HDPE Innerduct

- **Size:** 0.5" – 6"
- **Wall thickness:** SDR 11, SDR 13.5, SCH 40, SCH 80
- **Colors:** Orange, Black w/Red Stripe, Gray, Custom
- **Types:** Empty, w/Tape, UL Listed

Tier 15/22 Hand Holes

- **Type:** Polycrete & Fiberglass
  Sizes
  12x12x12 - 11x18x18 - 13x24x18
  17x30x24 - 24x36x24 - 24x36x30
  24x36x36 - 30x48x24 - 30x48x36
  30x48x48 - 36x60x36 - 48x48x36
  48x48x48 - 48x60x48 - 48x96x48

More sizes available

Fiber

- **Brands:** YOFC, Gaon, Prysmian, AFL, HFCL
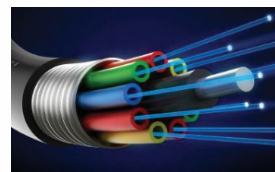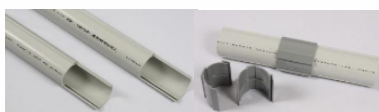- **Sizes:** 24, 48, 96, 144, 288, 432 count
- **Types:** Armored, dielectric, micro, ribbon, drop

Split Repair Conduit

- **Size:** 1"-6"
- **Wall Thickness:** Sch 40 – 80
- **Types:** Split Conduit, 45 & 90 Sweeps, Couplings, Adapter Couplings (Split to Smooth Wall)

Future Path

HDPE MINI DUCT FOR INSTALLING MICRO FIBER CABLES
- Optimizes system design and utilization
- Available in various sizes
- Single and multiple (bundled) configurations for specific project needs
- Standard stock lengths for faster service

See page 8 for more information

PVC Conduit

- **Size:** 0.5" – 6"
- **Lengths:** 10' & 20' Sticks
- **Wall thickness:** Sch 40, Sch 80
- **Types:** Standard & UL Listed

Pulling Eyes

Expandable Pulling Eyes
PE & PVC Pulling Eyes provide optimum gripping power and a watertight design
- Sizes 11/4" - 8"

Carrot Type Pulling Eyes
Tapered buttress threads thread into the innerduct for maximum pulling strength.
- ¾" - 2"

HDPE Sticks

- **Sizes:** 2"-16"
- **Lengths:** 20', 40', 50'
- **Colors:** Orange, Gray, Red, Black
- **Wall thickness:** SDR 9, SDR 11, SDR 13.5, SCH 40, SCH 80

Swivels

Sizes
5/8" Swivel
7/8" Swivel

Break-Away Swivels
Essential for fiber optic cable pulling, these swivels have a break load ranging from 150-1,800 lbs

HDPE Innerduct Couplings

Comfits: ¾" - 2"

Micro: 5mm - 27mm

Threaded : ¾" - 2"

ELOCS: ¾" - 6"

Morris: ½" - 24"

Shur-Lock: 1" - 6"

Clear Lock: ½" - 2"

Split-Lock: 1" - 2"

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Grips

E=Eye length
M=Mesh length at nominal diameter.
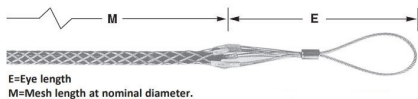
- **Fiber Optic Grip**
- **Multiple Strength**
- **Multiple Pulling Harness**

Cable Lube

CABLE PULLING LUBE
- 1 quart
- 1 gallon
- 2.5 gallon
- 5 gallon

MICROCABLE BLOWING LUBE
- 8 fl oz

CABLE BLOWING LUBE
- 1 quart
- 1 gallon
- 5 gallon

Carriers and Missiles

- **Cable Chute Line Carriers**
- **Foam Carriers**
- **Line Carriers**
- **Duct Projectiles/Missiles**

HDPE – PVC – Steel Glue

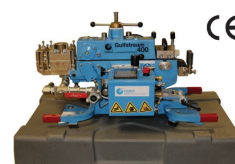- **Conduit glue joins polyethylene duct (PE pipe) to PVC, fiberglass, or metal conduits**

Reel Trailers

- **Max Reel Diameter: 96"-120"**
- **Max Reel Width: 54"-60"**
- **Trailer Length: 132"**
- **Trailer Width: 96"**
- **Payload Rating: 4,500lbs-8,500lbs**
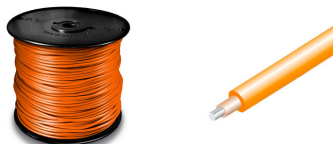- **Models: I-45, I-60, I-85**

Fiber Optic Cable Blowers

- **Build your own fiber optic cable blower kit**
- **Common Parts Package**
- **Cable and Duct parts**

Fiber Optic Cable Pullers

FIBER OPTIC CABLE PULLER   REMOTE MOUNTING STAND   HITCH MOUNT

- **Build your own fiber optic cable puller package**
- **Remote Mounting Stand**
- **Fiber Optic Cable Puller Hitch Mount**

Tracer Wire

8, 10, 12, 14 AWG

ProTrace HF-CCS VS THHN
- HF-CCS is 43% stronger than THHN
- HF-CCS is Direct Burial Rated THHN
- HF-CCS is much lower in cost than THHN

Plastic Hand Holes

Round
9"x10"
Colors
Gray or Green & Black

Square
14"x19"
17"x30"
24"x36"

Pull Tape

- **Size: 3,000' Spools**
- **Wall Thickness: 1,250lbs, 1800lbs, 2500lbs**
- **Types: Detectable & Non-Detectable**

Markers Posts

- **Manufactures: ProMark & Rhino Markers**
- **Types: Dome Markers, Tri-Views, Test Stations, Flat Markers, & Flush Mount Markers**

Duct Rodder

Duct Rodders combine ease of operation and reliable performance to help increase the efficiency of your rodding operations.

Types: Detectable & Non-detectable

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Splice Closures

AFL X-2 CLOSURE = TO FOSC 450D
- 6 CABLE PORTS
- SPLICE CAPACITY 432 SINGLE FUSION
- 864 RIBBON

Warning Tape

- **Types:** Detectable & Non-Detectable
- **Industries:** Telcom, Electric, & Gas
- **Lengths:** 1,000', 6,000', & Custom
- **Thickness:** 4 mil - 6mil
- **Width:** 3" or 6"

Yank Futurepath Puller

The Yank is a microduct installation tool that prevents debris entry with a fully sealed cap, reducing material waste and eliminating the need for duct clean-out work.

Tent

Sizes
- 48"x 48"
- 70" x70"
- 94"x94"
- 118"x118"
- 166"x166"

Locator
Fiber – Cable

Applications
- Pipe Locating, Cable Locating, Sonde Locating, Fiber Optic Line Locating.

Manufactures
- Vivax-Metrotech
- Copperhead

Duct Plugs

- **Size:** ¾" – 8"
- **Types:** Blank Duct Plugs, Fiber Optic Simples Duct Plugs, Entry Seal Duct Plugs, & Temporary Plugs

Handy Pusher Puller

Use a cordless or electric drill to assist in pushing or pulling fiber optic cable, a fiberglass rodder, or other types of stiff wire or cable through a conduit.

FlagShooter

- The FlagShooter Inserts flags and sprays paint with just one hand, increasing locator efficiency. You can even insert into hard or frozen ground.

Corrugated Conduit

- **Size:** ¾" – 2"
- **Types:** HDPE, Plenum, Riser
- **Colors:** Orange, Red, Custom
- **Other:** Empty, w/Tape

Pedestals

Plastic   Metal
- Multi-Use: Direct splice, Connectorized SC/APC and Hardened drop, MST's or Fiber Box.

Cutter & Slitters

Duct Cutter

Duct Slitter

Turbo Slitter

Sealoff Kit
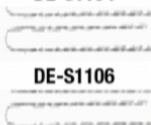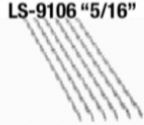
*Inserts into innerduct and twists tight for seal.
INNERDUCT SEAL-OFF OPTION:
- 3/4"- 4"

ROPE ADAPTER OPTION:
- 0.250", 0.375", solid

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SI-1740	SI-1755	PA-422	T-430	SI-2175	J8812	J8053
3 Bolt Cable Suspension Straight Clamp	Angle Suspension Clamp	Figure 8 Suspension Clamp	Stainless Steel Lashing Wire	D Lashing Clamp	Machine Bolt "12"	Thimble Eye Bolt "12"

	J8784	SI-5365	SI-4405	J1092	J6550C	J1074
Double Arming Bolt	Lag Screws & Studs	Square Nut	Thimble Eye Nut	Ovaleye Nut	Eyelet/Bolt Eye	Flat Square Washer

J6822	SI-4430	SI-4425	707YTIE	J6526WCA		J1030
Square Curved Washer	Guy Attachment Strap	Guy Hook / Ram's Head	Guy Mark	No Wrench Screw Anchor	Expanding Anchors	Guy Clamp

AE155	DE-S1104 / DE-S1106	LS-9104 "1/4" LS-9106 "5/16"	HFD207	5100	5000	SI-1756
Auxiliary Eyes	Guy Dead End	Strand Splice	False Dead End	Standvise	Auto Strandlink	Crossover Clamp

SWG205 SWGB2054	GIMADA118	J7920	FOSCMPTMK	SI7511-050	518X8	CP58
Sidewalk Guy Fittings	Fiberglass Extension Arms	Galvanized Extension Arms	Fiber Optic Slack Storage Bracket	Aerial Support Plastic Spacers-Ties	Copper Ground Rod	Ground Rod Clamp

SI-2174	J6493	SI-2006		SI-3000		SI-09725BL
KUL Bonding Clamp	Copper Coated Staple	Split Bolt Connectors	Grounding & Bonding Materials	J Hook	Wall Strap/ Suitcase Handle	Fiber Drop Line Hardware

	2419	SI-7511	SI-EB-625		PE40610	
Tree Guard	Stainless Steel Banding	Steel Lashing Clamps	Cable Bolt Extension	Figure 8 Placing Hook	U Guards & Accessories	Nail

SM Fiber Optic Diameter Guide

Dielectric (Non-Armored)

FIBER COUNT	# OF BUFFER TUBES	DIAMETER - INCHES (MM)	APPROXIMATE CABLE WEIGHT - LB.KFT (KG/KM)	BEND RADIUS LOAD - INCHES (CM)	BEND RADIUS NO LOAD - INCHES (CM)
2 TO 60	5	0.40 (10.1)	52 (78)	8 (20)	4 (10)
62 TO 72	6	0.43 (11.0)	62 (93)	9 (22)	5 (11)
74 TO 84	7	0.47 (11.9)	71 (106)	10 (24)	5 (12)
86 TO 96	8	0.51 (13.0)	81 (121)	10 (26)	5 (13)
98 TO 108	9	0.54 (13.7)	89 (133)	11 (27)	6 (14)
110 TO 120	10	0.58 (14.7)	98 (146)	12 (29)	6 (15)
122 TO 132	11	0.61 (15.6)	108 (161)	12 (31)	6 (16)
134 TO 216	12	0.64 (16.4)	125 (186)	13 (33)	7 (17)
218 TO 264	16	0.72 (18.4)	153 (227)	15 (37)	7 (19)
266 TO 288	19	0.75 (19.2)	166 (247)	15 (38)	8 (19)
290 TO 432	24	0.86 (21.8)	228 (339)	17 (44)	9 (22)

Single - Jacked Armored (SP)

FIBER COUNT	# OF BUFFER TUBES	DIAMETER - INCHES (MM)	APPROXIMATE CABLE WEIGHT - LB.KFT (KG/KM)	BEND RADIUS LOAD - INCHES (CM)	BEND RADIUS NO LOAD - INCHES (CM)
2 TO 60	5	0.47 (11.8)	97 (145)	10 (24)	5 (12)
62 TO 72	6	0.50 (12.8)	108 (161)	10 (26)	5 (13)
74 TO 84	7	0.54 (13.8)	122 (181)	11 (28)	6 (14)
86 TO 96	8	0.58 (14.8)	134 (200)	12 (30)	6 (15)
98 TO 108	9	0.61 (15.6)	146 (217)	12 (31)	6 (16)
110 TO 120	10	0.65 (16.6)	161 (239)	13 (33)	7 (17)
122 TO 132	11	0.69 (17.4)	171 (254)	14 (35)	7 (18)
134 TO 216	12	0.71 (17.9)	195 (290)	14 (36)	7 (18)
218 TO 264	16	0.79 (20.1)	230 (343)	16 (40)	8 (20)
266 TO 288	19	0.82 (20.9)	241 (359)	17 (42)	9 (21)
290 TO 432	24	0.94 (23.8)	295 (439)	19 (48)	10 (24)

Double - Jacked Armored (PSP)

FIBER COUNT	# OF BUFFER TUBES	DIAMETER - INCHES (MM)	APPROXIMATE CABLE WEIGHT - LB.KFT (KG/KM)	BEND RADIUS LOAD - INCHES (CM)	BEND RADIUS NO LOAD - INCHES (CM)
2 TO 60	5	0.54 (13.6)	117 (174)	11 (27)	6 (14)
62 TO 72	6	0.56 (14.3)	137 (204)	11 (29)	6 (15)
74 TO 84	7	0.60 (15.3)	153 (227)	12 (31)	6 (16)
86 TO 96	8	0.65 (16.4)	169 (252)	13 (33)	7 (17)
98 TO 108	9	0.67 (17.1)	182 (271)	14 (34)	7 (17)
110 TO 120	10	0.71 (18.1)	201 (299)	14 (36)	7 (18)
122 TO 132	11	0.74 (18.9)	211 (314)	15 (38)	8 (19)
134 TO 216	12	0.78 (19.9)	239 (355)	16 (40)	8 (20)
218 TO 264	16	0.86 (21.9)	282 (420)	17 (44)	9 (22)
266 TO 288	19	0.89 (22.7)	294 (438)	18 (46)	9 (23)
290 TO 432	24	1.00 (25.3)	332 (494)	20 (51)	10 (26)

WHERE IS INNERDUCT BEING USED?

INSIDE THE BUILDING

General Purpose & Riser

- Must be UL Listed
- Riser rated cable must be used in riser applications
- Color: Industry standard = orange

Plenum

- Must be UL Listed
- Plenum cable must be installed
- Color: Industry standard = orange
- Pull tape pre-installed in 1" through 2"

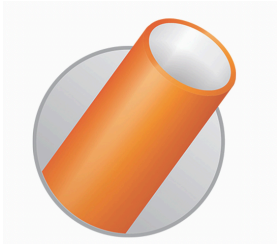## OUTSIDE THE BUILDING

Pulled into a Conduit

- True sized duct recommended 1.00" ID or 1.25" ID
- Corrugated duct for newer conduit runs & amp; shorter distance pulls

Plowed or Trenched

- SDR sized duct recommended (11/4" or larger)
- SDR 13 wall thickness for non-rocky soil conditions
- SDR 11 wall thickness forrocky conditions

HDPE INNERDUCT	WEIGHT/LF (LBS)	OD	ID	WALL
1/2" SDR 11	0.085	0.84	0.667	0.076
1/2" SDR 13.5	0.072	0.84	0.696	0.062
3/4" SDR 11	0.13	1.05	0.839	0.095
3/4" SDR 13.5	0.11	1.05	0.874	0.078
3/4" SCH 40	0.148	1.05	0.804	0.113
3/4" SCH 80	0.189	1.05	0.722	0.164
1" SDR 11	0.2	1.315	1.051	0.12
1" SDR 13.5	0.169	1.315	1.1	0.097
1" SCH 40	0.218	1.315	1.029	0.133
1" SCH 80	0.277	1.315	0.937	0.189
1 1/4" SDR 11	0.314	1.66	1.338	0.151
1 1/4" SDR 13.5	0.264	1.66	1.394	0.123
1 1/4" SCH 40	0.295	1.66	1.36	0.14
1 1/4" SCH 80	0.383	1.66	1.256	0.202
1 1/2" SDR 11	0.409	1.9	1.534	0.173
1 1/2" SDR 13.5	0.343	1.9	1.598	0.141
1 1/2" SCH 40	0.352	1.9	1.59	0.145
1 1/2" SCH 80	0.465	1.9	1.476	0.212
2" SDR 11	0.639	2.375	1.917	0.216
2" SDR 13.5	0.531	2.375	2.002	0.176
2" SCH 40	0.472	2.375	2.047	0.154
2" SCH 80	0.644	2.375	1.913	0.231
2 1/2" SDR 11	0.936	2.875	2.321	0.261
2 1/2" SDR 13.5	0.778	2.875	2.424	0.239
2 1/2" SCH 40	0.744	2.875	2.445	0.203
2 1/2" SCH 80	0.983	2.875	2.29	0.276

HDPE INNERDUCT	WEIGHT/LF (LBS)	OD	ID	WALL
3" SDR 11	1.387	3.5	2.825	0.318
3" SDR 13.5	1.153	3.5	2.95	0.259
3" SCH 40	0.974	3.5	3.042	0.216
3" SCH 80	1.316	3.5	2.738	0.381
4" SDR 11	2.293	4.5	3.633	0.409
4" SDR 13.5	1.906	4.5	3.794	0.333
4" SCH 80	1.924	4.5	3.786	0.357
5" SDR 11	3.505	5.562	4.49	0.506
5" SDR 13.5	2.912	5.562	4.689	0.412
5" SCH 80	2.621	5.562	4.812	0.375
6" SDR 11	4.971	6.625	5.348	0.602
6" SDR 13.5	4.13	6.625	5.585	0.491
6" SCH 80	3.674	6.625	5.761	0.432
HDPE INNERDUCT	WEIGHT/LF (LBS)	OD	ID	WALL
1" SIDR 11.5	0.151	1.251	1.049	0.091
1 1/4" SIDR 9	0.327	1.707	1.38	0.153
1 1/4" SIDR 11.5	0.255	1.64	1.38	0.12
1 1/2" SIDR 9	0.444	1.989	1.61	0.179
1 1/2" SIDR 11.5	0.343	1.91	1.61	0.14
2" SIDR 11.5	0.559	2.448	2.067	0.18
3" SIDR 11.5	1.232	3.634	3.068	0.267
3" SIDR 15	0.926	3.502	3.068	0.205
4" TRUE SIDR 11	2.095	4.737	4	0.348
4" SIDR 11.5	2.122	4.768	4.026	0.35
6" SIDR 15	3.52	6.873	6.065	0.404

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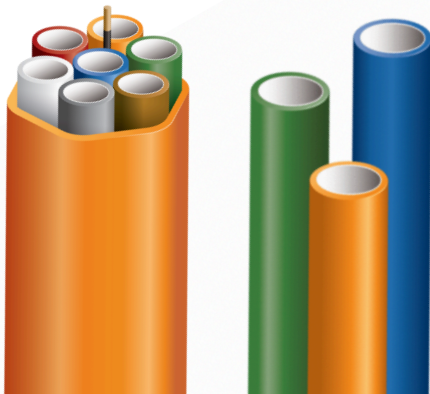*"The Innerduct Specialists!"*

VERSATILE

- Create space with an "Over-Ride" in existing conduits
- Direct Bury, Directional Bore, Trench or Plow
- Aerial configurations
- Micro Trenching
- Indoor or OSP
- Long-Haul, Back-Haul, Metro, FTTx, MDU compatible

COST-EFFECTIVE

- Multiple pathways for the price of one
- Build to scale
- More efficient & faster fiber placement
- Smaller, fewer reels reduce handling, staging, shipping
- Easily repaired

Configurations

MicroDuct ID (mm)	2	3	4	7	✓HDPE 8	🔴Riser Rated 12	🟩Plenum 19	⭐LSZH 24
22/16	✓	✓	✓	✓				
18/14	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐				
16/13	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐				
16/12	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐				
14/10	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐				
12.7/10	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐			
10/8	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐	✓🔴🟩⭐	

MicroDuct Size (OD/ID mm)	Fiber Count (# fibers in cable)	Fiber Cable (OD Range mm)
22/16	up to 432	7.8 - 12.4
18/14	up to 288	6.8 - 10.9
16/13	up to 288	6.4 - 10.2
16/12	up to 192	5.8 - 9.2
14/10	up to 144	5.0 - 7.9
12.7/10	up to 144	4.9 - 7.8
10/8	up to 96	4.0 - 6.3

GULFSTREAM 400 FIBER OPTIC CABLE BLOWER
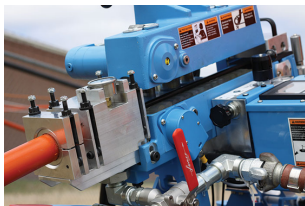
MICRO ACCESSORIES

- No special tools required
- Full range of push-on couplers and transition couplers for a variety of sizes
- End caps and end plugs to keep MicroDucts clean and free of debris
- Bulkhead fittings and gas block connectors

Multiple Micro Duct Installation Kits

10/8 Kit (08780710)
Includes:
(1) Cable Grip
(1) Lower Belt
(1) Upper Belt
(1) Rear Guide Assembly
(1) 5-Hole Venturi
(3) Venturi Plugs
(5) Duct-Fill Plugs
(5) Duct-Cap Plugs
(1) Rear Guide
(5) Proofing Balls

12/10 Kit (08780712)
Includes:
(1) Cable Grip
(1) Lower Belt
(1) Upper Belt
(1) Rear Guide Assembly
(1) 4-Hole Venturi
(3) Venturi Plugs
(4) Duct-Fill Plugs
(4) Duct-Cap Plugs
(1) Rear Guide
(5) Proofing Balls

12.7 Kit (08780770)
Includes:
(1) Cable Grip
(1) Lower Belt
(1) Upper Belt
(1) Rear Guide Assembly
(1) Rear Guide
(5) Proofing Balls
(1) 4-Hole Venturi
(3) Venturi Plugs
(4) Duct-Cap Plugs
(4) Duct-Fill Plugs

Condux Multiple Micro Duct Installation Kits allow you to install up to five 10/8 micro ducts, four - 10/12 micros ducts or four - 12.7 micro ducts into an existing innerduct wihen used with the Condux Gulfstream 400 Fiber Optic Cable Blower.

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