

PolyPipe® EHMW Plus™ PE3408/PE4710/PE100 Pipe

Extra High Molecular Weight Plus™ (EHMW Plus) High Density Polyethylene is designed for use in applications such as mining, landfill, dredge, gas gathering, water reclamation or sewer. EHMW Plus™ is an ideal alternative to EHMW PE3408/PE3608 applications requiring additional performance from abrasion resistance, higher-pressure requirements or elevated temperatures as the single design need or in combination of design concerns. PolyPipe EHMW Plus is manufactured in accordance with ASTM F714 using NSF approved materials which are suitable for potable water applications.

Typical Printline: 12" IPS SDR 9 – POLYPIPE® EHMW PLUS – PE3408/PE4710 – ASTM F714 C3 – MANUFACTURING CODE

TYPICAL PHYSICAL PROPERTIES			
PROPERTY	ASTM TEST METHOD	*NOMINAL VALUES	
		SI UNITS	ENGLISH UNITS
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	24.8 MPa	3,600 psi
Ultimate Elongation	D638	>800%	>800%
Flexural Modulus	D790	1,034 MPa	150,000 psi
2% Secant			
Environmental Stress Crack Resistance (ESCR)			
F ₀ , Condition C	D1693	--	--
PENT	F1473	>500 hrs.	>500 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	0.42 KJ/m	8 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	445474C / 445574C	PE47
PPI HYDROSTATIC DESIGN BASIS (HDB)	D2837	11.0 MPa @ 23°C	1,600 psi @ 73.4°F
<i>(As listed in PPI TR-4)</i>		6.9 MPa @ 140°C	1,000 psi @ 140°F
PPI HYDROSTATIC DESIGN STRESS (HDS)		6.9 MPa @ 23°C	1,000 psi @ 73.4°F
<i>(As established by the Hydrostatic Stress Board (HSB) of the Plastics Pipe Institute (PPI))</i>			

*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® EHMW Plus™ PE3408/PE4710/PE100 Pipe

Pipe Data and Pressure Ratings – IPS



Pressure Rating		DR7 335 psi		DR9 255 psi		DR11 200 psi		DR13.5 160 psi		DR17 125 psi		DR21 100 psi		DR26 80 psi		DR32.5 65 psi	
Nominal Pipe Size	OD Size, inches	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft
½"	0.840	0.120	0.119	0.093	0.096	0.076	0.080	---	---	---	---	---	---	---	---	---	---
¾"	1.050	0.150	0.185	0.117	0.150	0.095	0.126	---	---	---	---	---	---	---	---	---	---
1"	1.315	0.188	0.291	0.146	0.235	0.120	0.197	---	---	---	---	---	---	---	---	---	---
1 ¼"	1.660	0.237	0.463	0.184	0.374	0.151	0.314	0.123	0.261	---	---	---	---	---	---	---	---
1 ½"	1.900	0.271	0.607	0.211	0.490	0.173	0.411	0.141	0.342	---	---	---	---	---	---	---	---
2"	2.375	0.339	0.948	0.264	0.766	0.216	0.642	0.176	0.534	0.140	0.431	---	---	---	---	---	---
3"	3.500	0.500	2.058	0.389	1.664	0.318	1.395	0.259	1.159	0.206	0.936	0.167	0.768	0.135	0.626	---	---
4"	4.500	0.643	3.402	0.500	2.751	0.409	2.306	0.333	1.916	0.265	1.548	0.214	1.269	0.173	1.035	0.138	0.835
5"	5.375	0.768	4.854	0.597	3.925	0.489	3.289	0.398	2.733	0.316	2.208	0.256	1.810	0.207	1.477	0.165	1.192
5"	5.563	0.795	5.199	0.618	4.204	0.506	3.523	0.412	2.928	0.327	2.366	0.265	1.939	0.214	1.582	0.171	1.277
6"	6.625	0.946	7.374	0.736	5.963	0.602	4.997	0.491	4.152	0.390	3.355	0.315	2.750	0.255	2.244	0.204	1.811
7"	7.125	1.018	8.529	0.792	6.897	0.648	5.780	0.528	4.802	0.419	3.881	0.339	3.181	0.274	2.596	0.219	2.094
8"	8.625	1.232	12.498	0.958	10.106	0.784	8.470	0.639	7.037	0.507	5.687	0.411	4.662	0.332	3.804	0.265	3.069
10"	10.75	1.536	19.416	1.194	15.700	0.977	13.157	0.796	10.932	0.632	8.834	0.512	7.242	0.413	5.909	0.331	4.767
12"	12.75	1.821	27.312	1.417	22.085	1.159	18.508	0.944	15.379	0.750	12.427	0.607	10.187	0.490	8.312	0.392	6.703
14"	14.00	2.000	32.930	1.556	26.628	1.273	22.315	1.037	18.542	0.824	14.983	0.667	12.282	0.538	10.022	0.431	8.086
16"	16.00	2.286	43.010	1.778	34.779	1.455	29.146	1.185	24.218	0.941	19.569	0.762	16.042	0.615	13.090	0.492	10.561
18"	18.00	2.571	54.435	2.000	44.017	1.636	36.888	1.333	30.651	1.059	24.767	0.857	20.304	0.692	16.567	0.554	13.366
20"	20.00	2.857	67.203	2.222	54.342	1.818	45.541	1.481	37.840	1.176	30.577	0.952	25.066	0.769	20.453	0.615	16.501
22"	22.00	---	---	2.444	65.754	2.000	55.105	1.630	45.787	1.294	36.998	1.048	30.330	0.846	24.748	0.677	19.967
24"	24.00	---	---	2.667	78.253	2.182	65.579	1.778	54.490	1.412	44.031	1.143	36.095	0.923	29.452	0.738	23.762
28"	28.00	---	---	3.111	106.51	2.545	89.260	2.074	74.167	0.647	59.931	1.333	49.130	1.077	40.087	0.862	32.342
30"	30.00	---	---	3.333	121.63	2.727	102.467	2.222	85.141	1.765	68.798	1.429	56.399	1.154	46.019	0.923	37.128
32"	32.00	---	---	3.556	139.12	2.909	116.59	2.370	96.871	1.882	78.277	1.524	64.169	1.231	52.359	0.985	42.243
36"	36.00	---	---	4.000	176.07	3.273	146.78	2.667	121.96	2.118	99.069	1.714	81.214	1.385	66.267	1.108	53.464
42"	42.00	---	---	---	---	---	---	3.111	166.88	2.471	134.844	2.000	110.542	1.615	89.73	1.292	72.771
48"	48.00	---	---	---	---	---	---	---	---	2.824	176.122	2.286	144.381	1.846	117.808	1.477	95.047
54"	54.00	---	---	---	---	---	---	---	---	3.176	222.91	2.571	182.732	2.077	149.100	1.662	120.294
63"	63.00	---	---	---	---	---	---	---	---	3.706	303.398	3.000	248.72	2.423	202.94	1.938	163.73
65"	65.00	---	---	---	---	---	---	---	---	3.824	322.967	3.095	264.76	2.500	216.03	2.000	174.29

*See notes on Page 3 for product and pressure rating information.

PolyPipe® EHMW Plus™ PE3408/PE4710/PE100 Pipe

Pipe Data and Pressure Ratings – DIPS

PolyPipe®

Pressure Rating		DR7 335 psi		DR9 255 psi		DR11 200 psi		DR13.5 160 psi		DR17 125 psi		DR21 100 psi		DR26 80 psi		DR32.5 65 psi	
Nominal Pipe Size	OD Size, inches	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft	Min. Wall, inches	Weight, lbs/ft
3"	3.96	0.566	2.635	0.440	2.130	0.360	1.785	0.293	1.483	0.233	1.199	0.189	0.983	0.152	0.802	0.122	0.647
4"	4.80	0.686	3.871	0.533	3.130	0.436	2.623	0.356	2.180	0.282	1.761	0.229	1.444	0.185	1.178	0.148	0.950
6"	6.90	0.986	7.999	0.767	6.468	0.627	5.421	0.511	4.504	0.406	3.639	0.329	2.984	0.265	2.434	0.212	1.964
8"	9.05	1.293	13.760	1.006	11.127	0.823	9.325	0.670	7.748	0.532	6.261	0.431	5.132	0.348	4.188	0.278	3.379
10"	11.10	1.586	20.700	1.233	16.739	1.009	14.028	0.822	11.656	0.653	9.418	0.529	7.721	0.427	6.300	0.342	5.083
12"	13.20	1.886	29.274	1.467	23.671	1.200	19.838	0.978	16.483	0.776	13.319	0.629	10.919	0.508	8.909	0.406	7.188
14"	15.30	2.186	39.329	1.700	31.802	1.391	26.652	1.133	22.145	0.900	17.894	0.729	14.669	0.588	11.969	0.471	9.657
16"	17.40	2.486	50.866	1.933	41.132	1.582	34.470	1.289	28.641	1.024	23.144	0.829	18.973	0.669	15.481	0.535	12.490
18"	19.50	2.786	63.885	2.167	51.659	1.773	43.292	1.444	35.972	1.147	29.067	0.929	23.829	0.750	19.443	0.600	15.687
20"	21.60	3.086	78.386	2.400	63.385	1.964	53.119	1.600	44.137	1.271	35.665	1.029	29.237	0.831	23.856	0.665	19.247
24"	25.80	---	---	2.867	90.431	2.345	75.785	1.911	62.970	1.518	50.883	1.229	41.713	0.992	34.035	0.794	27.460
30"	32.00	---	---	---	---	---	---	2.370	96.871	1.882	78.277	1.524	64.169	1.231	52.359	0.985	42.243
36"*	38.30	---	---	---	---	---	---	---	---	2.253	112.132	1.824	91.923	1.473	75.005	1.178	60.514
42"*	44.50	---	---	---	---	---	---	---	---	2.618	151.374	2.119	124.093	1.712	101.254	1.369	81.692
48"*	50.80	---	---	---	---	---	---	---	---	---	---	2.419	161.717	1.954	131.953	1.563	106.460
54"*	57.56	---	---	---	---	---	---	---	---	---	---	2.741	207.620	2.214	169.408	1.771	136.678
60"*	61.61	---	---	---	---	---	---	---	---	---	---	---	---	2.370	194.086	1.896	156.588

NOTES :
 ➤ PolyPipe® EHMW Plus PE4710 Pipe is manufactured in accordance with the following standards:
 ♦ For sizes ½" IPS through 3" IPS products are manufactured in accordance with ASTM D3035.
 ♦ For sizes 4" IPS through 60" DIPS products are manufactured in accordance with ASTM F714.
 ♦ Metric sizes also available.
 ♦ Coiled pipe available through 6" OD and straight lengths available in 40' and 50' lengths. For custom lengths, contact a Customer Service Representative.
 ➤ Pressures are based on water at 23°C (73.4°F) and are determined by use of the Hydrostatic Design Stress (HDS) as established by the Hydrostatic Stress Board (HSB) of the Plastics Pipe Institute (PPI).
 ➤ The above weights for IPS and DIPS sizes are calculated in accordance with Plastics Pipe Institute (PPI) TR-7, using a value of 0.960 for density.
 ➤ Available with color-coded striping.
 ➤ Some sizes listed are special order. Call for availability on sizes.

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