

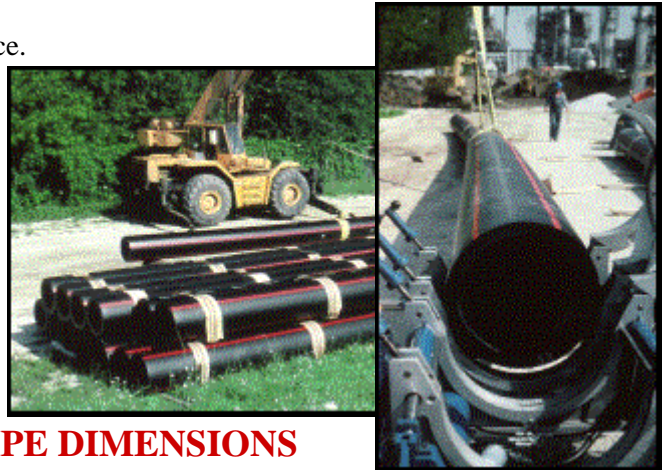
PolyPipe® PW HDPE PE3408/PE3608/PE4710 Factory Mutual (FM) Approved Pipe

Extra High Molecular Weight High (EHMW) Density Polyethylene for underground fire mains and loops, produced at a facility inspected and approved by the FM Research Corporation. FM approved products are manufactured in accordance with AWWA C906, ASTM F714 and FM Approval Standard 1613.

POLYPIPE® FM PIPE ADVANTAGES

FM Approved HDPE piping from PolyPipe® offers advantages that other piping products cannot deliver:

- Superior design life for many years of trouble-free service.
- Higher flow coefficients due to the smooth inner wall surface of the pipe.
- Outstanding chemical and abrasion resistance assures long-term performance.
- Heat-fused, fully restrained joints eliminate leaks.
- Proven in the field, HDPE piping materials will deliver excellent underground fire water service with a surge tolerance not found in other piping materials.



FM APPROVED PIPE DIMENSIONS

		Class 150			Class 200			Class 267*		
Nominal IPS Size, inches	OD, inches	Min. Wall, inches	Avg. ID, inches	Weight, lb/ft	Min. Wall, inches	Avg. ID, inches	Weight, lb/ft	Min. Wall, inches	Avg. ID, inches	Weight, lb/ft
4	4.500	0.409	3.63	2.29	0.500	3.44	2.737	0.643	3.14	3.384
6	6.625	0.602	5.35	4.971	0.736	5.06	5.932	0.946	4.62	7.336
8	8.625	0.784	6.96	8.425	0.958	6.59	10.054	1.232	6.01	12.433
10	10.750	0.977	8.68	13.089	1.194	8.22	15.618	1.536	7.49	19.314
12	12.750	1.159	10.29	18.412	1.417	9.75	21.970	1.821	8.89	27.170
14	14.000	1.273	11.30	22.199	1.556	10.70	26.489	2.000	9.76	32.758
16	16.000	1.455	12.92	28.994	1.778	12.23	34.598	2.286	11.15	42.786
18	18.000	1.636	14.53	36.696	2.000	13.76	43.788	2.571	12.55	54.151
20	20.000	1.818	16.15	45.304	2.222	15.29	54.059	2.857	13.94	66.853
22	22.000	2.000	17.76	54.818	2.445	16.82	65.412	---	---	---
24	24.000	2.182	19.37	65.237	2.667	18.35	77.845	---	---	---
30*	30.000	2.727	24.22	101.934	3.333	22.93	121.633	---	---	---
32*	32.000	2.909	25.83	115.978	3.556	24.60	138.391	---	---	---
34*	34.000	3.091	27.57	130.928	3.778	26.14	156.231	---	---	---
36*	36.000	3.273	29.06	146.784	4.000	27.52	175.152	---	---	---

- NOTES:
- PolyPipe® PW FM Approved Pipe is manufactured in accordance with AWWA C-906 with NSF-61 approved resins and is tested and certified by Factory Mutual for use in underground firewater service.
 - Pressures are based on water at 23°C (73.4°F) and are determined per AWWA C-906.
 - Stalks lengths available in 40' or 50' lengths.
 - The above weights are calculated in accordance with the Plastics Pipe Institute (PPI) TR-7, using a value of 0.955 for density.
 - Available with permanent red stripe upon request.
 - *Available soon.

PolyPipe® PW FM Approved Pipe

Typical Printline: 12" IPS SDR 9 – POLYPIPE® PW – PE3408/PE3608 – AWWA C906-99 – PC200 – ASTM F714 C3 --
MANUFACTURING CODE – NSF-61 -- <FM>

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	22.1 MPa	3,200 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 Category 5	Class C
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>		5.5 MPa @ 60°C	800 psi @ 140°F
PPI Hydrostatic Design Stress (HDS)			800 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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