

Carlton® P&C Flex® Corrugated Flexible Conduit

Carlton® P&C Flex® Nonmetallic Corrugated Conduit makes power and communication installations faster and easier by providing maximum installation flexibility. The corrugated design is flexible enough to accommodate any degree of bend requirement. Unlike rigid conduit, it has a tight bend radius, making this product ideal for shallow trenches.

P&C Flex is manufactured to IPS dimensions and can be used with any existing conduit system using standard fittings. It is UV Resistant and suitable for a variety of applications including direct burial, under bridges, service entrance/FTTx terminations, manhole terminations, pedestal/enclosure terminations and running up utility poles or outside of buildings.

P&C Flex is available in sizes 3/4" though 4", with or without pull tape (1" through 4" only) and comes in a variety of convenient standard put-ups.

Features:

- Accommodates any degree of bend – ideal for shallow trenches.
 - For use with HDPE - Use ELA_ Series Fittings
 - For use with PVC - Use E940_ Series Fittings
- For use with HDPE - Use ELA_ Series Fittings
- Easily handles offsets
- Manufactured to IPS dimensions – can be used with standard IPS coupling/fittings
- UV Resistant
- Can be used as a flexible sweep or raceway – one SKU can do multiple bends
- Available in sizes 3/4" though 4"
- Small put-ups for easy handling

Note: Not UL Listed

Applications



**The NEW
Sweep
Alternative**



Innovative Solutions For Wire and Cable Management

P&C Flex Conduit

Part No.	Size	I.D.	O.D.	Pull Tape	Reel/Coil	Std. Ctn. Qty. (Ft.)	Std. Ctn. Wt. (lbs.)
11807-350	3/4"	.83	1.040	Empty	Coil	350	39.9
1808-250C	1"	1.000	1.315	Empty	Coil	250	36.3
11808-5200	1"	1.000	1.315	Empty	Reel	5200	1019.0
11809-900	1 1/4"	1.340	1.660	Empty	Reel	900	243.0
11809-4500	1 1/4"	1.340	1.660	Empty	Reel	4500	972.0
11810-250	1 1/2"	1.570	1.900	Empty	Reel	250	75.8
11810-4500	1 1/2"	1.570	1.900	Empty	Reel	4500	1080.0
11810T-2300	1 1/2"	1.570	1.900	1250 lb.	Reel	2300	720.0
11810T-250	1 1/2"	1.570	1.900	1250 lb.	Reel	250	78.0
11811-1100	2"	2.045	2.375	Empty	Reel	1100	521.4
11811-250	2"	2.045	2.375	Empty	Reel	250	87.0
11811-2500	2"	2.045	2.375	Empty	Reel	2500	815.0
11811-700	2"	2.045	2.375	Empty	Reel	700	269.0
11811T-250	2"	2.045	2.375	1250 lb	Reel	250	89.0
11812-250	2 1/2"	2.469	2.875	Empty	Reel	250	121.0
11812AG-001	2 1/2"	2.469	2.875	Empty	Reel	1300	516.1
11813-1200	3"	3.068	3.500	Empty	Reel	1200	850.8
11813-250	3"	3.068	3.500	Empty	Reel	250	192.0
11813-500	3"	3.068	3.500	Empty	Reel	500	523.0
11813-750	3"	3.068	3.500	Empty	Reel	750	554.3
11815-250	4"	4.026	4.500	Empty	Reel	250	324.0
11815-800	4"	4.026	4.500	Empty	Reel	800	778.4

P&C Flex Fittings

Couplings



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt (lbs.)
E940E	3/4"	100	4.6
E940F	1"	50	3.5
E940G	1 1/4"	30	3.2
E940H	1 1/2"	25	3.4
E940J	2"	30	5.3
E940K	2 1/2"	20	7.5
E940L	3"	25	14.7
E940N	4"	15	12.5

Female Adapters



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt (lbs.)
E942E	3/4"	100	4.3
E942F	1"	50	3.7
E942G	1 1/4"	30	3.3
E942H	1 1/2"	25	3.3
E942J	2"	30	5.4
E942K	2 1/2"	20	6.6
E942L	3"	25	11.8
E942N	4"	15	10.8

Terminal Adapters



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt (lbs.)
E943E	3/4"	125	4.2
E943F	1"	50	3.0
E943G	1 1/4"	25	4.1
E943H	1 1/2"	25	2.7
E943J	2"	5	6.9
E943K	2 1/2"	20	6.3
E943L	3"	45	16.6
E943N	4"	15	11.7

Bell Ends (Schedule 40)



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt (lbs.)
E997F	1"	50	2.6
E997G	1 1/4"	35	2.5
E997H	1 1/2"	30	2.5
E997J	2"	10	4.8
E997K	2 1/2"	10	2.0
E997L	3"	10	10.0
E997N	4"	30	16.0

Plugs



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt (lbs.)
P258H	1 1/2"	50	1.7
P258JT	2"	60	3.1
P258K	2 1/2"	25	1.5
P258LT	3"	30	3.4
P258NT	4"	48	8.3

P&C Flex to HDPE Duct Transition Fittings



Part No.	Size	Std. Ctn. Qty.	Std. Ctn. Wt (lbs.)
ELA-166154	1.66" to 1.54"	50	36.0
ELA-190154	1.90" to 1.54"	25	34.0

Technical Information

Performance Properties	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Stiffness F/Δy at 5% deflection	200	200	200	200	200	130	130	90
Impact Strength (Ft./Lbs.) 72°	35	40	40	50	50	70	120	140
Impact Strength (Ft./Lbs.) 32°	5	8	8	15	25	35	60	60
Minimum Bending Radius (inches)	6	6	6	7	8	12	15	18
Conduit Tensile Strength	200	300	400	500	700	1000	1500	2000

- Storage: -4°F to 158°F
- Handling: -4°F to 104°F

Sweep and Elbow Conversion Chart

Radius (in.) Nom. Dia.	Segment	18" Required Length of P&C Flex (inches)	24" Required Length of P&C Flex (inches)	36" Required Length of P&C Flex (inches)	48" Required Length of P&C Flex (inches)	60" Required Length of P&C Flex (inches)
1 1/2"	90°	33	42	61	80	99
	45°	19	23	33	42	52
	30°	14	17	23	30	36
	22 1/2°	12	14	19	23	28
2"	90°	32	42	61	79	98
	45°	18	23	32	42	51
	30°	14	17	23	29	35
	22 1/2°	11	12	18	23	28
2 1/2"	90°	34	44	63	81	100
	45°	20	25	33	44	53
	30°	16	19	24	31	37
	22 1/2°	13	15	20	25	30
3"	90°	35	44	63	82	101
	45°	20	25	34	44	53
	30°	16	19	24	32	38
	22 1/2°	13	16	20	25	30
4"	90°	37	46	65	84	103
	45°	22	27	37	46	55
	30°	18	21	27	34	40
	22 1/2°	15	18	22	27	32

For other radius sweeps use this formula:

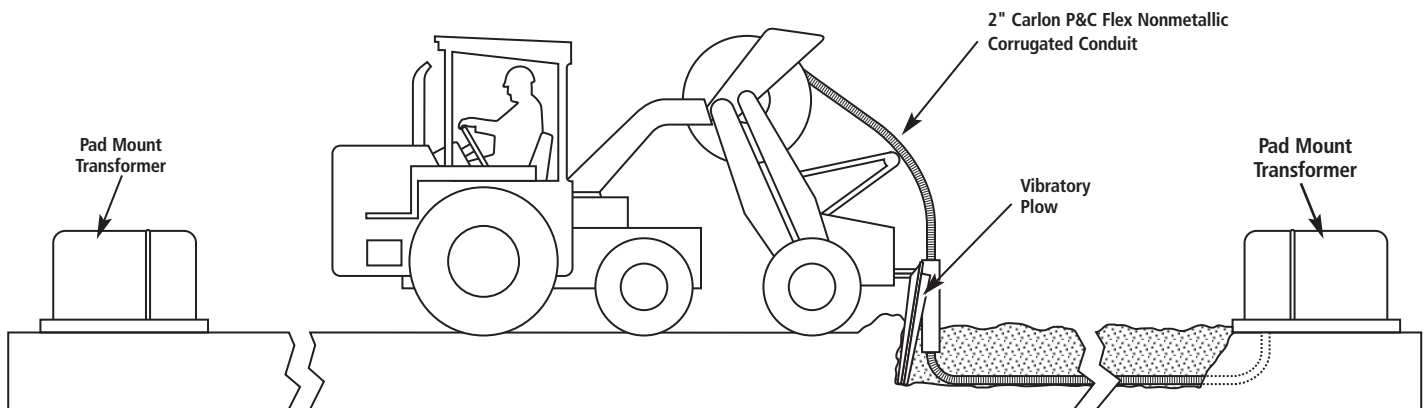
$$.0175 \times \text{Radius (inches)} \times \text{Angle}^\circ = \text{Required length of P\&C flex in inches}$$

Suggested Applications

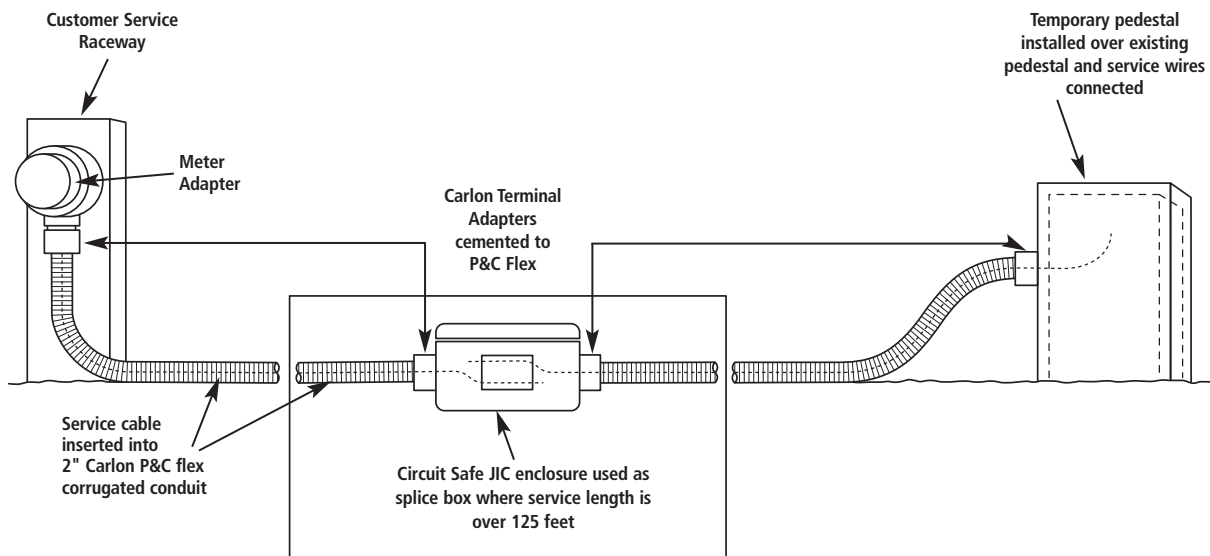
Carlton® P&C Flex® Nonmetallic Corrugated Conduit is the most versatile system available for power and communications applications.

P&C Flex® combines high crush strength with flexibility. Longer coil lengths reduce installation time.

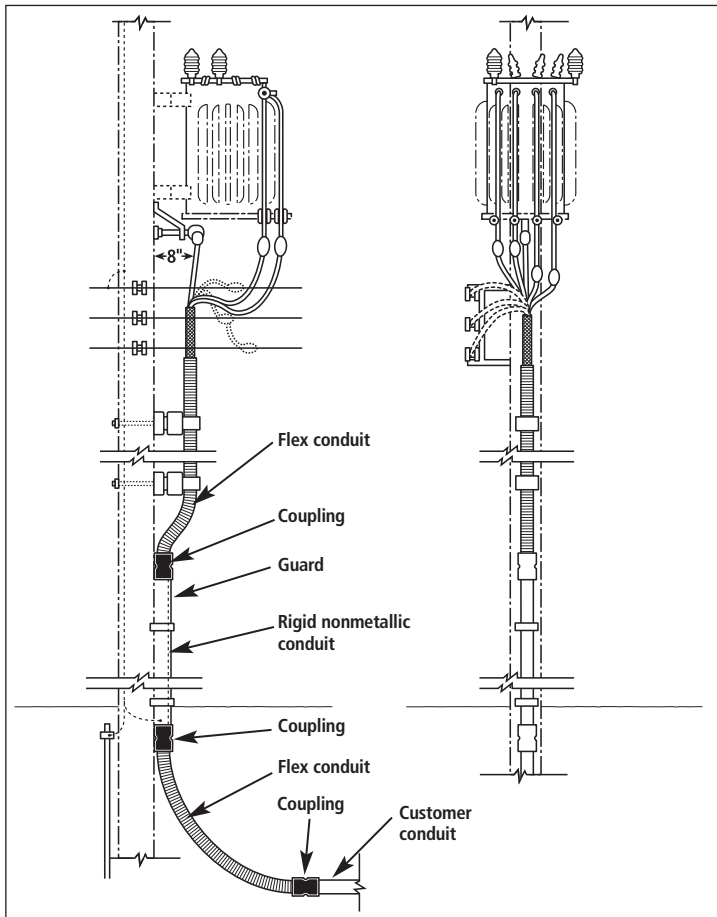
Here are a few application ideas that illustrate how P&C Flex® can be effectively used.



In single phase underground primary systems, lower the cost of direct buried and standard conduit systems by installing P&C Flex® Nonmetallic Corrugated Conduit with a vibratory plow.

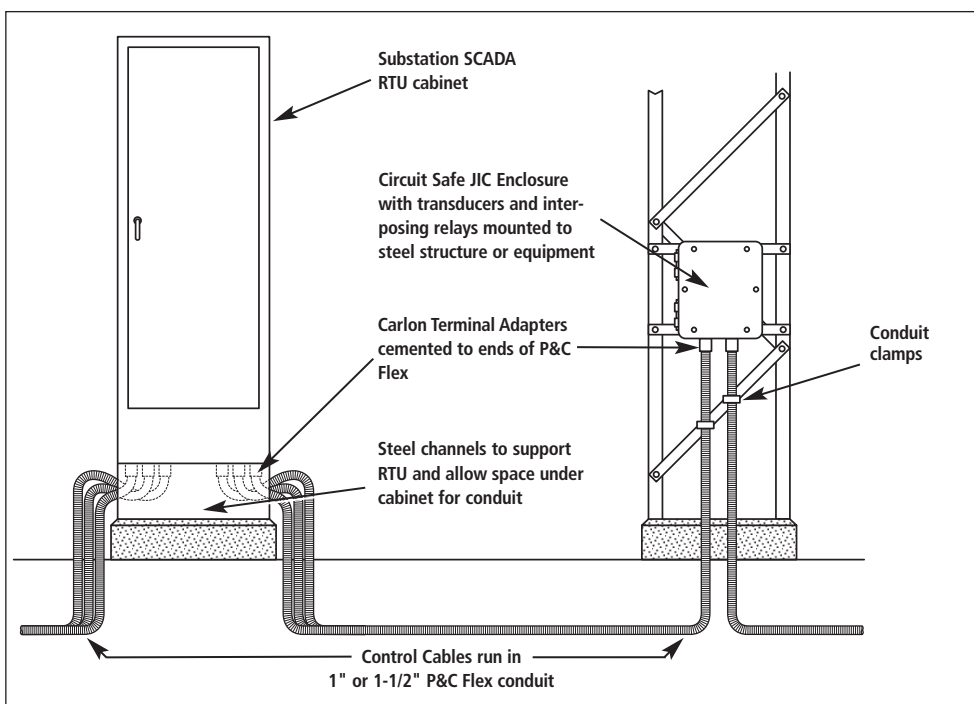


Digging up faulty cable in frozen ground can be expensive and time consuming. Use Carlton P&C Flex® from the customer service raceway to the temporary service pedestal to restore power on an interim basis. When the service length is over 250 feet, use a splice box and an additional length of P&C Flex® Nonmetallic Corrugated Conduit.



When soil conditions do not permit direct burial of cable, use Carlon P&C Flex® Nonmetallic Corrugated Conduit to protect the cable. A lower coefficient of friction provides easy wire pulls on location. flexibility eliminates the need for elbows.

P&C Flex® conduit is flexible. Carlon P&C Flex® Nonmetallic Corrugated Conduit is used to transition from Carlon P&C® Duct Type DB. Despite equipment being mounted away from the pole, P&C Flex® conduit remains flush to the pole.



Carlon P&C Flex® Nonmetallic Corrugated Conduit protects control cables in supervisory control and data acquisition equipment (SCADA) in distribution substations. Flexibility provides maximum utilization of equipment.

Installation

Correct Method

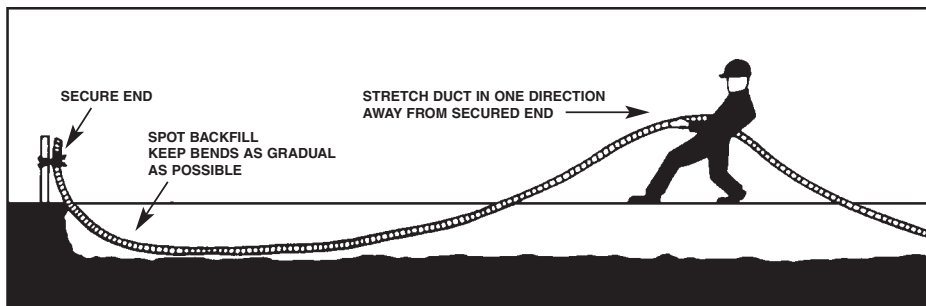


Lay conduit in the trench as straight as possible. Avoid undulations up and down and side to side.

Incorrect Method



Trenching



1. Trenching

Trench should be graded true and free from stones or soft spots. Backfill should also be free of stones and be firmly tamped around the sides of the conduit, to develop maximum supporting strength. Tamping on top of the conduit is not recommended.

2. Backfill

In rocky soil where it is impossible to have an even trench bottom, a selected backfill should be put in before laying the conduit. Selected backfill (not tamped) at least 6" over the top of the conduit is recommended. After final backfill is placed, taming may be used to finish the grade.

3. Duct Placement

Duct may be unreeled directly into trench or along side trench and subsequently placed in trench. After placing in trench, secure one

end and stretch it by hand to take up the slack. Spot backfill to hold in position. Do not use mechanical stretching equipment.

4. Changes in Direction

Avoid unnecessary turns, dips, or changes in direction. Keep bends as gradual as possible to assure ease of cable pull-in after duct installation.

5. Pneumatic Rodding

All commonly used vacuum or pressure can be used to rod P&C Flex. The line carrier (mouse, puck, rocket) should be soft, flexible material designed to fit snugly into duct without interference.

6. Mechanical Rodding

All commonly used mechanical rodding equipment can be used to rod P&C Flex. The tip should have a ball-type arrangement to keep rod from catching in the convolutions on the inside of duct.

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