	ISO1872/1	PE100	950-964*
			PE80	941-952*
Oxygen Induction Time (OIT)	minutes	ISO11357-6	PE80 & PE100	≥20

* Combined Ranges from our Suppliers-Testing done to Supplier's Specification.

Table 6 Batch Release Testing for Virgin Material PE100/PE80 Pipe- EN12201-7

Size Group	Nominal Diameter, d _n (mm)	Test Required (PPS Extrusion Operators)(PTD04)	Tests Required (Test Lab.)
1	d _n <75	Appearance; Colour; Geometrical; Marking	Hydrostatic Strength 80 ⁰ C 165Hrs (EN ISO1167); OIT ^a (ISO11357-6); Delamination ^b
2	75 ≤ d _n <250	Appearance; Colour; Geometrical; Marking	Hydrostatic Strength 80 ⁰ C 165Hrs (EN ISO1167); OIT ^a (ISO11357-6); Delamination ^b
3	250 ≤ d _n <710	Appearance; Colour; Geometrical; Marking	Hydrostatic Strength 80 ⁰ C 165Hrs (EN ISO1167); OIT ^a (ISO11357-6); Delamination ^b

Note: ^a OIT tests must be carried out on the inner surface.

^b Co-Extruded Pipe Only.

Test Laboratory Information is kept on a database, and reports are available on request.

5.0 Chemical Resistance

- Polyethylene material is renowned for its excellent resistance to chemical attack. The degree of resistance to a specific chemical will depend on concentration and working pressure, each of which will affect the long term life of any pipe.
- Polyethylene does not rust, rot, pit, corrode or lose wall section through chemical or electrical reaction with the surrounding soil.
- Polyethylene does not normally support the growth of, or nor is affected by, algae, bacteria or fungi.

6.0 Temperature

- When a system is to be operated in excess of 20°C the design life will be affected, a de-rating factor must be employed.

7.0 Site Pressure Testing of Installed Systems

- For PE pipelines the test pressure may be up to 1.5 times the rating of the pipe.