



SPECIFICATION FOR 250# Iron Pipe Size (I.P.S.) & Copper Tube Size (C.T.S) polyethylene Pipe & Tubing – meeting NSF Standard 14 & 61

Resin Compounds –

Polyethylene materials used shall be of High Density Polyethylene (HDPE), meeting 1600 Design Stress @ 23°C or 1000 Design Stress @ 60°C applicable requirements for PE4710 pipe & tubing as defined by ASTM D-3350, Cell Classification 445576C with a minimum 2% carbon black as an UV inhibitor.

Iron Pipe Size Pipe and Copper Tube Size Tubing shall conform to the specifications for each as noted below. Pipe and Tubing shall be Permanently Indented every two-feet along the pipes barrel - identifying the pipe or tubing with Manufacturers name or Logo, Pressure rating, Nominal size, NSF–pw Logo, and QC control codes.

Water Service Application Specifications and Standards

For PARR/EXCEL (Black)

250PSI PE4710, I.P.S., ASTM D-2239, SIDR 7, NSF/ANSI – 14, 61& 372

	O.D.	I.D.	WALL	WT/C
3/4"	1.070	.824	.118	15.2
1"	1.359	1.049	.150	24.3
1-1/4"	1.786	1.380	.197	41.8
1-1/2"	2.086	1.610	.230	58.9
2"	2.675	2.067	.295	93.5

250PSI PE4710, C.T.S., ASTM D-2737, SODR 9, NSF/ANSI – 14, 61 & 372

	O.D.	I.D.	WALL	WT/C
3/4"	.875	.671	.097	10.3
1"	1.125	.865	.125	16.9
1-1/4"	1.375	1.060	.153	24.8
1-1/2"	1.625	1.253	.181	34.8
2"	2.125	1.637	.236	60.3

MATERIAL STANDARDS

ASTM D-3350

INDUSTRY CONFORMATION

250 PSI SODR 9 (C.T.S.) ONLY

250 PSI, SIDR 7 (I.P.S.), and 250 PSI SODR 9 (C.T.S.)

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Excel Specification for polyethylene plastic molding and extrusion material – PE 4710

Typical Raw Material Properties

	Values		ASTM Method
	English Units	SI Units	
Density			
Natural		0.949 g/cc	D 4883
Black		0.959 g/cc	
Melt Index 190°C/ 5.0 kg		.30 g/10min	D 1238
Melt Index 190°C/ 21.6 kg		8.5g/10 min	D 1238
Tensile Strength (2 in/min)			
@ Yield	3540 psi	24.4 MPa	D 638
@ Break	5100 psi	35.2 MPa	D 638
Elongation (2 in/min)			
@ Break	>600%	>600%	D 638
2% Secant Modulus	130,000 psi	900 MPa	D 790
DSC Induction Temperature	500° F	260° C	D3350
Hardness (Shore D)	64	64	D 2240
Vicat Softening Point	259° F	126° C	D 1525
Brittleness Temperature	<-180° F	<-118° C	D746
Thermal Stability	464° F	240° C	D3350
Hydrostatic Design Basis			
@23° C	1600 psi	11.0 MPa	D 2837
@60° C	1000 psi	6.9 MPa	D 2837
Notch Tensile (PENT) (hrs.)	>2000	>2000	F 1473
Minimum Carbon Black Concentration	2%	2%	D 1603
Cell Classification	445574C	445576C	D 3350
Oxidative Resistance Classification	CC3	CC3	D3350

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