

**PolyPipe® GB50 PE3408/PE4710/PE100 Pipe**

**Extra High Molecular Weight (EHMW) High Density Polyethylene for use in oilfield and gas gathering applications.**

**Typical Printline: 4"IPS SDR 7 – POLYPIPE® GB50 GAS – PE3408/PE4710 – CDE – ASTM D2513 – API 15LE – MANUFACTURING CODE**

<b>TYPICAL PHYSICAL PROPERTIES</b>			
<b>PROPERTY</b>	<b>ASTM TEST METHOD</b>	<b>*NOMINAL VALUES</b>	
		<b>SI UNITS</b>	<b>ENGLISH UNITS</b>
Density, Natural	D1505	0.949 gm/cc	--
Density, Black	D1505	0.960 gm/cc	--
Melt Index (190°C/2.16 kg)	D1238	0.08 gm/10 min.	--
Flow Rate (190°C/21.6 kg)	D1238	7.5 gm/10 min.	--
Tensile Strength @ Yield	D638	24.8 MPa	3,600 psi
Ultimate Elongation	D638	>800%	>800%
Flexural Modulus	D790	1,034 MPa	150,000 psi
2% Secant			
Environmental Stress Crack Resistance (ESCR)			
F <sub>0</sub> , Condition C	D1693	--	--
PENT	F1473	>500 hrs.	>500 hrs.
Brittleness Temperature	D746	<-117°C	<-180°F
Hardness, Shore D	D2240	64	64
Vicat Softening Temperature	D1525	124°C	255°F
Izod Impact Strength (Notched)	D256	0.42 KJ/m	8 ft – lb <sub>f</sub> /in
Volume Resistivity	D991	>10 <sup>15</sup> ohm-cm	--
Thermal Expansion Coefficient		2x10 <sup>-4</sup> cm/cm/°C	1.0x10 <sup>-4</sup> in/in/°F
CELL CLASSIFICATION:	D3350	445474C 445574C 445576C	PE47 PE47 PE100
PPI HYDROSTATIC DESIGN BASIS (HDB)	D2837	11.0 MPa @ 23°C	1,600 psi @ 73.4°F
<i>(As listed in PPI TR-4)</i>		6.9 MPa @ 140°C	1,000 psi @ 140°F
PPI HYDROSTATIC DESIGN STRESS (HDS)		6.9 MPa @ 23°C	1,000 psi @ 73.4°F
<i>(As established by the Hydrostatic Stress Board (HSB) of the Plastics Pipe Institute (PPI))</i>			

*\*Nominal values are intended to be guides only, and not as specification limit.*

*\*Some of the data listed above was determined from compression molded test specimens; therefore, may deviate from pipe specimens.*

**PolyPipe, Inc.**

2406 N. I-35 | P.O. Box 390 | Gainesville, TX 76241  
 Phone 940.665.1721 | 800.433.5632 | Facsimile 940.668.8612  
 Sales Facsimile 940.668.2704 | [www.polypipeinc.com](http://www.polypipeinc.com)

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## Pipe Data and Pressure Ratings – IPS

Pressure Rating		DR7 335 psi		DR9 255 psi		DR11 200 psi		DR13.5 160 psi		DR17 120 psi		DR21 100 psi		DR26 80 psi		DR32.5 65 psi	
Nominal Pipe Size	OD Size, inches	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft
½"	0.840	0.120	0.119	0.093	0.096	0.076	0.080	---	---	---	---	---	---	---	---	---	---
¾"	1.050	0.150	0.185	0.117	0.150	0.095	0.126	---	---	---	---	---	---	---	---	---	---
1"	1.315	0.188	0.291	0.146	0.235	0.120	0.197	---	---	---	---	---	---	---	---	---	---
1 ¼"	1.660	0.237	0.463	0.184	0.374	0.151	0.314	0.123	0.261	---	---	---	---	---	---	---	---
1 ½"	1.900	0.271	0.607	0.211	0.490	0.173	0.411	0.141	0.342	---	---	---	---	---	---	---	---
2"	2.375	0.339	0.948	0.264	0.766	0.216	0.642	0.176	0.534	0.140	0.430	---	---	---	---	---	---
3"	3.500	0.500	2.058	0.389	1.664	0.318	1.395	0.259	1.159	0.206	0.936	0.167	0.768	0.135	0.626	---	---
4"	4.500	0.643	3.402	0.500	2.751	0.409	2.306	0.333	1.916	0.265	1.548	0.214	1.269	0.173	1.035	0.138	0.835
5"	5.375	0.768	4.854	0.597	3.925	0.489	3.289	0.398	2.733	0.316	2.208	0.256	1.810	0.207	1.477	0.165	1.192
5"	5.563	0.795	5.199	0.618	4.204	0.506	3.523	0.412	2.928	0.327	2.366	0.265	1.939	0.214	1.582	0.171	1.277
6"	6.625	0.946	7.374	0.736	5.963	0.602	4.997	0.491	4.152	0.390	3.355	0.315	2.750	0.255	2.244	0.204	1.811
7"	7.125	1.018	8.529	0.792	6.897	0.648	5.780	0.528	4.802	0.419	3.881	0.339	3.181	0.274	2.596	0.219	2.094
8"	8.625	1.232	12.498	0.958	10.106	0.784	8.470	0.639	7.037	0.507	5.687	0.411	4.662	0.332	3.804	0.265	3.069
10"	10.750	1.536	19.416	1.194	15.700	0.977	13.157	0.796	10.932	0.632	8.834	0.512	7.242	0.413	5.909	0.331	4.767
12"	12.750	1.821	27.312	1.417	22.085	1.159	18.508	0.944	15.379	0.750	12.427	0.607	10.187	0.490	8.312	0.392	6.706
14"	14.00	2.000	32.930	1.556	26.628	1.273	22.315	1.037	18.542	0.824	14.983	0.667	12.282	0.538	10.022	0.431	8.086
16"	16.00	2.286	43.010	1.778	34.779	1.455	29.146	1.185	24.218	0.941	19.569	0.762	16.042	0.615	13.090	0.492	10.561
18"	18.00	2.571	54.435	2.000	44.017	1.636	36.888	1.333	30.651	1.059	24.767	0.857	20.304	0.692	16.567	0.554	13.366
20"	20.00	2.857	67.203	2.222	54.342	1.818	45.541	1.481	37.840	1.176	30.577	0.952	25.066	0.769	20.453	0.615	16.501
22"	22.00	---	---	2.444	65.754	2.000	55.105	1.630	45.787	1.294	36.998	1.048	30.330	0.846	24.748	0.677	19.967
24"	24.00	---	---	2.667	78.253	2.182	65.579	1.778	54.21	1.412	43.80	1.143	35.99	0.923	29.452	0.738	23.64

- PolyPipe® GB50 PE4710 Pipe is manufactured in accordance with ASTM D2513.
- Coiled pipe is available through 6" OD and straight lengths available in 40' and 50' lengths. For custom lengths, contact a Customer Service Representative.
- Pressures are based on water at 23°C (73.4°F) and are determined by use of the Hydrostatic Design Stress (HDS) as established by the Hydrostatic Stress Board (HSB) of the Plastics Pipe Institute (PPI). Service pressures for crude oil service shall be calculated in accordance with API 15LE.
- The above weights are calculated in accordance with Plastics Pipe Institute (PPI) TR-7, using a value of 0.960 for density.
- Available with color-coded striping.
- Some sizes listed are special order. Call for availability on sizes.

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