

**PolyPipe® GDB50 PE3408/PE4710 Gas Pipe**

**High Density Polyethylene for natural gas distribution.**

Typical Printline: 4" IPS SDR 7 – POLYPIPE® GDB50 GAS – PE3408/PE4710 – CDE – ASTM D2513 – MANUFACTURING CODE

<b>TYPICAL PHYSICAL PROPERTIES</b>			
<b>PROPERTY</b>	<b>ASTM TEST METHOD</b>	<b>*NOMINAL VALUES</b>	
		<b>Bi-Modal PE4710</b>	<b>Uni-Modal PE4710</b>
Density, Natural	D1505	0.949 gm/cc	0.949 gm/cc
Density, Black	D1505	0.960 gm/cc	0.960 gm/cc
Melt Index (190°C/2.16 kg)	D1238	0.08 gm/10 min.	0.08 gm/10 min.
Flow Rate (190°C/21.6 kg)	D1238	7.5 gm/10 min.	7.5 gm/10 min.
Tensile Strength @ Yield	D638	3,600 psi	3,600 psi
Ultimate Elongation	D638	>800%	>800%
Flexural Modulus – 2% Secant	D790	150,000 psi	150,000 psi
Resistance to Rapid Crack Propagation, Full Scale Pc @ 0°C	ISO 13478	>665 psi	---
Resistance to Rapid Crack Propagation, S-4 Pc @ 0°C	ISO 13477	>174 psi	---
Resistance to Rapid Crack Propagation, S-4 Tc @ 10 bar	ISO 13477	<2°F	---
PENT	F1473	>5,000 hrs.	>500 hrs.
Hardness, Shore D	D2240	64	64
Izod Impact Strength (Notched)	D256	8 ft-lb <sub>f</sub> /in	8 ft-lb <sub>f</sub> /in
Vicat Softening Temperature	D1525	255°F	255°F
Volume Resistivity	D991	>10 <sup>15</sup> ohm-cm	>10 <sup>15</sup> ohm-cm
Thermal Expansion Coefficient	D696	1.0 x 10 <sup>-4</sup> in/in/°F	1.0 x 10 <sup>-4</sup> in/in/°F
CELL CLASSIFICATION	D3350	445574C	445474C
MATERIAL CLASSIFICATION	D1248	Type III, Class C, Category 5	
PPI HYDROSTATIC DESIGN BASIS (HDB) (as listed in PPI TR-4)	D2837	1,600 psi @ 73.4°F	1,600 psi @ 73.4°F 1,000 psi @ 140°F 800 psi @ 140°F

*\*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.**

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**PolyPipe® GDB50 PE3408/PE4710**  
**Gas Pipe Data and Pressure Ratings – CTS & IPS**

Nominal Pipe Size	DR	Design Pressure Rating* for Natural Gas, psig @ 73°F	Dimensions		Standard Length, ft	Weight, lbs/ft
			Average OD, inches	Min. Wall Thickness, inches		
<b>CTS</b>						
½"		100	0.625	0.090	1,000	0.066
1"		100	1.125	0.090	500	0.128
<b>IPS</b>						
½"	9.3	100	0.840	0.090	500	0.093
¾"	11	100	1.050	0.095	500	0.126
1"	11	100	1.315	0.120	500	0.197
1 ¼"	10	100	1.650	0.165	500	0.341
1 ¼"	11	100	1.650	0.150	500	0.314
1 ½"	11	100	1.900	0.173	500	0.411
2"	11	100	2.375	0.216	250	0.642
2"	11	100	2.375	0.216	500	0.642
2"	11	100	2.375	0.216	1,500	0.642
3"	11	100	3.500	0.318	500	1.395
3"	11	100	3.500	0.318	40	1.395
4"	11	100	4.500	0.409	40	2.306
6"	11	100	6.625	0.602	40	4.997
8"	11	100	8.625	0.784	40	8.470
10"	11	100	10.750	0.977	40	13.157
12"	11	100	12.750	1.159	40	18.508

\* Ratings are in accordance with DOT CFR 49, Part 192, §192.121 and §192.123.

\* Effective July 14, 2004, the maximum design pressure was amended to 125 psig (reference §192.123a) when designed in accordance with §192.121 for nominal pipe sizes up through 12"IPS (§192.123e.3).

- Notes:
- All products are manufactured in accordance with ASTM D2513.
  - Product is available with yellow stripes for service identification. Call for availability.
  - Some sizes are special order. Call for availability on sizes or DR's not shown.
  - The above weights are calculated per PPI TR-7, using a density of 0.960.

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