Carlon® High Density Polyethylene (HDPE) Conduit

Telecommunication, Electrical, and Power Utility Solutions:

Smooth Wall

Ribbed Wall

Listed HDPE

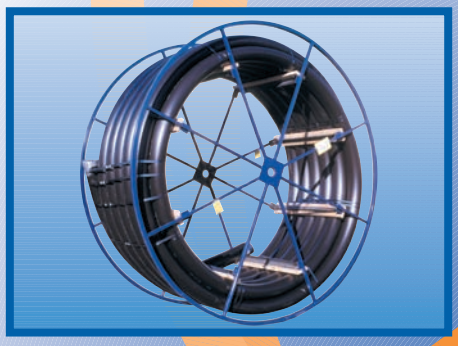
Aerial

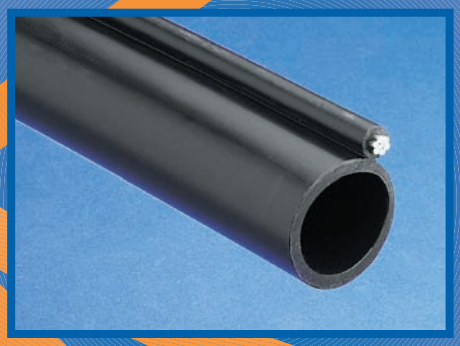
Aerial Figure 8

Corrugated

Toneable

Accessories





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Plastics Pipe Institute (PPI)
www.plasticpipe.org

Carlon® High Density Polyethylene

Carlon® is a leading manufacturer of High Density Polyethylene (HDPE) pipe, duct, and conduit products used to house and protect fiber optic and metal cable in the Telecommunications, CATV, and Electric Power industries. Carlon offers the widest range of products to meet all your application and specification needs. Some of these products include Smoothwall, I.D. Ribbed Wall, Corrugated, Aerial, Figure-8 Aerial and Listed, in a full range of colors and sizes, with or without stripes as well as toneable and pre-lubricated duct. These products along with a full line of installation accessories are specifically designed to increase your productivity and profitability.

Carlon offers you the broadest line of innovative solutions for wire and cable management in the world! Our focus is on customer satisfaction, and providing you with quality products when and where you need them.

Contents

Smoothwall

Applications: Underground (direct bury), or placed inside existing duct (innerduct)

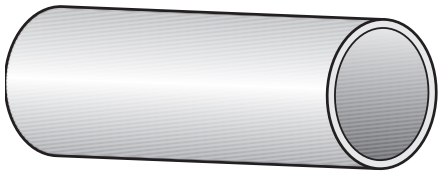
Installation methods: Plowing, open/continuous trench, directional boring or pulled through existing conduits.

Smoothwall HDPE is a nonmetallic flexible raceway manufactured from High Density Polyethylene (HDPE) for use in underground and innerduct applications.

Smoothwall offers superior protection, increases pathways of existing duct systems, allows extra channels for future cabling needs, and is ideal for jetting cable. Available in a wide range of sizes, colors, and options, Carlon HDPE is the only cable management system you need.

Smooth Interior Wall

Smoothwall is ideal for jetting cable



Smoothwall Options

- Sizes 1/2" - 16"
- Multiple colors and stripes
- Factory installed pull lines
- Sequentially marked footage
- Up to four colors of equal lengths paralleled or segmented on one reel
- Pre-lubricated option
- Toneable Duct – copper conductor within the wall of duct. Used to locate buried conduit. (see page 6)

Directional Boring

Open Trench

Reference Plastics Pipe Institute PE Pipe Handbook for installation and engineering recommendations. (www.plasticpipe.org)

Standard Length – Reels and Coils

Size	Color	Part No.	Type	Wall	Pull Tape	Reel Size	Reel Length	Prod. Wt. per 100 ft. (lbs.)
3/4"	Black	A3C9N1ANNG5000	S/S	SDR 13.5	200 lb.	66x48	5000	10.22
	Grey	A3C9N1ENNA5000	S/S	SDR 13.5	Empty	66x48	5000	10.22
	Grey	A3C9N1ENNG5000	S/S	SDR 13.5	200 lb.	66x48	5000	10.22
	Orange	A3C9N1JNNG5000	S/S	SDR 13.5	200 lb.	66x48	5000	10.22
1"	Orange	A5C6N1JNNA5000	S/S	SDR 11	Empty	66x48	5000	19.33
	Orange	A5C6N1JNNB5000	S/S	SDR 11	1130 lb.	66x48	5000	19.33
	Orange	A5C6N1JNNA7000	S/S	SDR 11	Empty	72x48	7000	19.33
	Orange	A5C6N1JNNB7000	S/S	SDR 11	1130 lb.	72x48	7000	19.33
	Black	A5C9N1ANNA7000	S/S	SDR 13.5	Empty	72x48	7000	16.05
	Black	A5C9N1ANNB7000	S/S	SDR 13.5	1130 lb.	72x48	7000	16.05
	Grey	**A5C9N1ENNA7000**	**S/S**	**SDR 13.5**	**Empty**	**72x48**	**7000**	**16.05**
	Grey	A5C9N1ENNC6000	S/S	SDR 13.5	1250 lb.	66x48	6000	16.05
	Grey	A5C9N1ENNB7000	S/S	SDR 13.5	1130 lb.	72x48	7000	16.05
	Orange	A5C9N1JNNB250	S/S	SDR 13.5	1130 lb.	Coil	250	16.05
	Orange	A5C9N1JNNB500	S/S	SDR 13.5	1130 lb.	Coil	500	16.05
	Orange	A5C9N1JNNB2000	S/S	SDR 13.5	1130 lb.	48x48	2000	16.05
	Orange	A5C9N1JNNA2500	S/S	SDR 13.5	Empty	48x48	2500	16.05
	Orange	A5C9N1JNNB2500	S/S	SDR 13.5	1130 lb.	48x48	2500	16.05
	Orange	A5C9N1JNNA5000	S/S	SDR 13.5	Empty	66x48	5000	16.05
	Orange	A5C9N1JNNB5000	S/S	SDR 13.5	1130 lb.	66x48	5000	16.05
	Orange	A5C9N1JNNC6000	S/S	SDR 13.5	1250 lb.	66x48	6000	16.05
	Orange	A5C9N1JNNA7000	S/S	SDR 13.5	Empty	72x48	7000	16.05
	Orange	A5C9N1JNNB7000	S/S	SDR 13.5	1130 lb.	72x48	7000	16.05
1 1/4"	Orange	A6C4N1JNNC2500	S/S	SCH 40	1250 lb.	66x48	2500	28.68
	Black	A6C6N1ANNA2500	S/S	SDR 11	Empty	66x48	2500	30.95
	Black	A6C6N1ANNB2500	S/S	SDR 11	1130 lb.	66x48	2500	30.95
	Black	A6C6N1ANNA5000	S/S	SDR 11	Empty	82x48	5000	30.95
	Black	A6C6N1ANNB5000	S/S	SDR 11	1130 lb.	82x48	5000	30.95
	Black	A6C6N1ANNA8000	S/S	SDR 11	Empty	96x48	8000	30.95
	Black	A6C6N1ANNB8000	S/S	SDR 11	1130 lb.	96x48	8000	30.95
	Grey	A6C6N1ENNA2500	S/S	SDR 11	Empty	66x48	2500	30.95
	Grey	A6C6N1ENNB2500	S/S	SDR 11	1130 lb.	66x48	2500	30.95
	Grey	A6C6N1ENNA5000	S/S	SDR 11	Empty	82x48	5000	30.95
	Grey	A6C6N1ENNB5000	S/S	SDR 11	1130 lb.	82x48	5000	30.95
	Grey	A6C6N1ENNA8000	S/S	SDR 11	Empty	96x48	8000	30.95
	Grey	A6C6N1ENNB8000	S/S	SDR 11	1130 lb.	96x48	8000	30.95
	Orange	A6C6N1JNNA2500	S/S	SDR 11	Empty	66x48	2500	30.95
	Orange	A6C6N1JNNB2500	S/S	SDR 11	1130 lb.	66x48	2500	30.95
	Orange	**A6C6N1JNNA5000**	**S/S**	**SDR 11**	**Empty**	**82x48**	**5000**	**30.95**
	Orange	**A6C6N1JNNB5000**	**S/S**	**SDR 11**	**1130 lb.**	**82x48**	**5000**	**30.95**
	Orange	A6C6N1JNNC5000	S/S	SDR 11	1250 lb.	82x48	5000	30.95
	Orange	**A6C6N1JNNA8000**	**S/S**	**SDR 11**	**Empty**	**96x48**	**8000**	**30.95**
	Orange	A6C6N1JNNB8000	S/S	SDR 11	1130 lb.	96x48	8000	30.95
	Black/Rds	A6C9N1A3KC5000	S/S	SDR 13.5	1250 lb.	82x48	5000	25.68
	Black	A6C9N1ANNA2500	S/S	SDR 13.5	Empty	66x48	2500	25.68
	Black	A6C9N1ANNB2500	S/S	SDR 13.5	1130 lb.	66x48	2500	25.68
	Black	A6C9N1ANNA5000	S/S	SDR 13.5	Empty	82x48	5000	25.68
	Black	A6C9N1ANNB5000	S/S	SDR 13.5	1130 lb.	82x48	5000	25.68
	Black	A6C9N1ANNA8000	S/S	SDR 13.5	Empty	96x48	8000	25.68
	Black	A6C9N1ANNB8000	S/S	SDR 13.5	1130 lb.	96x48	8000	25.68

Standard Length – Reels and Coils

Size	Color	Part No.	Type	Wall	Pull Tape	Reel Size	Reel Length	Prod. Wt. per 100 ft. (lbs.)
1 1/4"	Grey	A6C9N1ENNA2500	S/S	SDR 13.5	Empty	66x48	2500	25.68
	Grey	A6C9N1ENNB2500	S/S	SDR 13.5	1130 lb.	66x48	2500	25.68
	Grey	A6C9N1ENNA5000	S/S	SDR 13.5	Empty	82x48	5000	25.68
	Grey	A6C9N1ENNB5000	S/S	SDR 13.5	1130 lb.	82x48	5000	25.68
	Grey	A6C9N1ENNA8000	S/S	SDR 13.5	Empty	96x48	8000	25.68
	Grey	A6C9N1ENNB8000	S/S	SDR 13.5	1130 lb.	96x48	8000	25.68
	Orange	A6C9N1JNNB250	S/S	SDR 13.5	1130 lb.	Coil	250	25.68
	Orange	A6C9N1JNNB500	S/S	SDR 13.5	1130 lb.	Coil	500	25.68
	Orange	A6C9N1JNNB2000	S/S	SDR 13.5	1130 lb.	66x48	2000	25.68
	Orange	A6C9N1JNNA2500	S/S	SDR 13.5	Empty	66x48	2500	25.68
	Orange	A6C9N1JNNB2500	S/S	SDR 13.5	1130 lb.	66x48	2500	25.68
	Orange	A6C9N1JNNC2500	S/S	SDR 13.5	1250 lb.	66x48	2500	25.68
	Orange	**A6C9N1JNNA5000**	**S/S**	**SDR 13.5**	**Empty**	**82x48**	**5000**	**25.68**
	Orange	**A6C9N1JNNB5000**	**S/S**	**SDR 13.5**	**1130 lb.**	**82x48**	**5000**	**25.68**
	Orange	**A6C9N1JNNC5000**	**S/S**	**SDR 13.5**	**1250 lb.**	**82x48**	**5000**	**25.68**
	Orange	**A6C9N1JNNA8000**	**S/S**	**SDR 13.5**	**Empty**	**96x48**	**8000**	**25.68**
	Orange	A6C9N1JNNB8000	S/S	SDR 13.5	1130 lb.	96x48	8000	25.68
1 1/2"	Orange	A9C4N1JNNC2500	S/S	SCH 40	1250 lb.	96x48	2500	34.29
	Blk/3Rds	A9C6N1A3KA6000	S/S	SDR 11	Empty	96x48	6000	40.59
	Black	A9C6N1ANNA2500	S/S	SDR 11	Empty	66x48	2500	40.59
	Black	A9C6N1ANNB2500	S/S	SDR 11	1130 lb.	66x48	2500	40.59
	Black	A9C6N1ANNA5000	S/S	SDR 11	Empty	96x48	5000	40.59
	Black	A9C6N1ANNB5000	S/S	SDR 11	1130 lb.	96x48	5000	40.59
	Grey	A9C6N1ENNA2500	S/S	SDR 11	Empty	66x48	2500	40.59
	Grey	A9C6N1ENNB2500	S/S	SDR 11	1130 lb.	66x48	2500	40.59
	Grey	A9C6N1ENNA5000	S/S	SDR 11	Empty	96x48	5000	40.59
	Grey	A9C6N1ENNB5000	S/S	SDR 11	1130 lb.	96x48	5000	40.59
	Orange	A9C6N1JNNA2500	S/S	SDR 11	Empty	66x48	2500	40.59
	Orange	A9C6N1JNNB2500	S/S	SDR 11	1130 lb.	66x48	2500	40.59
	Orange	A9C6N1JNNA5000	S/S	SDR 11	Empty	96x48	5000	40.59
	Orange	A9C6N1JNNB5000	S/S	SDR 11	1130 lb.	96x48	5000	40.59
	Blk/3Rds	A9C9N1A3KC4600	S/S	SDR 13.5	1250 lb.	96x48	4600	33.42
	Black	A9C9N1ANNA2500	S/S	SDR 13.5	Empty	66x48	2500	33.42
	Black	A9C9N1ANNB2500	S/S	SDR 13.5	1130 lb.	66x48	2500	33.42
	Black	A9C9N1ANNA5000	S/S	SDR 13.5	Empty	96x48	5000	33.42
	Black	A9C9N1ANNB5000	S/S	SDR 13.5	1130 lb.	96x48	5000	33.42
	Grey	A9C9N1ENNA2500	S/S	SDR 13.5	Empty	66x48	2500	33.42
	Grey	A9C9N1ENNB2500	S/S	SDR 13.5	1130 lb.	66x48	2500	33.42
	Grey	A9C9N1ENNA5000	S/S	SDR 13.5	Empty	96x48	5000	33.42
	Grey	A9C9N1ENNB5000	S/S	SDR 13.5	1130 lb.	96x48	5000	33.42
	Orange	**A9C9N1JNNB2000**	**S/S**	**SDR 13.5**	**1130 lb.**	**66x48**	**2000**	**33.42**
	Orange	A9C9N1JNNA2500	S/S	SDR 13.5	Empty	66x48	2500	33.42
	Orange	A9C9N1JNNB2500	S/S	SDR 13.5	1130 lb.	66x48	2500	33.42
	Orange	A9C9N1JNNB4000	S/S	SDR 13.5	1130 lb.	82x48	4000	33.42
	Orange	A9C9N1JNNC4600	S/S	SDR 13.5	1250 lb.	96x48	4600	33.42
	Orange	A9C9N1JNNA5000	S/S	SDR 13.5	Empty	96x48	5000	33.42
	Orange	A9C9N1JNNB5000	S/S	SDR 13.5	1130 lb.	96x48	5000	33.42

Solidwall High Density Polyethylene (HDPE) Conduit

Standard Length – Reels and Coils

Size	Color	Part No.	Type	Wall	Pull Tape	Reel Size	Reel Length	Prod. Wt. per 100 ft. (lbs.)
2"	Orange	A13C4N1JNNC2500	S/S	SCH 40	1250 lb.	82x48	2500	46.09
	T Cotta	A13C5N1LNNC2500	S/S	SCH 80	1250 lb.	82x48	2500	63.37
	Black	A13C6N1ANNA2500	S/S	SDR 11	Empty	82x48	2500	63.36
	Black	A13C6N1ANNB2500	S/S	SDR 11	1130 lb.	82x48	2500	63.36
	Black	**A13C6N1ANNA4000**	**S/S**	**SDR 11**	**Empty**	**96x48**	**4000**	**63.36**
	Black	A13C6N1ANNB4000	S/S	SDR 11	1130 lb.	96x48	4000	63.36
	Grey	A13C6N1ENNA2500	S/S	SDR 11	Empty	82x48	2500	63.36
	Grey	A13C6N1ENNB2500	S/S	SDR 11	1130 lb.	82x48	2500	63.36
	Grey	A13C6N1ENNA3000	S/S	SDR 11	Empty	96x48	3000	63.36
	Grey	A13C6N1ENNB3000	S/S	SDR 11	1130 lb.	96x48	3000	63.36
	Grey	**A13C6N1ENNA4000**	**S/S**	**SDR 11**	**Empty**	**96x48**	**4000**	**63.36**
	Grey	A13C6N1ENNB4000	S/S	SDR 11	1130 lb.	96x48	4000	63.36
	Orange	A13C6N1JNNA2500	S/S	SDR 11	Empty	82x48	2500	63.36
	Orange	A13C6N1JNNB2500	S/S	SDR 11	1130 lb.	82x48	2500	63.36
	Orange	A13C6N1JNNC2500	S/S	SDR 11	1250 lb.	82x48	2500	63.36
	Orange	**A13C6N1JNNA4000**	**S/S**	**SDR 11**	**Empty**	**96x48**	**4000**	**63.36**
	Orange	**A13C6N1JNNB4000**	**S/S**	**SDR 11**	**1130 lb.**	**96x48**	**4000**	**63.36**
	Blk/3Rds	A13C9N1A3KA2500	S/S	SDR 13.5	Empty	82x48	2500	52.16
	Blk/3Rds	A13C9N1A3KB2500	S/S	SDR 13.5	1130 lb.	82x48	2500	52.16
	Black	A13C9N1ANNA2500	S/S	SDR 13.5	Empty	82x48	2500	52.16
	Black	A13C9N1ANNB2500	S/S	SDR 13.5	1130 lb.	82x48	2500	52.16
	Black	A13C9N1ANNC2500	S/S	SDR 13.5	1250 lb.	82x48	2500	52.16
	Black	A13C9N1ANNA4000	S/S	SDR 13.5	Empty	96x48	4000	52.16
	Black	A13C9N1ANNB4000	S/S	SDR 13.5	1130 lb.	96x48	4000	52.16
	Grey	**A13C9N1ENNA4000**	**S/S**	**SDR 13.5**	**Empty**	**96x48**	**4000**	**52.16**
	Grey	A13C9N1ENNB4000	S/S	SDR 13.5	1130 lb.	96x48	4000	52.16
	Orange	**A13C9N1JNNB1000**	**S/S**	**SDR 13.5**	**1130 lb.**	**66x48**	**1000**	**52.16**
	Orange	A13C9N1JNNA2500	S/S	SDR 13.5	Empty	82x48	2500	52.16
	Orange	A13C9N1JNNB2500	S/S	SDR 13.5	1130 lb.	82x48	2500	52.16
	Orange	**A13C9N1JNNC2500**	**S/S**	**SDR 13.5**	**1250 lb.**	**82x48**	**2500**	**52.16**
	Orange	**A13C9N1JNNB3000**	**S/S**	**SDR 13.5**	**1130 lb.**	**84x48**	**3000**	**52.16**
	Orange	**A13C9N1JNNA4000**	**S/S**	**SDR 13.5**	**Empty**	**96x48**	**4000**	**52.16**
	Orange	A13C9N1JNNB4000	S/S	SDR 13.5	1130 lb.	96x48	4000	52.16
	Red	A13C9N1KNNC2500	S/S	SDR 13.5	1250 lb.	82x48	2500	52.16
2 1/2"	Black	A14C9N1ANNA2500	S/S	SDR 13.5	Empty	96x48	2500	76.41
	Grey	A14C9N1ENNA2500	S/S	SDR 13.5	Empty	96x48	2500	76.41

Standard Length – Reels and Coils

Size	Color	Part No.	Type	Wall	Pull Tape	Reel Size	Reel Length	Prod. Wt. per 100 ft. (lbs.)
3"	Black	A15C6N1ANNA1000	S/S	SDR 11	Empty	96x48	1000	136.36
	Black	A15C6N1ANNB1000	S/S	SDR 11	1130 lb.	96x48	1000	136.36
	Grey	A15C6N1ENNA1000	S/S	SDR 11	Empty	96x48	1000	136.36
	Grey	A15C6N1ENNB1000	S/S	SDR 11	1130 lb.	96x48	1000	136.36
	Orange	A15C6N1JNNA1000	S/S	SDR 11	Empty	96x48	1000	136.36
	Orange	A15C6N1JNNB1000	S/S	SDR 11	1130 lb.	96x48	1000	136.36
	Orange	A15C6N1JNNC1000	S/S	SDR 11	1250 lb.	96x48	1000	136.36
	Blk/Rds	A15C9N1A3KA1000	S/S	SDR 13.5	Empty	96x48	1000	113.12
	Black	**A15C9N1ANNA1000**	**S/S**	**SDR 13.5**	**Empty**	**96x48**	**1000**	**113.12**
	Black	**A15C9N1ANNB1000**	**S/S**	**SDR 13.5**	**1130 lb.**	**96x48**	**1000**	**113.12**
	Grey	**A15C9N1ENNA1000**	**S/S**	**SDR 13.5**	**Empty**	**96x48**	**1000**	**113.12**
	Grey	A15C9N1ENNB1000	S/S	SDR 13.5	1130 lb.	96x48	1000	113.12
	Orange	**A15C9N1JNNA1000**	**S/S**	**SDR 13.5**	**Empty**	**96x48**	**1000**	**113.12**
	Orange	**A15C9N1JNNB1000**	**S/S**	**SDR 13.5**	**1130 lb.**	**96x48**	**1000**	**113.12**
	Orange	A15C9N1JNNC1000	S/S	SDR 13.5	1250 lb.	96x48	1000	113.12
4"	Blk/3Rds	A16B9N1A3KA766	RIB	SDR 13.5	Empty	96x48	766	186.99
	Orange	A16C26N1JNNA700	S/S	SDR 11.5	Empty	102x48	700	206.40
	Orange	A16C26N1JNNB700	S/S	SDR 11.5	1130 lb.	102x48	700	206.40
	Orange	A16C26N1JNNC700	S/S	SDR 11.5	1250 lb.	102x48	700	206.40
	Black	A16C6N1ANNA550	S/S	SDR 11	Empty	96x48	550	225.48
	Black	A16C6N1ANNB550	S/S	SDR 11	1130 lb.	96x48	550	225.48
	Black	**A16C6N1ANNA766**	**S/S**	**SDR 11**	**Empty**	**102x48**	**766**	**225.48**
	Black	A16C6N1ANNB766	S/S	SDR 11	1130 lb.	102x48	766	225.48
	Black	A16C6N1ANNA1000	S/S	SDR 11	Empty	114x48	1000	225.48
	Grey	A16C6N1ANNB1000	S/S	SDR 11	1130 lb.	114x48	1000	225.48
	Grey	A16C6N1ENNB550	S/S	SDR 11	1130 lb.	96x48	550	225.48
	Grey	A16C6N1ENNA766	S/S	SDR 11	Empty	102x48	766	225.48
	Grey	A16C6N1ENNB766	S/S	SDR 11	1130 lb.	102x48	766	225.48
	Grey	A16C6N1ENNA1000	S/S	SDR 11	Empty	114x48	1000	225.48
	Orange	A16C6N1ENNB1000	S/S	SDR 11	1130 lb.	114x48	1000	225.48
	Orange	A16C6N1JNNA550	S/S	SDR 11	Empty	96x48	550	225.48
	Orange	A16C6N1JNNB550	S/S	SDR 11	1130 lb.	96x48	550	225.48
	Orange	A16C6N1JNNC550	S/S	SDR 11	1250 lb.	96x48	550	225.48
	Orange	**A16C6N1JNNA766**	**S/S**	**SDR 11**	**Empty**	**102x48**	**766**	**225.48**
	Orange	A16C6N1JNNB766	S/S	SDR 11	1130 lb.	102x48	766	225.48
	Orange	A16C6N1JNNA1000	S/S	SDR 11	Empty	114x48	1000	225.48
	Orange	A16C6N1JNNB1000	S/S	SDR 11	1130 lb.	114x48	1000	225.48
	Blk/3 Rds	A16C9N1A3KA766	S/S	SDR 13.5	Empty	102x48	766	186.99
	Black	**A16C9N1ANNA550**	**S/S**	**SDR 13.5**	**Empty**	**96x48**	**550**	**186.99**
	Black	A16C9N1ANNB550	S/S	SDR 13.5	1130 lb.	96x48	550	186.99
	Black	A16C9N1ANNC550	S/S	SDR 13.5	1130 lb.	96x48	500	186.99
	Black	**A16C9N1ANNA766**	**S/S**	**SDR 13.5**	**Empty**	**102x48**	**766**	**186.99**

Solidwall High Density Polyethylene (HDPE) Conduit

Standard Length – Reels and Coils

Size	Color	Part No.	Type	Wall	Pull Tape	Reel Size	Reel Length	Prod. Wt. per 100 ft. (lbs.)
4"	Black	A16C9N1ANNB766	S/S	SDR 13.5	1130 lb.	102x48	766	186.99
	Black	A16C9N1ANNA1000	S/S	SDR 13.5	Empty	114x48	1000	186.99
	Black	A16C9N1ANNB1000	S/S	SDR 13.5	1130 lb.	114x48	1000	186.99
	Grey	**A16C9N1ENNA550**	**S/S**	**SDR 13.5**	**Empty**	**96x48**	**550**	**186.99**
	Grey	A16C9N1ENNB550	S/S	SDR 13.5	1130 lb.	96x48	550	186.99
	Grey	**A16C9N1ENNA766**	**S/S**	**SDR 13.5**	**Empty**	**102x48**	**766**	**186.99**
	Grey	A16C9N1ENNB766	S/S	SDR 13.5	1130 lb.	102x48	766	186.99
	Grey	**A16C9N1ENNA1000**	**S/S**	**SDR 13.5**	**Empty**	**114x48**	**1000**	**186.99**
	Grey	A16C9N1ENNB1000	S/S	SDR 13.5	1130 lb.	114x48	1000	186.99
	Orange	**A16C9N1JNNA550**	**S/S**	**SDR 13.5**	**Empty**	**96x48**	**550**	**186.99**
	Orange	A16C9N1JNNB550	S/S	SDR 13.5	1130 lb.	96x48	550	186.99
	Orange	A16C9N1JNNC550	S/S	SDR 13.5	1250 lb.	96x48	550	186.99
	Orange	**A16C9N1JNNA766**	**S/S**	**SDR 13.5**	**Empty**	**102x48**	**766**	**186.99**
	Orange	**A16C9N1JNNB766**	**S/S**	**SDR 13.5**	**1130 lb.**	**102x48**	**766**	**186.99**
	Orange	**A16C9N1JNNA1000**	**S/S**	**SDR 13.5**	**Empty**	**114x48**	**1000**	**186.99**
	Orange	A16C9N1JNNB1000	S/S	SDR 13.5	1130 lb.	114x48	1000	186.99
	Red	A16C9N1KNNC550	S/S	SDR 13.5	1250 lb.	96x48	550	186.99
4 3/4"	Black	A17C9N1ANNA700	S/S	SDR 13.5	Empty	102x48	700	198.21
	Grey	**A17C9N1ENNA700**	**S/S**	**SDR 13.5**	**Empty**	**102x48**	**700**	**198.21**
	Orange	A17C9N1JNNA700	S/S	SDR 13.5	Empty	102x48	700	198.21

Standard Length – Reels and Coils

Size	Color	Part No.	Type	Wall	Pull Tape	Reel Size	Reel Length	Prod. Wt. per 100 ft. (lbs.)
5"	Blk/3Rds	A18B9N1A3KA480	RIB	SDR 13.5	Empty	114x48	480	285.93
	Black	A18C6N1ANNA480	S/S	SDR 11	Empty	114x48	480	344.76
	Grey	A18C6N1ENNA480	S/S	SDR 11	Empty	114x48	480	344.76
	Orange	A18C6N1JNNA480	S/S	SDR 11	Empty	114x48	480	344.76
	Blk/Rds	A18C9N1A3KA480	S/S	SDR 13.5	Empty	114x48	480	285.93
	Black	**A18C9N1ANNA480**	**S/S**	**SDR 13.5**	**Empty**	**114x48**	**480**	**285.93**
	Grey	A18C9N1ENNA480	S/S	SDR 13.5	Empty	114x48	480	285.93
	Orange	A18C9N1JNNA480	S/S	SDR 13.5	Empty	114x48	480	285.93
6"	**Blk/6Rds**	**A22B9N1A3KA450**	**RIB**	**SDR 13.5**	**Empty**	**120x48**	**450**	**405.87**
	Black	**A22C6N1ANNA450**	**S/S**	**SDR 11**	**Empty**	**120x48**	**450**	**488.62**
	Grey	**A22C6N1ENNA450**	**S/S**	**SDR 11**	**Empty**	**120x48**	**450**	**488.62**
	Orange	A22C6N1JNNA450	S/S	SDR 11	Empty	120x48	450	488.62
	Red	**A22C9D1KNNB450**	**S/S**	**SDR 13.5 Lube**	**1130 lb.**	**120x48**	**450**	**405.87**
	Blk/Rds	**A22C9N1A3KA450**	**S/S**	**SDR 13.5**	**Empty**	**120x48**	**450**	**405.87**
	Black	**A22C9N1ANNA450**	**S/S**	**SDR 13.5**	**Empty**	**120x48**	**450**	**405.87**
	Grey	A22C9N1ENNA450	S/S	SDR 13.5	Empty	120x48	450	405.87
	Orange	A22C9N1JNNA450	S/S	SDR 13.5	Empty	120x48	450	405.87

Custom Orders

* Custom Orders are not returnable
* Custom lengths are available in minimum order quantities specified on page 25

How to Build a Part Number:

Product	Size	Type	Wall	Options	Splits	Color	Stripes	Tape	Length
A = HDPE	2 = 1/2" 3 = 3/4" 5 = 1" 6 = 1-1/4" 9 = 1-1/2" 13 = 2" 14 = 2-1/2" 15 = 3" 16 = 4" 17 = 4.75" 18 = 5" 22 = 6" 23 = 7" 24 = 8" 25 = 10" 26 = 12" 27 = 14" 28 = 16"	C = Smooth/Smooth	4 = SCH 40 5 = SCH 80 6 = SDR 11 9 = SDR 13.5 13 = SDR 15.5 14 = SDR 17 16 = SDR 21 22 = SDR 7 24 = SDR 9 26 = SIDR 11.5 27 = SIDR 11.5 True 29 = SIDR 15 34 = SIDR 7 36 = SIDR 9 37 = SIDR 9 True 42 = TC-7A 45 = True 11 46 = True 9	N = None D = Lube Duct	1 = 1 Way Single 2 = 2 Way Segmented 3 = 3 Way Segmented 4 = 4 Way Segmented 5 = 2 Way Parallel 6 = 3 Way Parallel 7 = 4 Way Parallel 12 = 2 Way Compart 13 = 3 Way Compart 14 = 4 Way Compart	A = Black B = Blue C = Brown D = Buff E = Grey F = Green G = Lilac H = Lt. Green J = Orange K = Red L = Terra Cotta M = White N = Yellow	NN = None 3A = Black Stripes 3B = Blue Stripes 3C = Brown Stripes 3D = Buff Stripes 3E = Grey Stripes 3F = Green Stripes 3G = Lilac Stripes 3H = Lt. Green Stripes 3J = Orange Stripes 3K = Red Stripes 3L = Terra Cotta Stripes 3M = White Stripes 3N = Yellow Stripes	A = Empty B = 1130 lbs. Polyester Tape C = 1250 lbs. Polyester Tape D = 1500 lbs. Polyester Tape E = 1800 lbs. Polyester Tape G = 200 lbs. Polyester Tape J = 2500 lbs. Polyester Tape K = 400 lbs. Detect. Polyester Tape T = 1250 lbs. Poly Metric Tape V = 1250 lbs. Detectable 22G Poly Tape	1500 (Equals 1500 Feet)

ID Ribbed Wall

ID Ribbed Wall HDPE is a non-metallic flexible raceway manufactured from High Density Polyethylene (HDPE) for use in underground and innerduct applications.

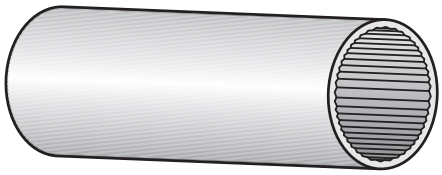
Ribbed Wall offers superior protection, increases pathways of existing duct systems, allowing extra channels for future cabling needs. Available in a wide range of sizes, colors, and options, Carlon HDPE is the only cable management system you need.

Applications: Underground (direct bury), or placed inside existing duct (innerduct)

Installation methods: Plowing, open/continuous trench, directional boring or pulled through existing conduits.

ID Ribbed Interior Wall

Ribbed Wall is ideal for pulling or jetting cable. Interior ribs reduce surface contact with cable during installation.



Ribbed Wall Options

- Sizes 1/2" - 6"
- Multiple colors and stripes
- Factory installed pull lines
- Sequentially marked footage
- Up to four colors of equal lengths paralleled or segmented on one reel
- Pre-lubricated
- Toneable Duct – copper conductor within the wall of duct. Used to locate buried conduit. (see page 6)

Directional Boring

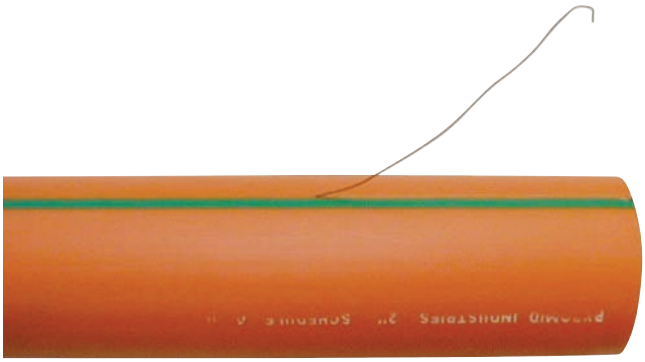
Open Trench

Custom Orders

* Custom Orders are not returnable
* Custom lengths are available in minimum order quantities specified on page 25

How to Build a Part Number:

Product	Size	Type	Wall	Options	Splits	Color	Stripes	Tape	Length
A = HDPE	2 = 1/2" 3 = 3/4" 5 = 1" 6 = 1-1/4" 9 = 1-1/2" 13 = 2" 14 = 2-1/2" 15 = 3" 16 = 4" 17 = 4.75" 18 = 5" 22 = 6"	B = Smooth Out/ Ribbed In	4 = SCH 40 5 = SCH 80 6 = SDR 11 9 = SDR 13.5 13 = SDR 15.5 14 = SDR 17 16 = SDR 21 22 = SDR 7 24 = SDR 9 26 = SIDR 11.5 27 = SIDR 11.5 True 29 = SIDR 15 34 = SIDR 7 36 = SIDR 9 37 = SIDR 9 True 42 = TC-7A 45 = True 11 46 = True 9	N = None D = Lube Duct	1 = 1 Way Single 2 = 2 Way Segmented 3 = 3 Way Segmented 4 = 4 Way Segmented 5 = 2 Way Parallel 6 = 3 Way Parallel 7 = 4 Way Parallel 12 = 2 Way Compart 13 = 3 Way Compart 14 = 4 Way Compart	A = Black B = Blue C = Brown D = Buff E = Grey F = Green G = Lilac H = Lt. Green J = Orange K = Red L = Terra Cotta M = White N = Yellow	NN = None 3A = Black Stripes 3B = Blue Stripes 3C = Brown Stripes 3D = Buff Stripes 3E = Grey Stripes 3F = Green Stripes 3G = Lilac Stripes 3H = Lt. Green Stripes 3J = Orange Stripes 3K = Red Stripes 3L = Terra Cotta Stripes 3M = White Stripes 3N = Yellow Stripes	A = Empty B = 1130 lbs. Polyester Tape C = 1250 lbs. Polyester Tape D = 1500 lbs. Polyester Tape E = 1800 lbs. Polyester Tape G = 200 lbs. Polyester Tape J = 2500 lbs. Polyester Tape K = 400 lbs. Detect. Polyester Tape T = 1250 lbs. Poly Metric Tape V = 1250 lbs. Detectable 22G Poly Tape	1500 (Equals 1500 Feet)



Application: Underground (direct bury)

Installation methods: Plowing, directional boring, or open/continuous trench.

Toneable HDPE Duct

Toneable HDPE Duct incorporates a patented design using bare solid copper conductor wire within the duct wall underneath a LDPE or HDPE stripe providing easy access to the conductor wire for grounding and coupling applications.

Allows detectability and toning isolation of empty duct structures as well as ducts with dielectric fiber installations using conventional transmission, receiving, and locating equipment.

Standard metal and nonmetallic coupling methods allow conduit detectability and non-metallic toneable pressure couplings allow detection/toning isolation of conduit.

Complete system of conduit and couplings provides the solution to finding buried occupied or non-occupied conduits.

Toneable Options

- Industry standard conduit sizes 1"– 4"
- Solid bare copper tone wire
- Use conventional locating devices
- Tone wire easily accessible for coupling and grounding
- Standard/compression couplings available (page 19)
- Allows isolation tone and/or detection
- Suitable for direct bury, bore, trench applications
- Single color stripe option

Directional Boring

Open Trench

Reference Plastics Pipe Institute PE Pipe Handbook for installation and engineering recommendations. (www.plasticpipe.org)

Specifications

Conductor Data

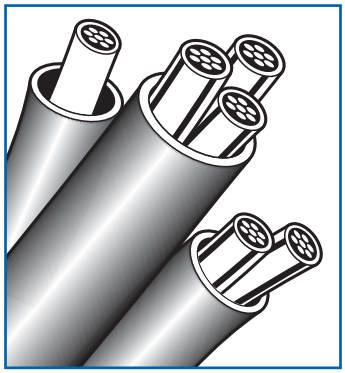
AWG	# 18 Solid Bare Copper	#22 Solid Bare Copper
Resistivity	6.39 OHMS per 1,000 ft.	16.2 OHMS per 1,000 ft.
Elongation	10% min.	32% min.
Minimum Wall Thickness	.12 inches	.14 inches

Custom Orders

* Custom Orders are not returnable
* Custom reel lengths are available in minimum order quantities of 25,000 ft. or min. set up charge

How to Build a Part Number:

Product	Size	Type	Wall	Options	Splits	Color	Stripes	Tape	Length
A = HDPE	2 = 1/2" 3 = 3/4" 5 = 1" 6 = 1-1/4" 9 = 1-1/2" 13 = 2" 14 = 2-1/2" 15 = 3" 16 = 4"	B = Smooth Out/ Ribbed In C = Smooth/Smooth	4 = SCH 40 5 = SCH 80 6 = SDR 11 9 = SDR 13.5	J = Toneable/ 18G 1 1/2" – 2" G = Toneable/ 22G 1" – 1 1/4"	1 = 1 Way Single 2 = 2 Way Segmented 3 = 3 Way Segmented 4 = 4 Way Segmented 5 = 2 Way Parallel 6 = 3 Way Parallel 7 = 4 Way Parallel 12 = 2 Way Compart 13 = 3 Way Compart 14 = 4 Way Compart	A = Black B = Blue C = Brown D = Buff E = Grey F = Green G = Lilac H = Lt. Green J = Orange K = Red L = Terra Cotta M = White N = Yellow	NN = None 1A = Black Stripe 1B = Blue Stripe 1C = Brown Stripe 1D = Buff Stripe 1E = Grey Stripe 1F = Green Stripe 1G = Lilac Stripe 1H = Lt. Green Stripe 1J = Orange Stripe 1K = Red Stripe 1L = Terra Cotta Stripe 1M = White Stripe 1N = Yellow Stripe	A = Empty B = 1130 lbs. Polyester Tape C = 1250 lbs. Polyester Tape D = 1500 lbs. Polyester Tape E = 1800 lbs. Polyester Tape G = 200 lbs. Polyester Tape J = 2500 lbs. Polyester Tape T = 1250 lbs. Poly Metric Tape	1500 (Equals 1500 Feet)



HDPE Cable-In-Conduit - Cable Television Market

Features

- Cables pre-installed in HDPE – eliminating the need to pull cables
- Standard wall thicknesses* of Schedule 40, SDR 11 & SDR 13.5
- Available in sizes* 1/2" – 2"
- Sequential footage markings
- Pre-lubricated during assembly process

** Note: Other wall thickness & sizes are available upon request. Contact your Carlon® representative*

Specifications

1.0 General

- Carlon® HDPE Cable-in-Conduit is manufactured to the following various industry standards and specifications for dimensional requirements.
  - **ASTM F 2160** - Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD).
  - **ASTM D 3485 -** Standard specification for Smoothwall Coil-able Polyethylene (PE) Conduit (duct) for preassembled wire and cable.
  - **ASTM D 3035** - Polyethylene (PE) Plastic Pipe (SDR) Based on Controlled Outside Diameter.

2.0 Material

- Carlon duct is manufactured from a suitable thermoplastic polymer conforming to the minimum standard of PE334470E/C as defined in ASTM D3350. (See Table 1)
- Carlon® High Density Polyethylene duct is manufactured in the following configuration:
  - **Smoothwall** – Smooth Interior and Smooth Exterior wall.

3.0 Product Description

- Polyethylene duct extruded as coil-able tubing for use as a single or multiple raceway assembly.
- The conduit assembly may be direct buried, encased in concrete and used as innerducts.

Table 1 – Resin Properties

The resin properties shall meet or exceed the values listed below for HDPE.

ASTM Test	Description	Values HDPE
D-1505	Density g/CM^3	.941 - .955
D-1238	Melt Index, g/10 min Condition E	.05 - .50
D-790	Flexural Modulus, MPa (PSI)	80,000 min.
D-638	Tensile Strength at yield (psi)	3000 min.
D-1693	Environmental Stress Crack Resistance Condition B,F_{10}	96 hrs. min.
D-746	Brittleness Temperature	-75°C

4.0 Lengths

- Available in standard lengths of 1000ft & 2500ft..
  - Custom Lengths are available in minimum order quantity of 5000ft.

5.0 Available Cables*

- **6 Series Drop Coaxial Cable with Copper-Clad Steel Center Conductor, Aluminum Braid & Polyethylene Jacket**
  - Options:
    - 60% / 40% Quad-Shield Coverage, Flooded Underground, Black Jacket
    - 60% Braid Coverage, Flooded Underground, Black Jacket
    - 60% / 40% Quad-Shield Coverage, Flooded Underground, Black Jacket, Vertical Tray Medium Power Underground
    - 77% Tri-Shield Coverage, Flooded Underground, Black Jacket
    - 77% Tri-Shield Coverage, Flooded Underground, Black Jacket, NEC830 Underground Low Power
    - 77% Tri-Shield Coverage, Flooded Underground, Black Jacket, Vertical Tray medium power underground
    - 77% Tri-Shield Coverage, Flooded Underground, Colored Jacket

- **11 Series Drop Coaxial Cable with Copper-Clad Steel Center Conductor, Aluminum Braid & Polyethylene Jacket**
  - Options:
    - 60% / 40% Quad-Shield Coverage, Flooded Underground, Black Jacket
    - 60% / 40% Quad-Shield Coverage, Flooded Underground, Black Jacket, Vertical Tray Medium Power Underground
    - 77% Tri-Shield Coverage, Flooded Underground, Colored Jacket
    - 77% Tri-Shield Coverage, Flooded Underground, Black Jacket, Vertical Tray Medium Power Underground

- **500 Series Semi-flex Coaxial Cable with Copper-Clad Aluminum Center Conductor & Polyethylene Jacket**
  - Options:
    - Flooded Underground

- **625 Series Semi-flex Coaxial Cable with Copper-Clad Aluminum Center Conductor & Polyethylene Jacket**
  - Options:
    - Flooded Underground
    - Flooded Underground, Tracer Coded

- **750 Series Semi-flex Coaxial Cable with Copper-Clad Aluminum Center Conductor & Polyethylene Jacket**
  - Options:
    - Flooded Underground

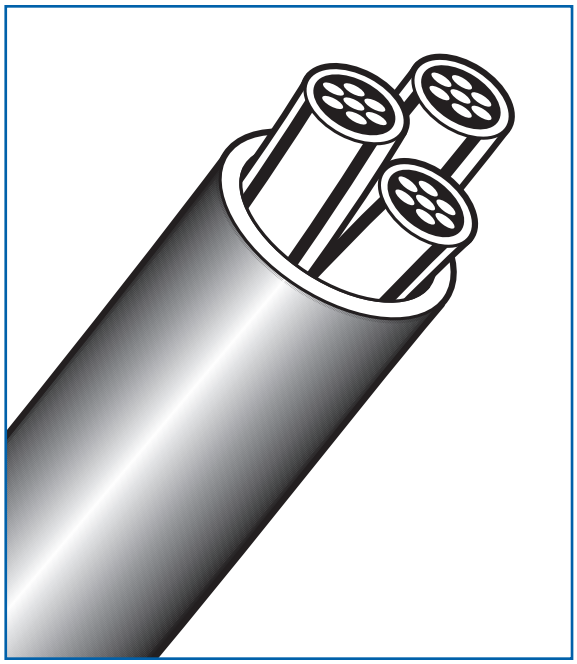
- **875 Series Semi-flex Coaxial Cable with Copper-Clad Aluminum Center Conductor & Polyethylene Jacket**
  - Options:
    - Flooded Underground
    - Flooded Underground, Color Coded

*Note: Other Coaxial Cables configurations, colors, lengths and sizes are available. Please contact your Carlon® Representative with requested color, size, length and/or Cable type** for further information*

*** Carlon® Representative will need cable description, type, jacket, conductor, etc. upon request.*

Carlon® Micro-Gard® Mini-Duct HDPE Conduit

RUS Listed



Micro-Gard® Mini-Duct HDPE Conduit is designed for the installation and protection of micro-cables. It provides a channel for the micro-cables to be installed into empty or occupied duct structures using jetting, blowing or pulling installation methods. Because smaller duct sizes create a more strenuous installation environment and therefore require higher product performance characteristics, Micro-Gard is manufactured using P3408 pressure resin rated at 3300 PSI to resist the relatively higher air pressures and pulling tensions place on these smaller ducts.

Features

- Manufactured from P3408 pressure resin rated at 3300 PSI.
- Sizes: 10 mm, 12 mm, and 16 mm
- Low sliding friction to aid in the pulling and jetting of Micro-Gard and micro-cables
- High tensile strength material for longer pulling distances
- Variety of colors/ stripes for identification - paralleling available
- Sequential marked footage
- Pre-installed pull line available (10 mm and larger)
- UV-formulated material for outside storage
- Complete line of fittings and accessories

Specifications

Resin properties shall meet or exceed the values listed below for high density polyethylene (HDPE):

Description	ASTM Test method	Typical Values	
		HDPE English Units	SI Units
Density	D4883	–	0.944 g/cc
Melt Index	D1238	–	12.5 g/10 min.
Flexural Modulus	D790	120,000 psi	827 Mpa
Tensile Strength at yield (2 in/min)	D638	3300 psi	22.8 Mpa
Tensile Strength at break (2 in/min)	D638	4500 psi	31.0 Mpa
Environmental Stress Crack Resistance (Condition C)	D1693	>2000 hrs	>2000 hrs
Brittleness Temperature	D746	<-180° F	<-118° C

Mini-Duct Dimensions

Nominal Size O.D. x I.D.		Outside Diameter Tolerance		Wall Thickness & Tolerance		Inside Diameter Minimum		Standard Weight
mm	inch	+/- mm	+/- inch	mm	+/- inch	mm	inch	lbs./100 ft.
10 / 8	0.394 x 0.315	0.1	0.004	1 +0/-0.1	0.039 +0/-0.004	7.9	0.312	1.77
12 / 10	0.472 x 0.394	0.1	0.004	1 +0/-0.1	0.039 +0/-0.004	9.9	0.390	2.08
16 / 12	0.630 x 0.472	0.1	0.004	2 +0/-0.1	0.078 +0/-0.004	11.9	0.470	5.59

Mini-Duct Performance

Nominal Size O.D. x I.D.		Bend Radius Minimum		Safe Tensile Pull Maximum		Sustained Pressure Maximum		Burst Pressure Minimum		Crush Strength ≤ 4% O.D.		Sliding Coefficient of Friction
mm	inch	mm	inch	lbs	Newtons	psi	BAR	psi	BAR	lbs	kg	
10 / 8	0.394 x 0.315	200	7.88	128	569	316	22	700	48	200	90	≤ 0.10
12 / 10	0.472 x 0.394	240	9.45	195	867	388	27	900	62	300	136	
16 / 12	0.630 x 0.472	320	12.60	371	1650	450	31	1000	68.9	500	226	

Dimension and Performance Notes:
10 / 8 mm size recommended for jetting.
12 / 10 mm size recommended for jetting or pulling.

Maximum Number of Mini-Ducts per Conduit & Wall

SDR 13.5

Conduit Size	16 mm	12 mm	10 mm
3/4"	0	1	2
1"	1	2	4
1 1/4"	2	4	6
1 1/2"	3	5	8
2"	5	9	13

SDR 11

Conduit Size	16 mm	12 mm	10 mm
3/4"	0	1	2
1"	1	2	3
1 1/4"	2	4	5
1 1/2"	3	5	7
2"	4	8	11

Schedule 40

Conduit Size	16 mm	12 mm	10 mm
3/4"	0	1	2
1"	1	2	3
1 1/4"	2	4	6
1 1/2"	3	5	8
2"	5	9	13

Schedule 80

Conduit Size	16 mm	12 mm	10 mm
3/4"	0	1	1
1"	1	1	2
1 1/4"	2	3	5
1 1/2"	2	4	7
2"	4	8	12

Custom Orders

How To Build A Part Number :

Product	Size	Type	Wall	Options	*Splits	Color	**Stripes	Pull Line	Length
M = Micro-Gard	51 = 10/8 mm 54 = 12/10 mm 58 = 16/12 mm	C = Smooth / Smooth	3 = Standard	D = Pre-Lubricated	1 = 1 Duct 5 = 2 Ducts 6 = 3 Ducts 7 = 4 Ducts 8 = 5 Ducts	A = Black	NN = None 3B = Blue 3C = Buff 3E = Gray 3F = Green 3G = Lilac 3J = Orange 3K = Red 3M = White 3N = Yellow	A = Empty Z = ***600 lb. Polyester Woven Tape	5000 = 5000 ft.

* Paralleled ** Stripes on Black only *** 10 mm ID and larger

Packaging Configuration

Single Duct: One size of mini-duct on a single reel

Parallel Duct: Same size mini-duct, in a mix of 2 to 5 duct configurations, on a single reel.
Note: To calculate parallel-duct footage, deduct 3% per duct from the single-duct footage.

Micro-Gard™ mini-ducts are shipped on disposable wooden reels:

Nominal Size (mm)	Reel Size: 35" Flange x 32" Outer Width				
	Part Number	Description	Single Duct (ft)	Single Duct (meter)	Total Weight (lbs)
10 / 8	M51C3D1A3J13000	10/8 MM MICRO PE S/S BLK 3 ORG PL	13,000	3,962	285
12 / 10	M54C3D1A3J9000	12/10 MM MICRO PE S/S BLK 3 ORG PL	9,000	2,743	242
16 / 12	M58C3D1A3J5000	16/12 MM MICRO PE S/S BLK 3 ORG PL	5000	1,524	335

Accessories

Micro-Gard push-on couplings and end caps allow each end of Micro-Gard to be easily pushed into place. No tools required. Push-on couplings and end caps can be used multiple times while maintaining original performance.

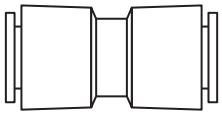
Micro-Gard® Couplings and End Caps meet or exceed the following performance specifications:

Conduit Size	Pull-Out		Sustained Pressure		Quick Burst	
	lb	kg	PSI	BAR	PSI	BAR
10 / 8	146	66	125	8.6	175	12
12 / 10	139	63	125	8.6	175	12
16 / 12	175	79	125	8.6	175	12

NOTE: All fittings are designed to reduce risk of restriction at coupling or termination point.

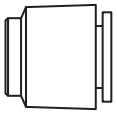
Couplings

Part No.	Description	Std. Pkg. Qty.	Wt. Ea. (lbs.)
MPCC10	10 mm O.D. Push-On Coupling	5	0.12
MPCC12	12 mm O.D. Push-On Coupling	5	0.15
MPCC16	16 mm O.D. Push-On Coupling	5	0.25



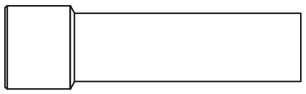
End Caps

Part No.	Description	Std. Pkg. Qty.	Wt. Ea. (lbs.)
MPEC10	10 mm O.D. Push-On End Cap	5	0.065
MPEC12	12 mm O.D. Push-On End Cap	5	0.090
MPEC16	16 mm O.D. Push-On End Cap	5	0.150



Plug Caps (Not for pressure seals)

Part No.	Description	Conduit Application	Std. Pkg. Qty.	Wt. Ea. (lbs.)
MPPC8	8 mm O.D. Plug Cap	Use with 10 mm O.D. Conduit	5	0.040
MPPC10	10 mm O.D. Plug Cap	Use with 12 mm O.D. Conduit	5	0.055
MPPC12	12 mm O.D. Plug Cap	Use with 16 mm O.D. Conduit	5	0.090



Cutters

- Nylon handles and high grade steel blade allow single or multiple cuts with simple squeeze and rotate method for 10 - 16 mm sizes.

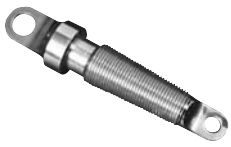
Part No.	Description	Std. Ctn. Qty.	Wt. Ea. (lbs.)
CC120B	Duct Cutter – 10mm to 16mm diameter	10	3.51

Multiple Micro-Gard Pulling Harness: Each 2-Duct segment is detachable.

Part No.	Description	Std. Ctn. Qty.	Wt. Ea. (lbs.)
MAPH6	2 to 6-way Adjustable Pulling Harness	1	0.27

Multiple Micro-Gard Pulling Eye

Part No.	Description	Std. Ctn. Qty.	Wt. Ea. (lbs.)
MAPE1012	Universal Pulling Eye	1	0.13



Listed HDPE Conduit

ETL Listed to UL 651 A & B in compliance to the NEC

Applications: Applications: Underground (direct bury), or placed inside existing duct (innerduct). Ideal for use in parking lots, traffic lights, etc.

Installation methods: Plowing, open/continuous trench, directional boring or pulled through existing conduit.

ETL Listed HDPE is a

nonmetallic flexible raceway manufactured from High Density Polyethylene (HDPE), offering a protective pathway for cables and wires, and is used in underground or innerduct applications.

ETL Listed HDPE conduit is compliant with the NEC Articles 300 and 353, and is listed to UL 651 A & B. Its high tensile strength-to-weight ratio, superior crush resistance, and low coefficient of friction when installing cable makes it ideal for directional boring.

*Refer to UL 651B standards/specifications for dimensional requirements.

ETL Listed Options

- Wall type/sizes:
  - Schedule 40 1" – 4"
  - Schedule 80 2" – 6"
  - EPEC-B (SDR 13.5) 2" – 6"
- Multiple colors and stripes
- Sequentially marked footage
- Available in smoothwall only
- Conforms to NEMA TC-7 Smoothwall Coilable PE Electrical Plastic Conduit

Directional Boring

Open Trench

Reference Plastics Pipe Institute PE Pipe Handbook for installation and engineering recommendations. (www.plasticpipe.org)

Custom Orders

* Custom Orders are not returnable
* Custom lengths are available in minimum order quantities specified on quote request

How to Build a Part Number:

Product	Size	Type	Wall	Options	Splits	Color	Stripes	Tape	Length
U = Listed	5 = 1" 6 = 1-1/4" 9 = 1-1/2" 13 = 2" 14 = 2-1/2" 15 = 3" 16 = 4" 18 = 5" 22 = 6"	C = Smooth/Smooth	4 = SCH 40 1" - 4" 5 = SCH 80 2" - 6" 9 = SDR 13.5 2" - 6"	N = None D = Lube Duct	1 = 1 Way Single 5 = 2 Way 6 = 3 Way 7 = 4 Way Sizes 1" – 2"	A = Black E = Grey K = Red	NN = None 3A = Black Stripes 3K = Red Stripes	A = Empty B = 1130 lbs. C = 1250 lbs. E = 1800 lbs. J = 2500 lbs.	1500 (Equals 1500 Feet)

Size	HDPE SOLIDWALL	Type	Wall	Color	Pull Tape	Reel/Coil Length	Wt. per 100 Ft.	Reel Size* F x W x D
1"	U5C4N1A3KB500	S/S	ETL Sch. 40	Black w/ Red Stripes	1130 lb. Polyester	500	21.36	Coil
	U5C4N1A3KB1000	S/S	ETL Sch. 40	Black w/ Red Stripes	1130 lb. Polyester	1000	21.36	48 x 32 x 24
	U5C4N1A3KB1800	S/S	ETL Sch. 40	Black w/ Red Stripes	1130 lb. Polyester	1800	21.36	48 x 32 x 24
	U5C4N1A3KB2500	S/S	ETL Sch. 40	Black w/ Red Stripes	1130 lb. Polyester	2500	21.36	48 x 44 x 24
1 1/4"	U6C4N1A3KB500	S/S	ETL Sch. 40	Black w/ Red Stripes	1130 lb. Polyester	500	28.91	Coil
	U6C4N1A3KB1000	S/S	ETL Sch. 40	Black w/ Red Stripes	1130 lb. Polyester	1000	28.91	48 x 44 x 30
	U6C4N1A3KB2500	S/S	ETL Sch. 40	Black w/ Red Stripes	1130 lb. Polyester	2500	28.91	66 x 32 x 30
1 1/2"	U9C4N1A3KB1000	S/S	ETL Sch. 40	Black w/ Red Stripes	1130 lb. Polyester	1000	34.57	48 x 44 x 30
2"	U13C4N1A3KB1000	S/S	ETL Sch. 40	Black w/ Red Stripes	1130 lb. Polyester	1000	46.47	66 x 44 x 40
	U13C5N1A3KB1000	S/S	ETL Sch. 80	Black w/ Red Stripes	1130 lb. Polyester	1000	66.88	66 x 44 x 40
3"	U15C4N1A3KB500	S/S	ETL Sch. 40	Black w/ Red Stripes	1130 lb. Polyester	500	96.37	82 x 44 x 64
	U15C5N1A3KB500	S/S	ETL Sch. 80	Black w/ Red Stripes	1130 lb. Polyester	500	130.42	82 x 44 x 64
	U15C4N1A3KB1000	S/S	ETL Sch. 40	Black w/ Red Stripes	1130 lb. Polyester	1000	96.37	96 x 44 x 64
	U15C5N1A3KB1000	S/S	ETL Sch. 80	Black w/ Red Stripes	1130 lb. Polyester	1000	130.42	96 x 44 x 64
4"	U16C5N1A3KB550	S/S	ETL Sch. 80	Black w/ Red Stripes	1130 lb. Polyester	550	190.60	96 x 44 x 64
	U16C9N1A3KA500	S/S	ETL SDR 13.5	Black w/ Red Stripes	Empty	500	188.52	96 x 44 x 64
5"	U18C9N1A3KA550	S/S	ETL SDR 13.5	Black w/ Red Stripes	Empty	550	288.31	120 x 48 x 85
6"	U22C9N1A3KA450	S/S	ETL SDR 13.5	Black w/ Red Stripes	Empty	450	409.16	120 x 48 x 85

*Outside dimensions

Aerial HDPE is a nonmetallic flexible raceway manufactured from High Density Polyethylene (HDPE) with a carbon black additive to provide U.V. protection in aerial environments.

Aerial duct offers superior cable protection against damage caused by rodents, projectile objects such as rocks and gun pellets, and harsh weather conditions. And because of its strength and durability, it can withstand the expansion and contraction caused by seasonal weather changes.

- HDPE: ASTM 1248 Type III
  Grade P34
  Category 5 Class C
- Ultraviolet: Minimum 2% carbon black

Applications: Aerial environments. Used when rocky terrain makes buried duct difficult, or in plant/campus environments expecting frequent changes.

Installation method: Designed to be lashed to existing support strands.

Aerial Options

- Sizes 1"– 2"
- Wall Type: SDR 13.5, SDR 11, and corrugated
- Factory installed tape
- Solidwall or corrugated
- Pre-lubricated option
- Sequentially marked footage

Aerial Lashing: *Aerial Duct is lashed to existing cable support wire using cable lashing equipment.*

Custom Orders

* Custom Orders are not returnable
* Custom lengths are available in minimum order quantities specified on page 25

How to Build a Part Number:

Product	Size	Type	Wall	Options	Splits	Color	Stripes	Tape	Length
E = Aerial	5 = 1" 6 = 1-1/4" 9 = 1-1/2" 13 = 2"	B = Smooth Out/Ribbed In C = Smooth/Smooth D = Corrugated	2 = None - Corr 6 = SDR 11 9 = SDR 13.5	N = None D = Lube Duct	1 = 1 Way Single 2 = 2 Way Partitioned 3 = 3 Way Partitioned 4 = 4 Way Partitioned 5 = 2 Way Parallel 6 = 3 Way Parallel 7 = 4 Way Parallel	A = Black	NN = None	A = Empty B = 1130 lbs. Polyester Tape C = 1250 lbs. Polyester Tape D = 1500 lbs. Polyester Tape E = 1800 lbs. Polyester Tape J = 2500 lbs. Polyester Tape T = 1250 lbs. Poly Metric Tape	1500 (Equals 1500 Feet)

Strand

6.6M 1/4" Extra high strength strand
Class A galvanized with flooding compound

10.0M 3/8" Extra high strength strand
Class A galvanized with flooding compound

Applications: Aerial environments. Used when rocky terrain makes buried duct difficult, or in plant/campus environments expecting frequent changes.

Installation method: Attaches directly to pole using a 3-bolt mounting clamp.

Aerial Figure-8 Options

- Size 1 1/4"
- Wall Type: SIDR 9 True
- 6.6M or 10.0M strands
- Factory installed tape
- Pre-installed Cable-In-Conduit
- Ribbed or smooth interior walls
- Pre-lubricated option
- Sequentially marked footage

HDPE Aerial Figure-8 is a nonmetallic flexible raceway with a Class A galvanized support strand. It's manufactured from High Density Polyethylene (HDPE), which contains a carbon black additive to provide U.V. protection in aerial environments.

Figure-8 duct offers superior cable protection against damage caused by rodents, projectile objects such as rocks and gun pellets, and harsh weather conditions with a one-step installation process. And because of its strength and durability, it can withstand the expansion and contraction caused by seasonal weather changes.

- HDPE: ASTM 1248 Type III
  Grade P34
  Category 5 Class C
- Ultraviolet: Minimum 2% carbon black
- Product Weight:
  6.6M Figure 8 .429 lbs/ft
  10.0M Figure 8 .507 lbs/ft
- Spans/Tensile Strength:
  6.6M: 225 ft. 6740 lbs.
  10M: 500 ft. 15,400 lbs.

Aerial Hanging:
Figure-8 Duct has a choice of two integrated mounting strands that attach directly to poles using 3-bolt mounting clamps, and Carlon stripping/cutting tools.

Custom Orders

* Custom Orders are not returnable
* Custom lengths are available in minimum order quantities of 1000 ft. or min. set up charge

How to Build a Part Number:

Product	Size	Type	Wall	Options	Splits	Color	Stripes	Tape	Length
S = Figure 8 - 6.6mm T = Figure 8 - 10mm	6 = 1-1/4"	B = Smooth Out/Ribbed In C = Smooth/Smooth	37 = SIDR 9 True	N = None D = Lube Duct	1 = 1 Way Single	A = Black	NN = None	A = Empty B = 1130 lbs. Polyester Tape C = 1250 lbs. Polyester Tape D = 1500 lbs. Polyester Tape E = 1800 lbs. Polyester Tape J = 2500 lbs. Polyester Tape T = 1250 lbs. Poly Metric Tape	2500 (Equals 2500 Feet)

NOTE: Standard Lengths 2500 ft. and 5000 ft.

Applications: Placed inside existing ducts (innerduct).

Installation method: Pulled through existing conduit.

Corrugated HDPE

is manufactured from High Density Polyethylene (HDPE) and is intended for innerduct applications. It's ideal for pulls under 1000 ft. and is designed to reduce surface contact when pulling cable. And because this product is lightweight and offers maximum flexibility, installation in small or restricted locations is made easier.

HDPE corrugated duct is available in sizes 1" through 2" and is offered in a variety of colors. Custom options are also available to satisfy the requirements of most installations.

Specifications

Installation temperature range: -20°F to 122°F

Handling: -20°F to 104°F

Nom. Size	Nom. ID	Nom. OD	Min. Wall	Wt/ 100 Ft.	Stiffness (5%) lb/in/in	Min Bend Radius	Pull Tensile
1"	1.049	1.340	.035	10.6	65	14"	261 lbs.
1-1/4"	1.250	1.565	.035	11.2	108	5"	319 lbs.
1-1/2"	1.500	1.825	.035	18.0	83	6"	384 lbs.
2"	2.000	2.425	.035	20.8	70	5-1/2"	493 lbs.

Pulled through existing conduits

Standard Length – Reels

Size	Color	Part No.	Nom I.D.	Nom O.D.	Pull Tape	Reel Size	Reel length (ft.)	Prod. Wt. per 100 ft. (lbs.)
1"	Orange	A5D2S1JNNB1000	1.049	1.340	1130 lb.	48-30-24	1000	12.5
	Orange	A5D2S1JNNB1800	1.049	1.340	1130 lb.	48-30-24	1800	12.5
	Orange	A5D2S1JNNB2000	1.049	1.340	1130 lb.	48-41-24	2000	12.5
	Orange	**A5D2S1JNNB2700**	**1.049**	**1.340**	**1130 lb.**	**48-41-24**	**2700**	**12.5**
	Orange	A5D2S1JNNB5000	1.049	1.340	1130 lb.	66-41-24	5000	12.5
	Orange	A5D2S1JNNB6500	1.049	1.340	1130 lb.	72-41-24	6500	12.5
	Orange	**A5D2S1JNNB7000**	**1.049**	**1.340**	**1130 lb.**	**72-45-24**	**7000**	**12.5**
	Orange	A5D2S1JNNB8000	1.049	1.340	1130 lb.	82-41-24	8000	12.5
1 1/4"	**Orange**	**A6D2S1JNNB1000**	**1.250**	**1.565**	**1130 lb.**	**48-30-24**	**1000**	**14.4**
	Orange	A6D2S1JNNB1600	1.250	1.565	1130 lb.	48-41-24	1600	14.4
	Orange	A6D2S1JNNB2500	1.250	1.565	1130 lb.	66-41-24	2500	14.4
	Orange	A6D2S1JNNB4000	1.250	1.565	1130 lb.	66-41-24	4000	14.4
	Orange	**A6D2S1JNNB5000**	**1.250**	**1.565**	**1130 lb.**	**72-41-24**	**5000**	**14.4**
	Orange	A6D2S1JNNB6000	1.250	1.565	1130 lb.	82-41-24	6000	14.4
	Orange	A6D2S1JNNB7000	1.250	1.565	1130 lb.	84-45-24	7000	14.4
1 1/2"	Orange	A9D2S1JNNB1000	1.500	1.825	1130 lb.	66-41-24	1000	17.8
	Orange	A9D2S1JNNB2200	1.500	1.825	1130 lb.	66-41-24	2200	17.8
	Orange	**A9D2S1JNNB2900**	**1.500**	**1.825**	**1130 lb.**	**72-41-24**	**2900**	**17.8**
	Orange	A9D2S1JNNB4000	1.500	1.825	1130 lb.	82-41-24	4000	17.8
2"	Orange	A13D2S1JNNB500	2.000	2.425	1130 lb.	48-30-24	500	25.0
	Orange	A13D2S1JNNB750	2.000	2.425	1130 lb.	48-41-24	750	25.0
	Orange	A13D2S1JNNB1000	2.000	2.425	1130 lb.	66-41-24	1000	25.0
	Orange	**A13D2S1JNNB1500**	**2.000**	**2.425**	**1130 lb.**	**66-41-24**	**1500**	**25.0**
	Orange	A13D2S1JNNB1800	2.000	2.425	1130 lb.	72-41-24	1800	25.0
	Orange	A13D2S1JNNB2000	2.000	2.425	1130 lb.	82-41-24	2000	25.0

Standard Length – Coils

Size	Color	Part No.	Nom I.D.	Nom O.D.	Pull Tape	Box Size	Reel length (ft.)	Prod. Wt. per 100 ft. (lbs.)
1"	Orange	A5D2E1JNNA250	1.049	1.340	Empty	COIL	250/ Split	12.5
	Orange	A5D2E1JNNA250B	1.049	1.340	Empty	34-14-34	250/ Split	12.5
	Orange	A5D2S1JNNB250	1.049	1.340	1130 lb.	COIL	250	12.5
	Orange	A5D2S1JNNB250B	1.049	1.340	1130 lb.	34-14-34	250	12.5
	Orange	**A5D2S1JNNB500**	**1.049**	**1.340**	**1130 lb.**	**COIL**	**500**	**12.5**
	Orange	A5D2S1JNNB500B	1.049	1.340	1130 lb.	39-15-39	500	12.5
1 1/4"	Orange	A6D2E1JNNA250	1.250	1.565	Empty	COIL	250/ Split	14.4
	Orange	A6D2E1JNNA250B	1.250	1.565	Empty	39-15-39	250/ Split	14.4
	Orange	A6D2S1JNNB250	1.250	1.565	1130 lb.	COIL	250	14.4
	Orange	A6D2S1JNNB250B	1.250	1.565	1130 lb.	39-15-39	250	14.4
	Orange	**A6D2S1JNNB500**	**1.250**	**1.565**	**1130 lb.**	**COIL**	**500**	**14.4**
	Orange	A6D2S1JNNB500B	1.250	1.565	1130 lb.	44-18-44	500	14.4
1 1/2"	**Orange**	**A9D2S1JNNB250**	**1.500**	**1.825**	**1130 lb.**	**COIL**	**250**	**17.8**
	Orange	A9D2S1JNNB250B	1.500	1.825	1130 lb.	44-18-44	250	17.8
	Orange	A9D2S1JNNB500	1.500	1.825	1130 lb.	COIL	500	17.8
2"	**Orange**	**A13D2S1JNNB250**	**2.000**	**2.425**	**1130 lb.**	**COIL**	**250**	**25.0**

Custom Orders

* Custom Orders are not returnable
* Custom lengths are available in minimum order quantities of 1000 ft. or min. set up charge

How to Build a Part Number:

Position 1 Product	Position 2 Size	Position 3 Type	Position 4 Wall	Position 5 Options	Position 6 Splits	Position 7 Color	Position 8 Stripes	Position 9 Tape	Position 10 Length
A = HDPE	5 = 1" 6 = 1-1/4" 9 = 1-1/2" 13 = 2"	D = Corrugated	2 = None - Corr	N = None - Custom E = Slit S = Standard Length	1 = 1 Way Single 2 = 2 Way Segmented 3 = 3 Way Segmented 4 = 4 Way Segmented 5 = 2 Way Parallel 6 = 3 Way Parallel 7 = 4 Way Parallel 12 = 2 Way Compart 13 = 3 Way Compart 14 = 4 Way Compart	A = Black B = Blue C = Brown D = Buff E = Grey F = Green G = Lilac H = Lt. Green J = Orange K = Red L = Terra Cotta M = White N = Yellow	NN = None 1A = Black Stripe 1B = Blue Stripe 1C = Brown Stripe 1D = Buff Stripe 1E = Grey Stripe 1F = Green Stripe 1G = Lilac Stripe 1H = Lt. Green Stripe 1J = Orange Stripe 1K = Red Stripe 1L = Terra Cotta Stripe 1M = White Stripe 1N = Yellow Stripe	A = Empty B = 1130 lbs. Polyester Tape C = 1250 lbs. Polyester Tape D = 1500 lbs. Polyester Tape E = 1800 lbs. Polyester Tape G = 200 lbs. Polyester Tape J = 2500 lbs. Polyester Tape T = 1250 lbs. Poly Metric Tape	1500 (Equals 1500 Feet)

Pyramid Industries® Corrugated Duct

Applications: Placed inside existing ducts

Tech. Info:
- Installation temperature Range: -20°F through 122°F
- Handling: -20°F through 104°F

Standard Stock Reels

Size	Color	Part No.	Pull Tape	Reel Size (F x W)	Reel length (ft.)	Reel Wt. (lbs.)	Product Wt. per 100 ft. (lbs.)
1"	Orange	4404-04T-8000	900 lb.	82" x 41" x 24"	8000	365	12.5
1 1/4"	Orange	4404-05T-6000	900 lb.	82" x 41" x 24"	6000	365	14.4
1 1/2"	Orange	4404-06T-4000	900 lb.	82" x 41" x 24"	4000	365	17.8
2"	Orange	4404-08T-2000	900 lb.	82" x 41" x 24"	2000	365	25.0

Specifications

Size	I.D. Min. Ref.	Min. O.D.	Max. O.D.	Min. Bend Radius
3/4"	.74	1.025	1.075	6"
1"	.98	1.290	1.340	6"
1-1/4"	1.31	1.640	1.690	7"
1-1/2"	1.54	1.880	1.930	8-1/4"
2"	2.00	2.350	2.400	9-1/2"

Custom Orders

How to Build a Part Number:			
Position 1 Product	**Position 2 Size**	**Position 3 Pull Line**	**Position 4 Length**
4404 = Corrugated HDPE	04 = 1" 05 = 1-1/4" 06 = 1-1/2" 08 = 2"	T = 900 lb. Tape	Example -1000 = Feet

Specifications

1.0 General

1.1 Carlon HDPE duct is manufactured to the following various industry standards and specifications for dimensional requirements.

ASTM F 2160 Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD).

ASTM D 2239 Polyethylene (PE) Plastic Pipe (SIDR) Based on Controlled Inside Diameter.

ASTM D 3035 Polyethylene (PE) Plastic Pipe (SDR) Based on Controlled Outside Diameter.

NEMA TC-7 Smooth Wall Coilable Polyethylene Electrical Plastic Conduit.

UL 651B Continuous Length HDPE

2.0 Material

Carlon duct is manufactured from a suitable thermoplastic polymer conforming to the minimum standard of PE334470E/C as defined in ASTM D3350. (see table 1)

Carlon® High Density Polyethylene

duct is manufactured in the following configurations:

Smoothwall – Smooth Interior and Smooth Exterior wall.

Rib/Smooth – Ribbed Interior and Smooth Exterior wall.

3.0 Product Description

Polyethylene duct and innerduct is an extruded coilable tubing for use as a single or multiple raceway.

The conduit may be direct buried, encased in concrete and used as innerducts.

Innerducts are used primarily to provide multiple raceways within an existing conduit system.

4.0 Ovality

Conduit 3" or larger needs to be re-rounded

Table 1 – Resin Properties

The resin properties shall meet or exceed the values listed below for HDPE.

ASTM Test	Description	Values HDPE
D-1505	Density g/CM^3	.941 - .955
D-1238	Melt Index, g/10 min Condition E	.05 - .50
D-790	Flexural Modulus, MPa (PSI)	80,000 min.
D-638	Tensile strength at yield (psi)	3000 min.
D-1693	Environmental Stress Crack Resistance Condition B,F_{10}	96 hrs. min.
D-746	Brittleness Temperature	-75˚C

Requests for certifications must be requested at time of quote

Specifications

Nom. Size	Nom. ID	Nom. OD	Min. Wall	Wt/ 100 Ft.	Pull Tensile Safe lbs.
SDR 7 - ASTM D3035					
1"	0.939	1.315	0.188	28.552	743
1-1/4"	1.186	1.660	0.237	45.448	1183
1-1/2'	1.358	1.900	0.271	59.491	1549
2"	1.697	2.375	0.339	93.012	2421
3"	2.500	3.500	0.500	202.140	5262
4"	3.214	4.500	0.643	334.212	8700
5"	3.972	5.562	0.795	510.709	13295
6"	4.733	6.625	0.946	723.976	18847
8"	6.161	8.625	1.232	1227.418	31953
10	7.678	10.750	1.536	1907.218	49649
12	9.108	12.750	1.821	2681.954	69818
14	10.000	14.000	2.000	3234.240	84195
16	11.428	16.000	2.286	4224.753	109980
SDR 9 - ASTM D3035 / F2160					
1"	1.023	1.315	0.146	23.000	599
1-1/4"	1.292	1.660	0.184	36.599	953
1-1/2"	1.478	1.900	0.211	48.026	1250
2"	1.847	2.375	0.264	75.102	1955
3"	2.722	3.500	0.389	163.084	4245
4"	3.500	4.500	0.500	269.520	7016
5"	4.326	5.562	0.618	411.745	10719
6"	5.153	6.625	0.736	584.091	15205
8"	6.709	8.625	0.958	989.810	25767
10"	8.362	10.750	1.194	1537.593	40027
12"	9.916	12.750	1.417	2164.092	56336
14"	10.888	14.000	1.556	2609.340	67927
16"	12.444	16.000	1.778	3407.638	88709

Nom. Size	Nom. ID	Nom. OD	Min. Wall	Wt/ 100 Ft.	Pull Tensile Safe lbs.
SDR 11 - ASTM D3035 / F2160					
1/2"	0.688	0.840	0.076	7.825	204
3/4"	0.860	1.050	0.095	12.226	318
1"	1.075	1.315	0.120	19.325	503
1-1/4"	1.358	1.660	0.151	30.706	799
1-1/2"	1.554	1.900	0.173	40.262	1048
2"	1.943	2.375	0.216	62.845	1636
3"	2.864	3.500	0.318	136.360	3550
4"	3.682	4.500	0.409	225.483	5870
5"	4.550	5.562	0.506	344.761	8975
6"	5.421	6.625	0.602	488.619	12720
8"	7.057	8.625	0.784	828.416	21566
10"	8.796	10.750	0.977	1286.718	33496
12"	10.432	12.750	1.159	1810.362	47128
14"	11.454	14.000	1.273	2183.310	56837
16"	13.090	16.000	1.455	2851.923	74242
SDR 13.5 - ASTM D3035 / F2160 / NEMA TC-7 EPEC-B					
1/2"	0.716	0.84	0.062	6.500	169
3/4"	0.894	1.050	0.078	10.217	266
1"	1.121	1.315	0.097	15.921	414
1-1/4"	1.414	1.660	0.123	25.477	663
1-1/2"	1.618	1.900	0.141	33.423	870
2"	2.023	2.375	0.176	52.155	1358
2-1/2"	2.449	2.875	0.213	76.410	1989
3"	2.982	3.500	0.259	113.120	2945
4"	3.834	4.500	0.333	186.994	4868
4-3/4"	4.084	4.750	0.333	198.213	5160
5"	4.738	5.562	0.412	285.934	7444
6"	5.643	6.625	0.491	405.869	10566
8"	7.347	8.625	0.639	687.688	17902
10"	9.158	10.750	0.796	1067.755	27796
12"	10.862	12.750	0.944	1501.882	39098
14"	11.926	14.000	1.037	1811.529	47158
16"	13.630	16.000	1.185	2365.816	61588

Specifications

Nom. Size	Nom. ID	Nom. OD OD	Min. Wall Wall	Wt/ 100 Ft.	Pull Tensile Safe lbs.
SDR 15.5 - ASTM D3035					
1"	1.147	1.315	0.084	13.935	363
1-1/4"	1.446	1.660	0.107	22.393	583
1-1/2"	1.654	1.900	0.123	29.455	767
2"	2.069	2.375	0.153	45.814	1193
3"	3.048	3.500	0.226	99.712	2596
4"	3.920	4.500	0.290	164.528	4283
5"	4.844	5.562	0.359	251.715	6553
6"	5.771	6.625	0.427	356.649	9284
8"	7.513	8.625	0.556	604.582	15739
10"	9.362	10.750	0.694	940.472	24483
12"	11.104	12.750	0.823	1322.794	34435
14"	12.194	14.000	0.903	1593.751	41489
16"	13.936	16.000	1.032	2081.634	54190
SDR 17 - ASTM D3035					
1"	1.161	1.315	0.077	12.846	334
1-1/4"	1.464	1.660	0.098	20.629	537
1-1/2"	1.676	1.900	0.112	26.986	703
2"	2.095	2.375	0.140	42.166	1098
2-1/2"	2.537	2.875	0.169	61.628	1604
3"	3.088	3.500	0.206	91.443	2380
4"	3.970	4.500	0.265	151.238	3937
5"	4.908	5.562	0.327	230.688	6005
6"	5.845	6.625	0.390	327.689	8531
8"	7.611	8.625	0.507	554.649	14439
10"	9.486	10.750	0.632	861.733	22433
12"	11.250	12.750	0.750	1212.840	31573
14"	12.352	14.000	0.824	1463.093	38088
16"	14.118	16.000	0.941	1909.619	49712
SDR 21 - ASTM D3035					
1"	1.189	1.315	0.063	10.629	277
1-1/4"	1.502	1.660	0.079	16.831	438
1-1/2'	1.720	1.900	0.090	21.952	571
2"	2.149	2.375	0.113	34.445	897
3"	3.166	3.500	0.167	75.009	1953
4"	4.072	4.500	0.214	123.602	3218
5"	5.032	5.562	0.265	189.163	4924
6"	5.995	6.625	0.315	267.856	6973
8"	7.803	8.625	0.411	454.944	11843
10	9.726	10.750	0.512	706.393	18389
12	11.536	12.750	0.607	993.289	25858
14	12.666	14.000	0.667	1198.436	31198
16	14.476	16.000	0.762	1564.746	40734
SIDR 7 - ASTM D2239					
1"	1.049	1.349	0.150	24.237	631
1-1/4'	1.380	1.774	0.197	41.866	1090
1-1/2"	1.610	2.070	0.230	57.030	1485
2"	2.067	2.658	0.295	94.002	2447
4"	4.026	5.176	0.575	356.617	9283
6"	6.065	7.798	0.866	809.388	21069
SIDR 9 - ASTM D2239					
1"	1.049	1.283	0.117	18.384	479
1-1/4"	1.380	1.686	0.153	31.608	823
1-1/2"	1.610	1.968	0.179	43.154	1123
2"	2.067	2.527	0.230	71.195	1853
4"	4.026	4.921	0.447	269.664	7021
6"	6.065	7.143	0.674	612.092	15932
SIDR 9 TRUE					
1"	1.020	1.242	0.111	16.918	440
1-1/4"	1.270	1.546	0.138	26.184	682
SIDR 11.5 - ASTM D2239					
1"	1.049	1.231	0.091	13.980	364
1-1/4"	1.380	1.620	0.120	24.257	631
1-1/2"	1.610	1.890	0.140	33.016	859
2"	2.067	2.427	0.180	54.505	1419
4"	4.026	4.726	0.350	206.398	5373
6"	6.065	7.119	0.527	468.154	12187

Nom. Size	Nom. ID	Nom. OD OD	Min. Wall Wall	Wt/ 100 Ft.	Pull Tensile Safe lbs.
SIDR 11.5 TRUE					
1"	1.020	1.194	0.087	12.979	338
1-1/4"	1.270	1.488	0.109	20.256	527
1-1/2"	1.520	1.780	0.130	28.906	752
2"	1.995	2.343	0.178	50.859	1352
4"	4.050	4.700	0.325	191.612	4988
6"	6.050	7.000	0.475	417.672	10873
SIDR 15 - ASTM D2239					
1"	1.049	1.189	0.070	10.556	275
1-1/4"	1.380	1.564	0.092	18.250	475
1-1/2"	1.610	1.824	0.107	24.758	645
2"	2.067	2.343	0.138	41.006	1067
4"	4.026	4.562	0.268	155.081	4037
6"	6.065	6.873	0.404	352.192	9168
TRUE 9 - ASTM F2160					
1"	1.024	1.259	0.111	18.075	447
1-1/4"	1.274	1.569	0.139	28.255	697
1-1/2"	1.529	1.883	0.167	40.692	1005
2"	2.039	2.510	0.222	72.183	1782
TRUE 11 - ASTM F2160					
1"	1.024	1.217	0.091	14.571	359
1-1/4"	1.274	1.516	0.114	22.747	561
1-1/2"	1.529	1.817	0.136	32.465	802
2"	2.039	2.425	0.182	58.051	1432
SCHEDULE 40 - ASTM D2447 / F2160 / NEMA TC-7 EPEC-40					
1/2"	0.622	0.84	0.109	10.738	280
3/4"	0.824	1.05	0.113	14.269	371
1"	1.049	1.315	0.133	21.185	551
1-1/4"	1.380	1.660	0.140	28.677	747
1-1/2"	1.610	1.900	0.145	34.293	893
2"	2.067	2.375	0.154	46.093	1200
2-1/2"	2.469	2.875	0.203	73.096	1903
3"	3.068	3.500	0.216	95.591	2488
4"	4.026	4.500	0.237	136.152	3544
5"	5.046	5.562	0.258	184.410	4801
6"	6.065	6.625	0.280	239.415	6233
8"	7.981	8.625	0.322	360.290	9379
10"	10.020	10.750	0.365	510.811	13298
12"	11.938	12.750	0.406	675.372	17582
SCHEDULE 80 - ASTM D2447 / F2160 / NEMA TC-7 EPEC-80					
1/2"	0.546	0.84	0.147	13.728	357
3/4"	0.742	1.05	0.154	18.595	484
1"	0.957	1.315	0.179	27.403	713
1-1/4"	1.278	1.660	0.191	37.811	984
1-1/2"	1.500	1.900	0.200	45.818	1193
2"	1.939	2.375	0.218	63.368	1650
2-1/2"	2.323	2.875	0.276	96.667	2516
3"	2.900	3.500	0.300	129.370	3368
4"	3.826	4.500	0.337	189.059	4922
5"	4.812	5.562	0.375	262.125	6824
6"	5.761	6.625	0.432	360.534	9386
NEMA TC-7 EPEC A					
1/2"	0.546	0.84	0.06	6.307	164
3/4"	0.93	1.05	0.06	8.005	208
1"	1.165	1.315	0.075	12.533	326
1-1/4"	1.460	1.660	0.100	21.023	547
1-1/2"	1.670	1.900	0.115	27.663	720
2	2.085	2.375	0.145	43.575	1134
2-1/2"	2.469	2.875	0.203	73.096	1903
3"	3.068	3.500	0.216	95.591	2488
4"	4.026	4.500	0.237	136.152	3544
5"	5.046	5.562	0.258	184.410	4801
6"	6.065	6.625	0.280	239.415	6233

Internal Rib – Add .04 to Nom. ID (1/2" through 6") Not available in all wall types - consult factory.

Pull Tensile Safe = Based on Plastic Pipe Institute tensile calculations and maximum tensile stress recommendations of 1/3 yield tensile for pulls of 30 to 60 minutes or less in directional drilling applications and pulling as innerduct into conduit.

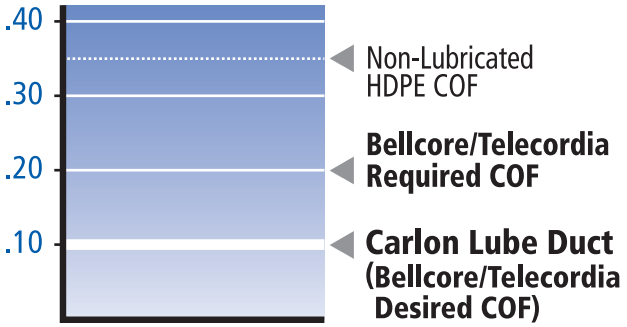
Carlon®/Pyramid Industries™ LubeDuct Pre-Lubricated HDPE Conduit

LubeDuct pre-lubricated HDPE conduit utilizes a Carlon/Pyramid pre-lubrication coating process to provide a permanent low friction surface. The low coefficient-of-friction reduces cable damage, lowers pulling tensions, and allows multiple long distance cable pulls or jetting of cable.

Benefits:

- Low coefficient of friction
- Lower pulling tensions
- Less cable damage
- Longer cable pulls over multiple bends
- Long life, will not evaporate

Coefficient of Friction



Coefficient rating based on Bellcore/Telcordia GR-356-CORE for optical cable innerducts.

LubeDuct COF: 0.10

Bellcore Test Procedure:

- 420 Degree Bend
- 36" Radius
- Medium Jacket Cable with 15 lb. Applied Weight
- 65 Ft/Min for a minimum travel distance of 10 Ft.
- Evaporation rate 0.5% at 500 Degrees F

Cut-Through Rating:

Cut-Through resistance based on Bellcore/Telcordia GR-356-CORE for optical cable innerducts

Carlon/Pyramid Cut-Through Rating:

No Cut-Through at 3000 ft.

- No signs of cut through or degradation of core for 30 minute duration
- 1800 lb. Pull Tape
- 450 lbs. Tensile @ 100 Ft/Minute

Packaging Options

Reels

*Carlon does not recommend putting Sch. 40 HDPE on reels

Segmented
(3/4" – 2")

Physically segmenting different colors into one, two, three or four separate segments allowing independent pulling of ducts.

Paralleled
(3/4" through 2")
1" – 1 1/4" diameter recommended

Extruding each color onto a single reel and then simultaneously pulling onto one reel. Ideal for using all ducts at one time.

Compartmentalized
(3/4" through 2")
1 1/2" – 2" diameter recommended

Physically compartmentalizing different colors into one, two, three or four separate segments allowing independent pulling of ducts. Full rings help align duct during pull.

Coils

Standard length and custom coils available 1" - 6". Call for quantity and dimensions available.

NOTE: 4" through 6" Schedule 40 HDPE is available in straight lengths only.

Truckload Quantities

Reels

Flatbed (48 ft.)

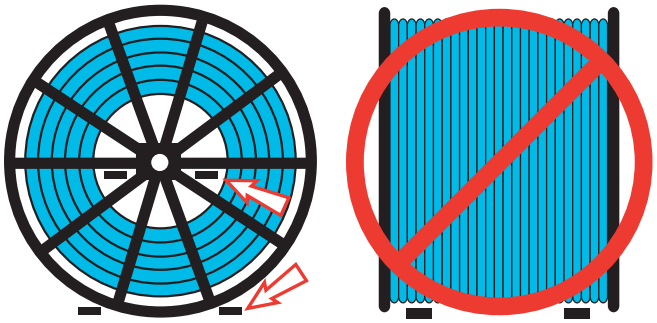
Reel Size	Number of Reels per Truckload
48"	24
66"	18
72"	16
82"	14
84"	14
96"	12
102"	12

Step Deck Flatbed

Reel Size	Number of Reels per Truckload
114"	8
120"	8

NOTE: Two additional reels, 96" or smaller, can fit on the upper deck.

Loading Reels



Reels must be lifted from the side with lift truck forks inserted through the spokes of the reel, or at the bottom with entry from the side of the reel. Reels should NEVER be lifted from the front of the reel or contact innerduct.

Bundles 40 ft / 50 ft Lengths

Size	# of Lengths per Bundle	Ft. per Bundle 40 ft. Lengths	Ft. per Bundle 50 ft. Lengths	Bundles per Truck	Total Feet per Truck 40 ft. Lengths	Total Feet per Truck 50 ft. Lengths
4"	57	2280	2850	8	18240	22800
6"	26	1040	1300	8	8320	10400
8"	14	560	700	8	4480	5600
10"	4	160	200	18	2880	3600
12"	4	160	200	14	2240	2800
14"	3	120	150	14	1680	2100
16"	3	120	150	12	1440	1800

Couplings

Standard "E-Loc"®

Designed for use with smoothwall OD controlled innerduct (ASTM 3035), Sch. 40 and Sch. 80 innerduct, and is pressure tight to internal pressures above 200 psi when restrained or buried. Ideal for joining PE to PVC or threaded steel conduit.

Part No.	Size	Nom. O.D (of Duct)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
EL.084	1/2"	.084"	1	.40
EL1.050	3/4"	1.050"	1	1.00
EL1.315	1"	1.315"	1	1.00
EL1.660	1 1/4"	1.660"	1	0.68
EL1.900	1 1/2"	1.900"	1	1.12
EL2.375	2"	2.375"	1	1.63
EL2.875	2 1/2"	2.875"	1	1.80
EL3.500	3"	3.500"	1	1.92
EL4.500	4"	4.500"	1	2.68
EL5.563	5"	5.563"	1	3.31
EL600	6"	6.625"	1	3.58

Double "E-Loc"® Standard Couplings

Designed to join both smoothwall and ribbed OD wall innerduct and are used when air and water-tight integrity is imperative. Internal pressures above 200 psi are maintained when the conduit is unrestrained.

Part No.	Size	Nom. O.D (of Duct)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
DEL131	1"	1.315"	50	63
DEL150	1" True	1.500"	50	58
DEL154	1 1/4"	1.540"	50	58
DEL166	1 1/4"	1.660"	50	53
DEL190	1 1/2"	1.900"	24	43
DEL237	2"	2.375"	25	57

Universal Aluminum Couplings

Self-threading, which draws each end of the conduit into the center of the coupler.

Part No.	Size	Nom. O.D (Duct Range)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
P75	3/4"	.91 – 1.08	10	12
P100	1"	1.21 – 1.41	100	25
P125	1 1/4"	1.44 – 1.68	100	28
P150CPLR	1 1/2"	1.80 – 2.02	100	35
P200	2"	2.31 – 2.48	50	19
P300	3"	3.495 – 3.505	12	10
P400	4"	4.41 – 4.65	12	12

Transition Couplings

Part No.	Size	Nom. O.D (of Duct)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
DEL150-154	1 1/4"	1.500" - 1.540"	50	58
DEL150-166	1 1/4"	1.500" - 1.660"	50	58
DEL154-166	1 1/4"	1.540" - 1.660"	50	58

Barbed Couplings Press-On/Screw-On

Aluminum

Part No.	Size	Nom. O.D (of Duct)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
BS1.315	1" SDR	1.315"	100	16
BS1.194	1" True 11	1.194"	100	16
BS1.488	1 1/4" True 11	1.488"	100	16
BS1.660	1 1/4" SDR	1.660"	100	16
BS1.900	1 1/2" SDR	1.900"	100	24
BS2.375	2" SDR	2.375"	100	34

"E-Loc" is a registered trademark of ETCO Specialty Products, Inc.

Couplings

Listed Universal Aluminum Couplings

LISTED

Self-threading, which draws each end of the conduit into the center of the coupler.

Part No.	Size	Nom. O.D (Duct Range)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
LS100	1"	1.21 – 1.41	100	25
LS125	1 1/4"	1.44 – 1.68	100	28
LS150	1 1/2"	1.80 – 2.02	50	15
LS200	2"	2.31 – 2.48	50	19
LS300	3"	3.495 – 3.505	12	10
LS400	4"	4.41 – 4.65	12	12

Listed HDPE to PVC Transition Couplings

LISTED

Self-threading tapered threads on one side allows coupling on to HDPE. Other side threaded to PVC thread dimensions.

Part No.	Size	Nom. O.D (of Duct)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
LSTC100	1"	1.315"	100	25
LSTC125	1 1/4"	1.66"	100	28
LSTC150	1 1/2"	1.90"	50	15
LSTC200	2"	2.375"	50	19
LSTC300	3"	3.50"	12	10
LSTC400	4"	4.50"	12	12

Electrofusion Coupling

Provides an airtight duct system and is used to join HDPE to PVC or threaded steel conduit. Ideal for directional bore applications.

Part No.	Nom. O.D (of Duct)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
575-4075	1.488"	40	12.96
575-4049	1.526"	40	12.44
575-0640	1.660"	40	12
575-0641	1.900"	140	55.3
575-0642	2.375"	30	17.46
575-0643	3.500"	36	45.47
575-0644	4.500"	10	18.77

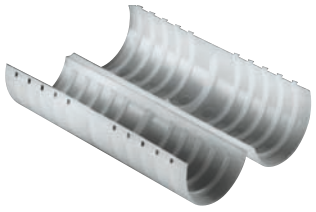
Nonmetallic Internal Couplings

Nonmetallic, self-threading and are recommended for use with corrugated duct.

Part No.	Size	Nom. I.D Range	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
PIC100	1"	1.05	100	24
PIC125	1 1/4"	1.25	100	26

Nonmetallic Clamshell Couplings

For use with Corrugated HDPE



Part No.	Size	Nom. O.D (of Duct)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
E144F	1"	1.34"	30	1.7
E144GT	1 1/4"	1.565"	25	2

Couplings

Toneable Pressure Coupling

Designed to join Carlon® Toneable Duct System

150 PSI at 73°F

Part No.	Nom. O.D (of Duct)	Nom. O.D	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
TDC100	1"	1.315	60	34
TDC125	1 1/4"	1.66	36	28
TDC150	1 1/2"	1.90	30	31
TDC200	2"	2.375	12	18

Terminating Connector

Part No.	Size	Nom. O.D Range	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
TC100	1"	.91 – 1.08	12	50
TC125	1 1/4"	1.495 – 1.70	12	52
TC150	1 1/2"	1.80 – 2.00	12	56
TC200	2"	2.31 – 2.52	12	58

Tuff-Link Couplers

Part No.	Size	Nom. O.D	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
TFL100	1"	1.299"	1	.2
TFL125	1 1/4"	1.660"	1	.2
TFL150	1 1/2"	1.900"	1	.2
TFL200	2"	2.375"	1	.6

Threaded Plugs

For use with Toneable Coupling

Part No.	Nom. O.D (of Duct)	Nom. O.D	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
TPLG100	1"	1.315	50	4
TPLG125	1 1/4"	1.66	25	3
TPLG150	1 1/2"	1.90	25	3.5
TPLG200	2"	2.375	10	2.7

Expansion Sleeve

Part No.	Size	Nom. O.D (of Duct)	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
EXP125	1 1/4" 9T	1.524	1	1

Duct Plugs

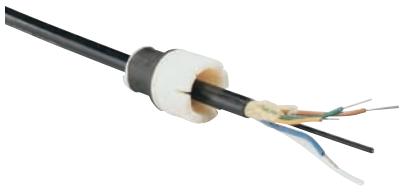
Blank

Part No.	Size	Duct I.D. Range	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
MAEPG2	1"	.96" - 1.16"	50	4.5
MAEPG4	1 1/4"	1.14" - 1.48"	50	5.5
MAEPG3	1 1/2"	1.49" - 1.83"	50	7.5
MAEPG5	2"	1.83" - 2.36"	50	12.5
MAEPG55	3"	2.99" - 3.46"	50	19.5
MAEPG6	3 1/2"	3.42" - 4.00"	25	13
MAEPG7	4"	3.94" - 4.33"	50	32.5
MAEPG8	5"	5.00" - 5.35"	25	24.5

Multi-Access

Part No.	Type	Duct I.D. Range	Innerduct O.D. Range	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
MATPG2	3-Hole	3.92" - 4.21"	1.31" - 1.42"	24	27
MATPG3	3-Hole	3.92" - 4.21"	1.53" - 1.67"	24	24
MAQPG2	4-Hole	3.92" - 4.21"	1.19" - 1.36"	24	23
MAQPG4	4-Hole	4.16" - 4.34"	1.19" - 1.36"	24	34

Split Plugs for Sealing Innerduct and Cable



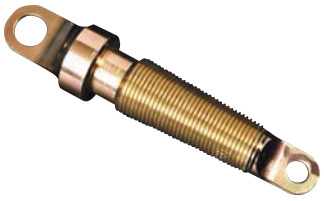
Part No.	Size	Duct I.D. Range	Cable O.D. Range	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
MAFPG2	1"	1.00" - 1.10"	0.35" - 0.57"	50	8
MAFPG21	1"	1.00" - 1.10"	0.43" - 0.57"	50	8
MAFPG22	1"	1.00" - 1.10"	0.57" - 0.70"	50	8
MAFPG3	1 1/4"	1.22" - 1.36"	0.35" - 0.57"	50	10
MAFPG4	1 1/4"	1.22" - 1.36"	0.57" - 0.70"	50	10
MAFPG41	1 1/4"	1.22" - 1.34"	0.70" - 0.90"	50	10
MAFPG5	1 1/2"	1.50" - 1.65"	0.35" - 0.57"	50	15
MAFPG6	1 1/2"	1.50" - 1.65"	0.50" - 0.70"	50	15
MAFPG9	2"	1.98" - 2.15"	0.35" - 0.57"	50	22

Multiple Innerduct Pulling Harness

For use with Pulling Innerducts into a 4" Conduit

Part No.	Description	Working Load Per Leg (lbs.)	Working Load Combined (lbs.)	Std. Ctn. Qty.	Wt. Ea. (lbs.)
MAPH3	3-Way 1/4" Cable	1400	2900	1	14
MAPH4	4-Way 1/4" Cable	1400	4200	1	15

Innerduct Pulling Eyes



Part No.	Size	Range	Std. Ctn. Qty.	Wt. Ea. (lbs.)
MAPE3	1 - 1 1/8"	.93 - 1.06	1	1.0
MAPE4	7/8"	.71 - .87	1	1.5
MAPE5	1 - 1 1/8"	1.06 - 1.43	1	1.0
MAPE6	1 1/4"	1.06 - 1.43	1	2.0
MAPE7	1 7/16"	1.343 - 1.50	1	4.5
MAPE8	1 1/2"	1.50 - 1.625	1	5.0
MAPE9	2"	1.97 - 2.09	1	6.0

Swivels - Ball Bearing

Part No.	Description	Work/Break Load (lbs.)	Dimensions	Wt. Ea. (lbs.)
MASV4	Non-Breakaway	1800	7/8" x 4 1/2"	.53
MASV5	Non-Breakaway	600	5/8" x 4 "	1.00

Swivels - Breakaway and Replacement Pins

Part No.	Description	Work/ Break Load (lbs.)	Dimensions	Std. Ctn. Qty.	Wt. Ea. (lbs.)	Pin Part No.	Description
MASV6	Breakaway	600	7/8" x 4 1/2"	1	.55	MASVP6	7/8" Replacement Pin for MASV6
MASV7	Breakaway	600	5/8" x 3 1/2"	1	.19	MASVP7	5/8" Replacement Pin for MASV7
MASV8	Breakaway	450	5/8" x 3 1/2"	1	.19	MASVP8	5/8" Replacement Pin for MASV8

Line Missiles

Part No.	Description	Std. Ctn. Qty.	Std. Ctn. Wt. (lbs.)
MAPRO3	3-Way for 1 1/4" Duct	25	25
MAPRO4	4-Way for 1" Duct	25	18

Underground Warning Tape – Orange

CAUTION TELEPHONE CABLE BURIED BELOW

Part No.	Type	Width	Ft. per Spool	Wt. Ea. (lbs.)
MAT3T21	Standard	3"	1000'	7
MAT3T61	Detectable	3"	1000'	8

CAUTION FIBER OPTIC CABLE BURIED BELOW

Part No.	Type	Width	Ft. per Spool	Wt. Ea. (lbs.)
MAT3O21	Standard	3"	1000'	7
MAT6O21	Standard	6"	1000'	13
MAT3O51	Extra Stretch	3"	1000'	7
MAT3O61	Detectable	3"	1000'	8
MAT6O61	Detectable	6"	1000'	16

Conduit Cutters

Kwikcut Cutter

For fast, smooth field cuts of 1/2" through 1" Innerduct.

Part No.	Size	Std. Ctn. Qty.
CC120B	8"	10

Medium Cutter

Hand held cutter makes fast square, smooth field cuts on Innerduct sizes 1/2" through 1 1/4".

Part No.	Size	Std. Ctn. Qty.
CC125	9"	1

Large Cutter

For clean cuts of Innerduct sizes 1/2" through 2".

Part No.	Size	Std. Ctn. Qty.
CC122	17 1/2"	1

Figure-8 Web Slitter

Part No.	Size	Std. Ctn. Qty.
3056MW	6.6M	7
30510MW	10M	8

Figure-8 Jacket Slitter

Part No.	Size	Std. Ctn. Qty.
3056MJ	6.6M	1
30510MJ	10M	1

End Caps

Part No.	Size	Nom. O.D.	Std. Ctn. Qty.
EC1.315	1"	1.315"	1
EC1.488	1 1/4"	1.488"	1
EC1.660	1 1/4"	1.660"	1
EC1.900	1 1/2"	1.900"	1
EC2.375	2"	2.375"	1
EC4.500	4"	4.500"	1

Rope (Conduit Pulling Lines for Conductors or Fiber Optics)

White Diamond Braid Rope

This rope is constructed of polyethylene over polyester, designed specifically for fiber-optic pulling. The polyethylene jacket gives the "slippery" feel that gives less drag in pulling through conduit.

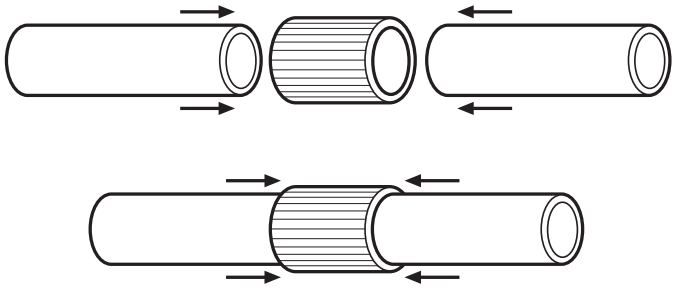
Part No.	Reel Lengths	Diameter	Recommended Working Load (lbs.)	Approximate Avg. Tensile (lbs.)	Std. Ctn. Wt. (lbs.)
SB14105	5,000 ft.	1/4"	260	1700	1000

Tape

Prelubricated, woven polyester tape made from low friction, high abrasion resistant yarns providing a low coefficient of friction. Tape is printed with sequential footage markings for accurate measurements.

Part No.	Size	Tensile Strength (lbs.)	Reel Lengths
TL14203	1/2"	1130	3,000 ft.
TL14205	1/2"	1130	5,000 ft.
TL14505	1/2"	1250	5,000 ft.
TL14510	1/2"	1250	10,000 ft.
TL38203	5/8"	1800	3,000 ft.
TL38265	5/8"	1800	6,500 ft.
TL38210	5/8"	1800	10,000 ft.

Installation Instructions



1. Square cut and de-burr edges of both Polyethylene ducts.
2. Insert end of each Polyethylene duct into the coupler.
3. While securely holding each duct, rotate coupler by hand to begin threading and continue rotating until ducts becomes secured in coupler.
4. Continue tightening with strap wrench or coupler tool until ducts are completely seated in coupler.

Note: To ensure proper installation, measure inside of coupler to center rib and mark this distance on both ducts as a visual aid to ensure both ducts are fully seated in coupler.

1. Square cut end of Polyethylene duct and de-burr edge.
2. Insert end of Polyethylene duct into one end of the transition adapter.
3. While securely holding duct, rotate adapter by hand to begin threading and continue rotating until duct becomes secured in adapter.
4. Continue tightening with strap wrench or coupler tool until duct is completely seated in adapter.
5. Thread PVC Male Adapter into opposite end of transition adapter and rotate until the male adapter is completely seated in the transition adapter.
6. Apply PVC Solvent Cement onto the PVC Male Adapter and then insert spigot/plain end of the PVC conduit or elbow.

Note: To ensure proper installation, measure inside of transition adapter to center rib and mark this distance on duct as a visual aid to ensure polyethylene duct is fully seated.

Butt Fusion

Butt Fusion joining process is an approved method of joining HDPE when joint fused appropriately. The following guidelines are provided in appendix A to provide a properly fused joint:

Butt Fusion Time Cycles For Carlon HDPE Smoothwall Conduit
Appendix A

Pipe Inches IPS	Heat Time @ 500 Deg. F (Seconds)	Heat Time @ 425 Deg. F (Seconds)	Heat Time Cool Time (Seconds)	Approx Melt Bead Width (inches)	Approx Finished Bead Width (inches)
1	16 – 20	27 – 32	90	1/16	1/16 – 1/8
1-1/4	20 – 24	35 – 40	90	1/16	1/16 – 1/8
2	28 – 32	52 – 57	90	1/8	1/8
3	32 – 38	59 – 66	180	1/8	1/8
4	38 – 44	68 – 75	210	3/16	3/16
5	44 – 56	77 – 82	225	3/16	3/16
6	56 – 66	80 – 90	240	3/16	3/16

Note: The information given above is an estimate and may vary depending upon prevailing weather and jobsite conditions. Recommended interface pressure on these sizes is 75 psi.

BUTT FUSION

The most widely used method for joining individual lengths of large diameter polyethylene pipe is by heat fusion of the pipe butt ends. This technique, which precludes the need for specially modified pipe ends or couplings, produces a permanent, and economical connection. Field-site butt fusions may be made readily by trained operators using specially developed butt fusion machines that secure and precisely align the pipe ends for the fusion process.

The six steps involved in making a butt fusion joint are:

1. Securely fasten the components to be joined
2. Face the pipe ends
3. Align the pipe profile
4. Melt the pipe interfaces
5. Join the two profiles together
6. Hold under pressure

Secure

Each component that is to be fused must be held in position so that it will not move unless it is moved by the clamping device.

Face

The pipe ends must be faced to establish clean, parallel mating surfaces. Most, if not all, equipment manufacturers have incorporated the rotating planer block design in their facers to accomplish this goal. Facing is continued until a minimal distance exists between the fixed and movable jaws of the machine and the facer is locked firmly and squarely between the jaws. This operation provides for a perfectly square face, perpendicular to the pipe centerline on each pipe end and with no detectable gap.

Align

The pipe profiles must be rounded and aligned with each other to minimize mismatch (high-low) of the pipe walls. This can be accomplished by adjusting the clamping jaws until the outside diameters of the pipe ends match. The jaws must not be loosened or the pipe may slip during fusion. The minimal distance requirement between fixed- and moveable-jaws mentioned above allows the pipe to be rounded as close as possible to the joint area. The closer to the joint area that the pipe can be clamped, the better control the operator has in properly aligning the pipe.

Melt

Heat the ends of the pipe to the pipe manufacturer's recommended temperature, interface pressure, and time duration. By doing so, the heat will penetrate into the pipe ends and a molten "bead" of material will form at the pipe ends. Heating tools which simultaneously heat both pipe ends are used to accomplish this operation. These heating tools are normally furnished with thermometers to measure internal heater temperature so the operator can monitor the temperature before each joint is made. However, they can be used only as a general indicator because there is some heat loss from internal to external surfaces, depending on factors such as ambient temperatures and wind conditions. A pyrometer or other surface temperature measuring device should be used periodically to insure proper temperature of the heating tool. If temperature indicating crayons are used, do not use them on a surface which will come in contact with the pipe or fitting. Additionally, heating tools are usually equipped with suspension and alignment guides which center them on the pipe ends. The heater faces which come into contact with the pipe should be coated by the manufacturer to prevent molten plastic from sticking to the heater faces. Remaining molten plastic can interfere with fusion quality and must be removed according to the tool manufacturer's instructions.

Join

After the pipe ends have been heated for the proper time and to the proper temperature, the heater tool is removed and the molten pipe ends are brought together with sufficient pressure to properly mix the pipe materials and form a homogeneous joint. Use interface pressure and outer bead size of molten material as a guide for a proper joint. Machines for 4-inch diameter and smaller sizes are normally lever-operated. Many of these smaller machines can be fitted with torque wrenches to obtain a theoretical value which allows the operator to consistently apply the approximate force required to properly fuse a joint. Larger machines employ hydraulics with various types of control systems such as:

1. Manual with hydraulic hand pump.
2. Semi-automatic with motorized hydraulics including pressure reducing, selector, and directional control valves.
3. Fully automatic with computer- or microprocessor-control of the heat and fusion cycles and pressures.

Hold

The molten joint must be held immobile under pressure until cooled adequately to develop strength. The designs of the machines vary from a lever-arm-assist to manual or automatic locking devices that assist the operator to accomplish this step. The proper cooling times for the joint are material-, pipe-diameter-, and wall-thickness-dependent and are established by the pipe manufacturer. Allowing proper times under pressure for cooling prior to removal from the clamps of the machine is important in achieving joint integrity.

The Carlon Reel Return Policy

The Carlon Reel Return Policy offers our customers the opportunity to dispose of empty steel reels used to ship Carlon High Density Polyethylene. A credit will be issued for each reel returned to Lamson & Sessions in good condition. Details outlining the program are listed below:

Reel Shipment: Reels may be returned broken down into flanges and staves or fully assembled. Only Carlon Lamson & Sessions reels will be accepted. All broken down reel flanges and staves should be banded onto pallet for forklift off loading and safe transport.

Freight: The customer is responsible for choosing a carrier and paying all freight charges associated with the return of Carlon Reels (Class 55 freight is recommended). Reels must be shipped "Prepaid". Reels shipped collect will be refused. A 24-hour notice to receiving plant is needed before the truck arrives. It is Lamson & Sessions policy to honor appointments and unload in an efficient manner. Lamson & Sessions will not pay any detention incurred by carriers.

Returned Goods Authorization (RGA) Required: Contact a local Carlon Sales Representative to request a Returned Goods Authorization number. The RGA number needs to be included in the packing slip for the reel to be accepted as a return.

Reel Quality Requirements: The reel must be undamaged, in full working condition, and include all components. This includes but is not limited to warping, flattening, or any structural damage to the reel or its components. Reel acceptability will be determined by receiving plant using quality inspection criteria.

Credit: A credit for each reel meeting the above requirements will be issued to the customer's account. If the reel does not meet the quality requirements, a credit will not be issued and a $20 disposal fee for each non-returnable reel will be deducted from total credit.

Credit Amount:

48" – 66" = $30 *72" – 84" = $40* *96" – 102" = $50* *114" – 120" = $75*

Pick-up: Choose your own carrier, or use one from the list below.

J&J Trucking	800-397-1874
TEI	800-471-4654
ICS	800-877-7875
Dynasty Trans.	800-318-9550

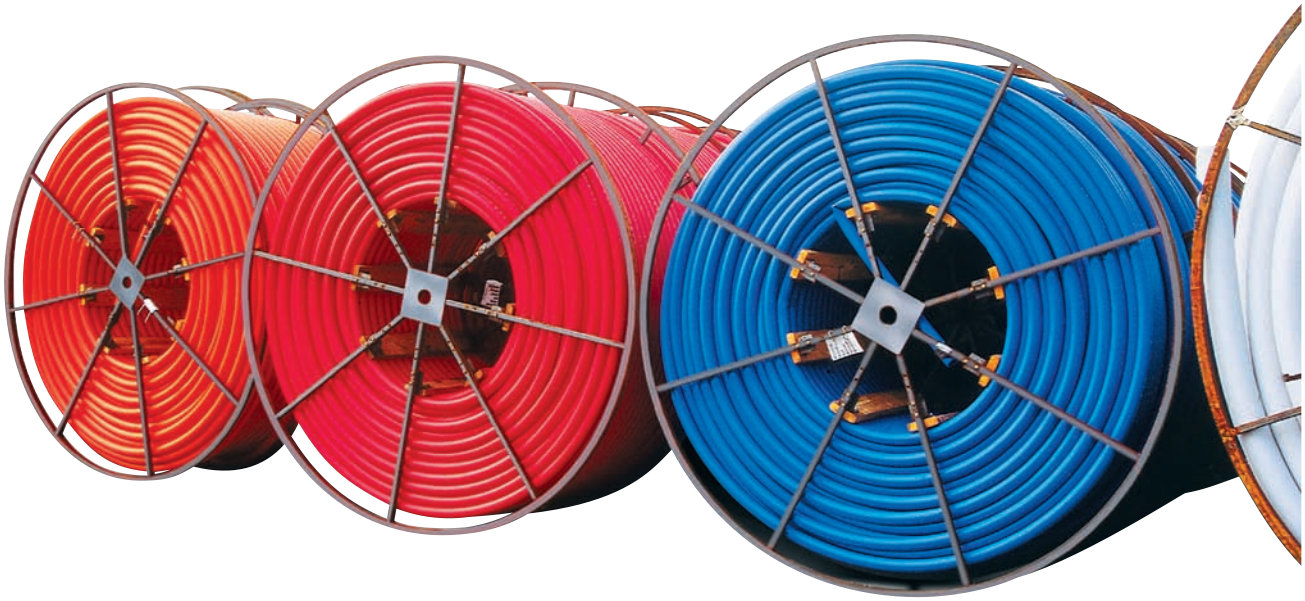
Ship to Address:

Lamson & Sessions
1422 Irwin Drive
Erie, PA 16505

Lamson & Sessions
1776 E. Beamer
Woodland, CA 95685

Lamson & Sessions
237 Forest View Dr.
Seymour, MO 65746

Lamson & Sessions
9000 Joiner Rd.
Tennille, GA 31089



Notes

Carlon® HDPE Quote Request

Date: _____ Needed By: _____ Destination: _____

Customer: _____ Account Number: _____ Application: _____

Rep Agency: _____ Market: ____ Power ____ Telecommunication ____ Electrical ____ CATV

1. PRODUCT TYPE

- ☐ A HDPE
- ☐ E Aerial HDPE
- ☐ S Aerial Figure 8 - 6.6M
- ☐ T Aerial Figure 8 - 10M
- ☐ U UL Listed HDPE
- ☐ Certification Required

_____ Specification

2. SIZE

- ☐ 2 1/2"
- ☐ 3 3/4"
- ☐ 5 1"
- ☐ 6 1-1/4"
- ☐ 9 1-1/2"
- ☐ 13 2"
- ☐ 14 2-1/2"
- ☐ 15 3"
- ☐ 16 4"
- ☐ 17 4.75"
- ☐ 18 5"
- ☐ 22 6"
- ☐ 23 7"
- ☐ 24 8"
- ☐ 25 10"
- ☐ 26 12"
- ☐ 27 14"
- ☐ 28 16"

3. CONFIGURATION

- ☐ B Smooth Out/Ribbed In
- ☐ C Smooth Out/Smooth In
- ☐ D Corrugated

4. WALL TYPE

- ☐ 2 None - Corr
- ☐ 4 SCH 40
- ☐ 5 SCH 80
- ☐ 6 SDR 11
- ☐ 9 SDR 13.5
- ☐ 13 SDR 15.5
- ☐ 14 SDR 17
- ☐ 16 SDR 21
- ☐ 22 SDR 7
- ☐ 24 SDR 9
- ☐ 26 SIDR 11.5
- ☐ 27 SIDR 11.5 True
- ☐ 29 SIDR 15
- ☐ 34 SIDR 7
- ☐ 36 SIDR 9
- ☐ 37 SIDR 9 True
- ☐ 42 TC-7-A
- ☐ 45 True 11
- ☐ 46 True 9

5. OPTIONS

- ☐ N Standard/No Options
- ☐ B Supplied Cable
- ☐ D Lube Duct
- ☐ E Slit - Corr
- ☐ F Toneable/18G
- ☐ G Toneable/22G

6. REEL SPLITS

- ☐ 1 1- Way Single
- ☐ 2 2- Part Segmented
- ☐ 3 3- Part Segmented
- ☐ 4 4- Part Segmented
- ☐ 5 2- Way Parallel
- ☐ 6 3- Way Parallel
- ☐ 7 4- Way Parallel
- ☐ 12 2- Way Compart
- ☐ 13 3- Way Compart
- ☐ 14 4- Way Compart

7. COLOR

- ☐ A Black
- ☐ B Blue
- ☐ C Brown
- ☐ D Buff
- ☐ E Gray
- ☐ F Green
- ☐ G Lilac
- ☐ H Lt. Green
- ☐ J Orange
- ☐ K Red
- ☐ L Terra Cotta
- ☐ M White
- ☐ N Yellow
- ☐ P Co-Ex Blue
- ☐ R Co-Ex Brown
- ☐ S Co-Ex Buff
- ☐ T Co-Ex Gray
- ☐ V Co-Ex Green
- ☐ W Co-Ex Lilac
- ☐ X Co-Ex Lt. Green
- ☐ Y Co-Ex Orange
- ☐ Z Co-Ex Red
- ☐ AA Co-Ex Terra
- ☐ BB Co-Ex White
- ☐ CC Co-Ex Yellow

(available in Solidwall 1" - 2")

8. STRIPE

- ☐ NN NONE
- ☐ 3A 3 Black Stripes
- ☐ 3B 3 Blue Stripes
- ☐ 3C 3 Brown Stripes
- ☐ 3D 3 Buff Stripes
- ☐ 3E 3 Gray Stripes
- ☐ 3F 3 Green Stripes
- ☐ 3G 3 Lilac Stripes
- ☐ 3H 3 Lt. Green
- ☐ 3J 3 Orange Stripes
- ☐ 3K 3 Red Stripes
- ☐ 3L 3 Terra Cotta Stripes
- ☐ 3M 3 White Stripes
- ☐ 3N 3 Yellow Stripes

9. PULL LINE

- ☐ A Empty
- ☐ B 1130 lbs. Polyester Tape
- ☐ C 1250 lbs. Polyester Tape
- ☐ D 1500 lbs. Polyester Tape
- ☐ E 1800 lbs. Polyester Tape
- ☐ G 200 lbs. Polyester Tape
- ☐ J 2500 lbs. Polyester Tape
- ☐ K 400 lbs. Detectable Poly Tape 22 Ga
- ☐ T 1250 lbs. Poly Metric Tape
- ☐ V 1250 lbs. Detectable Poly Tape 22 Ga

10. Quantity

	Total Length Feet
	Max Reel Size

Target Price (if Avail.)

_____

Project Stage Bid/Buy

_____

Competitors

_____

Carlon Quote #

_____

Pricing Specialist

_____

Minimum Custom Run Quantities:

1/2" - 2"	1000 Ft.
2 1/2" - 6"	600 Ft.
8"	560 Ft.
10" - 14"	480 Ft.
16"	360 Ft.

Fax completed Quote Request to your Local Carlon Representative
Visit www.carlon.com to locate a Carlon Representative

- Terms: Net 30 days unless other terms previously agreed.
- Pricing valid for 30 days unless otherwise specified.
- Freight quoted F.O.B., origin (freight additional) from plant specified.
- Custom product non-cancelable 24 hours after order acknowledgement or production has started.

Notes

Notes

Carlon® High Density Polyethylene Manufacturing Locations

Carlon®
LAMSON & SESSIONS

2F51 0M 3/07 SP