

VERSAPIPE® 2708BM GAS



Medium Density Bimodal Polyethylene Pipe for Gas Distribution
Manufactured from PE2708, certified to NSF gas, ASTM D2513 and CSA B137.4

SCOPE

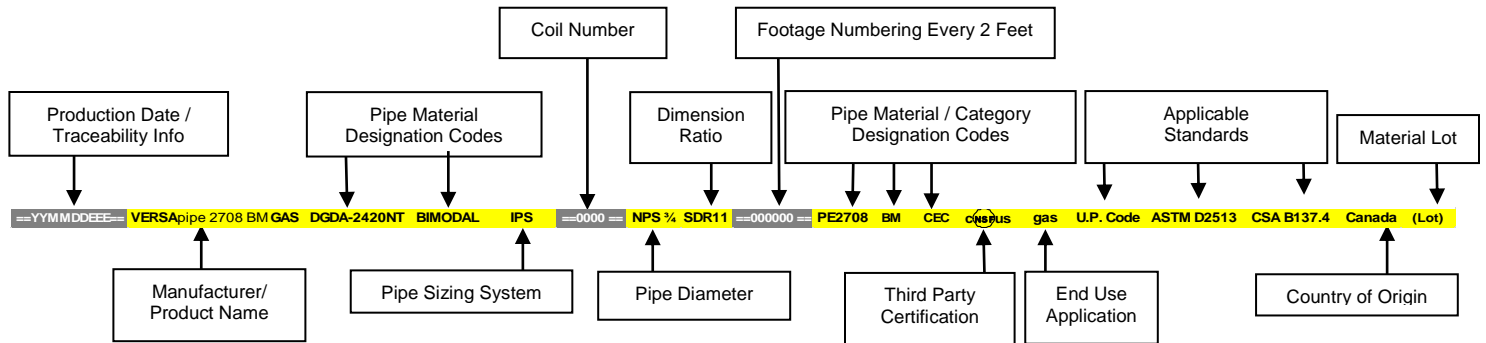
This technical data sheet designates the raw materials properties of the **VERSAPIPE® 2708BM GAS** pipe for use in gas distribution systems. It describes the minimum requirements established by **Versaprofiles** for the design and manufacture of a pipe especially created for gas distribution application where long term hydrostatic strength combined with outstanding resistance to slow crack growth and rapid crack propagation are desired .

RAW MATERIAL

All **VERSAPIPE® 2708BM GAS** medium density polyethylene pipes are manufactured from Dow Chemical CONTINUUM™ DGDA-2420 PE2708 bimodal medium density polyethylene resin meeting the cell classification 234373E, or equivalent, as per ASTM D3350. The raw material is filled with UV concentrate acting as an ultra violet inhibitor and can be stored outside. In addition, the raw material offers good protection against chemical agents. (See tables below for more information.)

PRINTLINE

Versaprofiles **VERSAPIPE® 2708BM GAS** pipe is identified with permanent marking and sequential footage numbering every two (2) feet.



HANDLING, JOINING AND INSTALLATION

In order to assure the complete integrity of the piping system, do not drag or roll the **VERSAPIPE® 2708BM GAS** pipe across rocks or rough ground. Installation and backfill practices for **VERSAPIPE® 2708BM GAS** pipe in trench should comply to the Plastic Pipe Institute (PPI)¹, and according to the installation recommendations found in CSA B137.4 and ASTM D2513 standards. **VERSAPIPE® 2708BM GAS** pipe is connected by heat fusions in accordance with ASTM F2620 and Plastic Pipe Institute (PPI)² recommendations. The fittings must be made with equivalent polyethylene used in the pipe.

1 : <http://plasticpipe.org/pdf/chapter07.pdf>
2 : <http://plasticpipe.org/pdf/chapter09.pdf>

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RAW MATERIAL PROPERTIES AND CELL CLASSIFICATION AS PER ASTM D3350

Properties	Cell Classification (234373E)	ASTM Test Method	Typical Values	
			Imperial Units	SI Units
Density (natural)	2	D 792	-	0.941 g/cm ³
Melt Index	3	D 1238	-	0.16 g/10min.
Flexural Modulus	4	D 790B	>90000 psi	>621 MPa
Tensile Strength at Yield	3	D 638	>2600 psi	>17.9 MPa
Tensile Strength at Break	-	D 638	>600 %	>600 %
Resistance to Slow Crack Growth of compound (SCG), hrs. (PENT)	7	F 1473	15000 h	15000 h
Hydrostatic Design Basis @ 73°F (23°C)	-	D 2837	1250 psi	-
Hydrostatic Design Basis @ 140°F (60°C)	-	D 2837	1000 psi	-
Yellow Color Concentrate with UV Inhibitor	E	-	-	2%
Elongation at Break		D 638	> 600%	> 600%
Brittleness Temperature		D 746A	<-103°F	<-75°C
Thermal Stability		D 3350	>428°F	>220°C

STANDARD PRODUCT SIZES AS PER ASTM D2513 AND CSA B137.4

Nominal Pipe Size (IPS) ¹	Outside Diameter	Tolerance	Dimension Ratio ¹	Min. Wall Thickness.	Weight for 100 Ft. ²	Coil / Stick ³	Length per Coil / Stick ⁴	Nominal Packing Dimensions ID/OD/Width	Number Coils/Sticks per Pallet	Pallet / Bundle Total Length	Number Pallets / Bundles per Truck	Total Length, 53' Truck
	IN (mm)	IN (mm)		IN (mm)	LBS (Kg)		Ft (m)	IN (mm)		Ft (m)		Ft (m)
3/4	1,050	± 0.004	11	0,095	12,27	Coil	494	31 / 42 / 10	7	3458	26	89 908
	(26,70)	(0,10)		(2,41)	(5,57)		(150)	(787 / 1067 / 254)		(1050)		(27 300)
1	1,315	± 0.004	11	0,119	19,28	Coil	494	30 / 44 / 12	6	2964	26	77 064
	(33,40)	(0,10)		(3,02)	(8,75)		(150)	(762 / 1118 / 305)		(900)		(23 400)
1 ¼	1,660	± 0.006	10	0,166	33,27	Coil	494	49 / 70 / 9	10	4940	8	39 520
	(42,15)	(0,15)		(4,22)	(15,09)		(150)	(1245 / 1778 / 229)		(1500)		(12 000)
1 ½	1,900	± 0.006	11	0,173	40,49	Coil	494	48 / 75 / 8	8	3952	7	27 664
	(48,30)	(0,15)		(4,39)	(18,37)		(150)	(1219 / 1905 / 203)		(1200)		(8 400)
2	2,375	± 0.006	11	0,216	63,30	Coil	494	52 / 78 / 13	7	3458	7	24 206
	(60,35)	(0,15)		(5,49)	(28,72)		(150)	(1321 / 1981 / 330)		(1050)		(7 350)
3	3,500	± 0.008	11	0,318	137,09	Coil	494	70 / 96 / 24	4	1976	8	15 808
	(88,90)	(0,20)		(8,08)	(62,20)		(150)	(1778 / 2438 / 610)		(600)		(4 800)
3	3,500	± 0.008	11	0,318	137,09	Stick	40	soft bundles	50	2000	12	24 000
	(88,90)	(0,20)		(8,08)	(62,20)		(12)	(600)		(7 200)		
4	4,500	± 0.008	11	0,409	226,70	Reel	880	84 / 114 / 48	1	880	8	7 040
	(114,30)	(0,20)		(10,39)	(102,86)		(270)	(2134 / 2896 / 1219)		(270)		(2 160)
4	4,500	± 0.008	11	0,409	226,70	Stick	40	soft bundles	29	1160	12	13 920
	(114,30)	(0,20)		(10,39)	(102,86)		(12)	(348)		(4 176)		
6	6,625	± 0.012	11	0,602	491,73	Stick	40	soft bundles	13	520	12	6 240
	(168,30)	(0,30)		(15,29)	(223,11)		(12)	(156)		(1 872)		
8	8,625	± 0.014	13,5	0,639	693,22	Stick	40	soft bundles	9	360	10	3 600
	(219,05)	(0,35)		(16,23)	(314,53)		(12)	(108)		(1 080)		

¹ Others pipe sizes and DR available. Ask your sales representative for information

³ All products are available in sticks. Ask your sales representative for information

² Pipe weight are calculated in accordance with PPITR-7

⁴ Different lengths on coils, reels or sticks available. Ask your sales representative for information

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PRESSURE RATING

Pipe Standard Dimension Ratio (SDR)	Standard Pressure Rating (PSIG @ 73°F (23°C))
17	100
15.5	110
13.5	125
11	160
10	180
9	200

MINIMUM BENDING RADIUS

Pipe Standard Dimension Ratio (SDR)	Minimum Long Term Cold Bending Radius
9 or less	20 X OD
10, 11, 13.5	25 X OD
15.5, 17, 21	27 X OD

OD = Pipe outside diameter.

FLUID VOLUME CALCULATION

$$V = \pi r^2 L$$

Where

V = volume, ft³ (m³)
 π = 3.1416...
 r = pipe inside radius (ID/2), ft (m)
 L = pipe length, ft (m)

Note: For weight calculation, **W = V D**

Where

W = weight, lb
 V = calculated volume, ft³
 D = fluid density, lb/ft³

THERMAL EXPANSION CALCULATION

$$\Delta L = L \alpha \Delta T$$

Where

ΔL = pipeline length variation, ft
 L = pipe length, ft
 α = 10⁻⁶ 67 (thermal expansion coefficient, in/in/°F)
 ΔT = temperature variation, °F

References :
 -ASTM Standards F2620, D3350 and D2513
 -CSA Standards B137.4
 -Plastic Pipe Institute (PPI), http://plasticpipe.org/publications/pe_handbook.html

Versaprofiles can change the information contained in this document without notice. Please contact the customer service to receive an updated version.