



EXLON PIPE

HIGH-DENSITY POLYETHYLENE

WATER AND SEWER PIPE

MEETS IPS/DIPS AWWA C901, AWWA C906,
ASTM D2239, ASTM D2737, ASTM D3035, F714

Henan Exlon Environmental Protection Technology Co., Ltd

COMPANY PROFILE

Henan Exlon Pipe Industry was established in 2005, located in Zhengzhou City, Henan Province. Henan Exlon's products and services cover plumbing products, fire-fighting equipment, environmental protection, home furnishing and building material one-stop services, etc. We dedicated to manufacturing and providing complete plumbing solutions for construction, mining, chemical, agriculture, farming and aqua-culturing industries.

Henan Exlon Pipe is mainly engaged in plastic pipe products and complete system application. The main products include: PE Water Supply Pipe, HDPE Drain Pipe, PP-R Cold and Hot Water Pipe, PVC-U Drain Pipe, PE-RT Surface Radiant Heating Pipe, PE-RT Oxygen Resistance Pipe, Butt Welding Aluminum-plastic Composite Pipe, Lap Welding Aluminum-plastic Composite pipe, PSP Steel-plastic Composite Pressure Pipe, Steel Wire Frame Reinforced PE Water Supply pipe, PE Gas Pipe, PE Double-wall Corrugated Pipe, PE Hollow Wall Winding Pipe, PVC Fire-retardant Insulated Electrical Bushing, PVC-M Water Supply Pipe, PB Ground Radiant Heating Pipe PB Oxygen Barrier, etc. They are widely used in the fields of building hot and cold water, building drainage, ground radiant heating, radiator heating, central air-conditioning, ground-source heat pump, municipal water supply, municipal drainage, gas pipe network and other pipeline systems. Among them, the production and sales volume of leading products of PE water supply pipes and HDPE drainage pipes rank among the highest in the industry.

Our certificates include but are not limited to the following:
CE, ISO4427, ISO9001, SGS, CNAS, ECM, etc.

Adhering to the core values of integrity and the corporate tenet of striving for realistic innovation and serving the society, Henan Exlon is committed to becoming a world-class material provider and targeting at the middle and high-end market to provide healthy green quality life for the majority of users.



APPLICATIONS

HIGH-DENSITY Polyethylene Water and Sewer Pipe

PE 4710 HESU HDPE PRESSURE PIPE PRIMARY PROPERTIES

Table 1

PROPERTY	UNIT	TEST PROCEDURE	TYPICAL VALUE
MATERIAL DESIGNATION	-	PPI - TR4	PE 4710
CELL CLASSIFICATION	-	ASTM D3350	445574C
DENSITY	G /CM3	ASTM D1505	0.959
MELT INDEX	G /10 MINUTES	ASTM D1238	< 0.15
FLEXURAL MODULUS	PSI	ASTM D790	110,000 TO < 160,000
TENSILE STRENGTH	PSI	ASTM D638	3500 TO < 4000
SCG (PENT)	HOURS	ASTM F1473	> 500
HDB @ 73.4° F (23° C)	PSI	ASTM D2837	1600
COLOR; UV STABILIZER	-	-	BLACK WITH MINIMUM 2% CARBON BLACK
BRITTLENESS TEMPERATURE	°F (°C)	ASTM D746	< - 130
HARDNESS	SHORE D	ASTM D2240	> 60

Note:

Gray Pipe Cell Classification 445574E

The physical (or chemical) properties of HESU products described herein represent typical average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice.

* For data, sizes, or classes not reflected in these charts, please contact HESU for assistance.

APPLICATIONS

HIGH-DENSITY Polyethylene Water and Sewer Pipe

HESU HDPE MARKETS AND APPLICATIONS

Table 2

MARKET	APPLICATION	PRODUCT
MUNICIPAL/INDUSTRIAL	UNDERGROUND POTABLE WATER DISTRIBUTION, MINING, DREDGING, RIVER / STREAM / LAKE CROSSING, HIGHWAY DRAINAGE, HIGHWAY CROSSING, OIL PATCH, AGRICULTURE WATER DISTRIBUTION, LANDFILL	I.P.S. / D.I.P.S.
DRAINAGE	STORM WATER, CULVERTS, HIGHWAY / RESIDENTIAL / AGRICULTURAL WATER COLLECTION	I.P.S. / D.I.P.S.
SANITARY SEWER	GRAVITY SEWER SYSTEMS, SEWER FORCE MAINS, DIRECTIONAL BORE	I.P.S. / D.I.P.S. GREEN STRIPE
WATER DISTRIBUTION	POTABLE WATER SYSTEMS, WATER SERVICE SYSTEMS	I.P.S. / D.I.P.S. BLUE STRIPE, C.T.S.
IRRIGATION	UNDERGROUND IRRIGATIONS SYSTEMS, AGRICULTURAL SYSTEMS	I.P.S. / S.I.D.R.
REHABILITATION	SLIP LINING, PIPE BURSTING	I.P.S. / D.I.P.S. GRAY SLIP LINER
RECLAIMED WATER	WATER RE-PROCESSING SYSTEMS	I.P.S. / D.I.P.S. PURPLE STRIPE
PERFORATED PIPE	LANDFILL GAS COLLECTION, WASTE DRAINAGE SYSTEMS	60°, 90°, 120°, & 180° PERFORATED I.P.S. / D.I.P.S.
MINING	LIQUID CHEMICAL MINING, SLURRY AND TAILING LINES, MINERAL EXTRACT SYSTEM	I.P.S. / D.I.P.S.
GEO-THERMAL HEATING / COOLING	HEATING/COOLING SYSTEM FOR HOME AND BUSINESS	I.P.S.
FIRE PROTECTION SYSTEMS	FACTORY MUTUAL (FM) APPROVED	I.P.S.

SURGE DESIGN

Surge Pressures in Various Pressure Pipe

Surge Pressure refers to the maximum hydraulic transient pressure increase (sometimes called “water hammer”) in excess of the operating pressure that is anticipated in the system as the result of sudden changes in velocity of the water column.

Polyethylene pipe has excellent water hammer properties and is designed to withstand surge pressure. Table 3 shows the PC ratings, surge allowance, and corresponding allowable sudden velocity change in flow velocity for standard dimension ratios (DR's). For recurrent surges, the allowance is 50% of the PC. For occasional surges, the allowance is 100% of the PC.

Table 3

DR	PSI	RECURRING SURGE EVENTS		OCCASIONAL SURGE EVENTS	
		SURGE CAPACITY (PSI)	CORRESPONDING SUDDEN VELOCITY CHANGE (FPS)	SURGE CAPACITY (PSI)	CORRESPONDING SUDDEN VELOCITY CHANGE (FPS)
7.3	254	127.0	6.9	254.0	13.8
9	200	100.0	6.2	200.0	12.4
11	160	80.0	5.6	160.0	11.1
13.5	128	64.0	5.0	128.0	10.0
17	100	50.0	4.4	100.0	8.9
21	80	40.0	4.0	80.0	8.0
26	64	32.0	3.6	64.0	7.2
32.5	51	25.4	3.2	50.8	6.4

PRESSURE CLASS AND SERVICE TEMPERATURE

Pressure Class (PC) is the design capacity to resist working pressure up to 80° F (27° C) maximum service temperature, with specified maximum allowances for recurring positive pressure surges above working pressure. **Table 4** shows the temperature compensation multipliers for applications anticipating higher service temperatures.

Table 4

SERVICE TEMPERATURE

Compensation multipliers for maximum continuously applied service temperature.

< 80° F	< 90° F	< 100° F	< 110° F	< 120° F	< 130° F	< 140° F
1.00	0.90	0.78	0.75	0.63	0.60	0.50

Please note that the maximum service temperature is 140° F for pressure applications. For non-pressure applications, the maximum service temperature is limited to 176° F.

DIMENSIONS AND WEIGHTS

SUBMITTAL AND DATA SHEET
HDPE IRON PIPE SIZE (L.P.S.)PRESSURE PIPE

Table 3

ANSI/NSF-61, 14 LISTED

PE 4710		DR 7 (333 PSI)			DR 9 (250 PSI)			DR 11 (200 PSI)		
PIPE SIZE	AVG.O.D.	MIN.T.	AVG.I.D.	WEIGHT LB/FT	MIN.T.	AVG.I.D.	WEIGHT LB/FT	MIN.T.	AVG.I.D.	WEIGHT LB/FT
1/2	0.840	0.120	0.586	0.12	0.093	0.643	0.10	0.076	0.679	0.08
3/4	1.050	0.150	0.732	0.19	0.117	0.802	0.15	0.095	0.849	0.12
1	1.315	0.188	0.916	0.29	0.146	1.005	0.23	0.120	1.061	0.20
1-1/4	1.660	0.237	1.158	0.46	0.184	1.270	0.37	0.151	1.340	0.31
1-1/2	1.900	0.271	1.325	0.61	0.211	1.453	0.49	0.173	1.533	0.41
2	2.375	0.339	1.656	0.95	0.264	1.815	0.77	0.216	1.917	0.64
3	3.500	0.500	2.440	2.06	0.389	2.675	1.66	0.318	2.826	1.39
4	4.500	0.643	3.137	3.40	0.500	3.440	2.75	0.409	3.633	2.30
5-3/8	5.375	0.768	3.747	4.85	0.597	4.109	3.92	0.489	4.338	3.29
5	5.563	0.795	3.878	5.20	0.618	4.253	4.20	0.506	4.490	3.52
6	6.625	0.946	4.619	7.36	0.736	5.065	5.96	0.602	5.349	4.99
7	7.125	0.976	5.056	8.52	0.792	5.446	6.89	0.648	5.751	5.78
8	8.625	1.232	6.013	12.48	0.958	6.594	10.09	0.784	6.963	8.46
10	10.750	1.536	7.494	19.40	1.194	8.219	15.68	0.977	8.679	13.14
12	12.750	1.821	8.889	27.28	1.417	9.746	22.07	1.159	10.293	18.49
14	14.000	2.000	9.760	32.90	1.556	10.107	26.61	1.273	11.301	22.30
16	16.000	2.286	11.154	42.97	1.778	12.231	34.75	1.455	12.915	29.12
18	18.000	2.571	12.59	54.37	2.000	13.760	43.97	1.636	14.532	36.84
20	20.000	2.857	13.943	67.13	2.222	15.289	54.28	1.818	16.146	45.49
22	22.000	3.143	15.337	81.23	2.444	16.819	65.68	2.000	17.76	55.05
24	24.000	3.429	16.732	96.67	2.667	18.346	78.18	2.182	19.374	65.52
26	26.000	-	-	-	2.889	19.875	91.75	2.364	20.988	76.90
28	28.000	-	-	-	3.111	21.405	106.40	2.545	22.605	89.15
30	30.000	-	-	-	3.333	22.934	122.13	2.727	24.219	102.35
32	32.000	-	-	-	-	-	-	2.909	25.833	116.46
34	34.000	-	-	-	-	-	-	3.091	27.447	131.48
36	36.000	-	-	-	-	-	-	3.273	29.061	147.41

I.D. : INSIDE DIAMETER
O.D. : OUTSIDE DIAMETER
T. : WALL THICKNESS

For data, sizes, or classes not reflected in these charts, please contact HESU for assistance.
For availability of pipe approved for FM 1613, please contact your HESU representative.

DIMENSIONS AND WEIGHTS

SUBMITTAL AND DATA SHEET
HDPE IRON PIPE SIZE (L.P.S.)PRESSURE PIPE

HDPE IRON PIPE SIZE (IPS) PRESSURE PIPE PE4710 1-5

ANSI/NSF-61, 14 LISTED

PIPE SIZE	AVG .O.D.	DR 7 (333 PSI)			DR 7.3 (318 PSI)			DR 9 (250 PSI)		
		MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT
1/2	0.840	0.120	0.59	0.12	0.115	0.60	0.11	0.093	0.64	0.10
3/4	1.050	0.150	0.73	0.19	0.144	0.75	0.18	0.117	0.80	0.15
1	1.315	0.188	0.92	0.29	0.180	0.93	0.28	0.146	1.01	0.23
2	2.375	0.339	1.66	0.95	0.325	1.69	0.91	0.264	1.82	0.77
3	3.500	0.500	2.44	2.06	0.479	2.48	1.98	0.389	2.68	1.66
4	4.500	0.643	3.14	3.40	0.616	3.19	3.28	0.500	3.44	2.75
5-3/8	5.375	0.768	3.75	4.85	0.736	3.81	4.68	0.597	4.11	3.92
5	5.563	0.795	3.88	5.20	0.762	3.95	5.02	0.618	4.25	4.20
6	6.625	0.946	4.62	7.36	0.908	4.70	7.12	0.736	5.06	5.96
7	7.125	0.976	5.06	8.23	0.976	5.06	8.23	0.792	5.45	6.89
8	8.625	1.232	6.01	12.48	1.182	6.12	12.06	0.958	6.59	10.09
10	10.750	1.536	7.49	19.40	1.473	7.63	18.74	1.194	8.22	15.68
12	12.750	1.821	8.89	27.28	1.747	9.05	26.36	1.417	9.75	22.07
14	14.000	2.000	9.76	32.90	1.918	9.93	31.78	1.556	10.70	26.61
16	16.000	2.286	11.15	42.97	2.192	11.35	41.51	1.778	12.23	34.75
18	18.000	2.571	12.55	54.37	2.466	12.77	52.53	2.000	13.76	43.97
20	20.000	2.857	13.94	67.13	2.740	14.19	64.85	2.222	15.29	54.28
24	24.000	3.429	16.73	96.68	3.288	17.03	93.39	2.667	18.35	78.18
26	26.000	-	-	-	-	-	-	2.889	19.88	91.75
28	28.000	-	-	-	-	-	-	3.111	21.40	106.40
30	30.000	-	-	-	-	-	-	3.333	22.93	122.13
32	32.000	-	-	-	-	-	-	-	-	-
34	34.000	-	-	-	-	-	-	-	-	-
36	36.000	-	-	-	-	-	-	-	-	-

DIMENSIONS AND WEIGHTS

SUBMITTAL AND DATA SHEET
HDPE IRON PIPE SIZE (L.P.S.)PRESSURE PIPE

HDPE IRON PIPE SIZE (IPS) PRESSURE PIPE PE4710 2-5

ANSI/NSF-61, 14 LISTED

PIPE SIZE	AVG .O.D.	DR 9.3 (241 PSI)			DR 11 (200 PSI)			DR 13.5 (160 PSI)		
		MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT
1/2	0.840	0.090	0.65	0.09	0.076	0.68	0.08	0.062	0.71	0.07
3/4	1.050	0.113	0.81	0.15	0.095	0.85	0.12	0.078	0.88	0.10
1	1.315	0.141	1.02	0.23	0.120	1.06	0.20	0.097	1.11	0.16
2	2.375	0.255	1.83	0.74	0.216	1.92	0.64	0.176	2.00	0.53
3	3.500	0.376	2.70	1.61	0.318	2.83	1.39	0.259	2.95	1.16
4	4.500	0.484	3.47	2.67	0.409	3.63	2.30	0.333	3.79	1.91
5-3/8	5.375	0.578	4.15	3.81	0.489	4.34	3.29	0.398	4.53	2.73
5	5.563	0.598	4.29	4.08	0.506	4.49	3.52	0.412	4.69	2.92
6	6.625	0.712	5.11	5.79	0.602	5.35	4.99	0.491	5.58	4.15
7	7.125	0.766	5.50	6.70	0.648	5.75	5.78	0.528	6.01	4.80
8	8.625	0.927	6.66	9.81	0.784	6.96	8.46	0.639	7.27	7.03
10	10.750	1.156	8.30	15.24	0.977	8.68	13.14	0.796	9.06	10.92
12	12.750	1.371	9.84	21.44	1.159	10.29	18.49	0.944	10.75	15.36
14	14.000	1.505	10.81	25.85	1.273	11.30	22.30	1.037	11.80	18.52
16	16.000	1.720	12.35	33.76	1.455	12.92	29.12	1.185	13.49	24.19
18	18.000	1.935	13.90	42.73	1.636	14.53	36.84	1.333	15.17	30.61
20	20.000	2.151	15.44	52.77	1.818	16.15	45.49	1.481	16.86	37.79
24	24.000	2.581	18.53	75.95	2.182	19.37	65.52	1.778	20.23	54.44
26	26.000	2.769	20.07	89.17	2.364	20.99	76.89	1.926	21.92	63.89
28	28.000	3.0111	21.62	103.42	2.545	22.60	89.15	2.074	23.60	74.09
30	30.000	3.226	23.16	118.72	2.727	24.22	102.35	2.222	25.29	85.04
32	32.000	-	-	-	2.909	25.83	116.46	2.370	26.98	96.76
34	34.000	-	-	-	3.091	27.45	131.48	2.519	28.66	109.26
36	36.000	-	-	-	3.273	29.06	147.41	2.667	30.38	122.49

DIMENSIONS AND WEIGHTS

SUBMITTAL AND DATA SHEET
HDPE IRON PIPE SIZE (L.P.S.)PRESSURE PIPE

HDPE IRON PIPE SIZE (IPS) PRESSURE PIPE PE4710 3-5

ANSI/NSF-61, 14 LISTED

PIPE SIZE	AVG .O.D.	DR 15.5 (138 PSI)			DR 17 (125 PSI)			DR 19 (111 PSI)		
		MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT
1/2	0.840	0.054	0.73	0.07	0.062	0.71	0.07	0.044	0.75	0.05
3/4	1.050	0.068	0.91	0.09	0.062	0.92	0.07	0.055	0.93	0.08
1	1.315	0.085	1.14	0.14	0.077	1.15	0.13	0.069	1.17	0.12
2	2.375	0.153	2.05	0.47	0.140	2.08	0.43	0.125	2.11	0.39
3	3.500	0.226	3.02	1.02	0.206	3.06	0.94	0.184	3.11	0.84
4	4.500	0.290	3.88	1.68	0.265	3.94	1.55	0.237	4.00	1.39
5-3/8	5.375	.0374	4.64	2.40	0.316	4.71	2.21	0.283	4.78	1.99
5	5.563	0.359	4.80	2.58	0.327	4.87	2.36	0.293	4.94	2.13
6	6.625	0.427	5.72	3.65	0.390	5.80	3.35	0.349	5.89	3.02
7	7.125	0.460	6.15	4.23	0.419	6.24	3.88	0.375	6.33	3.49
8	8.625	0.556	7.45	6.19	0.507	7.55	5.68	0.454	7.66	5.12
10	10.750	0.694	9.28	9.62	0.632	9.41	8.82	0.566	9.55	7.95
12	12.750	0.823	11.01	13.53	0.750	11.16	12.41	0.671	11.33	11.18
14	14.000	0.903	12.09	16.31	0.824	12.25	14.97	0.737	12.44	13.49
16	16.000	1.032	13.81	21.30	0.941	14.01	19.55	0.842	14.21	17.61
18	18.000	1.161	15.54	26.95	1.059	15.75	24.75	0.947	15.99	22.29
20	20.000	1.290	17.26	33.28	1.176	17.51	30.53	1.053	17.77	27.52
24	24.000	1.548	20.72	47.92	1.412	21.01	43.99	1.263	21.32	39.63
26	26.000	1.677	22.44	56.24	1.529	22.76	51.61	1.368	23.10	46.51
28	28.000	1.806	24.17	65.22	1.647	24.51	59.87	1.474	24.88	53.94
30	30.000	1.935	15.90	74.87	1.765	26.26	68.74	1.579	26.65	61.92
32	32.000	2.065	27.62	85.23	1.882	28.01	78.18	1.684	28.43	70.45
34	34.000	2.194	29.35	96.21	2.000	29.76	88.27	1.790	30.21	79.54
36	36.000	2.323	31.08	107.86	2.118	31.51	98.98	1.895	31.98	89.17

DIMENSIONS AND WEIGHTS

SUBMITTAL AND DATA SHEET
HDPE IRON PIPE SIZE (L.P.S.)PRESSURE PIPE

HDPE IRON PIPE SIZE (IPS) PRESSURE PIPE PE4710 4-5

ANSI/NSF-61, 14 LISTED

PIPE SIZE	AVG .O.D.	DR 21 (100 PSI)			DR 26 (80 PSI)			DR 32.5 (64 PSI)		
		MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT
1/2	0.840	0.062	0.71	0.07	0.062	0.71	0.07	0.062	0.71	0.07
3/4	1.050	0.062	0.92	0.08	0.062	0.92	0.08	0.062	0.92	0.08
1	1.315	0.063	1.18	0.11	0.062	1.18	0.11	0.062	1.18	0.11
2	2.375	0.113	2.14	0.35	0.091	2.18	0.29	0.073	2.22	0.23
3	3.500	0.167	3.15	0.77	0.135	3.21	0.63	0.108	3.27	0.51
4	4.500	0.214	4.05	1.27	0.173	4.13	1.03	0.138	4.21	0.83
5-3/8	5.375	0.256	4.83	1.81	0.207	4.94	1.48	1.165	5.03	1.19
5	5.563	0.265	5.00	1.94	0.214	5.11	1.58	0.171	5.20	1.27
6	6.625	0.315	5.96	2.74	0.255	6.08	2.24	0.204	6.19	1.81
7	7.125	0.340	6.40	3.18	0.274	6.54	2.59	0.219	6.66	2.09
8	8.625	0.411	7.75	4.66	0.332	7.92	3.80	0.265	8.06	3.06
10	10.750	0.512	9.66	7.24	0.413	9.87	5.90	0.331	10.05	4.77
12	12.750	0.607	11.46	10.17	0.490	11.71	8.30	0.392	11.92	6.69
14	14.000	0.667	12.59	12.28	0.538	12.86	10.00	0.431	13.09	8.08
16	16.000	0.762	14.38	16.03	0.615	14.70	13.07	0.492	14.96	10.54
18	18.000	0.857	16.18	20.28	0.692	16.53	16.54	0.554	16.83	13.36
20	20.000	0.952	17.98	25.03	0.769	18.37	20.43	0.615	18.70	16.47
24	24.000	1.143	21.58	36.06	0.923	22.04	29.42	0.738	22.44	23.72
26	26.000	1.238	23.38	42.31	1.000	23.88	34.53	0.800	24.30	27.86
28	28.000	1.333	25.17	49.07	1.077	25.72	40.05	0.862	26.17	32.33
30	30.000	1.429	26.97	56.36	1.154	27.55	45.98	0.923	28.04	37.09
32	32.000	1.542	28.73	64.11	1.231	29.39	52.31	0.985	29.91	42.22
34	34.000	1.619	30.57	72.36	1.308	31.23	59.06	1.046	31.78	47.63
36	36.000	1.714	32.37	81.12	1.385	33.06	66.22	1.108	33.65	53.42

DIMENSIONS AND WEIGHTS

SUBMITTAL AND DATA SHEET
HDPE IRON PIPE SIZE (L.P.S.)PRESSURE PIPE

HDPE IRON PIPE SIZE (IPS) PRESSURE PIPE PE4710 4-5

ANSI/NSF-61, 14 LISTED

PIPE SIZE	AVG .O.D.	DR 17 (125 PSI)			DR 19 (111 PSI)			DR 21 (100 PSI)		
		MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT
36	36.000	2.118	31.510	98.98	1.895	31.983	89.17	1.714	32.366	81.12
42	42.000	2.471	36.761	134.72	2.211	37.314	121.37	2.000	37.760	110.43
48	48.000	2.824	42.013	175.97	2.526	42.644	158.52	2.286	43.154	144.25
54	54.000	3.177	42.265	222.64	2.842	47.975	200.63	2.571	48.549	182.51
63	63.000	-	-	-	-	-	-	3.000	56.640	248.46

PIPE SIZE	AVG .O.D.	DR 26 (80 PSI)			DR 32.5 (64 PSI)			DR 41 (50 PSI)		
		MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT
36	36.000	1.385	33.064	66.22	1.108	33.651	53.42	0.878	34.139	42.63
42	42.000	1.615	38.576	90.08	1.292	39.261	72.68	1.024	39.830	58.03
48	48.000	1.846	44.086	117.68	1.477	44.869	94.95	1.171	45.517	75.79
54	54.000	2.077	49.597	148.95	1.622	50.477	120.20	1.317	51.208	95.92
63	63.000	2.423	57.863	202.72	1.938	58.891	163.53	1.537	59.742	130.56

DIMENSIONS AND WEIGHTS

SUBMITTAL AND DATA SHEET
HDPE IRON PIPE SIZE (L.P.S.) PRESSURE PIPE

HDPE DUCTILE IRON PIPE SIZE (DIPS) PRESSURE PIPE PE4710 1-2

ANSI/NSF-61, 14 LISTED

PIPE SIZE	AVG .O.D.	DR 7 (333 PSI)			DR 9 (250 PSI)			DR 11 (200 PSI)		
		MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT
4	4.800	0.686	3.346	3.87	0.533	3.670	3.13	0.436	3.876	2.62
6	6.900	0.946	4.894	7.99	0.767	5.274	6.46	0.627	5.571	5.41
8	9.050	1.293	6.309	13.75	1.006	6.917	11.12	0.823	7.305	9.32
10	11.100	1.586	7.738	20.68	1.233	8.486	16.72	1.009	8.961	14.01
12	13.200	1.886	9.202	29.24	1.467	10.090	23.65	1.200	10.656	19.82
14	15.300	2.186	10.666	39.29	1.700	11.696	31.77	1.391	12.351	26.63
16	17.400	2.486	12.130	50.81	1.933	13.302	41.09	1.582	14.046	34.44
18	19.500	2.786	13.594	63.82	2.167	14.906	51.61	1.773	15.741	43.25
20	21.600	-	-	-	2.400	16.512	63.32	1.964	17.436	53.07
24	25.800	-	-	-	2.867	19.722	90.34	2.345	20.829	75.69
30	32.000	-	-	-	-	-	-	2.909	25.833	116.46
36	38.300	-	-	-	-	-	-	-	-	-
42	44.500	-	-	-	-	-	-	-	-	-
48	50.800	-	-	-	-	-	-	-	-	-

PIPE SIZE	AVG .O.D.	DR 13.5 (160 PSI)			DR 17 (125 PSI)			DR 19 (111 PSI)		
		MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT
4	4.800	0.356	4.045	2.18	0.282	4.202	1.76	0.253	4.264	1.59
6	6.900	0.511	5.817	4.50	0.406	6.039	3.64	0.363	6.130	3.28
8	9.050	0.670	7.630	7.74	0.532	7.922	6.25	0.476	8.041	5.64
10	11.100	0.822	9.357	11.64	0.653	9.716	9.41	0.584	9.862	8.48
12	13.200	0.978	11.127	16.47	0.776	11.555	13.30	0.695	11.727	11.99
14	15.300	1.133	12.898	22.12	0.900	13.392	17.88	0.805	13.593	16.11
16	17.400	1.289	14.667	28.61	1.024	15.229	23.13	0.916	15.458	20.83
18	19.500	1.444	16.439	35.92	1.147	17.068	29.04	1.026	17.325	26.16
20	21.600	1.600	18.208	44.09	1.271	18.905	35.64	1.137	19.190	32.10
24	25.800	1.911	21.749	62.90	1.518	22.582	50.84	1.358	22.921	45.80
30	32.000	2.370	26.976	96.76	1.880	28.014	78.18	1.684	28.430	70.45
36	38.300	2.837	32.286	138.62	2.253	33.524	112.02	2.016	34.026	100.93
42	44.500	-	-	-	2.618	38.950	151.24	2.342	39.535	136.25
48	50.800	-	-	-	2.988	44.465	197.05	2.674	45.131	177.55

DIMENSIONS AND WEIGHTS

SUBMITTAL AND DATA SHEET
HDPE IRON PIPE SIZE (L.P.S.)PRESSURE PIPE

HDPE DUCTILE IRON PIPE SIZE (DIPS) PRESSURE PIPE PE4710 2-2

ANSI/NSF-61, 14 LISTED

PIPE SIZE	AVG .O.D.	DR 21 (100 PSI)			DR 26 (80 PSI)			DR 32.5 (64 PSI)		
		MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT	MIN WALL	AVG ID	WEIGHT LB/FT
4	4.800	0.229	4.315	1.44	0.185	4.408	1.18	0.148	4.486	0.95
6	6.900	0.329	6.203	2.98	0.265	6.338	2.43	0.212	6.451	1.96
8	9.050	0.431	8.136	5.13	0.348	8.312	4.18	0.278	8.461	3.37
10	11.100	0.529	9.979	7.72	0.427	10.195	6.29	0.342	10.375	5.08
12	13.200	0.629	11.867	10.91	0.508	12.123	8.91	0.406	12.339	7.18
14	15.300	0.729	13.755	14.66	0.588	14.053	11.95	0.471	14.301	9.65
16	17.400	0.829	15.643	18.96	0.669	15.982	15.46	0.536	16.264	12.49
18	19.500	0.929	17.531	23.81	0.750	17.910	19.42	0.600	18.228	15.67
20	21.600	1.029	19.419	29.22	0.831	19.838	23.84	0.665	20.190	19.21
24	25.800	1.229	23.195	41.68	0.992	23.697	33.99	0.794	24.117	27.44
30	32.000	1.524	28.769	64.11	1.231	29.390	52.31	0.985	29.912	42.22
36	38.300	1.824	34.433	91.84	1.473	35.177	74.92	1.179	35.801	60.43
42	44.500	2.119	40.008	123.96	1.712	40.871	101.17	1.370	41.596	81.59
48	50.800	2.419	45.672	161.55	1.954	46.658	131.83	1.563	47.486	106.34

APPLICATIONS

HIGH-DENSITY Polyethylene Water and Sewer Pipe

PE 4710 HESU HDPE TYPICAL PRIMARY PROPERTIES

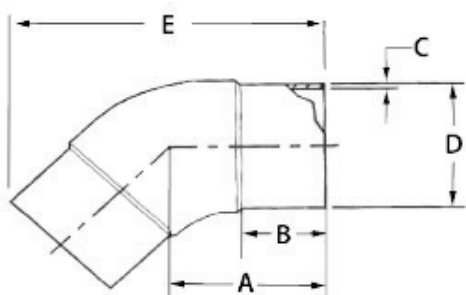
Table 1

PROPERTY	UNIT	TEST PROCEDURE	TYPICAL VALUE
MATERIAL DESIGNATION	-	PPI-TR4	PE 4710
CELL CLASSIFICATION	-	ASTM D3350	445574C
DENSITY	G /CM3	ASTM D1505	0.959
MELT INDEX	G /10 MINUTES	ASTM D1238	<0.15
FLEXURAL MODULUS	PSI	ASTM D790	> 120,000
TENSILE STRENGTH	PSI	ASTM D638	> 3,600
SCG (PENT)	HOURS	ASTM F1473	> 100
HDB @ 73.4OF (23OC) HDB @ 140OF (60OC)	PSI PSI	ASTM D2837 ASTM D2837	1600 1000
HDS (HYDROSTATIC DESIGN STRESS) @ 73.4°-F HDS @ 140°-F	PSI PSI	PPI-TR4 PPI-TR4	1000 630
COLOR; UV STABILIZE	-	-	BLACK WITH MINIMUM 2% CARBON BLACK
BRITTLINESS TEMPERATURE	°F	ASTM D746	<-180

** Note: Cell Classification is 445576E for all Blue / Green / Gray Polyethylene Pipes.

MOLDED BUTT FUSION 45° ELBOWS-IPS

American Standard Pipe Fittings



SDR 17 (Standard Dimension Ratio) 125 PSI (Working Pressure at 73.4° F)

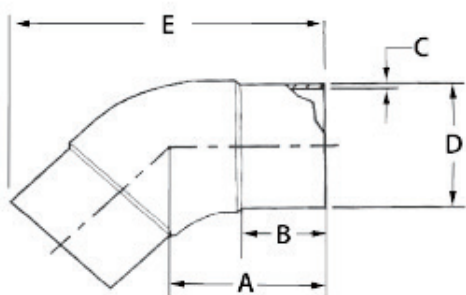
NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	3.23"	2.64"	0.140"	2.375"	6.38"	0.3 LBS	100002
3" IPS	4.72"	3.86"	0.206"	3.500"	9.33"	0.9 LBS	100006
4" IPS	5.31"	4.21"	0.265"	4.500"	10.63"	1.7 LBS	100010
6" IPS	6.89"	5.35"	0.390"	6.625"	14.09"	4.4 LBS	100014
8" IPS	8.46"	6.54"	0.507"	8.625"	17.48"	9.8 LBS	100018
10" IPS	10.04"	7.64"	0.632"	10.750"	20.94"	14.9 LBS	100022
12" IPS	10.63"	7.80"	0.750"	12.750"	22.64"	22.1 LBS	100024

SDR 11 (Standard Dimension Ratio) 200 PSI (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	3.23"	2.64"	0.216"	2.375"	6.38"	0.4 LBS	100002
3" IPS	4.72"	3.86"	0.318"	3.500"	9.33"	1.2 LBS	100005
4" IPS	5.31"	4.21"	0.409"	4.500"	10.63"	2.1 LBS	100009
6" IPS	6.89"	5.35"	0.602"	6.625"	14.09"	6.1 LBS	100013
8" IPS	8.46"	6.54"	0.784"	8.625"	17.48"	12.6 LBS	100017
10" IPS	10.04"	7.64"	0.977"	10.750"	20.94"	21.3 LBS	100021
12" IPS	10.63"	7.80"	1.159"	12.750"	22.64"	31.4 LBS	100023

MOLDED BUTT FUSION 45° ELBOWS-IPS

American Standard Pipe Fittings



SDR 9 (Standard Dimension Ratio) **255 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	3.23"	2.64"	0.264"	2.375"	6.38"	0.4 LBS	100004
3" IPS	4.72"	3.86"	0.389"	3.500"	9.33"	1.4 LBS	100008
4" IPS	5.31"	4.21"	0.500"	4.500"	10.63"	2.6 LBS	100012
6" IPS	6.89"	5.35"	0.736"	6.625"	14.09"	7.2 LBS	100016
8" IPS	8.46"	6.54"	0.958"	8.625"	17.48"	14.7 LBS	100020

SDR 7 (Standard Dimension Ratio) **335 PSI** (Working Pressure at 73.4° F)

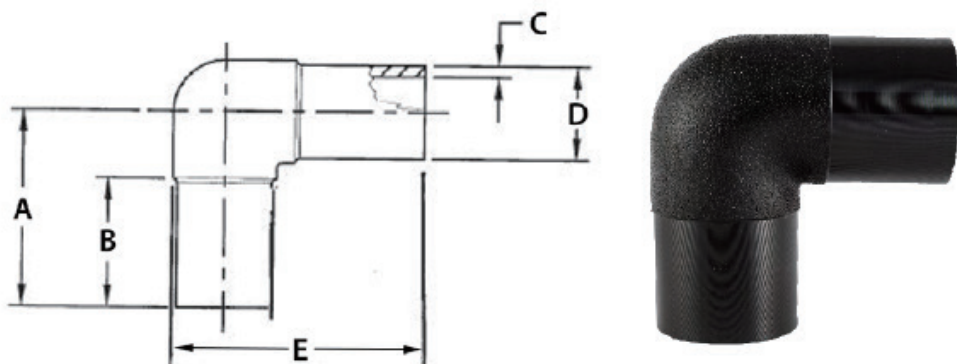
NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	3.23"	2.64"	0.339"	2.375"	6.38"	0.5 LBS	100003
3" IPS	4.72"	3.86"	0.500"	3.500"	9.33"	1.7 LBS	100007
4" IPS	5.31"	4.21"	0.643"	4.500"	10.63"	3.2 LBS	100011
6" IPS	6.89"	5.35"	0.946"	6.625"	14.09"	8.7 LBS	100015
8" IPS	8.46"	6.54"	1.232"	8.625"	17.48"	17.9 LBS	100019

SDR 11 (Standard Dimension Ratio) **200 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
4" IPS	6.05"	4.10"	0.436"	4.800"	12.00"	3.2 LBS	100025
6" IPS	7.12"	5.10"	0.627"	6.900"	14.56"	7.94 LBS	100026
8" IPS	8.32"	5.20"	0.823"	9.050"	17.56"	17.4 LBS	100027

MOLDED BUTT FUSION 90° ELBOWS-IPS

American Standard Pipe Fittings



SDR 17 (Standard Dimension Ratio) **125 PSI** (Working Pressure at 73.4° F)

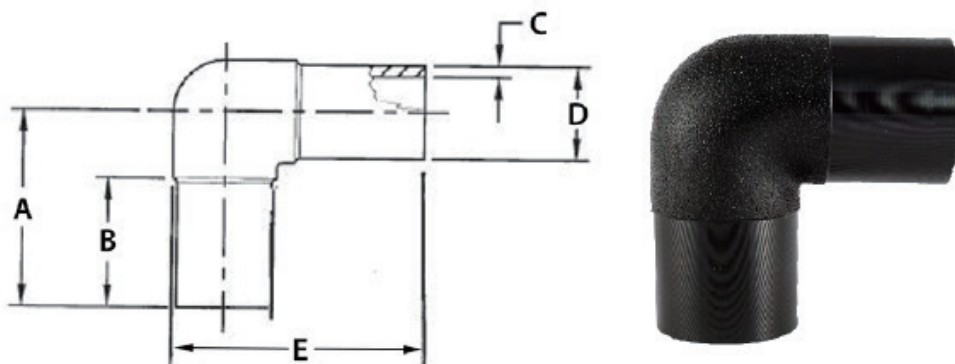
NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	4.25"	2.95"	0.140"	2.375"	5.44"	0.4 LBS	100106
3" IPS	5.91"	4.06"	0.206"	3.500"	7.66"	1.1 LBS	100110
4" IPS	6.89"	4.53"	0.265"	4.500"	9.14"	1.6 LBS	100114
6" IPS	9.06"	5.63"	0.390"	6.625"	12.37"	7.8 LBS	100118
8" IPS	11.81"	7.20"	0.507"	8.625"	16.13"	12.8 LBS	100122
10" IPS	13.78"	8.27"	0.632"	10.750"	19.15"	24.0 LBS	100126
12" IPS	14.96"	8.46"	0.750"	12.750"	21.33"	49.4 LBS	100128

SDR 11 (Standard Dimension Ratio) **200 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
¾" IPS	3.19"	2.14"	0.095"	1.050"	3.82"	0.1 LBS	100100
1" IPS	3.31"	2.18"	0.120"	1.315"	4.06"	0.2 LBS	100101
1 ¼" IPS	3.48"	2.15"	0.151"	1.660"	4.41"	0.3 LBS	100102
1 ½" IPS	3.92"	2.37"	0.173"	1.900"	5.00"	0.4 LBS	100103
2" IPS	4.25"	2.95"	0.216"	2.375"	5.44"	0.5 LBS	100105
3" IPS	5.91"	4.06"	0.318"	3.500"	7.66"	1.5 LBS	100109
4" IPS	6.89"	4.53"	0.409"	4.500"	9.14"	2.8 LBS	100113
6" IPS	9.06"	5.63"	0.602"	6.625"	12.37"	5.7 LBS	100117
8" IPS	11.81"	7.20"	0.784"	8.625"	16.13"	17.4 LBS	100121
10" IPS	13.78"	8.27"	0.977"	10.750"	19.15"	32.0 LBS	100125
12" IPS	14.96"	8.46"	1.159"	12.750"	21.33"	36.9 LBS	100127

MOLDED BUTT FUSION 90° ELBOWS-IPS

American Standard Pipe Fittings



SDR 9 (Standard Dimension Ratio) 255 PSI (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	4.25"	2.95"	0.264"	2.375"	5.44"	0.6 LBS	100108
3" IPS	5.91"	4.06"	0.389"	3.500"	7.66"	1.7 LBS	100112
4" IPS	6.89"	4.53"	0.500"	4.500"	9.14"	3.1 LBS	100116
6" IPS	9.06"	5.63"	0.736"	6.625"	12.37"	9.0 LBS	100120
8" IPS	11.81"	7.20"	0.958"	8.625"	16.13"	19.7 LBS	100124

SDR 9 (Standard Dimension Ratio) 255 PSI (Working Pressure at 73.4° F)

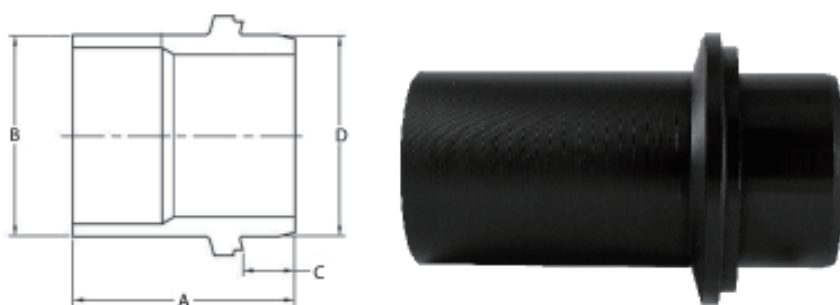
NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	4.25"	2.95"	0.339"	2.375"	5.44"	0.8 LBS	100107
3" IPS	5.91"	4.06"	0.500"	3.500"	7.66"	2.0 LBS	100111
4" IPS	6.89"	4.53"	0.643"	4.500"	9.14"	3.2 LBS	100114
6" IPS	9.06"	5.63"	0.946"	6.625"	12.37"	10.9 LBS	100119
8" IPS	11.81"	7.20"	1.232"	8.625"	16.13"	24.1 LBS	100123

SDR 11 (Standard Dimension Ratio) 200 PSI (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	7.82"	4.10"	0.436"	4.800"	10.35"	4.0 LBS	100129
3" IPS	9.67"	5.10"	0.627"	6.900"	13.34"	10.1 LBS	100130
4" IPS	11.58"	5.20"	0.823"	9.050"	16.33"	19.8 LBS	100131

MOLDED BUTT FUSION MJ ADAPTERS

American Standard Pipe Fittings



SDR 9 (Standard Dimension Ratio) **255 PSI** (Working Pressure at 73.4° F)

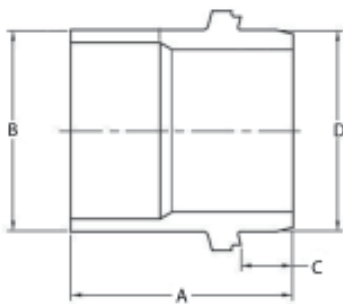
SDR 11 (Standard Dimension Ratio) **200 PSI** (Working Pressure at 73.4° F)

IPS - with or without SS Stiffeners

NOMINAL SIZE	SDR	A	B	C	D	WEIGHT	ITEM CODE
2" IPS	9	8.00"	2.375"	2.34"	2.375"	2.0 LBS	100503/100501
2" IPS	11	8.00"	2.375"	2.34"	2.375"	1.9 LBS	100502/100500
3" IPS	9	9.00"	3.500"	2.34"	3.960"	2.4 LBS	100507/100505
3" IPS	11	9.00"	3.500"	2.34"	3.960"	2.1 LBS	100506/100504
4" IPS	9	10.25"	4.500"	2.34"	4.800"	3.4 LBS	100515/100513
4" IPS	11	10.25"	4.500"	2.34"	4.800"	3.0 LBS	100514/100512
6" IPS	9	11.31"	6.625"	2.34"	6.900"	7.0 LBS	100523/100521
6" IPS	11	11.31"	6.625"	2.34"	6.900"	6.3 LBS	100522/100520
8" IPS	9	11.94"	8.625"	2.34"	9.050"	12.7 LBS	100531/100529
8" IPS	11	11.94"	8.625"	2.34"	9.050"	11.1 LBS	100530/100528
10" IPS	9	13.56"	10.750"	2.34"	11.100"	20.9 LBS	100539/100537
10" IPS	11	13.56"	10.750"	2.34"	11.100"	18.1 LBS	100538/100536
12" IPS	9	13.00"	12.750"	2.34"	13.200"	28.0 LBS	100547/100545
12" IPS	11	13.00"	12.750"	2.34"	13.200"	24.2 LBS	100546/100544
14" IPS	11	13.00"	14.000"	1.75"	15.300"	35.3 LBS	100551/100550
16" IPS	11	13.00"	16.000"	1.75"	17.400"	40.8 LBS	100555/100554
18" IPS	11	13.00"	18.000"	1.75"	19.500"	51.1 LBS	100559/100558
20" IPS	11	15.22"	20.000"	2.54"	21.600"	72.8 LBS	100563/100562
24" IPS	11	16.73"	24.000"	2.67"	25.800"	109.8 LBS	100567/100566

MOLDED BUTT FUSION MJ ADAPTERS

American Standard Pipe Fittings



SDR 9 (Standard Dimension Ratio) **255 PSI** (Working Pressure at 73.4° F)

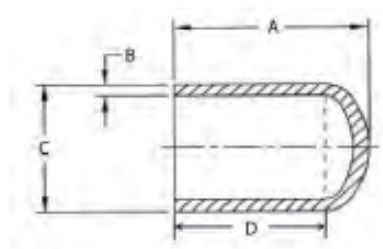
SDR 11 (Standard Dimension Ratio) **200 PSI** (Working Pressure at 73.4° F)

IPS - with or without SS Stiffeners

NOMINAL SIZE	SDR	A	B	C	D	WEIGHT	ITEM CODE
4" DIPS	9	10.25"	4.800"	2.34"	4.800"	3.5 LBS	100511/100509
4" DIPS	11	10.25"	4.800"	2.34"	4.800"	3.2 LBS	100510/100508
6" DIPS	9	11.31"	6.900"	2.34"	6.900"	7.7 LBS	100519/100517
6" DIPS	11	11.31"	6.900"	2.34"	6.900"	6.8 LBS	100518/100516
8" DIPS	9	11.94"	9.050"	2.34"	9.050"	13.0 LBS	100527/100525
8" DIPS	11	11.94"	9.050"	2.34"	9.050"	11.3 LBS	100526/100524
10" DIPS	9	13.56"	11.100"	2.34"	11.100"	22.1 LBS	100535/100533
10" DIPS	11	13.56"	11.100"	2.34"	11.100"	19.9 LBS	100534/100532
12" DIPS	9	13.00"	13.200"	2.34"	13.200"	30.2 LBS	100543/100541
12" DIPS	11	13.00"	13.200"	2.34"	13.200"	25.9 LBS	100542/100540
14" DIPS	11	14.00"	15.300"	2.22"	15.300"	33.1 LBS	100549/100548
16" DIPS	11	14.00"	17.400"	2.22"	17.400"	44.1 LBS	100553/100552
18" DIPS	11	15.22"	19.500"	2.63"	19.500"	66.2 LBS	100557/100556
20" DIPS	11	15.22"	21.600"	2.63"	21.600"	94.8 LBS	100561/100560
24" DIPS	11	15.22"	25.800"	2.63"	25.800"	132.3 LBS	100565/100564

MOLDED BUTT FUSION CAPS

American Standard Pipe Fittings



SDR 17 (Standard Dimension Ratio) **125 PSI** (Working Pressure at 73.4° F)

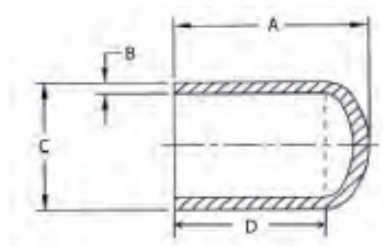
NOMINAL SIZE	A	B	C	D	WEIGHT	ITEM CODE
2" IPS	3.23"	0.140"	2.375"	2.52"	0.1 LBS	100306
3" IPS	4.72"	0.206"	3.500"	3.70"	0.4 LBS	100310
4" IPS	5.31"	0.264"	4.500"	3.98"	0.7 LBS	100314
6" IPS	6.89"	0.390"	6.625"	4.84"	2.0 LBS	100318
8" IPS	8.66"	0.507"	8.625"	5.83"	4.2 LBS	100322

SDR 11 (Standard Dimension Ratio) **200 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	WEIGHT	ITEM CODE
¾" IPS	2.55"	0.095"	1.050"	2.18"	0.1 LBS	100300
1" IPS	2.64"	0.120"	1.315"	2.18"	0.1 LBS	100302
1 ¼" IPS	2.77"	0.151"	1.660"	2.18"	0.1 LBS	100303
1 ½" IPS	3.10"	0.173"	1.900"	2.42"	0.7 LBS	100304
2" IPS	3.23"	0.216"	2.375"	2.52"	0.8 LBS	100305
3" IPS	4.72"	0.318"	3.500"	3.70"	0.9 LBS	100309
4" IPS	5.31"	0.409"	4.500"	3.98"	1.1 LBS	100313
6" IPS	6.89"	0.603"	6.625"	4.84"	2.9 LBS	100317
8" IPS	8.66"	0.785"	8.625"	5.83"	6.3 LBS	100321

MOLDED BUTT FUSION CAPS

American Standard Pipe Fittings



SDR 9 (Standard Dimension Ratio) **255 PSI** (Working Pressure at 73.4° F)

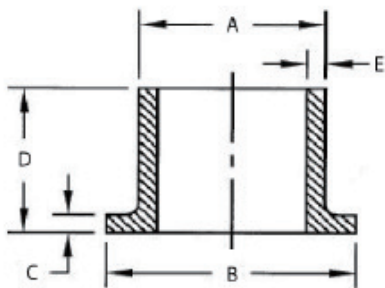
NOMINAL SIZE	A	B	C	D	WEIGHT	ITEM CODE
2" IPS	3.23"	0.264"	2.375"	2.52"	0.3 LBS	100308
3" IPS	4.72"	0.389"	3.500"	3.70"	0.8 LBS	100312
4" IPS	5.31"	0.500"	4.500"	3.98"	2.4 LBS	100316
6" IPS	6.89"	0.736"	6.625"	4.84"	2.8 LBS	100320
8" IPS	8.66"	0.958"	8.625"	5.83"	5.6 LBS	100324

SDR 7 (Standard Dimension Ratio) **335 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	WEIGHT	ITEM CODE
2" IPS	3.23"	0.399"	2.375"	2.52"	0.3 LBS	100301
3" IPS	4.72"	0.500"	3.500"	3.70"	1.0 LBS	100311
4" IPS	5.31"	0.643"	4.500"	3.98"	2.4 LBS	100315
6" IPS	6.89"	0.946"	6.625"	4.84"	2.8 LBS	100319
8" IPS	8.66"	1.232"	8.625"	5.83"	5.6 LBS	100323

MOLDED BUTT FUSION FLANGE ADAPTERS

American Standard Pipe Fittings

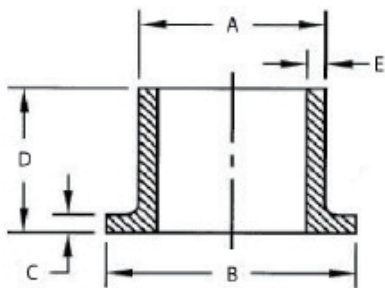


SDR 17 (Standard Dimension Ratio) **125 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	2.375"	3.94"	0.55"	6.10"	0.140"	0.4 LBS	100401
3" IPS	3.500"	5.00"	0.67"	6.10"	0.206"	0.8 LBS	100405
4" IPS	4.500"	6.61"	0.79"	6.10"	0.265"	1.6 LBS	100409
6" IPS	6.625"	8.50"	1.02"	8.07"	0.390"	3.4 LBS	100413
8" IPS	8.625"	10.63"	1.02"	10.67"	0.507"	6.4 LBS	100417
10" IPS	10.750"	12.99"	1.18"	11.50"	0.632"	10.1 LBS	100421
12" IPS	12.750"	15.75"	1.38"	10.83"	0.750"	14.6 LBS	100424
14" IPS	14.000"	17.50"	1.62"	12.00"	0.824"	26.0 LBS	100427
16" IPS	16.000"	20.00"	1.85"	12.00"	0.941"	37.0 LBS	100429
18" IPS	18.000"	21.12"	2.08"	12.00"	1.059"	43.0 LBS	100431
20" IPS	20.000"	23.50"	2.31"	12.00"	1.176"	56.0 LBS	100433
24" IPS	24.000"	28.00"	2.77"	14.00"	1.412"	79.0 LBS	100437
28" IPS	28.000"	32.30"	3.23"	14.00"	1.647"	84.0 LBS	100439
30" IPS	30.000"	34.30"	3.46"	14.00"	1.765"	87.0 LBS	100441
32" IPS	32.000"	34.30"	3.69"	14.00"	1.882"	106.0 LBS	100443
36" IPS	36.000"	40.80"	4.16"	14.00"	2.118"	141.0 LBS	100445

MOLDED BUTT FUSION FLANGE ADAPTERS

American Standard Pipe Fittings

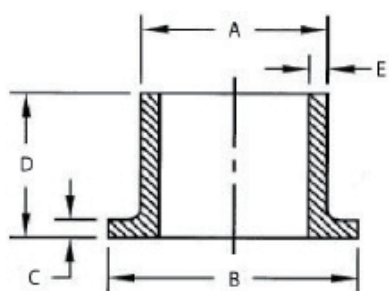


SDR 11 (Standard Dimension Ratio) **200 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	2.375"	3.94"	0.55"	6.10"	0.216"	0.5 LBS	100400
3" IPS	3.500"	5.00"	0.67"	6.10"	0.318"	1.0 LBS	100404
4" IPS	4.500"	6.61"	0.79"	6.10"	0.409"	1.9 LBS	100408
6" IPS	6.625"	8.50"	1.02"	8.07"	0.602"	4.3 LBS	100412
8" IPS	8.625"	10.63"	1.02"	10.67"	0.784"	8.5 LBS	100416
10" IPS	10.750"	12.99"	1.18"	11.50"	0.977"	14.6 LBS	100420
12" IPS	12.750"	15.75"	1.38"	10.83"	1.159"	20.0 LBS	100423
14" IPS	14.000"	17.50"	1.62"	12.00"	1.273"	26.0 LBS	100426
16" IPS	16.000"	20.00"	1.85"	12.00"	1.455"	37.0 LBS	100428
18" IPS	18.000"	21.12"	2.08"	12.00"	1.636"	43.0 LBS	100430
20" IPS	20.000"	23.50"	2.31"	12.00"	1.818"	56.0 LBS	100432
24" IPS	24.000"	28.00"	2.77"	14.00"	2.182"	94.0 LBS	100436
28" IPS	28.000"	32.30"	3.23"	14.00"	2.545"	129.0 LBS	100438
30" IPS	30.000"	34.30"	3.46"	14.00"	2.727"	134.0 LBS	100440
32" IPS	32.000"	34.30"	3.69"	14.00"	2.909"	163.0 LBS	100442
36" IPS	36.000"	40.80"	4.16"	14.00"	3.273"	218.0 LBS	100444

MOLDED BUTT FUSION FLANGE ADAPTERS

American Standard Pipe Fittings



SDR 11 (Standard Dimension Ratio) **200 PSI** (Working Pressure at 73.4° F)

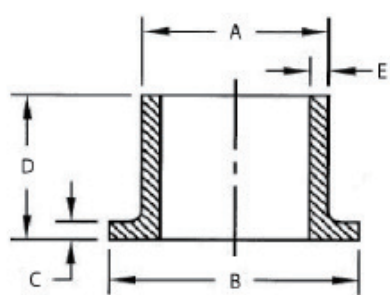
NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	2.375"	3.94"	0.55"	6.10"	0.216"	0.6 LBS	100403
3" IPS	3.500"	5.00"	0.67"	6.10"	0.389"	1.1 LBS	100407
4" IPS	4.500"	6.61"	0.79"	6.10"	0.500"	2.1 LBS	100411
6" IPS	6.625"	8.50"	1.02"	8.07"	0.736"	4.8 LBS	100415
8" IPS	8.625"	10.63"	1.02"	10.67"	0.958"	9.8 LBS	100419
10" IPS	10.750"	12.99"	1.18"	11.50"	1.194"	17.0 LBS	100422
12" IPS	12.750"	15.75"	1.38"	10.83"	1.417"	22.5 LBS	100425

SDR 7 (Standard Dimension Ratio) **335 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	2.375"	3.94"	0.55"	6.10"	0.339"	0.7 LBS	100402
3" IPS	3.500"	5.00"	0.67"	6.10"	0.500"	1.4 LBS	100406
4" IPS	4.500"	6.61"	0.79"	6.10"	0.643"	2.5 LBS	100410
6" IPS	6.625"	8.50"	1.02"	8.07"	0.946"	5.9 LBS	100414
8" IPS	8.625"	10.63"	1.02"	10.67"	1.232"	12.7 LBS	100418

MOLDED BUTT FUSION FLANGE ADAPTERS

American Standard Pipe Fittings

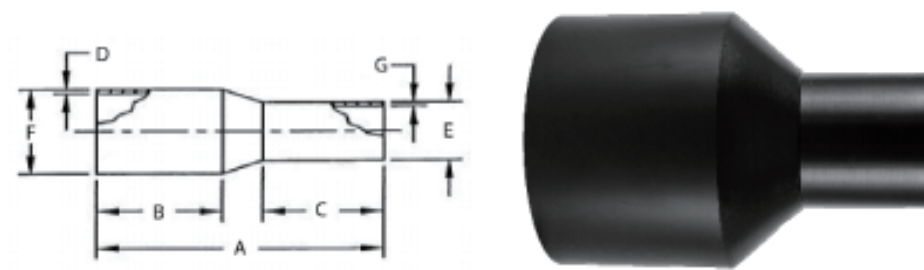


SDR 11 (Standard Dimension Ratio) **200 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
4" IPS	4.800"	6.56"	0.68"	6.00"	0.436"	1.8 LBS	100446
6" IPS	6.900"	8.60"	1.00"	8.00"	0.627"	4.4 LBS	100447
8" IPS	9.050"	10.72"	1.25"	9.00"	0.823"	8.4 LBS	100448
10" IPS	11.100"	TBD	TBD	TBD	1.009"	TBD	100449
12" IPS	13.200"	15.94"	1.81"	10.78"	1.200"	21.2 LBS	100450

MOLDED BUTT FUSION REDUCERS

American Standard Pipe Fittings

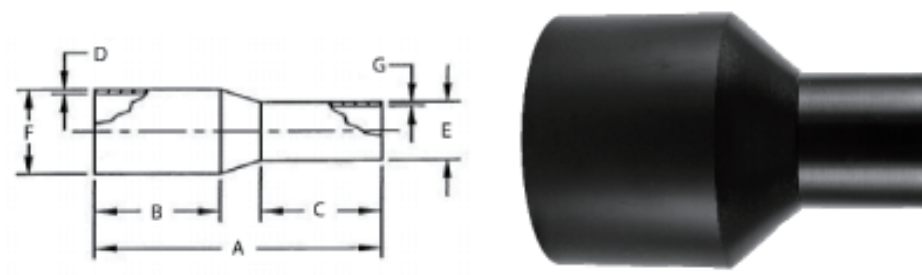


SDR 17 (Standard Dimension Ratio) **125 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	F	G	WEIGHT	ITEM CODE
3" X2" IPS	7.87"	3.94"	2.95"	0.206"	2.375"	3.500"	0.140"	0.5 LBS	100608
4" X2" IPS	9.06"	4.33"	2.95"	0.264"	2.375"	4.500"	0.140"	0.8 LBS	100612
4" X3" IPS	9.06"	4.33"	3.94"	0.264"	3.500"	4.500"	0.206"	0.9 LBS	100616
6" X3" IPS	11.03"	5.06"	3.71"	0.390"	3.500"	6.625"	0.206"	2.1 LBS	100620
6" X4" IPS	11.42"	5.12"	4.33"	0.390"	4.500"	6.625"	0.264"	2.4 LBS	100622
8" X4" IPS	12.80"	5.99"	4.05"	0.507"	4.500"	8.625"	0.264"	4.2 LBS	100626
8" X6" IPS	12.80"	6.10"	5.12"	0.507"	6.625"	8.625"	0.390"	4.9 LBS	100628
10" X6" IPS	14.06"	6.16"	5.29"	0.632"	6.625"	10.750"	0.390"	7.7 LBS	100632
10" X8" IPS	14.37"	6.25"	5.81"	0.632"	8.625"	10.750"	0.507"	10.2 LBS	100634
12" X6" IPS	16.00"	6.95"	5.22"	0.750"	6.625"	12.750"	0.390"	11.3 LBS	100636
12" X8" IPS	16.54"	7.09"	6.10"	0.750"	8.625"	12.750"	0.507"	12.8 LBS	100638
12" X10" IPS	16.54"	7.09"	6.69"	0.750"	10.750"	12.750"	0.632"	14.4 LBS	100640

MOLDED BUTT FUSION REDUCERS

American Standard Pipe Fittings

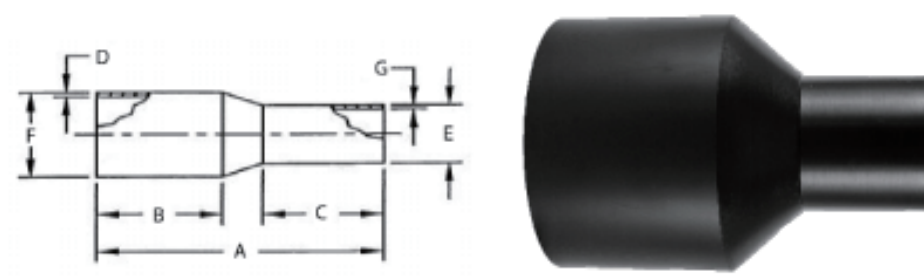


SDR 11 (Standard Dimension Ratio) **200 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	F	G	WEIGHT	ITEM CODE
1" X ¾" IPS	4.58"	2.17"	2.17"	0.120"	1.050"	1.315"	0.095"	0.1 LBS	100600
1 ¼" X 1" IPS	4.66"	2.20"	2.15"	0.151"	1.315"	1.660"	0.120"	0.1 LBS	100601
1 ½" X 1" IPS	5.12"	2.44"	2.16"	0.173"	1.315"	1.900"	0.120"	0.2 LBS	100602
1 ½" X 1 ¼" IPS	4.83"	2.44"	2.17"	0.173"	1.660"	1.900"	0.151"	0.2 LBS	100603
2" X 1" IPS	5.62"	2.53"	2.13"	0.216"	1.315"	2.375"	0.120"	0.2 LBS	100604
2" X 1 ¼" IPS	5.34"	2.53"	2.15"	0.216"	1.660"	2.375"	0.151"	0.3 LBS	100605
2" X 1 ½" IPS	5.40"	2.53"	2.42"	0.216"	1.900"	2.375"	0.173"	0.3 LBS	100606
3" X 2" IPS	7.87"	3.94"	2.95"	0.318"	2.375"	3.500"	0.216"	0.7 LBS	100607
4" X 2" IPS	9.06"	4.33"	2.95"	0.409"	2.375"	4.500"	0.216"	1.2 LBS	100611
4" X 3" IPS	9.06"	4.33"	3.94"	0.409"	3.500"	4.500"	0.318"	1.4 LBS	100615
6" X 3" IPS	11.03"	5.06"	3.71"	0.602"	3.500"	6.625"	0.318"	3.2 LBS	100619
6" X 4" IPS	11.42"	5.12"	4.33"	0.602"	4.500"	6.625"	0.409"	3.5 LBS	100621
8" X 4" IPS	12.80"	5.99"	4.05"	0.784"	4.500"	8.625"	0.409"	6.3 LBS	100625
8" X 6" IPS	12.80"	6.10"	5.12"	0.784"	6.625"	8.625"	0.602"	7.3 LBS	100627
10" X 6" IPS	14.06"	6.16"	5.29"	0.977"	6.625"	10.750"	0.602"	10.3 LBS	100631
10" X 8" IPS	14.37"	6.25"	5.88"	0.977"	8.625"	10.750"	0.784"	14.5 LBS	100633
12" X 6" IPS	16.00"	6.95"	5.22"	1.159"	6.625"	12.750"	0.602"	16.6 LBS	100635
12" X 8" IPS	16.54"	7.09"	6.10"	1.159"	8.625"	12.750"	0.784"	19.1 LBS	100637
12" X 10" IPS	16.54"	7.09"	6.69"	1.159"	10.750"	12.750"	0.977"	21.7 LBS	100639

MOLDED BUTT FUSION REDUCERS

American Standard Pipe Fittings



SDR 9 (Standard Dimension Ratio) **255 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	F	G	WEIGHT	ITEM CODE
3" X 2" IPS	7.87"	3.94"	2.95"	0.389"	2.375"	3.500"	0.264"	0.7 LBS	100610
4" X 2" IPS	9.06"	4.33"	2.95"	0.500"	2.375"	4.500"	0.264"	1.2 LBS	100614
4" X 3" IPS	9.06"	4.33"	3.94"	0.500"	3.500"	4.500"	0.389"	1.4 LBS	100618
6" X 4" IPS	11.42"	5.12"	4.33"	0.736"	4.500"	6.625"	0.500"	3.5 LBS	100624
8" X 6" IPS	12.80"	6.10"	5.12"	0.958"	6.625"	8.625"	0.736"	7.3 LBS	100630

SDR 7 (Standard Dimension Ratio) **335 PSI** (Working Pressure at 73.4° F)

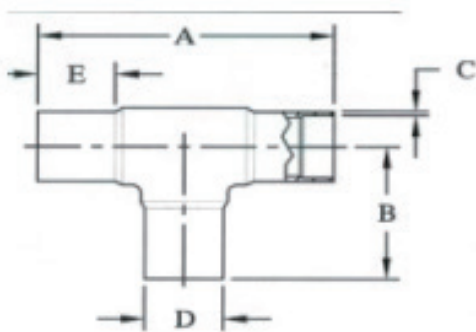
NOMINAL SIZE	A	B	C	D	E	F	G	WEIGHT	ITEM CODE
3" X 2" IPS	7.87"	3.94"	2.95"	0.500"	2.375"	3.500"	0.339"	1.6 LBS	100609
4" X 2" IPS	9.06"	4.33"	2.95"	0.643"	2.375"	4.500"	0.339"	3.0 LBS	100613
4" X 3" IPS	9.06"	4.33"	3.94"	0.643"	3.500"	4.500"	0.500"	3.3 LBS	100617
6" X 4" IPS	11.42"	5.12"	4.33"	0.946"	4.500"	6.625"	0.643"	5.2 LBS	100623
8" X 6" IPS	12.80"	6.10"	5.12"	1.232"	6.625"	8.625"	0.946"	8.4 LBS	100629

SDR 11 (Standard Dimension Ratio) **200 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	F	G	WEIGHT	ITEM CODE
6" X 4" IPS	11.41"	5.10"	4.33"	0.627"	4.800"	6.900"	0.436"	4.1 LBS	100641
8" X 6" IPS	12.79"	6.10"	5.12"	0.823"	6.900"	9.050"	0.627"	7.8 LBS	100642

MOLDED BUTT FUSION EQUAL TEES

American Standard Pipe Fittings



SDR 17 (Standard Dimension Ratio) **125 PSI** (Working Pressure at 73.4° F)

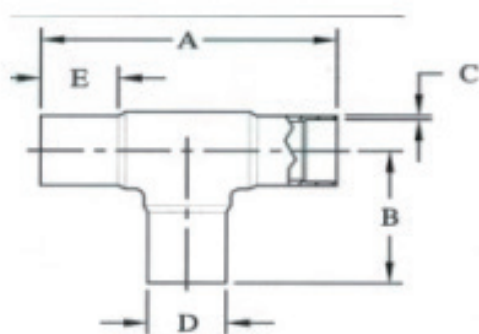
NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	11.81"	5.91"	0.206"	3.500"	3.54"	1.4 LBS	100709
3" IPS	13.78"	6.89"	0.264"	4.500"	3.94"	2.8 LBS	100713
4" IPS	18.11"	9.06"	0.390"	6.625"	4.72"	7.7 LBS	100717
6" IPS	23.62"	11.81"	0.507"	8.625"	5.71"	17.5 LBS	100721
8" IPS	27.56"	13.78"	0.632"	10.750"	6.30"	28.6 LBS	100725
12" IPS	31.57"	15.97"	0.750"	12.750"	7.52"	47.1 LBS	100727

SDR 11 (Standard Dimension Ratio) **200PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
¾" IPS	6.38"	3.19"	0.095"	1.050	2.14"	0.1 LBS	100700
1" IPS	6.62"	3.31"	0.120"	1.315	2.18"	0.3 LBS	100701
1 ¼" IPS	6.97"	3.48"	0.151"	1.660"	2.15"	0.4 LBS	100702
1 ½" IPS	7.84"	3.92"	0.173"	1.900"	2.37"	0.5 LBS	100704
2" IPS	8.66"	4.33"	0.216"	2.375"	2.48"	0.7 LBS	100705
3" IPS	11.81"	5.91"	0.318"	3.500"	3.54"	2.2 LBS	100708
4" IPS	13.78"	6.89"	0.409"	4.500"	3.94"	4.1 LBS	100712
6" IPS	18.11"	9.06"	0.602"	6.625"	4.72"	10.6 LBS	100716
8" IPS	23.62"	11.81"	0.784"	8.625"	5.71"	22.5 LBS	100720
10" IPS	27.56"	13.78"	0.977"	10.750"	6.30"	41.1 LBS	100724
12" IPS	31.57"	15.97"	1.159"	12.750"	7.50"	66.3 LBS	100726

MOLDED BUTT FUSION REDUCERS

American Standard Pipe Fittings



SDR 9 (Standard Dimension Ratio) **255 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	8.66"	4.33"	0.264"	2.375"	2.47"	0.8 LBS	100707
3" IPS	11.81"	5.91"	0.389"	3.500"	3.54"	2.2 LBS	100711
4" IPS	13.78"	6.89"	0.500"	4.500"	3.94"	4.5 LBS	100715
6" IPS	18.11"	9.06"	0.736"	6.625"	4.72"	11.9 LBS	100719
8" IPS	23.62"	11.81"	0.958"	8.625"	5.71"	25.1 LBS	100723

SDR 7 (Standard Dimension Ratio) **335PSI** (Working Pressure at 73.4° F)

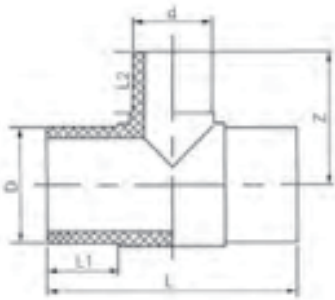
NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	8.66"	4.33"	0.339"	2.375"	2.47"	1.0 LBS	100706
3" IPS	11.81"	5.91"	0.500"	3.500"	3.54"	2.7 LBS	100710
4" IPS	13.78"	6.89"	0.643"	4.500"	3.94"	5.6 LBS	100714
6" IPS	18.11"	9.06"	0.946"	6.625"	4.72"	14.3 LBS	100718
8" IPS	23.62"	11.81"	1.232"	8.625"	5.71"	32.9 LBS	100722

SDR 11 (Standard Dimension Ratio) **200PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
4" IPS	15.63"	7.82"	0.436"	4.800"	4.10"	5.4 LBS	100728
6" IPS	19.34"	9.67"	0.627"	6.900"	5.10"	13.2 LBS	100729
8" IPS	23.15"	11.58"	0.823"	9.050"	5.20"	TBD	100730

MOLDED BUTT FUSION REDUCING TEES

American Standard Pipe Fittings

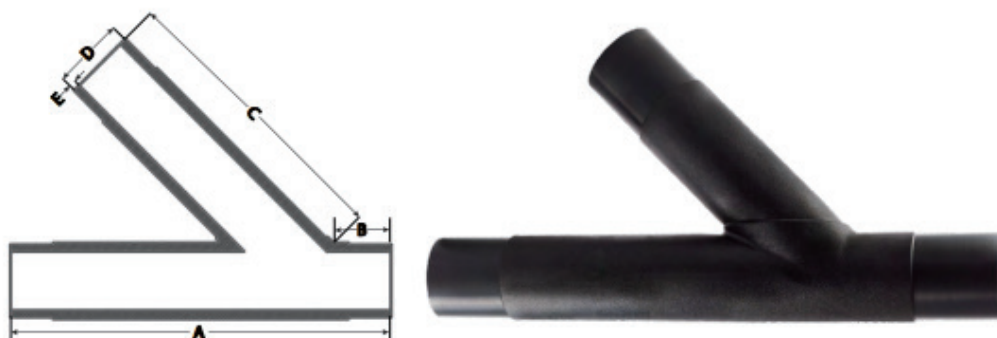


SDR 9 (Standard Dimension Ratio) **255 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	L	D	d	L1	L2	Z	WEIGHT	ITEM CODE
3" X 2" IPS	11.80"	3.500"	2.375"	3.62"	2.48"	5.90"	1.5 LBS	100801
4" X 2" IPS	13.78"	4.500"	2.375"	3.94"	2.48"	6.89"	2.5 LBS	100803
4" X 3" IPS	13.78"	4.500"	3.500"	3.94"	3.62"	6.89"	2.7 LBS	100805
6" X 2" IPS	18.10"	6.625"	2.375"	4.72"	2.48"	9.06"	6.3 LBS	100807
6" X 3" IPS	18.10"	6.625"	3.500"	4.72"	3.62"	9.06"	6.6 LBS	100809
6" X 4" IPS	18.10"	6.625"	4.500"	4.72"	3.94"	9.06"	6.7 LBS	100811
8" X 2" IPS	23.60"	8.625"	2.375"	5.71"	2.48V	11.80"	16.8 LBS	100813
8" X 3" IPS	23.60"	8.625"	3.500"	5.71"	3.62"	11.80"	17.3 LBS	100815
8" X 4" IPS	23.60"	8.625"	4.500"	5.71"	3.94"	11.80"	17.9 LBS	100817
8" X 6" IPS	23.60"	8.625"	6.625"	5.71"	4.72"	11.80"	18.9 LBS	100819
10" X 4" IPS	27.40"	10.750"	4.500"	6.30"	3.94"	13.78"	32.0 LBS	100821
10" X 6" IPS	27.40"	10.750"	6.625"	6.30"	4.72"	13.78"	33.1 LBS	100823
10" X 8" IPS	27.40"	10.750"	8.625"	6.30"	5.71"	13.78"	34.6 LBS	100825
12" X 6" IPS	31.40"	12.750"	6.625"	7.48"	4.72"	15.95"	47.1 LBS	100827
12" X 8" IPS	31.40"	12.750"	8.625"	7.48"	5.71"	15.95"	48.9 LBS	100829
12" X 10" IPS	31.40"	12.750"	10.750"	7.48"	6.30"	15.95"	53.1 LBS	100831

MOLDED BUTT FUSION WYES

American Standard Pipe Fittings



SDR 17 (Standard Dimension Ratio) **125 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	23.74"	5.28"	13.10"	2.375"	0.140"	2.0 LBS	100901
3" IPS	24.56"	5.90"	13.10"	3.500"	0.206"	4.2 LBS	100903
4" IPS	28.50"	5.70"	20.60"	4.500"	0.264"	7.9 LBS	100905
6" IPS	34.65"	5.30"	26.00"	6.625"	0.390"	26.3 LBS	100907
8" IPS	37.40"	5.70"	27.56"	8.625"	0.507"	44.9 LBS	100909

SDR 11 (Standard Dimension Ratio) **200 PSI** (Working Pressure at 73.4° F)

NOMINAL SIZE	A	B	C	D	E	WEIGHT	ITEM CODE
2" IPS	23.74"	5.28"	13.10"	2.375"	0.216"	2.6 LBS	100900
3" IPS	24.56"	5.90"	13.10"	3.500"	0.318"	5.3 LBS	100902
4" IPS	28.50"	5.70"	20.60"	4.500"	0.409"	10.6 LBS	100904
6" IPS	34.45"	5.52"	26.00"	6.625"	0.603"	32.0 LBS	100906
8" IPS	37.40"	5.70"	27.56"	8.625"	0.785"	54.8 LBS	100908

HDPE FITTINGS SPECIFICATIONS

American Standard Pipe Fittings

Integri Fuse fittings are manufactured from 0% recycled materials with black high density bimodal polyethylene copolymer designed for use in, but not limited to potable water, natural gas, industrial, landfill, oil gas, and mining applications.

Fittings meet AWWA and ASTM-D2513& ASTM-D3261 requirements IntegriFuse fittings are manufactured with resin having a material designation code of PE 3408, PE3608, PE 4710, and PE 100.

Table 1

PHYSICAL PROPERTIES	METRIC	ENGLISH	COMMENTS
Density	.959 g/cm ³	0.0346 lb/in	Black: ASTM D4883
Environmental Stress Crack Resistance	>= 5000 hour	>= 5000 hour	Condition C; ASTM D1693
Carbon Black Loading	2.30%	2.30%	ASTM D1603
Melt Flow	8.00 g/10 min @Load 21.6 kg, Temperature 190 °C	8.00 g/10 min @Load 47.6 lb, Temperature 374 °F	ASTM D1238
MECHANICAL PROPERTIES	METRIC	ENGLISH	COMMENTS
PENT	>= 10000 hour	>= 10000 hour	Notched Tensile; ASTM F1473
Hardness, Shore D	66.0	66.0	ASTM D2240
Tensile Strength at Break	37.9 MPa	5500 PSI	2 in/min; ASTM D638
Tensile Strength Yield	24.99 MPa	3625 PSI	2 in/min; ASTM D638
Elongation at Break	>= 600%	>= 600%	2 in/min; ASTM D638
Flexural Modulus	1.03 GPa	150 KSI	2% Secant-Method; ASTM D790
Izod Impact, Notched	4.81 J/cm	9.00 ft-lb/in	ASTM D256
Hydrostatic Design Basis	6.89 MPa	1000 PSI	At 60 °C; ASTM D2837
	11.0 MPa	1600 PSI	Room Temp; ASTM D2837

HDPE FITTINGS SPECIFICATIONS

American Standard Pipe Fittings

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Fittings meet AWWA and ASTM-D2513& ASTM-D3261 requirements IntegriFuse fittings are manufactured with resin having a material designation code of PE 3408, PE3608, PE 4710, and PE 100.

Table 2

THERMAL PROPERTIES	METRIC	ENGLISH	COMMENTS
Vicat Softening Point	126 °C	259 °F	ASTM D1525
Brittleness Temperature	,= -118 °C	<= -180 °F	ASTM D746
Decomposition Temperature	>= 220 °C	>= 428 °F	Thermal Stability; ASTM D2513
DESCRIPTIVE PROPERTIES	METRIC	ENGLISH	COMMENTS
Cell Classification		445574C	ASTM D3350
Process		Injection Molding	



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