

POLYPIPE® GDB50 GAS

HIGH DENSITY GAS PIPE



- BARCODE printline per ASTM F2897 for DIMP compliance and in accordance with 49 CFR Part 192 (Amdt. 192-124)
- Outstanding resistance to Slow Crack Growth (SCG) and Rapid Crack Propagation (RCP)
- High Performance Resin for Demanding Applications
- Manufactured in accordance with ASTM D2513
- Meets ASTM D3350 cell classification PE445574C
- Material grades PE4710/PE100 per PPI TR-4
- Industry leader in adoption of rework-free (7/2012)

SAMPLE PRINTLINE

4"IPS DR11-POLYPIPE® GDB50GAS-PE4710 PE100 -CEE-ASTMD2513-D##Y###NR-3EA-22-JAN19 -COILXX###FT

APPLICATION

Natural Gas Distribution

SIZE RANGE

1/2" - 1-1/4" CTS & 1/2" - 16" IPS. Contact PolyPipe for additional sizes.

COLOR/STRIPE

Black or Black with Yellow Stripe

PolyPipe® GDB50 is manufactured with high performance resins engineered with outstanding resistance to Slow Crack Growth (SCG) and Rapid Crack Propagation (RCP). These unique properties bring outstanding integrity for gas distribution systems. PolyPipe is ISO 9001 certified and PolyPipe® is qualified using exacting laboratory procedures and test methods, and a consistent uncompromised quest for design and manufacturing excellence

POLYPIPE® GDB50 GAS

High Density PE Pipe for Gas Distribution is Manufactured Using Bimodal HDPE Resin For Enhanced Performance Properties

TYPICAL PHYSICAL PROPERTIES

PROPERTY	ASTM TEST METHOD	*NOMINAL VALUES
Bi-Modal PE4710		
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	3,600 psi
Ultimate Elongation	D638	>500%
Flexural Modulus – 2% Secant	D790	150,000 psi
Resistance to Rapid Crack Full Scale Pc @ 0°C	ISO 13478	>665 psi
Resistance to Rapid Crack S-4 Pc @ 0°C	ISO 13477	>174 psi
Resistance to Rapid Crack S-4 Tc @ 10 bar	ISO 13477	< 2 °F
PENT	F1473	>5,000 hrs.
Hardness, Shore D	D2240	64
Izod Impact Strength (Notched)	D256	8 ft-lbf/in
Vicat Softening Temperature	D1525	255°F
Volume Resistivity	D991	>1015 ohm-cm
Thermal Expansion Coefficient	D696	1.0 x 10-4 in/in/°F
CELL CLASSIFICATION	D3350	445574C /445576C
PPI HYDROSTATIC DESIGN BASIS (as listed in PPITR-4)	D2837	1,600 psi @ 73.4°F 1,000 psi @ 140°F

*Nominal values are intended to be guides only, and not as specification limit. Specific values may vary based upon resin compound.

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

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PE4710/PE100 GAS PIPE DATA AND PRESSURE RATINGS – CTS & IPS

NOMINAL PE SIZE, INCHES	DR	DESIGN PRESSURE RATING* FOR NATURAL GAS, PSIG @73°F	DIMENSIONS		STANDARD LENGTH, FT	WEIGHT LBS PER 100 FT
			Average OD, inches	Min. Wall Thickness, inches		
CTS ½	–	125	0.625	0.090	250, 500, 1000	6.6
1	–	89	1.125	0.090	250, 500, 1000	12.8
1¼	–	89	1.375	0.090	250, 500	15.1
1¼	–	112	1.375	0.121	250, 500	19.8
IPS ½	9.3	125	0.840	0.090	500	9
¾	11	125	1.050	0.095	500	13
1	11	125	1.315	0.120	500	20
1¼	10	125	1.650	0.165	500	34
1 ¼	11	125	1.650	0.150	500	31
1 ½	11	125	1.900	0.173	500	41
2	11	125	2.375	0.216	250	64
2	11	125	2.375	0.216	500	64
2	11	125	2.375	0.216	1500	64
3	11	125	3.500	0.318	500	140
3	11	125	3.500	0.318	40	140
4	11	125	4.500	0.409	40	231
6	11	125	6.625	0.602	40	500
8	11	125	8.625	0.784	40	847
10	11	125	10.750	0.977	40	1316
12	11	125	12.750	1.159	40	1851
16	11	100	16.000	1.455	40	2915

* 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).

* Effective January 22, 2019, the Pipeline Safety Plastic Pipe Rule, 49 CFR Part 192 –Docket No. PHMSA-2014-0098: Amdt. No. 192-124, RIN 2137-AE93 was published to the Federal Register on 11/20/18 with an effective date of 1/22/19. This rule includes an increase in the Design Factor from 0.32 to 0.40 for all pipes meeting the minimum wall thickness requirements in 192.121. This section also limits design pressure to 125psig for pipe sizes ≤12" IPS and 100psig for pipe sizes >12" IPS.

NOTES:

- The above weights are calculated per PPI TR-7, using a density of 0.960 gm/cc.