



# PLASTIC INDUSTRIES, Inc

## Conduit Specifications

**General:** Plastic Industries HDPE duct is manufactured to the following various industry standards and specifications for dimensional requirements. **ASTM F2160:** Solid wall High Density Polyethylene (HDPE) conduit based on controlled Outside Diameter (OD). **ASTM D2239:** Polyethylene (PE) plastic pipe (SIDR) based on controlled Inside Diameter (ID). **ASTM D3035:** Polyethylene (PE) plastic pipe (SDR) based on controlled Outside Diameter (OD).

**Material:** Plastic Industries duct is manufactured from a suitable thermoplastic polymer conforming to the minimum standard of PE334470E/C as defined in ASTM D3350. (see table 1) Plastic Industries **High Density Polyethylene** duct is manufactured in the following configurations: **Smooth wall** - Smooth interior and Smooth exterior wall. **Rib / Smooth** - Ribbed interior and Smooth exterior wall.

**Ovality:** Conduit 3" or larger needs to be re-rounded

Table 1- Resin Properties		
<i>The resin properties shall meet or exceed the values listed below for HDPE.</i>		
ASTM Test	Description	Values HDPE
D-792	Density g/CM3	.941- .955
D-1238	Melt Index, g/10min Condition E	.05- .50
D-790	Flexural Modulus, MPa (PSI)	80,000 min.
D-638	Tensile strength at yield (PSI)	3000 min.
D-1693	Environmental Stress Crack Resistance Condition B,F10	96 hrs. min.
D-746	Brittleness Temperature	-75oC
<i>Requests for certifications must be requested at time of quote.</i>		

SDR 7– ASTM D3035	IPS SIZE	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	5"	6"
	OD Tolerance +/-	.004	.005	.007	.008	.010	.012	.014	.018	.023	.028	.033
	ID			.939	1.186	1.358	1.697	2.054	2.500	3.214		
	OD			1.315	1.660	1.900	2.375	2.875	3.500	4.500		
	WT / LB FT.			.285	.454	.594	.930	1.336	2.021	3.342		
	MIN WALL			.188	.237	.271	.339	.410	.500	.643		
	Safe Working Load			743	1183	1549	2421	3549	5262	8700		

SDR 9– ASTM D3035 F2160	IPS SIZE	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	5"	6"
	OD Tolerance +/-	.004	.005	.007	.008	.010	.012	.014	.018	.023	.028	.033
	ID		.797	1.003	1.269	1.452	1.816	2.198	2.676	3.440	4.253	5.064
	OD		1.050	1.315	1.660	1.900	2.375	2.875	3.500	4.500	5.563	6.625
	WT / LB FT.		.149	.233	.37	.487	.762	1.116	1.654	2.734	4.178	5.926
	MIN WALL		.117	.146	.184	.211	.264	.319	.389	.500	.618	.736
	Safe Working Load		821	1288	2052	2688	4200	6155	9122	15080	23045	32684

SDR 11– ASTM D3035 F2160	IPS SIZE	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	5"	6"
	OD Tolerance +/-	.004	.005	.007	.008	.010	.012	.014	.018	.023	.028	.033
	ID		.840	1.057	1.338	1.533	1.917	2.322	2.826	3.633	4.491	5.348
	OD		1.050	1.315	1.660	1.900	2.375	2.875	3.500	4.500	5.563	6.625
	WT / LB FT.		.124	.195	.312	.409	.638	.934	1.385	2.291	3.501	4.966
	MIN WALL		.095	.119	.151	.173	.216	.261	.318	.409	.506	.602
	Safe Working Load		687	1078	1717	2249	3515	5151	7633	12618	19284	27349

SDR 13.5 – ASTM D3035 F2160 NEVIA TC-7 EPEC-B	IPS SIZE	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	5"	6"
	OD Tolerance +/-	.004	.005	.007	.008	.010	.012	.014	.018	.023	.028	.033
	ID		.874	1.101	1.394	1.598	2.002	2.423	2.951	3.794	4.689	5.585
	OD		1.050	1.315	1.660	1.900	2.375	2.875	3.500	4.500	5.563	6.625
	WT / LB FT.		.104	.162	.259	.340	.530	.777	1.151	1.902	2.909	4.126
	MIN WALL		.078	.097	.123	.141	.176	.213	.259	.333	.412	.491
	Safe Working Load		570	894	1425	1867	2917	4274	6335	10472	16004	22697

SDR 15.5 – ASTM D3035	IPS SIZE	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	5"	6"
	OD Tolerance +/-	.004	.005	.007	.008	.010	.012	.014	.018	.023	.028	.033
	ID			1.125	1.426	1.634	2.049	2.483	3.021	3.885	4.802	5.719
	OD			1.315	1.660	1.900	2.375	2.875	3.500	4.500	5.563	6.625
	WT / LB FT.			.143	.228	.300	.466	.683	1.015	1.675	2.562	3.633
	MIN WALL			.085	.107	.123	.153	.185	.226	.290	.359	.427
	Safe Working Load			792	1234	1607	2466	3592	5342	8814	13483	19123

SDR 17– ASTM D3035	IPS SIZE	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	5"	6"
	OD Tolerance +/-	.004	.005	.007	.008	.010	.012	.014	.018	.023	.028	.033
	ID		.906	1.141	1.440	1.656	2.075	2.517	3.063	3.939	4.869	5.799
	OD		1.050	1.315	1.660	1.900	2.375	2.875	3.500	4.500	5.563	6.625
	WT / LB FT.		.084	.131	.210	.275	.429	.628	.931	1.538	2.351	3.334
	MIN WALL		.062	.077	.098	.112	.140	.169	.206	.265	.327	.390
	Safe Working Load		460	722	1150	1507	2355	3450	5114	8453	12918	18321

SIDR 7– ASTM D2239	IPS SIZE	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	6"	
	ID Tolerance +	.010	.010	.010	.010	.015	.015	.015	.015	.015	.015	.020
	ID Tolerance -	.010	.015	.020	.020	.020	.020	.025	.030	.035	.035	
	ID		.824	1.049	1.380	1.610	2.067					
	OD		1.079	1.369	1.798	2.098	2.693					
	WT / LB FT.		.158	.251	.431	.587	.968					
	MIN WALL		.118	.150	.197	.230	.295					
Safe Working Load		980	1530	2671	3638	5980						

SIDR 9– ASTM D2239	IPS SIZE	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	6"	
	ID Tolerance +	.010	.010	.010	.010	.015	.015	.015	.015	.015	.015	.020
	ID Tolerance -	.010	.015	.020	.020	.020	.020	.025	.030	.035	.035	
	ID		.824	1.049	1.380	1.610	2.067					
	OD		1.027	1.302	1.707	1.988	2.554					
	WT / LB FT.		.122	.193	.328	.442	.731					
	MIN WALL		.092	.117	.153	.179	.230					
Safe Working Load		760	1471	1652	2734	4535						

SIDR 11.5 – ASTM D2239	IPS SIZE	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	6"	
	ID Tolerance +	.010	.010	.010	.010	.015	.015	.015	.015	.015	.015	.020
	ID Tolerance -	.010	.015	.020	.020	.020	.020	.025	.030	.035	.035	
	ID		.824	1.049	1.380	1.610	2.067	2.469	3.068	4.026	6.065	
	OD		.987	1.251	1.640	1.910	2.448	2.924	3.634	4.768	7.183	
	WT / LB FT.		.096	.151	.255	.343	.559	.797	1.231	2.120	4.812	
	MIN WALL		.072	.091	.120	.140	.180	.215	.267	.350	.527	
Safe Working Load		597	891	1549	2123	3468	4934	7627	13119	29750		

SIDR 15 – ASTM D2239	IPS SIZE	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	6"	
	ID Tolerance +	.010	.010	.010	.010	.015	.015	.015	.015	.015	.015	.020
	ID Tolerance -	.010	.015	.020	.020	.020	.020	.025	.030	.035	.035	
	ID		.824	1.049	1.380	1.610	2.067	2.469	3.068	4.026	6.065	
	OD		.964	1.209	1.584	1.845	2.363	2.818	3.497	4.595	6.922	
	WT / LB FT.		.081	.117	.196	.263	.425	.600	.915	1.593	3.616	
	MIN WALL		.060	.070	.092	.107	.138	.165	.205	.268	.404	
Safe Working Load		503	726	1216	1625	2636	3721	5677	9844	22349		

SCH 40 – ASTM D2447 F2160 NEMA TC-7 EPEC-40	IPS SIZE	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	5"	6"
	OD Tolerance +/-	.004	.005	.007	.008	.010	.012	.014	.018	.023	.028	.033
	ID		.804	1.029	1.360	1.590	2.047	2.445	3.042	3.998	5.016	6.031
	OD		1.050	1.315	1.660	1.900	2.375	2.875	3.500	4.500	5.563	6.625
	WT / LB FT.		.145	.215	.291	.349	.469	.744	.973	1.387	1.882	2.443
	MIN WALL		.113	.133	.140	.145	.154	.203	.216	.237	.258	.280
	Safe Working Load		798	1340	1604	1919	2579	4090	5348	7618	10320	13395

SCH 80 – ASTM D2447 F2160 NEMA TC-7 EPEC-80	IPS SIZE	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	5"	6"
	OD Tolerance +/-	.004	.005	.007	.008	.010	.012	.014	.018	.023	.028	.033
	ID		.722	.936	1.255	1.476	1.913	2.290	2.864	3.786	4.768	5.709
	OD		1.050	1.315	1.660	1.900	2.375	2.875	3.500	4.500	5.563	6.625
	WT / LB FT.		.188	.277	.383	.465	.644	.982	1.315	1.923	2.668	3.669
	MIN WALL		.154	.179	.191	.200	.218	.276	.300	.337	.375	.432
	Safe Working Load		1040	1533	2116	2564	3545	5409	7238	10578	14669	20172