

Prime Conduit™ P&C Duct

Type EB-20

Type EB-35

Type DB-60

Type DB-120

Special California

Type DB-100

DB-100 Sweeps

DB-60 Sweeps

DB-120 Sweeps

Tel-Gard Type DB

Specification

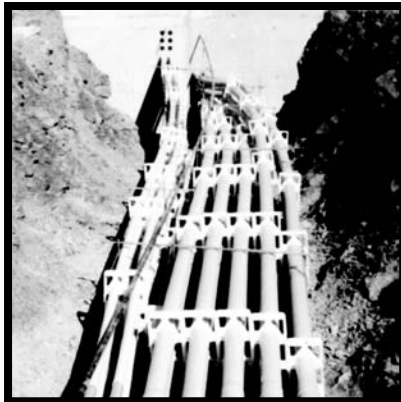
Installation

Expansion &

Contraction

Canadian DB/2 Conduit

Canadian DB/2 Sweeps



Prime Conduit™ P&C[®] Duct

Prime Conduit P&C (Power & Communications) Duct and fittings are designed and formulated specifically for concrete encased and direct burial applications of power utility primaries, secondaries, street lighting and distribution systems. Prime Conduit P&C Duct complies with NEMA Standard TC-6 & 8, and ASTM F-512 for utility duct. Both EB and DB duct are rated for use with 90°C conductors. P&C Duct fittings comply with NEMA TC-9 Standard.

Prime Conduit Telephone Duct complies with NEMA TC-10, Bellcore CAO 8546, GT8343, and other applicable telephone standards.

Advantages:

- Manufactured for high modulus PVC compound
- High impact strength
- Excellent structural strength
- Superior load bearing
- Multiple duct banks can be pre-assembled and lowered into trench
- No special cutting or tapering devices required
- Provides easy bending around obstructions minimizing the need for special angle couplings and sweeps
- Superior aging and weathering characteristics

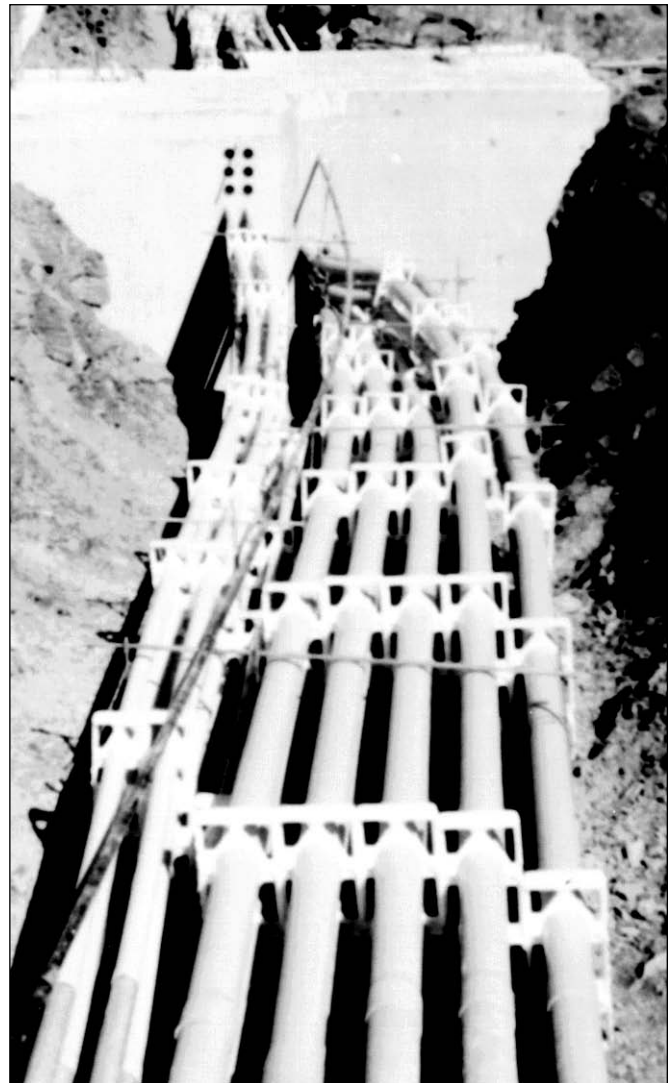
Features:

- Heat resistant
- Fire resistant
- Conforms to NEMA Standard TC-6 & 8 and ASTM Standard F-512 for utility duct
- Prime Conduit P&C Duct Type EB-20 is ETL Listed
- Low coefficient of expansion
- Continuous rigid control
- Smooth inner wall and smooth transition between joints

Engineering Features:

Chemical Inertness resists water absorption and is totally immune to galvanic or electrolytic attacks.

Solvent Cemented Joints provide leakproof duct runs tested at 25 psi. This type of joint eliminates the need for costly mechanical rodding procedure. Prime Conduit P&C Duct can be rodded pneumatically.



RUS Accepted

Prime Conduit™ P&C[®] Duct Type EB

Prime Conduit nonmetallic P&C Duct Type EB is manufactured from Prime Conduit's exclusive high modulus PVC compound, developed especially for power and communications applications, and is designed for use in concrete encased installations. Type EB is rated for 90°C Cable.



ETL Listed
to UL 651A in
compliance
to the NEC

P&C Duct Type EB-20

Meets NEMA Standard TC-6 & 8
EB-20/ASTM F-512

Nom. Size	Part Number		Std. Crate Qty.		Approx. Wt. per 100 ft.	O.D.	*Min. Wall
	10'	20'	10'	20'			
2	–	48711-020	–	2,800	36	2.375	.060
3	–	48713-020	–	2,000	59	3.500	.061
4	48715-010	48715-020	570	1,140	98	4.500	.082
5	48716-010	48716-020	380	760	148	5.563	.103
6	48717-010	48717-020	260	520	212	6.625	.125

*Min. wall thickness relates to 500,000 modulus

Note: One belled end per 10' and 20' length

P&C Duct Type EB-35 Heavy Wall

Meets NEMA Standard TC-6 & 8
EB-35/ASTM F-512

Nom. Size	Part Number		Std. Crate Qty.		Approx. Wt. per 100 ft.	O.D.	*Min. Wall
	10'	20'	10'	20'			
2	–	68711-020	–	2,800	39	2.375	.060
3	–	68713-020	–	2,000	72	3.500	.076
4	–	68715-020	–	1,140	116	4.500	.100
5	68716-010	68716-020	380	760	177	5.563	.126
6	–	68717-020**	–	520	251	6.625	.152

*Min. wall thickness relates to 500,000 modulus

**Special order item

Note: One belled end per 10' and 20' length

Use DB Sweeps with EB Duct.

Prime Conduit™ P&C[®] Duct Type DB

Prime Conduit nonmetallic P&C Duct Type DB is manufactured from Prime Conduit's exclusive high modulus PVC compound, developed especially for power and communications applications, and is designed for use in direct burial or concrete encased installations. Type DB is rated for 90°C Cable.



Trenching:

Trench should be graded true and free from stones and 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.

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, tamping may be used to finish the grade.

The method of direct burial varies with soil condition, load conditions, and engineering preferences. A common practice is to lay one tier at a time, backfill, and repeat with the desired spacing of ducts being made as ducts are layered.

Many companies have used the heavier wall Type DB-120 in a duct-to-duct formation. Where limited loads occur, this type of installation has proven satisfactory.

P&C Duct Type DB-60

Meets NEMA Standard TC-6 & 8
DB-60/ASTM F-512

Nom. Size	Part Number	Std. Crate Qty.	Approx. Wt. per 100 ft.	O.D.	*Min. Wall
2	48811-020	2,800	38	2.375	.060
3	48813-020	2,000	81	3.500	.092
3 1/2	48814-020	2,000	108	4.000	.107
4	48815-020	1,140	133	4.500	.121
5	48816-020	760	202	5.563	.152
6	48817-020	520	288	6.625	.182

*Min. wall thickness relates to 500,000 modulus

Note: One belled end per 20' length

P&C Duct Type DB-120 Heavy Wall

Meets NEMA Standard TC-6 & 8
DB-120/ASTM F-512

Nom. Size	Part Number		Std. Crate Qty.		Approx. Wt. per 100 ft.	O.D.	*Min. Wall
	10'	20'	10'	20'			
1	–	48808-020	–	8,000	18	1.315	.060
1 1/2	–	48810-020	–	4,500	28	1.900	.060
2	–	68811-020	–	2,800	47	2.375	.077
3	–	68813-020	–	2,000	99	3.500	.118
4	–	68815-020	–	1,140	165	4.500	.154
5	–	68816-020	–	760	251	5.563	.191
6	68817-010	68817-020	260	520	356	6.625	.227

*Min. wall thickness relates to 500,000 modulus

Note: One belled end per 10' and 20' length

Prime Conduit[™] Special California Rigid Nonmetallic DB-100 P&C[®] Duct & Sweeps

RUS Accepted



Prime Conduit DB-100 nonmetallic P&C Duct Type DB is manufactured to NEMA Standard TC-6 & 8 and to specifications that exist within the State of California, and is designed for use in direct burial or concrete encased installations. Rated for use with 90°C cable.

P&C Duct Type DB-100

Meets NEMA Standard TC-6 & 8
and ASTM F-512

Nom. Size	Part Number	Std. Crate Qty.	Approx. Wt. per 100 ft.	O.D.	*Min. Wall
4	68915-020	1,140	154	4.500	.155
5	68916-020	760	237	5.563	.192
6	68917-020	520	337	6.625	.229

*Min. wall thickness relates to 500,000 modulus
Note: One belled end per 20' length

P&C Duct Type DB-100 DWP Approved

Meets NEMA Standard TC-6 & 8
and ASTM F-512

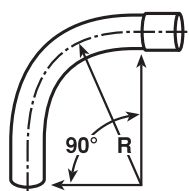
Nom. Size	Part Number	Std. Crate Qty.	Approx. Wt. per 100 ft.	O.D.	*Min. Wall
3	68913D-020	2,000	95	4.500	.155
4	68915D-020	1,140	156	5.563	.192
5	68916D-020	760	237	6.625	.229

*Min. wall thickness relates to 500,000 modulus

DB-100 Sweeps – Belled

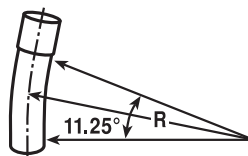
*Consult factory for additional sizes

90° Sweep – 48" Radius



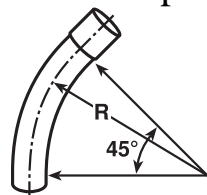
Part No.	Size	Std. Ctn. Qty.
PE9HN	4"	1
PE9HP	5"	1

11¼° Sweep – 150" Radius



Part No.	Size	Std. Ctn. Qty.
PE3SP	5"	1

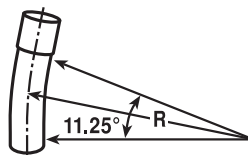
45° Sweep – 150" Radius



Part No.	Size	Std. Ctn. Qty.
PE7SP	5"	1

11¼° Sweep – 150" Radius

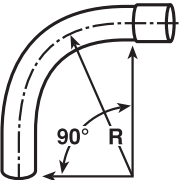
(Segmented sweeps)

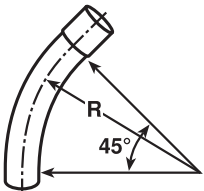


Part No.	Size	Std. Ctn. Qty.
PE3SNS	4"	1
PE3SPS	5"	1
PE3SRS	6"	1

DB-60 Sweeps

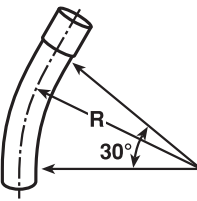
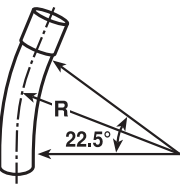
*Consult factory for additional sizes/configurations

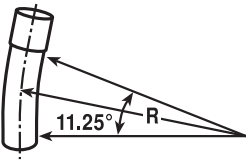
Segment	Part No.	Size	Radius (in.)	Std. Ctn. Qty.
90° Sweep 	PF9CJ	2"	18"	1
	PF9CL	3"	18"	1
	PF9CN	4"	18"	1
	PF9DJ	2"	24"	1
	PF9DL	3"	24"	1
	PF9DN	4"	24"	1
	PF9DP	5"	24"	1
	PF9FJ	2"	36"	1
	PF9FL	3"	36"	1
	PF9FN	4"	36"	1
	PF9FP	5"	36"	1
	PF9FR	6"	36"	1
	PF9HL	3"	48"	1
	PF9HN	4"	48"	1
	PF9HP	5"	48"	1
	PF9HR	6"	48"	1
	PF9IL	3"	60"	1
	PF9IN	4"	60"	1
	PF9IP	5"	60"	1
	PF9IR	6"	60"	1
	PF9SJ	2"	150"	1
	PF9SL	3"	150"	1
	PF9SR	6"	150"	1
	PF9VL	3"	300"	1
	PF9VN	4"	300"	1
	PF9VP	5"	300"	1

Segment	Part No.	Size	Radius (in.)	Std. Ctn. Qty.
45° Sweep 	PF7CJ	2"	18"	1
	PF7CL	3"	18"	1
	PF7DJ	2"	24"	1
	PF7DL	3"	24"	1
	PF7DN	4"	24"	1
	PF7FJ	2"	36"	1
	PF7FL	3"	36"	1
	PF7FN	4"	36"	1
	PF7FP	5"	36"	1
	PF7FR	6"	36"	1
	PF7HJ	2"	48"	1
	PF7HL	3"	48"	1
	PF7HN	4"	48"	1
	PF7HP	5"	48"	1
	PF7HR	6"	48"	1
	PF7IL	3"	60"	1
	PF7IP	5"	60"	1
	PF7NN	4"	120"	1
	PF7SJ	2"	150"	1
	PF7SL	3"	150"	1
	PF7SN	4"	150"	1
	PF7SP	5"	150"	1
	PF7SR	6"	150"	1
	PF7VN	4"	300"	1
	PF7VP	5"	300"	1
	PF7VR	6"	300"	1

Note: Elbows 72" and larger may be shipped in segments. Consult factory for specifics.

DB-60 Sweeps *Consult factory for additional sizes/configurations

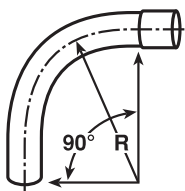
Segment	Part No.	Size	Radius (in.)	Std. Ctn. Qty.
30° Sweep 	PF6CJ	2"	18"	1
	PF6CL	3"	18"	1
	PF6DL	3"	24"	1
	PF6DN	4"	24"	1
	PF6DP	5"	24"	1
	PF6FJ	2"	36"	1
	PF6FL	3"	36"	1
	PF6FN	4"	36"	1
	PF6FR	6"	36"	1
	PF6HJ	2"	48"	1
	PF6HN	4"	48"	1
	PF6HP	5"	48"	1
	PF6HR	6"	48"	1
	PF6IN	4"	60"	1
	PF6IP	5"	60"	1
	PF6SJ	2"	150"	1
	PF6SN	4"	150"	1
	PF6SP	5"	150"	1
	PF6VJ	2"	300"	1
	PF6VN	4"	300"	1
PF6VR	6"	300"	1	
22 1/2° Sweep 	PH5DL	3"	24"	1
	PF5DN	4"	24"	1
	PF5DP	5"	24"	1
	PF5FL	3"	36"	1
	PF5FN	4"	36"	1
	PF5FP	5"	36"	1
	PF5FR	6"	36"	1
	PF5HL	3"	48"	1
	PF5HN	4"	48"	1
	PF5HR	6"	48"	1
	PF5IJ	2"	60"	1
	PF5IL	3"	60"	1
	PF5IP	5"	60"	1
	PF5IR	6"	60"	1
	PF5SL	3"	150"	1
	PF5SN	4"	150"	1
	PF5SP	5"	150"	1
	PF5SR	6"	150"	1
	PF5VN	4"	300"	1
	PF5VP	5"	300"	1
PF5VR	6"	300"	1	

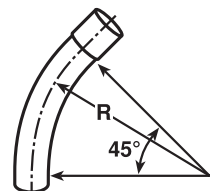
Segment	Part No.	Size	Radius (in.)	Std. Ctn. Qty.
11 1/4° Sweep 	PF3CJ	2"	18"	1
	PF3CL	3"	18"	1
	PF3DP	5"	24"	1
	PF3FJ	2"	36"	1
	PF3FL	3"	36"	1
	PF3FN	4"	36"	1
	PF3FP	5"	36"	1
	PF3FR	6"	36"	1
	PF3HL	3"	48"	1
	PF3HN	4"	48"	1
	PF3HP	5"	48"	1
	PF3HR	6"	48"	1
	PF3IJ	2"	60"	1
	PF3IR	6"	60"	1
	PF3SJ	2"	150"	1
	PF3SN	4"	150"	1
	PF3SP	5"	150"	1
	PF3SR	6"	150"	1
	PF3VJ	2"	300"	1
	PF3VL	3"	300"	1
PF3VN	4"	300"	1	
PF3VP	5"	300"	1	

Note: Elbows 72" and larger may be shipped in segments. Consult factory for specifics.

DB-120 Sweeps

*Consult factory for additional sizes/configurations

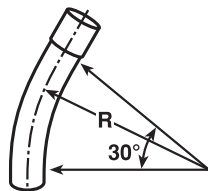
Segment	Part No.	Size	Radius (in.)	Std. Ctn. Qty.
90° Sweep 	PH9CJ	2"	18"	1
	PH9CL	3"	18"	1
	PH9CN	4"	18"	1
	PH9DJ	2"	24"	1
	PH9DL	3"	24"	1
	PH9DN	4"	24"	1
	PH9DP	5"	24"	1
	PH9FJ	2"	36"	1
	PH9FL	3"	36"	1
	PH9FN	4"	36"	1
	PH9FP	5"	36"	1
	PH9FR	6"	36"	1
	PH9HJ	2"	48"	1
	PH9HL	3"	48"	1
	PH9HN	4"	48"	1
	PH9HP	5"	48"	1
	PH9HR	6"	48"	1
	PH9IJ	2"	60"	1
	PH9IL	3"	60"	1
	PH9IN	4"	60"	1
	PH9IR	6"	60"	1
	PH9OJ	2"	66"	1
	PH9SJ	2"	150"	1
	PH9SL	3"	150"	1
	PH9SN	4"	150"	1
	PH9SP	5"	150"	1
	PH9SR	6"	150"	1
	PH9VN	4"	300"	1
	PH9VP	5"	300"	1
	PH9VR	6"	300"	1

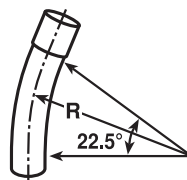
Segment	Part No.	Size	Radius (in.)	Std. Ctn. Qty.
45° Sweep 	PH7CJ	2"	18"	1
	PH7CL	3"	18"	1
	PH7CN	4"	18"	1
	PH7DJ	2"	24"	1
	PH7DL	3"	24"	1
	PH7DN	4"	24"	1
	PH7DP	5"	24"	1
	PH7FJ	2"	36"	1
	PH7FL	3"	36"	1
	PH7FN	4"	36"	1
	PH7FP	5"	36"	1
	PH7FR	6"	36"	1
	PH7HJ	2"	48"	1
	PH7HL	3"	48"	1
	PH7HN	4"	48"	1
	PH7HP	5"	48"	1
	PH7HR	6"	48"	1
	PH7IJ	2"	60"	1
	PH7IL	3"	60"	1
	PH7IP	5"	60"	1
	PH7IR	6"	60"	1
	PH7SJ	2"	150"	1
	PH7SN	4"	150"	1
	PH7SP	5"	150"	1
PH7SR	6"	150"	1	

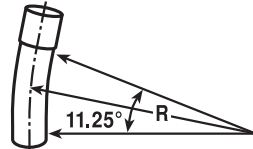
Note: Elbows 72" and larger may be shipped in segments. Consult factory for specifics.

DB-120 Sweeps

*Consult factory for additional sizes/configurations

Segment	Part No.	Size	Radius (in.)	Std. Ctn. Qty.
30° Sweep 	PH6CJ	2"	18"	1
	PH6CL	3"	18"	1
	PH6CN	4"	18"	1
	PH6DJ	2"	24"	1
	PH6DN	4"	24"	1
	PH6DP	5"	24"	1
	PH6FJ	2"	36"	1
	PH6FL	3"	36"	1
	PH6FN	4"	36"	1
	PH6FP	5"	36"	1
	PH6FR	6"	36"	1
	PH6HN	4"	48"	1
	PH6HR	6"	48"	1
	PH6IN	4"	60"	1
	PH6SL	3"	150"	1

Segment	Part No.	Size	Radius (in.)	Std. Ctn. Qty.
22 1/2° Sweep 	PH5CJ	2"	18"	1
	PH5CL	3"	18"	1
	PH5CN	4"	18"	1
	PH5DJ	2"	24"	1
	PH5DL	3"	24"	1
	PH5DP	5"	24"	1
	PH5FJ	2"	36"	1
	PH5FL	3"	36"	1
	PH5FN	4"	36"	1
	PH5FP	5"	36"	1
	PH5HL	3"	48"	1
	PH5HN	4"	48"	1
	PH5HP	5"	48"	1
	PH5HR	6"	48"	1
	PH5IJ	2"	60"	1
	PH5IL	3"	60"	1
	PH5IR	6"	60"	1
	PH5SN	4"	150"	1
	PH5SP	5"	150"	1
	PH5SR	6"	150"	1
	PH5VJ	2"	300"	1
	PH5VN	4"	300"	1

Segment	Part No.	Size	Radius (in.)	Std. Ctn. Qty.
11 1/4° Sweep 	PH3CJ	2"	18"	1
	PH3CN	4"	18"	1
	PH3DJ	2"	24"	1
	PH3DN	4"	24"	1
	PH3DP	5"	24"	1
	PH3FJ	2"	36"	1
	PH3FL	3"	36"	1
	PH3FN	4"	36"	1
	PH3FP	5"	36"	1
	PH3FR	6"	36"	1
	PH3HN	4"	48"	1
	PH3IN	4"	60"	1
	PH3IP	5"	60"	1
	PH3IR	6"	60"	1
	PH3SJ	2"	150"	1
	PH3SL	3"	150"	1
	PH3SN	4"	150"	1
	PH3SP	5"	150"	1
	PH3SR	6"	150"	1
	PH3VR	6"	300"	1

Note: Elbows 72" and larger may be shipped in segments. Consult factory for specifics.

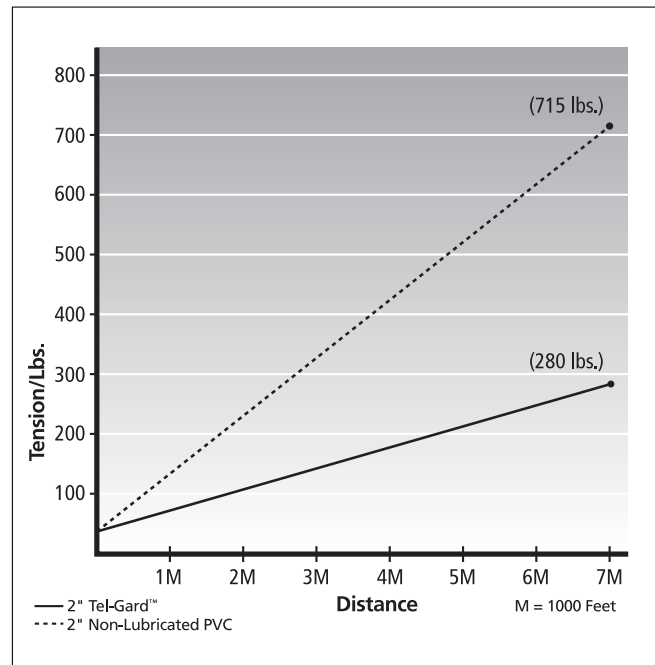
Prime Conduit™ Tel-Gard™ Pre-Lubricated Conduit

Prime Conduit offers factory applied lubricant, field tested and proven. Increase the pulling distance – reduce the cost... and the mess. Designed specifically for copper, coax and fiber optic cabling.

Tel-Gard is pre-lubricated at the factory to ensure a consistent and even coating compared to field applied lubricant.

Features:

- Entire duct run is thoroughly lubricated
- Applied lubricant exceeds Bellcore minimum co-efficient of friction requirements using TR-TSY-000356 test procedure using MDPE FO cable
 - ▲ Non-lubricated .31
 - ▲ Tel-Gard™ Pre-lubricated .068
- Reduce risk of pulling tension damage to cable
- Increase pulling distance between pull points
- Reduce expense of field applying lubricant
- Will not evaporate, enhancing repullability
- Will not stress crack cable
- Compatible with other field applied lubricants if mixed



Calculated using MDPE F/O cable (Wgt.= .11 lbs./ft.)

Tel-Gard™ Prelubricated PVC Conduit

Part No	Description	Nom. Size	Min. I.D.	Max O.D.	Stiffness	Wgt. per 100	Length	Std. Crate Qty.
C-Duct Meets NEMA TC-10								
68515WL-020	Type C Direct Bury White	4"	4.020	4.350	120	145	20'	1260'
68515PL-020	Type C Direct Bury Grey	4"	4.020	4.350	120	145	20'	1260'
High Performance Exceeds NEMA TC-6 & 8								
59810L-020	Type High Performance DB Grey	1 1/2"	1.657	1.900	600	40	20'	3600'
59813L-020	Type High Performance DB Grey	3"	3.136	3.500	310	123	20'	2000'

Tel-Gard™ Prelubricated PVC Bends

Type C – White

Segment	Part No.	Nom. Size	Radius (in.)	Std. Ctn. Qty.
90° Sweep	TW9DNL	4"	24"	1
	TW9FNL	4"	36"	1
	TW9HNL	4"	48"	1
45° Sweep	TW7DNL	4"	24"	1
	TW7FNL	4"	36"	1
30° Sweep	TW6TNL	4"	180"	1
22 1/2° Sweep	TW5DNL	4"	24"	1

DB120 – Grey

Segment	Part No.	Nom. Size	Radius (in.)	Std. Ctn. Qty.
90° Sweep	PH9DJL	2"	24"	1
	PH9FJL	2"	36"	1
	PH9DLL	3"	24"	1
	PH9FNL	4"	36"	1

Physical Properties of P&C® Duct by ASTM Test Methods

Property	ASTM No.	Typical Values	
		P&C® Duct	Telephone Duct
Tensile strength, psi	D638	4,800	4,800
Modulus of elasticity in tension, psi	D638	500,000	500,000
Flexural strength, psi	D790	11,000	11,000
Deflection temp under load at 265 psi deg. C	D648	72°C	72°C
Coefficient of thermal expansion in/in/°F	D696	3.30 x 10 ⁻⁵	3.30 x 10 ⁻⁵
Coefficient of static friction		.20	.20

Collapse Pressure of P&C Duct Materials (PSI)

2" EB-20 – 11.2	5" EB-20 – 5.9
2" EB-35 – 11.2	5" EB-35 – 10.3
2" DB-60 – 11.2	5" DB-60 – 18.9
2" DB-120 – 26.6	5" DB-120 – 38.2
3" EB-20 – 6.6	
3" EB-35 – 8.2	6" EB-20 – 6.1
3" DB-60 – 15.2	6" EB-35 – 11.2
3" DB-120 – 34.0	6" DB-60 – 19.6
4" EB-20 – 6.7	6" DB-120 – 38.0
4" EB-35 – 9.2	
4" DB-60 – 17.0	
4" DB-120 – 36.6	

Collapse Pressure of Telephone Duct Materials (PSI)

Type B Duct –	9.2
Type C Duct –	36.6
Type D Duct –	36.6

Performance Properties of P&C Duct as Indicated per NEMA Standard TC-6 & 8 and ASTM F-512

Pipe Stiffness lb/in/in

Conduit Series	Minimum Pipe Stiffness (F/Δy), all sizes
EB-20	20
EB-35	35
DB-60	60
DB-100	100
DB-120	120

Minimum Impact Resistance at 0°C (32°F) ft • lbf

Nominal Size	Conduit Series				
	EB-20	EB-35	DB-60	DB-100	DB-120
1	–	–	–	–	10
1½	–	–	10	–	15
2	20	20	20	–	25
3	20	30	40	45	50
3½	20	35	50	60	65
4	25	40	60	70	80
5	30	55	85	100	110
6	40	75	120	135	150

Performance Properties of Telephone Duct as Indicated per NEMA Standard TC-10

Pipe Stiffness F/Δy lb/in/in

Nominal Size	B-Duct	HWB	C-Duct	D-Duct
All	30	40	120	120

Minimum Impact Resistance at 32°C

B-Duct ft. lb.	C-Duct ft. lb.	D-Duct ft. lb.
25	50	50

Typical Installation Practices for P&C® Duct Type EB and Telephone Duct Type B

RUS Accepted

Trenching:

Whenever possible the walls of the trench for P&C Duct should act as forms for concrete encasement. The trench should be made no wider than necessary to provide the nominal size concrete thickness.

Duct Spacing:

Duct spacing, both vertical and horizontal, is accomplished with the use of spacers. Recommended interval between spacer assemblies is 8 to 10 feet.

Terminating:

For smooth cable pulling and properly engineered terminations into manholes, Prime Conduit P&C Duct end bells should be used.

Concrete:

The concrete used with P&C Duct should be 3/8" aggregate with a nominal compressive strength of 2,500 lbs. per square inch. The slump should be at the upper end of the range, preferably 7 to 8 inches. It should have just enough slump to flow to the bottom of the formation and yet not be so wet as to cause the ducts to float. In placing concrete around P&C Duct, adjust the delivery chute so the fall of the concrete into the trench is minimal. Use a splash board to divert the flow of concrete away from the trench sides and avoid dislodging soil and stones.



Pressure Grouting:

This technique is used for ducts in a casing or bored construction. Hydraulic pressure exceeding 25 psi is common and thus dictates the use of a P&C Duct Type DB-120 or a Schedule 40® product. (See collapse pressure chart). Hydraulic pressure from grouting is a function of the line pressure at the nozzle and back pressure created by pumping. If the exhaust nozzle isn't withdrawn properly, the back pressure will rapidly build and equal the line pressure. Depending on the type casing and pumping distance, line pressures will go up to 90 psi.

Hydraulic Pressure:

The primary consideration for duct selection is the height of the duct bank. Since concrete exerts a force of 1.03 psi per foot of height, to determine the correct duct selection, consider the following examples:

1. 16 way duct bank, 5" conduit, 4 x 4 configuration with 3" separation, and 3" concrete cover

$$\text{Concrete Height} - 4 \times 5.563" + 4 \times 3 = \\ 22.5 + 12" = 34.2"$$

$$\text{Hydraulic Pressure} - (34.2"/12) \times 1.03 = 2.9 \text{ psi}$$

In this instance the maximum force on the bottom ducts would be 2.9 psi, therefore, 5" EB-20 would be a satisfactory choice.

2. 16 way duct bank, 5" conduit, 8 x 2 configuration with 3" separation, and 3" concrete cover.

$$\text{Concrete Height} - 8 \times 5.563" + 8 \times 3 = \\ 44.5 + 24" = 68.5"$$

$$\text{Hydraulic Pressure} - (68.5"/12) \times 1.03 = 5.9 \text{ psi}$$

In this instance the hydraulic force is equal to the theoretical collapse pressure of 5" EB-20, therefore, the use of 5" EB-35 or DB-60 would be a satisfactory choice.

Another alternative would be to use a sequential pour technique. Pour approximately 1/2 the height, allow the concrete to set-up, and then pour the remaining distance. Using this method, 5" EB-20 would be satisfactory, since the hydraulic pressure has been reduced by 50%.

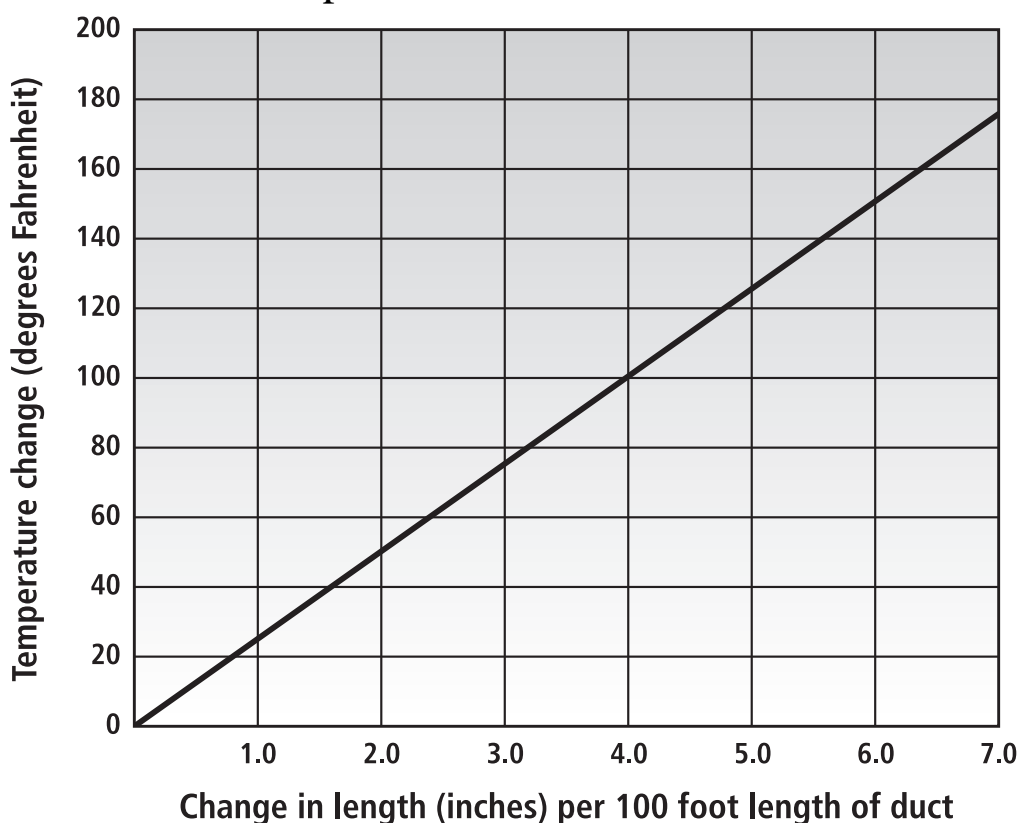
Expansion & Contraction

When duct temperature variations are anticipated during the installation of Prime Conduit P&C[®] Duct and Telephone Duct, allow extra duct footage at each tie-in for contraction. Terminated duct runs should be covered with backfill from tie-in point toward the end of the duct run. If the trench must be left open, don't terminate the run. All plastic duct may expand or contract as concrete is poured and cured. When placing concrete encasement, always encase from one end of the duct

section toward the other end of the section, to allow the free end to move. Never encase from each end of the section toward the center.

The coefficient of thermal expansion of Prime Conduit P&C Duct and Telephone Duct is 3.30×10^{-5} in/in/°F. The following chart indicates what expansion or contraction can be expected at various temperature changes.

Expansion/Contraction Chart



Bridge Crossings and Exposed Applications

Type D Telephone Duct is designated specifically for use in bridge crossings and exposed applications. Using the expansion/contraction chart, calculate the number of expansion fittings required. Expansion fittings provide a 6" allowance for expansion/contraction. Utilize one expansion

fittings for each 100 feet of exposed length for most installations. The duct should be free to move during expansion/contraction; the barrel should be securely clamped and the piston should be aligned properly with the barrel for easy movement.

Canadian DB/2 PVC Conduit

Prime Conduit™ Rigid Type DB/2 PVC Conduit



Prime Conduit™ Type DB/2 PVC Conduit is designed for use in concrete encased or masonry and direct burial applications. Type DB/2 PVC is CSA Certified, tested to CSA Standard C22.2 No. 211.1



Nom. Size	Part Number 10'	Part Number 20'	Approx. Wt. per 100 ft.		Avg. Outside Diameter		Minimum Wall	
			(lbs)	(kg)	(in)	(mm)	(in)	(mm)
2	48811CC-010	48811CC-020	35	15.9	2.25	57.15	0.070	1.78
3	48813CC-010	48813CC-020	58	26.3	3.25	82.55	0.080	2.03
3½	—	48814CC-020	76	34.5	3.73	94.75	0.090	2.29
4	48815CC-010	48815CC-020	100	45.4	4.22	107.08	0.106	2.69
5	48816CC-010	48816CC-020	180	81.6	5.30	134.60	0.150	3.81
6	48817CC-010	48817CC-020	220	99.8	6.27	159.38	0.155	3.94

Physical Properties by ASTM Test Methods

Property	ASTM No.	Typical Values Type DB/2 Conduit
Tensile Strength, psi	D638	4,800
Modulus of Elasticity in tension, psi	D638	500,000
Flexural Strength, psi	D790	11,000
Deflection Temp under load at 265 psi deg. C	D648	72°C
Co-efficient of Thermal Expansion in/in/°F	D696	3.30 x 10 ⁻⁵
Maximum Co-efficient of Static Friction		.20

Performance Properties of Type DB/2 Conduit

as Indicated Under CSA Standard C22.2 No. 211.1

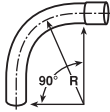
Pipe Stiffness kPA

Conduit Series	Minimum Pipe Stiffness (F/Δy), all sizes
DB/2	200

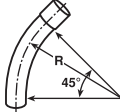
Minimum Impact Resistance (J)

Conduit Series	-18°C	23°C
DB/2	34	61

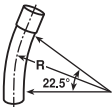


Segment	Part No.	Size	Radius (in)	Std. Ctn. Qty.
90° Sweep 	CPF9DJ	2"	24"	1
	CPF9DL	3"	24"	1
	CPF9DM*	3 1/2"	24"	1
	CPF9DN	4"	24"	1
	CPF9DP*	5"	24"	1
	CPF9FJ	2"	36"	1
	CPF9FL	3"	36"	1
	CPF9FM*	3 1/2"	36"	1
	CPF9FN	4"	36"	1
	CPF9FP*	5"	36"	1
	CPF9FR*	6"	36"	1
	CPF9GJ*	2"	42"	1
	CPF9GL*	3"	42"	1
	CPF9GM*	3 1/2"	42"	1
	CPF9GN*	4"	42"	1
	CPF9GP	5"	42"	1
	CPF9GR*	6"	42"	1
	CPF9IJ	2"	60"	1
	CPF9IL	3"	60"	1
	CPF9IM*	3 1/2"	60"	1
CPF9IN	4"	60"	1	
CPF9IP	5"	60"	1	
CPF9IR	6"	60"	1	

*Non-stock special radius sweeps are available on request – Quote only.

Segment	Part No.	Size	Radius (in)	Std. Ctn. Qty.
45° Sweep 	CPF7DJ	2"	24"	1
	CPF7DL	3"	24"	1
	CPF7DM*	3 1/2"	24"	1
	CPF7DN	4"	24"	1
	CPF7DP*	5"	24"	1
	CPF7FJ	2"	36"	1
	CPF7FL	3"	36"	1
	CPF7FM*	3 1/2"	36"	1
	CPF7FN	4"	36"	1
	CPF7FP*	5"	36"	1
	CPF7FR*	6"	36"	1
	CPF7GJ*	2"	42"	1
	CPF7GL*	3"	42"	1
	CPF7GM*	3 1/2"	42"	1
	CPF7GN*	4"	42"	1
	CPF7GP	5"	42"	1
	CPF7GR*	6"	42"	1
	CPF7IJ*	2"	60"	1
	CPF7IL*	3"	60"	1
	CPF7IM*	3 1/2"	60"	1
CPF7IN	4"	60"	1	
CPF7IP*	5"	60"	1	
CPF7IR	6"	60"	1	

*Non-stock special radius sweeps are available on request – Quote only.

Segment	Part No.	Size	Radius (in)	Std. Ctn. Qty.
22 1/2° Sweep 	CPF5DJ*	2"	24"	1
	CPF5DL*	3"	24"	1
	CPF5DM*	3 1/2"	24"	1
	CPF5DN*	4"	24"	1
	CPF5DP*	5"	24"	1
	CPF5FJ*	2"	36"	1
	CPF5FL*	3"	36"	1
	CPF5FM*	3 1/2"	36"	1
	CPF5FN	4"	36"	1
	CPF5FP*	5"	36"	1
	CPF5GJ*	2"	42"	1
	CPF5GL*	3"	42"	1
	CPF5GM*	3 1/2"	42"	1
	CPF5GN*	4"	42"	1
	CPF5GP	5"	42"	1
	CPF5IJ*	2"	60"	1
	CPF5IL*	3"	60"	1
	CPF5IM*	3 1/2"	60"	1
	CPF5IN*	4"	60"	1
	CPF5IP*	5"	60"	1

*Non-stock special radius sweeps are available on request – Quote only.

Note: Elbows 72" and larger may be shipped in segments.
Consult factory for specifics.