

FUSIBLE PVC[®] CONDUIT & CASING

Non-metallic solution for underground power transmission



FUSIBLE PVC® CONDUIT & CASING



Features and Benefits

- The only fusible polyvinyl chloride (PVC) conduit system
- Conduit sizes ranging from 4" to 10" and casing sizes ranging up to 36"
- PVC conduit and casing significantly reduce power cable ampacity loss compared to steel
- Excellent thermal resistivity (560°C – 570°C-cm/W)
- Low coefficient of friction (COF) for lubricated cable pull-in with a variety of high voltage cable jacket materials
- Ability to withstand high pressures during thermal grouting operations due to high buckling pressure capability
- Ability to withstand greater installation depths while resisting deflection or ovality
- Ability to internally de-bead for cable installation
- Longer HDD crossings (cased or uncased) due to greater safe pull stress and elastic modulus than HDPE conduit and casings
- Ease of reconnection to standard PVC conduit by solvent cement or mechanical means at transition points
- Favorable OD/ID relationship versus HDPE conduit enables conduits and casings (where required) to be downsized, reducing HDD bore hole size

Installations

- Horizontal directional drilling
- Pipe bursting
- Sliplining
- Open-cut

Standards

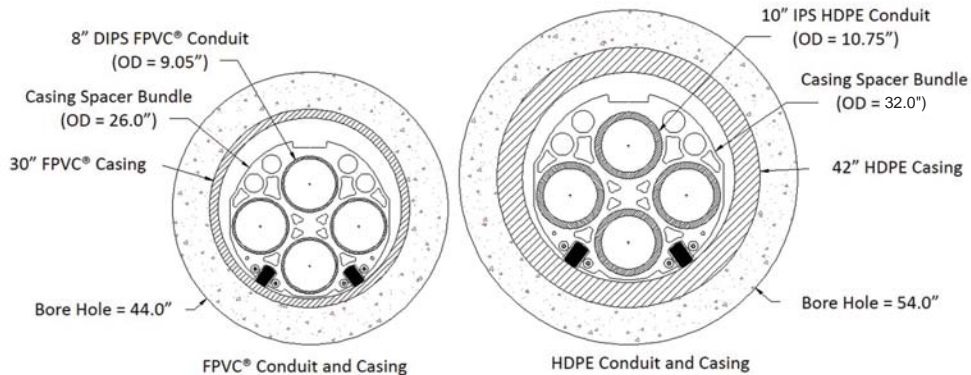
- ASTM Cell Classification 12454
- ASTM Standards D 638, D 2122, D 1599, D 2152, D 2412, D2241, D 2444, D 2672, F 1057 and D 2584
- IEEE 442

General Installation Experience

- Over 12,000 installations
- Over 12 million feet installed
- Installations in all 50 U.S. states, U.S. territories, Canada, Mexico, New Zealand and Australia
- Directional drill continuous pull-ins of greater than 7,000 feet
- Over 35 directional drill installations exceeding 3,000 feet
- Installed at over 40 military bases



Comparison of Nominal 8" ID Conduit Bundle Inside Casing



Engineering Data

Conduit Sizes						
Size	OD	DR / Schedule	Min. Wall (in)	Avg. ID (in)	Critical Buckling Pressure (psi)	Safe Pulling Force (lbs)
4"	4.50"	Sch 40	.24	4.00	161	8,800
		Sch 80	.34	3.79	496	12,300
4"	4.80"	DR 14	.34	4.07	426	13,400
		DR 18	.27	4.23	191	10,600
6"	6.63"	SDR 17	.39	5.80	229	21,300
		SDR 21	.32	5.96	117	17,500
		SDR 26	.26	6.08	60	14,200
		Sch 40	.28	6.03	80	15,600
	Sch 80	.43	5.71	317	23,500	
		6.90"	DR 14	.49	5.85	426
DR 18	.38		6.09	190	21,900	
DR 25	.28		6.31	68	16,000	
8"	8.63"	SDR 17	.51	7.55	229	36,200
		SDR 21	.41	7.76	116	29,600
		SDR 26	.33	7.92	60	24,200
		Sch 40	.32	7.94	55	23,500
	Sch 80	.50	7.57	218	35,700	
		9.05"	DR 14	.65	7.68	425
DR 18	.50		7.98	191	37,800	
DR 25	.36		8.28	68	27,600	
10"	10.75"	SDR 21	.51	9.67	116	46,000
		SDR 26	.41	9.87	60	37,500
		Sch 80	.59	9.49	186	52,900
	11.10"	DR 14	.79	9.42	426	71,800
		DR 18	.62	9.79	191	56,800
DR 25	.44	10.16	68	41,600		

Casing Sizes						
Size	OD	DR	Min. Wall (in)	Avg. ID (in)	Critical Buckling Pressure (psi)	Safe Pulling Force (lbs)
16"	17.40"	14	1.24	14.76	426	176,600
		18	.97	15.35	191	139,700
		21	.83	15.64	117	120,800
		25	.70	15.92	68	102,200
20"	21.60"	DR 14	1.54	18.33	426	272,000
		DR 18	1.20	19.06	190	215,300
		DR 21	1.03	19.42	117	186,100
		DR 25	.86	19.77	68	157,500
24"	25.80"	DR 18	1.43	22.76	190	307,100
		DR 21	1.23	23.19	117	265,600
		DR 25	1.03	23.61	68	224,800
30"	32.00"	DR 21	1.52	28.77	117	408,500
		DR 25	1.28	29.29	68	345,800
		DR 32.5	.99	29.91	30	268,700
36"	38.30"	DR 21	1.82	34.43	117	585,100
		DR 25	1.53	35.05	68	495,400
		DR 32.5	1.18	35.80	30	384,600



Notes:

- Safe pulling force based on axial tensile stress of 7,000 psi per ASTM D1784 with a safety factor of 2.5.
- Available in 40' and 45' lengths.
- Additional sizes available. Some sizes may require special order. Contact Underground Solutions, Inc. with your specific requirements.
- Bend radius is 250X the outside diameter of the conduit.

FUSIBLE PVC® CONDUIT & CASING



Southern Maryland Electric Cooperative
Lexington Park, MD



National Grid
Malden, MA



Town of Folly Beach
Folly Beach, SC



PSE&G
Carlstadt, NJ



Tideland Electric Cooperative
Bellhaven, NC



Woodbridge Energy Center
Woodbridge, NJ



Cherokee Power Station
Denver, CO



Detroit Metropolitan Wayne County Airport
Detroit, MI



Florida Power & Light Company
St. Lucie, FL



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Underground Solutions, Inc.
858.679.9551
www.undergroundsolutions.com