

Extra High Molecular Weight (EHMW) High Density Polyethylene (HDPE) for natural gas distribution.

Typical Printline: 4" IPS SDR 7 – POLYPIPE® GDB30 GAS – PE3408/PE3608 – CDE – ASTM D2513 – MANUFACTURING CODE.

TYPICAL PHYSICAL PROPERTIES			
PROPERTY	ASTM TEST METHOD	*NOMINAL VALUES	
		SI UNITS	ENGLISH UNITS
Density, Natural	D1505	0.946 gm/cc	--
Density, Black	D1505	0.955 gm/cc	--
Melt Index (190°C/2.16 kg)	D1238	0.07 gm/10 min.	--
Flow Rate (190°C/21.6 kg)	D1238	8.5 gm/10 min.	--
Tensile Strength @ Yield	D638	24.1 MPa	3,500 psi
Ultimate Elongation	D638	>800%	>800%
Flexural Modulus	D790	938 MPa	136,000 psi
2% Secant			
Environmental Stress Crack Resistance (ESCR)			
F ₀ , Condition C	D1693	>10,000 hrs.	>10,000 hrs.
PENT	F1473	>100 hrs.	>100 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	0.37 KJ/m	7 ft – lb _f /in
Volume Resistivity	D991	>10 ¹⁵ ohm-cm	--
Thermal Expansion Coefficient		2x10 ⁻⁴ cm/cm/°C	1.0x10 ⁻⁴ in/in/°F
CELL CLASSIFICATION:	D3350	345464C	Grade PE36
MATERIAL CLASSIFICATION:	D1248	Type III, Class C, Category 5	
PPI HYDROSTATIC DESIGN BASIS:	D2837	11.0 MPa @ 23°C	1,600 psi @ 73.4°F
(As listed in PPI TR-4)		5.5 MPa @ 60°C	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® GDB30 PE3408/PE3608

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		
CTS						
½"		100	0.625	0.090 [†]	1,000	0.066
¾"		100	0.875	0.090	500	0.097
IPS						
½"	9.3	100	0.840	0.090	500	0.093
¾"	11 [†]	100	1.050	0.095	500	0.125
1"	11 [†]	100	1.315	0.120	500	0.196
1 ¼"	10	100	1.650	0.165	500	0.336
1 ¼"	11	100	1.650	0.150	500	0.308
1 ½"	11 [†]	100	1.900	0.173	500	0.409
2"	11 [†]	100	2.375	0.216	250	0.639
2"	11 [†]	100	2.375	0.216	500	0.639
2"	11 [†]	100	2.375	0.216	1,500	0.639
3"	11	100	3.500	0.318	500	1.387
3"	11	100	3.500	0.318	40	1.387
4"	11	100	4.500	0.409	40	2.294
6"	11	100	6.625	0.602	40	4.971
8"	11	100	8.625	0.784	40	8.425
10"	11	100	10.750	0.977	40	13.089
12"	11	100	12.750	1.159	40	18.412

* 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 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 0.955.
 - [†]Upon request, these products are tested and certified by IAPMO.

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