



HDPE PIPE SUPPLY · FUSION EQUIPMENT · LOGISTICS COORDINATION

TECHNICAL PRODUCT SHEET

PE4710 HDPE Pipe

Water & Municipal Applications

High-density polyethylene pipe for potable water, municipal distribution and community infrastructure. Delivers leak-free performance with no corrosion or scaling. Potable water applications are subject to NSF documentation confirmation.

COMPOUND	PE4710 · HDS 1,600 psi at 73°F
CERTIFICATION	NSF documentation available or confirmed per RFQ
STANDARDS	AWWA C901 / C906 · NSF 14 / 61
SIZE RANGE	¾–24" IPS · DR 7–17



HDPE PIPE — BORE & WALL DETAIL

Applications & Performance

Where PE4710 HDPE is specified across water and municipal systems, and why.

WATER & MUNICIPAL APPLICATIONS

Potable Water Distribution

- Municipal water mains and service lines
- Pressure pipe systems (AWWA C906)
- Small-diameter service lines (AWWA C901)
- Meter and connection lines

Wastewater & Sewer

- Gravity sewer and force-main systems
- Wastewater collection and conveyance
- Sewer rehabilitation (slip lining)
- Lift- and pump-station discharge

Irrigation & Agriculture

- Agricultural and turf irrigation mains
- Golf course and sports-field systems
- Landscape and reclaimed-water supply
- Drip-system header and distribution

Well & Water Supply

- Water-well casing and drop pipe
- Groundwater extraction systems
- Rural and community water supply
- Submersible pump discharge lines

WHY PE4710 HDPE

No Corrosion or Tuberculation

HDPE is impervious to corrosion, electrolytic attack and biological growth, maintaining full flow capacity over the system lifetime.

Potable Water Applications

Suitable for potable water applications subject to NSF documentation confirmation (NSF 14 / NSF 61); confirm current certification status per RFQ.

Leak-Free Heat Fusion Joints

Butt fusion and electrofusion form a monolithic bond as strong as the pipe itself, eliminating mechanical-joint leak paths.

Smooth Bore, Stable Flow

Hazen-Williams C of 150 (new and aged) — no roughness increase over the service life.

Flexible & Durable

Accommodates ground movement and surge while resisting fatigue and impact in buried service.

CONFORMANCE STANDARDS REFERENCED

NSF 14 — Plastic piping system components

AWWA C901 — PE pressure pipe, ¾–3 in, water service

ASTM D3035 — PE pipe based on controlled OD

ASTM F2620 — Heat fusion joining of PE pipe

NSF 61 — Drinking-water system components — health effects

AWWA C906 — PE pressure pipe, 4–65 in, water distribution

ASTM D2837 — Hydrostatic design basis for thermoplastics

ASTM F2164 — Field leak testing of PE pressure piping

Physical Properties & Technical Data

PE4710 high-density polyethylene — nominal reference values; confirm per RFQ.

COMPOUND PE4710 High-density polyethylene	NSF 14 / 61 Documentation per RFQ	HDS (73°F) 1,600 psi Hydrostatic design stress	H-W C FACTOR 150 New and aged	DENSITY 0.960 g/cm ³
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PHYSICAL & MECHANICAL PROPERTIES

PROPERTY	VALUE	TEST METHOD
Density	0.960 g/cm ³	ASTM D1505
Melt Index (MI) 190°C / 2.16 kg	0.07 g/10 min	ASTM D1238
High Load Melt Index 190°C / 21.6 kg	7–16 g/10 min	ASTM D1238
SCG Resistance (PENT)	> 500 hours	ASTM F1473
Tensile Stress @ Yield	3,500 psi	ASTM D638
Tensile Stress @ Break	5,000 psi	ASTM D638
Elongation @ Break	> 500%	ASTM D638
Flexural Modulus (2% secant)	150,000 psi	ASTM D790
Brittleness Temperature	< -103°F	ASTM D746
Hardness	62 Shore D	ASTM D2240
Vicat Softening Temperature	256°F	ASTM D1525
Thermal Expansion Coefficient	1.0 × 10 ⁻⁴ in/in/°F	ASTM D696

HYDRAULIC PROPERTIES

PARAMETER	VALUE
Hazen-Williams C	150
Manning n	0.009
Darcy-Weisbach e	0.000005 ft
Roughness (abs.)	~1.5 microns

Smooth bore maintained throughout service life; values are nominal

AWWA PRESSURE CLASS VS. DR

DR	PSI @ 73°F	AWWA CLASS
DR 11	320	PC 200 / 250
DR 13.5	254	PC 160 / 200
DR 17	200	PC 160

Pressure class per AWWA C906 at 73°F. Confirm class and ratings per RFQ.

IPS Pipe Size Table

DR 7 – DR 17

All dimensions in inches · Wall = minimum wall · Avg ID and Wt/Ft (lb/ft) are nominal / average · DR = OD ÷ Wall (lower DR = thicker wall = higher pressure rating).

Size	OD	DR 7			DR 9			DR 11			DR 13.5			DR 17		
		WALL	AVG ID	WT/FT	WALL	AVG ID	WT/FT	WALL	AVG ID	WT/FT	WALL	AVG ID	WT/FT	WALL	AVG ID	WT/FT
¾"	1.050	.150	.750	.18	.117	.817	.14	.095	.859	.12	.078	.894	.10	.062	.926	.08
1"	1.315	.188	.939	.28	.146	1.023	.22	.120	1.076	.19	.097	1.120	.16	.077	1.160	.13
1¼"	1.660	.237	1.186	.44	.184	1.291	.36	.151	1.358	.30	.123	1.414	.25	.098	1.465	.20
1½"	1.900	.271	1.357	.58	.211	1.478	.47	.173	1.555	.39	.141	1.619	.32	.112	1.676	.26
2"	2.375	.339	1.696	.90	.264	1.847	.73	.216	1.943	.61	.176	2.023	.51	.140	2.096	.41
3"	3.500	.500	2.500	1.96	.389	2.722	1.58	.318	2.864	1.32	.259	2.981	1.10	.206	3.088	.89
4"	4.500	.643	3.214	3.24	.500	3.500	2.61	.409	3.682	2.19	.333	3.833	1.82	.265	3.971	1.47
6"	6.625	.946	4.732	7.03	.736	5.153	5.67	.602	5.420	4.74	.491	5.644	3.94	.390	5.846	3.18
8"	8.625	1.232	6.161	11.91	.958	6.708	9.61	.784	7.057	8.04	.639	7.347	6.67	.507	7.610	5.38
10"	10.750	1.536	7.679	18.50	1.194	8.361	14.92	.977	8.795	12.49	.796	9.157	10.36	.632	9.485	8.37
12"	12.750	1.821	9.107	26.03	1.417	9.917	20.99	1.159	10.432	17.57	.944	10.861	14.58	.750	11.250	11.77
16"	16.000	2.286	11.429	40.99	1.778	12.444	33.06	1.455	13.091	27.66	1.185	13.630	22.96	.941	14.118	18.53
18"	18.000	2.571	12.857	51.87	2.000	14.000	41.84	1.636	14.727	35.01	1.333	15.333	29.05	1.059	15.882	23.45
20"	20.000	2.857	14.286	64.04	2.222	15.556	51.65	1.818	16.364	43.22	1.481	17.037	35.87	1.176	17.647	28.95
24"	24.000	3.429	17.143	92.22	2.667	18.667	74.38	2.182	19.636	62.24	1.778	20.444	51.65	1.412	21.176	41.69

ALLOWABLE WORKING PRESSURE (73°F) AWP = (2 × HDS) ÷ (DR - 1), HDS = 1,600 psi for PE4710 · DR 7 533 · DR 9 400 · DR 11 320 · DR 13.5 254 · DR 17 200 psi · derate per PPI TR-9; confirm per RFQ.

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