PLASTICS·PIPE·INSTITUTE®

New PE Pipe Material Designation Codes

Pipe Material Designation Code		First Digit (Density)	Second Digit (Min. PENT, hrs)	Third & Fourth Digits (Max. HDS, psi)	Pressure Ratings, psig @73°F, SDR 11 Pipe Water / Gas
Historical	Current [a]				
PE 2406	PE 2406	>0.925 - 0.940	10	625	125 / 80
	PE 2606	"	100	625	125 / 80
	PE 2708	"	500	800 [b]	160 [c] /100 [d]
PE 3408	PE 3408	>0.940 - 0.947 [e]	10	800	160 / 102
	PE 3608	"	100	800	160 / 102
	PE 3708	"	500	800	160 / 102
	PE 3710	"	500	1000 [b]	200 [c] /128 [d]
	PE 4608	>0.947 - 0.955 [e]	100	800	160 / 102
	PE 4708	"	500	800	160 / 102
	PE 4710	"	500	1000 [b]	200 [c] /128 [d]

PE **4710** Example:
4 - first digit, density = >0.947 - 0.955;
7 - second digit, SCG, PENT = >500 hr;
10 - third and fourth digits, maximum HDS/100, (1600 psi x 0.63 DF) / 100 = 10

[a] Current PE pipe material designation codes based on new design factor, DF, for high-performance PE materials. (The 0.63 DF is approved for the high-performance PE materials in water piping applications)

[b] Using 0.63 DF for high-performance PE materials, the HDS is 1250 x 0.63 = 800 psi for a 1250 psi HDB and 1600 x 0.63 = 1000 psi for a 1600 psi HDB.
Using 0.50 DF for standard-performance materials, the HDS is 1250 x 0.50 = 625 psi for a 1250 psi HDB and 1600 x 0.50 = 800 psi for a 1600 psi HDB.
High-performance PE materials are defined by PPI TR-3 as a material having a 50 year substantiation according to Part F.5, a minimum PENT value of 500 hours, and an LCL/LTHS ratio of at least 90% as per ASTM D 2837.

[c] Using the 0.63 DF for high-performance PE materials in PE water pipes.

[d] Assuming 0.40 DF is adopted into US CFR Title 49, Part 192 for these high-performance PE materials in PE gas pipes. (Canada has adopted the 0.40 DF for all PE materials.)

[e] Revisions in ASTM D 3350-02a resulted in the former cell class 3 density being split into two cell classifications, 3 and 4 as shown in the table.