

HIGH DENSITY POLYETHYLENE PIPE
Typical Physical Properties***

Property	Specification	Unit	Nominal Value
Material Designation	PPI / ASTM		PE 3408
Material Classification	ASTM D-1248		III C 5 P34
Cell Classification	ASTM D3350-99		345464C
-Density (3)	ASTM D-1505	gm/cm ³	0.955
-Melt Index (4)	ASTM D-1238 (216 kg/190;C)	gm/10 min.	0.11*
-Flex Modulus (5)	ASTM D-790	psi	135,000
-Tensile Strength (4)	ASTM D-638	psi	3,200
PENT (6)	ASTM F-1473	Hours	>100
-HDB @73; F (4)	ASTM D-2837	psi	1,600
-HDB @ 140 Deg F	ASTM D-2837	psi	800
-U-V Stabilizer (C)	ASTM D-1603	% C	2.5
Hardness	ASTM D-2240	Shore "D"	65
Compressive Strength (yield)	ASTM D-695	psi	1,600
Tensile Strength @ Yield (Type IV Spec.)	ASTM D-638 (2"/min.)	psi	3,200
Elongation @ Yield	ASTM D-638	%, minimum	8
Tensile Strength @ Break (Type IV Spec.)	ASTM D-638	psi	5,000
Elongation @ Break	ASTM D-638	%, minimum	750
Modulus of Elasticity	ASTM D-638	psi	130,000
PENT (6)	ASTM F-1473	Hours	>100
(Cond. A, B, C: Mold. Slab)	ASTM D-1693	Fo, Hours	>5,000
(Compressed Ring - pipe)	ASTM F-1248	Fo, Hours	>3,500
Slow Crack Growth	Battelle Method	Days to Failure	>64
Impact Strength (IZOD) (.125" Thick)	ASTM D-256 (Method A)	In-lb / in notch	42
Linear Thermal Expansion Coef.	ASTM D-696	in / in/;F	1.2x10 ⁻⁴
Thermal Conductivity	ASTM D-177	BTU-in/ft ² / hrs/ degreesF	2.7
Brittleness Temp.	ASTM D-746	degrees F	< -180
Vicat Soft. Temp.	ASTM D-1525	degrees F	257
Heat Fusion Cond.	ASTM D-1525	@ psi degrees F	75 @ 400

*** This list of typical physical properties is intended for basic characterization of the material and does not represent specific determinations of specifications. The physical properties values reported herein were determined on compression molded specimens prepared in accordance with Procedure C of ASTM D 1928 and may differ from specimens taken from pipe.

** Tests were discontinued because no failures and no indication of stress crackinitiation.

* Average Melt Index value with a standard deviation of 0.01

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