



YOUR CONDUIT CONNECTION

Flying W Plastics, Inc.

High-Density Polyethylene Utility Service Conduit

PRODUCT SPECIFICATIONS



Electrical Duct • Telephone Duct
Television Cable Duct



PLASTICS, INC.

www.flyingwplastics.com

Flying W Plastics, Inc. | 487 Vanhorn Dr. • PO Box 759 | Glenville, WV 26351
304.462.5779 ph • 800.327.4735 sales • 304.462.7657 fx



OVERVIEW

Flying W Plastics manufactures Utility Service Conduit from High-Density Polyethylene in accordance with the specifications of ASTM F-2160 and/or NEMA TC 7. Other dimensional requirements may be acceptable upon request.

Utility Service Conduit offers excellent characteristics that make it ideal for conduit, including:

- *High strength to endure heavy external loads.*
- *Its flexibility, toughness, lightness and impact-resistance help lower installation cost.*
- *Resists corrosive chemicals and aggressive soils.*
- *Long-term strength for increased life and performance.*
- *Moisture-proof and water-tight.*
- *Coils provide for fewer joints and lower installation costs.*
- *Does not support biological growth.*
- *Color-coded for easy identification.*

To decrease costly shoring and hazardous working conditions, the duct can be assembled above the ditch, plowed in, buried in open ditches or pulled through existing conduit.

Utility Service Conduit shall be joined by either heat-fusion or mechanical fittings. Flying W Plastics offers Utility Service Conduit in various sizes and wall thickness, some of which are covered in the charts on the following pages. The duct may be ordered in continuous coils, with or without steel reels, or produced in straight lengths up to 50 feet.

Flying W Plastics stocks a vast supply of Utility Service Conduit to meet most applications. Special orders are also accepted, with one of the quickest turn-arounds in the business. We have our own truck fleet and ship anywhere in the continental United States. Less-than-truckload orders are shipped on common carriers that offer cost-effective and timely service. Hot Shot services for quick delivery needs are also available.

The physical properties of Utility Service Conduit are covered on page 6. For more information, contact us for a distributor in your area, or visit us on the web at flyingwplastics.com.



EXPERT SOURCE
for quality polyethylene pipe
products, service & logistics



PRODUCT SPECS

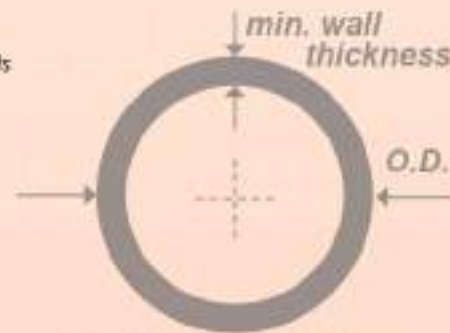
Reeled/Coiled HDPE Utility Service Conduit

The following table represents the specifications of ASTM F-2160 and NEMA TC-7 for O.D. controlled conduit sizes 1"-6" that are available in reels or coils.

Sizes	Wall Thickness	Nominal O.D.	Nominal I.D.	Minimum in. Wall	Nominal lbs/ft	Standard Coil/Reel Lengths	Standard Truck	Steel Reel Size FtxD*
1"	DR 9	1.315"	1.00"	.146"	0.23	500'	117000'	Coils
	DR 11	1.315"	1.07"	.120"	0.20	5000'	80000'	70x28x30
	DR 13.5	1.315"	1.12"	.097"	0.17	8000'	96000'	84x43x36
1 1/4"	DR 9	1.660"	1.26"	.184"	0.37	500'	78000'	Coils
	DR 11	1.660"	1.34"	.151"	0.31	2000'	32000'	70x28x30
	DR 13.5	1.660"	1.39"	.123"	0.26	5000'	70000'	84x42x36
	DR 15.5	1.660"	1.44"	.107"	0.23	8000'	96000'	96x45x36
1 1/2"	DR 9	1.900"	1.45"	.211"	0.49	500'	36000'	Coils
	DR 11	1.900"	1.53"	.173"	0.41	4000'	56000'	84x42x36
	DR 13.5	1.900"	1.60"	.141"	0.34	6000'	72000'	96x45x36
2"	DR 9	2.375"	1.81"	.264"	0.76	500'	24500'	Coils
	DR 11	2.375"	1.91"	.216"	0.64	1000'	18000'	70x42x36
	DR 13.5	2.375"	2.00"	.176"	0.53	2500'	35000'	84x42x36
	DR 15.5	2.375"	2.04"	.153"	0.47	3000'	36000'	96x38x36
	DR 17	2.375"	2.07"	.140"	0.43	4000'	48000'	96x45x36
2 1/2"	DR 11	2.875"	2.32"	.261"	0.94	1500'	18000'	96x38x55
	DR 13.5	2.875"	2.42"	.213"	0.78			
3"	DR 11	3.500"	2.86"	.318"	1.39	500'	12000'	Coils
	DR 13.5	3.500"	2.98"	.259"	1.15	1000'	12000'	96x45x70
	DR 15.5	3.500"	3.04"	.226"	1.02	1250'	15000'	96x45x55
4"	DR 9	4.500"	3.50"	.500"	2.77	500'	6000'	Coils
	DR 11	4.500"	3.68"	.409"	2.29	550'	6600'	96x45x70
	DR 13.5	4.500"	3.83"	.333"	1.90	750'	9000'	102x45x70
	DR 15.5	4.500"	3.92"	.290"	1.68			
5"	DR 11	5.563"	4.55"	.506"	3.50	500'	4000'	114x45x80
	DR 13.5	5.563"	4.73"	.412"	2.91	500'		
6" **	DR 11	6.625"	5.42"	.602"	4.97	450'	3600'	120x45x84
	DR 13.5	6.625"	5.64"	.491"	4.13	450'		

* Flange x Internal Traverse x Drum (in inches)

** Coiled duct truckloads may require special state permits
Other reel and coil sizes are available upon request



$$DR = O.D. / \text{min. wall thickness}$$



PRODUCT SPECS

I.D. Controlled (IDR) HDPE Utility Service Conduit

The following table represents the dimensional specifications of ASTM D-2239, and ASTM F-2160 for I.D.

Sizes	Wall Thickness	Nominal O.D.	Nominal I.D.	Minimum in. Wall	Nominal lbs./ft	Standard Coil Reel Lengths	Standard Truck	Steel Reel Size FtxD*
1"	IDR 11.5 IDR 15	1.231" 1.189"	1.049" 1.049"	.091" .070"	0.15 0.11	5000' 8000'	80000' 96000'	70x38x30 84x43x36
1 1/2"	IDR 9 IDR 11.5	1.690" 1.627"	1.380" 1.380"	.153" .120"	0.33 0.25	5000' 8000'	70000' 96000'	84x42x36 96x43x30
1 3/4"	IDR 11.5 IDR 15	1.890" 1.825"	1.610" 1.610"	.140" .107"	0.34 0.26	4000' 6000'	56000' 72000'	84x42x36 96x45x36
2"	IDR 11.5	2.427"	2.067"	.180"	0.56	2500'	35000'	84x42x36
4"	IDR 11.5	4.750"	4.026"	.350"	2.12	500' 700'	6000' 8400'	96x45x70 102x45x70

* Flange x Internal Traverse x Drum (in inches)

Ribbed HDPE Utility Service Conduit

Our Ribbed HDPE Utility Service Conduit is manufactured to specifications of ASTM F2160. It has a lower coefficient of friction when compared to smooth duct, and is available in a wide variety of colors, stripes and sizes.

Sizes	Wall Thickness	Nominal O.D.	Nominal I.D.	Minimum in. Wall	Nominal lbs./ft	Standard Coil Reel Lengths	Standard Truck	Steel Reel Size FtxD*
1"	DR 13.5	1.315"	1.11"	.097"	.17	5000'	80000'	70x38x30
1 1/2"	DR 13.5	1.660"	1.41"	.123"	.26	5000'	70000'	84x42x36
1 3/4"	DR 13.5	1.900"	1.61"	.141"	.34	4000'	56000'	84x42x36
2"	DR 13.5	2.375"	2.02"	.176"	.53	2500'	35000'	84x42x36
3"	DR 13.5	3.600"	2.97"	.259"	1.15	1000'	12000'	96x38x55
4"	DR 13.5	4.500"	3.82"	.333"	1.90	550'	6600'	96x45x70

NOTE: also available in DR 9 & DR 11

* Flange x Internal Traverse x Drum (in inches)

HDPE Larger-Diameter Conduit

Larger-diameter conduit is available in 20-, 40- and 50-foot lengths in DR 9, 11, 13.5 and 17. These products meet ASTM F 2160 specifications.

Sizes	DR 9				DR 11			DR 13.5			DR 17		
	Nom. O.D.	Min. Wall	Avg. I.D.	Weight (lbs./ft)	Min. Wall	Avg. I.D.	Weight (lbs./ft)	Min. Wall	Avg. I.D.	Weight (lbs./ft)	Min. Wall	Avg. I.D.	Weight (lbs./ft)
4"	4.500	0.900	3.44	2.74	0.409	3.63	2.29	0.333	3.79	1.91	0.265	3.93	1.54
5"	5.563	0.618	4.25	4.18	0.506	4.49	3.51	0.412	4.68	2.91	0.327	4.86	2.35
6"	6.625	0.736	5.06	5.93	0.602	5.34	4.97	0.491	5.58	4.13	0.390	5.79	3.34
8"	8.625	0.958	6.59	10.05	0.784	6.96	8.43	0.639	7.27	7.00	0.507	7.54	5.66
10"	10.750	1.194	8.21	15.62	0.977	8.67	13.09	0.796	9.06	10.88	0.632	9.40	8.79
12"	12.750	1.417	9.74	21.97	1.159	10.29	18.41	0.944	10.74	15.30	0.750	11.16	12.36
14"	14.000	1.556	10.70	26.49	1.273	11.30	22.20	1.037	11.80	18.43	0.824	12.25	14.90
16"	16.00	1.778	12.23	34.60	1.455	12.91	28.99	1.185	13.48	24.09	0.941	14.00	19.49
18"	18.00	2.000	13.76	43.79	1.636	14.53	36.70	1.333	15.17	30.49	1.059	15.75	24.64



PRODUCT SPECS

Schedule 40 & Schedule 80 HDPE Conduit

The following table represents the specifications of ASTM F-2160 for O.D. controlled.

Sizes	Wall Thickness	Nominal O.D.	Nominal I.D.	Minimum in. Wall	Nominal lbs/ft	Standard Coil Reel Lengths	Standard Truck	Steel Reel Size FtxD*
1"	SCH 40	1.315"	1.04"	.133"	0.22	5000'	8000'	70x38x30
	SCH 80	1.315"	0.95"	.179"	0.28	8000'	9600'	84x43x36
1 1/2"	SCH 40	1.660"	1.38"	.140"	0.29	5000'	7000'	84x42x36
	SCH 80	1.660"	1.27"	.191"	0.39	8000'	9600'	96x43x30
1 3/4"	SCH 40	1.900"	1.61"	.145"	0.35	4000'	5600'	84x42x36
	SCH 80	1.900"	1.50"	.200"	0.47	6000'	7200'	96x45x36
2"	SCH 40	2.375"	2.06"	.154"	0.47	2500'	3500'	84x42x36
	SCH 80	2.375"	1.93"	.218"	0.64	4000'	4800'	96x45x36
2 1/2"	SCH 40	2.875"	2.46"	.203"	0.75	1500'	1800'	96x38x55
	SCH 80	2.875"	2.32"	.276"	0.99			
3"	SCH 40	3.500"	3.06"	.216"	0.98	1000'	1200'	96x38x55
	SCH 80	3.500"	2.90"	.300"	1.32	1250'	1500'	96x45x55
4"	SCH 40	4.500"	4.02"	.237"	1.39	20' & 40'	16240'	Sticks Only
	SCH 80	4.500"	3.82"	.337"	1.92	550'	6600'	96x45x70
5"	SCH 40	5.563"	5.04"	.258"	1.89	20' & 40'	12160'	Sticks Only
	SCH 80	5.563"	4.81"	.375"	2.69			
6"	SCH 40	6.625"	6.03"	.280"	2.44	20' & 40'	7280'	Sticks Only
	SCH 80	6.625"	5.70"	.432"	3.67			
8"	SCH 40	8.625"	7.94"	.322"	3.68	40' & 50'	4480'	Sticks Only
10"	SCH 40	10.75"	9.97"	.365"	5.21	40' & 50'	2880'	Sticks Only
12"	SCH 40	12.75"	11.89"	.406"	6.90	40' & 50'	2240'	Sticks Only

* Flange x Internal Traverse x Drum (In inches)

Other reel and coil sizes available upon request. Contact us for more information.



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POPULAR OPTIONS

Flying W Plastics manufactures HDPE Utility Service Conduit in several variations depending on the customer's specific needs. The most common variations are the inclusion of pull tape and choice of color.

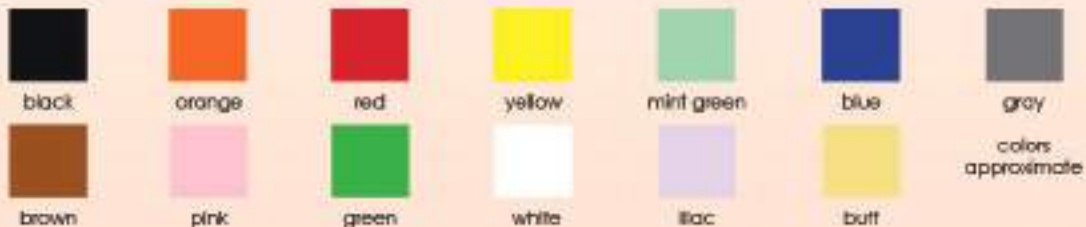
PULL TAPE

Utility Service Conduit is available with pull tape or empty, depending upon customer request. It may also be pre-lubed, and/or ribbed inside. The following table represents the characteristics listed by the manufacturer of the most popular applications for pull tape:

Product	Material	Approx. Width	Tensile Strength	Sequential Footage Markings	Prelubricated
Sequential Tape 1130	Polyester	1/2	1130 lbs	Yes	No
Sequential Tape 1250	Polyester	1/2	1250 lbs.	Yes	Yes
Sequential Tape 1800	Polyester	5/8	1800 lbs.	Yes	Yes
Sequential Tape 2500	Polyester	3/4	2500 lbs.	Yes	Yes

COLORS

Utility Service Conduit is available in several colors or stripes depending upon the application and customer request. The most common colors available are Black, Orange, Red, Yellow, Mint Green, Blue, Gray, Brown, Pink, Green, White, Lilac and Buff. Other colors available upon request.



ADDITIONAL OPTIONS

Utility Service Conduit may be manufactured with carbon black or other ultraviolet screening substance to protect the material from ultraviolet radiation.

If you do not see your exact application, if you have any questions, or would like a sales quote, please contact our sales office by phone or fax at the numbers listed below. Our business hours are Monday through Friday 8:00am to 5:00pm EST.



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CONNECTION**

Flying W Plastics, Inc.

PROPERTIES & TECHNICAL INFO

Utility Service Conduit

Flying W Plastics certifies the above product to be manufactured from select high-density polyethylene copolymers (see typical properties below) and meet specifications set forth in ASTM D-3350, ASTM F-2160, and NEMA TC-7. The high-density polyethylene copolymers are selected specifically for use in telecommunications, electrical/power or telephone ducting applications, while keeping in mind the required properties to balance stiffness, ESCR and molecular weight to provide toughness and crush strength.

Typical Properties ⁽¹⁾	English	SI Units	ASTM Method
Density	-	0.948 g/cc	D 4883
Melt Index ²	-	0.22 g/10 min	D 1238
Tensile Strength			
@ Yield (2 in/min)	3400 psi	23.4 MPa	D 638
@ Break (2 in/min)	4500 psi	31.0 MPa	D 638
Elongation @ Break (2 in/min)	>800%	>800%	D 638
Flexural Modulus ³	130,000 psi	897 MPa	D 790
Hardness (Shore D)	68	68	D 2240
Deflection Temperature @ 66 psi	156 °F	69 °C	D 648
Brittleness Temperature	<180 °F	<118 °C	D 746
OIT @ 200 °C	>20 min.	>20 min.	D3895 Modified*
Environmental Stress Crack Resistance ⁴	>96 hrs	>96 hrs	D 1693
Environmental Stress Crack Resistance ⁴	>192 hrs	>192 hrs	D 1693
Cell Classification	335430A	335430A	D 3350
UV Protection	Minimum 1 year outside storage on colors, black is manufactured with Carbon Black for added UV protection and additional storage life		

(1) Typical properties will vary within specification limits

(2) 190 °C / 2160g

(3) 2% Secant-Method 1

(4) Excludes Copper Mesh

(5) Condition B, 10% Igepal, F10

(6) Condition C, 100% Igepal, F20



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