

INNERDUCT

Innerduct is manufactured 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.

Innerduct offers excellent characteristics that make it ideal, including:

- High strength to endure heavy external loads
- Its flexibility, toughness, light weight, and impact resistance help lower installation cost
- Resist corrosive chemicals and aggressive soils
- Long term strength for increased life and performance
- Moisture proof and watertight
- 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.

Innerduct shall be joined by either heat fusion or mechanical fittings. Innerduct is offered in various sizes and wall thickness, some of which are covered in the charts on next pages. The duct may be ordered in continuous coils, with or without steel reels, or produced in straight lengths up to 50 feet.

Vikimatic stocks a vast supply of Innerduct to meet most applications. Special orders are also accepted with usually one of the quickest turnaround in the business. 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.



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Most common innerduct colors are orange and black. Other options are blue, grey, green, yellow, white, red, and striped.

O.D. CONTROLLED (SDR) INNERDUCT DIMENSIONAL SPECIFICATIONS

The following table represents the specifications of ASTM F-2160 and NEMA TC-7 for O.D. controlled conduit. 1" - 6" sizes.

Sizes	Wall Thickness	Nominal O.D.	Nominal I.D.	Minimum Wall	Nominal Lbs/Ft	Standard Coil/Reels Lengths	Standard Truck	Steel Reel Size - FxTxD*
1"	SDR 9	1.315"	1.00"	.146"	0.23	500'	117000'	Coils
	SDR 9	1.315"	1.07"	.120"	0.20	5000'	80000'	70x38x30
	SDR 13.5	1.315"	1.12"	.097"	0.17	8000'	96000'	84x43x36
1-1/4"	SDR 9	1.660"	1.26"	.184"	0.37	500'	78000'	Coils
	SDR 11	1.660"	1.34"	.151"	0.31	2000'	32000'	70x28x30
	SDR 13.5	1.660"	1.39"	.123"	0.26	5000'	70000'	84x42x36
	SDR 15.5	1.660"	1.44"	.017"	0.23	8000'	96000'	96x43x30
1-1/2"	SDR 9	1.900"	1.45"	.211"	0.49	500'	36000'	Coils
	SDR 11	1.900"	1.53"	.173"	0.41	4000'	56000'	84x42x36
	SDR 13.5	1.900"	1.60"	.141"	0.34	6000'	72000'	96x45x36
2"	SDR 9	2.375"	1.81"	.264"	0.76	500'	24500'	Coils
	SDR 11	2.375"	1.91"	.216"	0.64		18000'	
	SDR 13.5	2.375"	2.00"	.176"	0.53	1000'	18000'	84x42x36
	SDR 15.5	2.375"	2.04"	.153"	0.47	2500'	35000'	84x42x36
	SDR 17	2.375"	2.07"	.140"	0.43	4000'	48000'	96x45x36
2-1/2"	SDR 11	2.875"	2.32"	.261"	0.94	1500'	18000'	96x38x55
	SDR 13.5	2.875"	2.42"	.213"	0.78			
3"	SDR 11	3.500"	2.86"	.318"	1.39	500'	12000'	Coils
	SDR 13.5	3.500"	2.98"	.259"	1.15	1000'	12000'	96x38x55
	SDR 15.5	3.500"	3.04"	.226"	1.02	1250'	15000'	96x45x55
4"	SDR 9	4.500"	3.50"	.500"	2.77	500' 550' 750'	6000'	Coils 96x45x70 102x45x70
	SDR 11	4.500"	3.68"	.409"	2.29		6600'	
	SDR 13.5	4.500"	3.83"	.333"	1.90		9000'	
	SDR 15.5	4.500"	3.92"	.290"	1.68			
5"	SDR 11	5.563"	4.55"	.506"	3.50	500'	4000'	114x45x80
	SDR 13.5	5.563"	4.73"	.412"	2.91	500'		
6"***	SDR 11	6.625"	5.42"	.602"	4.97	450'	3600'	120x45x84
	SDR 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.

I.D. CONTROLLED (SIDR) INNERDUCT DIMENSIONAL SPECIFICATIONS

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 Wall	Nominal Lbs/Ft	Standard Coil/Reels Lengths	Standard Truck	Steel Reel Size - FxTxD*
1"	SIDR 11.5	1.213"	1.049"	.091"	0.15	5000'	80000'	70x38x30
	SIDR 15	1.189"	1.049"	.070"	0.11	8000'	96000'	84x43x36
1-1/4"	SIDR 9	1.690"	1.380"	.153"	0.33	5000'	70000'	84x42x36
	SIDR 11.5	1.627"	1.380"	.120"	0.25	8000'	96000'	96x43x30
1-1/2"	SIDR 11.5	1.890"	1.610"	.140"	0.34	4000'	56000'	84x42x36
	SIDR 15	1.825"	1.610"	.107"	0.26	6000'	72000'	96x45x36
2"	SIDR 11.5	2.427"	2.067"	.180"	0.56	2500'	35000'	84x42x36
4"	SIDR 11.5	4.750"	4.026"	.350"	2.12	500'	6000'	96x45x70
						700'	8400'	102x45x70

*Flange x Internal Traverse x Drum (in inches)

RIBBED HDPE INNERDUCT SPECIFICATIONS

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. See table below for specifications.

Sizes	Wall Thickness	Nominal O.D.	Nominal I.D.	Minimum Wall	Nominal Lbs/Ft	Standard Coil/Reels Lengths	Standard Truck	Steel Reel Size - FxTxD*
1"	13.5	1.315"	1.11"	.097"	.17	5000'	80000'	70x38x30
1-1/4"	13.5	1.660"	1.41"	.123"	.26	5000'	70000'	84x42x36
1-1/2"	13.5	1.900"	1.61"	.141"	.34	4000'	56000'	84x42x36
2"	13.5	2.375"	2.02"	.176"	.53	2500'	35000'	84x42x36
3"	13.5	3.500"	2.97"	.259"	1.15	1000'	12000'	96x38x55
4"	13.5	4.500"	3.82"	.333"	1.90	550'	6600'	96x45x70

*Flange x Internal Traverse x Drum (in inches)

SCHEDULE 40 AND SCHEDULE 80 O.D. CONTROLLED INNERDUCT SPECIFICATIONS

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

Sizes	Wall Thickness	Nominal O.D.	Nominal I.D.	Minimum Wall	Nominal Lbs/Ft	Standard Coil/Reels Lengths	Standard Truck	Steel Reel Size - FxTxD*
1"	SCH 40	1.315"	1.04"	.133"	0.22	5000'	80000'	70x38x30
	SCH 80	1.315"	0.95"	.179"	0.28	8000'	96000'	84x43x36
1-1/4"	SCH 40	1.660"	1.38"	.140"	0.29	5000'	70000'	84x42x36
	SCH 80	1.660"	1.27"	.191"	0.39	8000'	96000'	96x43x30
1-1/2"	SCH 40	1.900"	1.61"	.145"	0.35	4000'	56000'	84x42x36
	SCH 80	1.900"	1.50"	.200"	0.47	6000'	72000'	96x45x36
2"	SCH 40	2.375"	2.06"	.154"	0.47	2500'	35000'	84x42x36
	SCH 80	2.375"	1.93"	.218"	0.64	4000'	48000'	96x45x36
2-1/2"	SCH 40	2.875"	2.46"	.203"	0.75	1500'	18000'	96x38x55
	SCH 80	2.875"	2.32"	.276"	0.99	1500'	18000'	96x38x55
3"	SCH 40	3.500"	3.06"	.216"	0.98	1000'	12000'	96x38x55
	SCH 80	3.500"	2.90"	.300"	1.32	1250'	15000'	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	20' & 40'	12160'	Sticks Only
6"	SCH 40	6.625"	6.03"	.280"	2.44	20' & 40'	7280'	Sticks Only
	SCH 80	6.625"	5.70"	.432"	3.67	20' & 40'	7280'	Sticks Only
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 are available upon request.

HDPE LARGE DIAMETER CONDUIT

Available in 20', 40' and 50' lengths. Meets ASTM F 2160 Specifications.

O.D. Controlled.

Pipe Size	Nominal O.D.	Min. Wall	SDR 9 Average I.D.	Weight (lbs/ft.)	Min. Wall	SDR 11 Average I.D.	Weight (lbs/ft.)
4"	4.500	0.500	3.44	2.74	0.409	3.63	2.29
5"	5.563	0.618	4.25	4.18	0.506	4.49	3.51
6"	6.625	0.736	5.06	5.93	0.602	5.34	4.97
8"	8.625	0.958	6.59	10.05	0.784	6.96	8.43
10"	10.750	1.194	8.21	15.62	0.977	8.67	13.09
12"	12.750	1.417	9.74	21.97	1.159	10.29	18.41
14"	14.000	1.556	10.70	26.49	1.273	11.30	22.20

Pipe Size	Nominal O.D.	Min. Wall	SDR 13.5 Average I.D.	Weight (lbs/ft.)	Min. Wall	SDR 17 Average I.D.	Weight (lbs/ft.)
4"	4.500	0.333	3.79	1.91	0.265	3.93	1.54
5"	5.563	0.412	4.68	2.91	0.327	4.86	2.35
6"	6.625	0.491	5.58	4.13	0.390	5.79	3.34
8"	8.625	0.639	7.27	7.00	0.507	7.54	5.66
10"	10.750	0.796	9.06	10.88	0.632	9.40	8.79
12"	12.750	0.944	10.74	15.30	0.750	11.16	12.36
14"	14.000	1.037	11.80	18.45	0.824	12.25	14.90

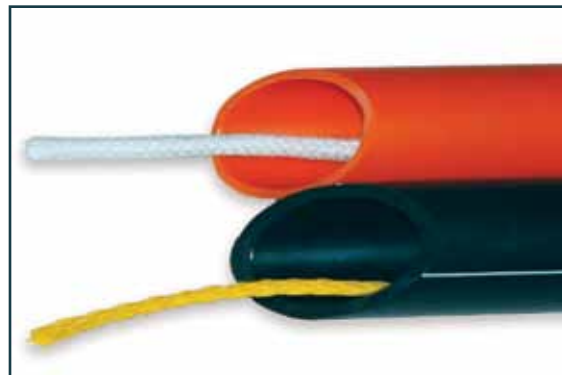
PRE-INSTALLED PULL TAPE/PULL ROPE

HDPE Innerduct is available with pull tape or pull rope installed. The following table represents the characteristics listed by the manufacturer of the most popular applications for both rope and tape.

Product	Material	Approximate Width	Tensile Strength	Sequential Footage Markings	Pre-lubricated
Rope	Polypropylene	1/4"	1250 lbs.	No	No
Non-Sequential Tape	Polyester	1/2"	1130 lbs.	No	No
1250 lb Pull Tape	Polyester	1/2"	1250 lbs.	Yes	Yes
1800 lb Pull Tape	Polyester	5/8"	1800 lbs.	Yes	Yes
2500 lb Pull Tape	Polyester	3/4"	2500 lbs.	Yes	Yes



HDPE Conduit with Pull Tape



HDPE Conduit with Pull Rope

PRODUCT SPECIFICATION & TECHNICAL INFORMATION INNERDUCT

The previous innerduct products are certified 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.	D 3895 Modified ⁴
Environmental Stress Crack Resistance ⁵	>96 hrs	>96 hrs	D 1693
Environmental Stress Crack Resistance ⁶	>192 hrs	>192 hrs	D 1693
Cell Classification	335430A	335430A	D 3350

(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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SDR or Standard Dimension Ratio relates the outside diameter (OD) of the duct to its wall thickness (t), so $SDR = OD / t$.

SIDR or Standard Inside Dimension Ratio relates the inside diameter (ID) of the duct to its wall thickness (t), so $SIDR = ID / t$.