
BLUE DIAMOND 

Leading Manufacturer of HDPE Conduit



Blue Diamond Industries, a member of the Hexatronic Group of Sweden, is headquartered in Lexington, KY with manufacturing facilities in Middlesboro, KY near the Tennessee border. We manufacture HDPE (High Density Polyethylene) conduit for the protection of fiber optic and power cables. On the communication side, market applications include FTTH (Fiber to the Home), wireless backhaul, the cloud, data storage and acquisition, network construction, broadband and legacy networks. Power applications include highway, airport and street lighting, ITS, SCADA control systems, and Positive Train Control. Blue Diamond is an ISO 9001:2015 certified company.

HDPE Conduit Plant

Our conduit manufacturing plant in Middlesboro, KY has been producing high density polyethylene (HDPE) conduit for over 25 years. BDI innerduct and conduit provide security and protection to fiber optic and coaxial networks, the communications lifelines. Cable in Conduit (CIC) protects electric lines for street lighting, signalization projects and “Intelligent Highway Systems.” BDI conduit is manufactured to the latest ASTM specifications as well as being listed to produce UL Certified and RUS accepted products in diameters ranging from 1/2” through 6” diameter in virtually every color and striping identification system imaginable. BDI is agile and customer focused. By being able to change product styles and respond to requirements quickly, BDI gives each customer flexibility and dependable service.



Quality Control

The quality mission of BDI is to establish a culture of producing conduit, CIC (Cable in Conduit), and pressure polyethylene piping products to meet the required specifications. Tests are performed throughout the entire manufacturing process, from incoming raw materials to finished goods. Results are documented and are traceable through recording dates, shifts, and production runs. The goal is to continually improve quality and prevent shipment of any product not meeting required specifications. Blue Diamond earned the ISO 9001:2015 re-certification in September of 2017. We have been ISO certified since 2013. BDI maintains a full laboratory for testing of raw materials in accordance with ASTM D3350, in order to confirm the quality of our incoming raw materials as well as provide historical data. Furthermore, BDI does post production testing to ensure compliance with the specifications, including ASTM F2160, D3485, D3035, NEMA TC7, UL 651A and customer specific requirements. We monitor our record by executing customer surveys on a regular basis and we welcome feedback and opportunities to improve. Finally, BDI avails itself as a technical resource to our customers. As members of ASTM, PPI (Plastics Pipe Institute), and PCCA (Power and Communication Contractors Association), BDI is on the leading edge of industry research and technical knowledge.



ISO 9001
Quality

ASTM F2160-Standard Specification for Solid Wall High Density (HDPE) Conduit Based on Controlled Outside Diameter

The industry standard for conduit for communication and power applications.

ASTM D3350-Standard Specification for Polyethylene Plastics Pipe and Fittings Materials

Defines the raw materials requirements for all HDPE pipe. The standard cell class for ASTM F2160, D3485 and NEMA TC 7 conduit is PE334480C or E.

NEMA TC 7 -Smooth Wall Coilable Electrical Polyethylene Conduit

A standard used in power applications.

UL 651A-High density polyethylene conduit, and UL 1990-non-metallic underground conduit with conductors (Cable in Conduit-CIC)

The Underwriters Laboratory standard for power applications. Certification by UL is required to produce this conduit. UL Conduit meets NEC Code Article 353.

ASTM D3485-Standard Specification for Smooth-Wall Coilable Polyethylene (PE) Conduit for Preassembled Wire and Cable

The ASTM Standard for Cable in Conduit (CIC) where the cable is installed during the extrusion process of the conduit.

Smooth wall innerduct



Smooth wall is the standard High Density Polyethylene (HDPE) Duct. The interior of smooth wall has a slick finish which delivers the lowest coefficient of friction of all available non-lubricated innerduct. Smooth wall innerduct is a durable high quality product for direct burial and HDD (horizontal directional drilling) applications.

Ribbed wall innerduct



Blue Diamond's ribbed wall innerduct provides turbulent airflow when blowing fiber cable. Ribbed wall innerduct is available through 4" diameter in any SDR and SIDR rating.

Tracer wire innerduct



Tracer wire innerduct provides a method of locating underground fiber optic cable. The tracer wire is a single copper wire co-extruded onto the wall of the innerduct providing a corrosion resistant conductor. An alternative method of locating buried fiber optic cable is to use traceable tape, available pre-installed in any of our duct products.

Colors & Identification	
Standard colors available in:	White, black, blue, green, red, orange, lilac, grey, yellow, brown, buff, terra cotta. *Special colors may be available.
Striping:	Striping combinations are available in all colors. Three stripes located 120 degrees apart are extruded into the wall of the conduit.
Identification:	<ul style="list-style-type: none"> Innerduct size, SDR and sequential markings every 2' are ink jet imprinted on every order. Custom imprints such as company name, project name or any other special identification markings are also available.
Options:	<ul style="list-style-type: none"> Lubrication. Up to three lengths/colors of innerduct per reel available in parallel or segment. Pre-installed pull tape, tracer tape or cable.

reel capacities

Pipe Size	Reel Size = Flange (outside diameter) x outer reel width x drum (inside drum diameter); Standard arbor hole diameter 3"-3 1/2"							
1/2"	48x48x30	60x48x30	72x48x30	78x48x30				
	5,500	10,500	17,000	20,000				
3/4"	48x48x30	60x48x30	72x48x30	84x48x30	96x48x30			
	3,500	6,500	10,500	15,000	20,000			
1"	48x48x30	60x48x30	72x48x30	84x48x30	96x48x30	102x48x30		
	2,000	4,000	6,800	10,000	13,500	15,000		
1 1/4"	60x48x30	72x48x30	84x48x30	90x48x30	96x48x30	102x48x30		
	2,500	4,000	6,500	7,500	8,500	10,000		
1 1/2"	72x48x36	84x48x36	96x48x36	102x48x36	114x48x36			
	3,000	4,500	6,500	7,500	9,000			
2"	72x48x42	84x48x42	90x48x42	96x48x42	102x48x42	114x48x42		
	1,500	2,500	3,000	3,750*	4,500	5,500		
2 1/2"	84x48x48	96x48x48	102x48x48	114x48x48				
	1,500	2,000	2,500	3,500				
3"	96x48x64	102x48x64	114x48x64	120x48x64				
	1,200	1,500	2,000	2,500				
4"	96x48x72		102x48x72		114x48x72		120x48x72	
	550 SDR	500 SIDR	750 SDR	700 SIDR	1,000 SDR	900 SIDR	1,250 SDR	1,100 SIDR
5"	102x48x78	114x48x78	120x48x78					
	400	600	750					
6"	114x48x84	120x48x84						
	275	450						

Note: Ovality is a packaging condition when roundable conduit is wound into a coil or a reel. Larger conduit will have significant ovality, 10%+, and may require re-rounding in the field. For further information refer to ASTM F2160.

*Can go up to 4000' of 2" on SDR 13.5 or heavier wall.

**Tracer wire will decrease maximum reel capacities.

Respool Footages* (Parallel or Segment)

*Respoiled duct will decrease maximum reel capacities.

Pipe Size	2-way	3-way
1"	5,000	3,750
1 1/4"	4,000	2,500
1 1/2"	3,000	2,000
2"	1,500	1,000
3"	375	

*Footage based on standard 96" reels. **Footage is based on equal lengths. Special put ups are available.

Reels per Truckload	
72"	16
84"	14
96"	12
102"	12
114"	8
120"	8

ASTM F 2160
SDR Pipe Data

SDR 9

SDR 11

SDR 13.5

Nominal Duct Size	Nominal OD	Nominal ID	Min Wall	Weight lbs/ft	Nominal ID	Min Wall	Weight lbs/ft	Nominal ID	Min Wall	Weight lbs/ft
1/2"	0.840	0.633	0.093	0.099	0.667	0.076	0.085	0.696	0.062	0.072
3/4"	1.050	0.797	0.117	0.152	0.839	0.095	0.130	0.874	0.078	0.110
1"	1.315	1.003	0.146	0.235	1.051	0.120	0.200	1.100	0.097	0.169
1 1/4"	1.660	1.270	0.184	0.372	1.338	0.151	0.314	1.394	0.123	0.264
1 1/2"	1.900	1.452	0.211	0.488	1.534	0.173	0.409	1.599	0.141	0.343
2"	2.375	1.816	0.264	0.762	1.917	0.216	0.639	2.002	0.176	0.531
2 1/2"	2.875	2.198	0.319	1.117	2.321	0.261	0.936	2.429	0.213	0.768
3"	3.500	2.676	0.389	1.655	2.825	0.318	1.387	2.950	0.259	1.153
4"	4.500	3.440	0.500	2.737	3.633	0.409	2.293	3.794	0.333	1.906
5"	5.563	4.252	0.618	4.182*	4.490	0.506	3.505	4.689	0.412	2.912
6"	6.625	5.064	0.736	5.931*	5.348	0.602	4.971	5.585	0.491	4.130

ASTM F 2160
SDR Pipe Data

SDR 15.5

SDR 17

SCH 40

Nominal Duct Size	Nominal OD	Nominal ID	Min Wall	Weight lbs/ft	Nominal ID	Min Wall	Weight lbs/ft	Nominal ID	Min Wall	Weight lbs/ft
1/2"	0.840	-	-	-	-	-	-	-	-	-
3/4"	1.050	0.895	0.068	0.098	0.906	0.062	0.092	0.804	0.113	0.148
1"	1.315	1.127	0.084	0.151	1.140	0.077	0.139	1.029	0.133	0.218
1 1/4"	1.660	1.426	0.107	0.235	1.445	0.098	0.218	1.360	0.140	0.295
1 1/2"	1.900	1.635	0.123	0.305	1.656	0.112	0.282	1.590	0.145	0.352
2"	2.375	2.049	0.153	0.469	2.076	0.140	0.434*	2.047	0.154	0.472
2 1/2"	2.875	2.482	0.185	0.685	2.516	0.169	0.629*	2.445	0.203	0.744
3"	3.500	3.021	0.226	1.015	3.064	0.206	0.932*	3.042	0.216	0.974
4"	4.500	3.885	0.290	1.678	3.939	0.265	1.540*	3.998	0.237	1.387*
5"	5.563	4.801	0.359	2.563*	4.868	0.327	2.352*	5.009	0.258	1.880*
6"	6.625	5.719	0.427	3.637*	5.799	0.390	3.337*	6.031	0.280	2.444*

ASTM F2160
SIDR Pipe Data

SIDR 9

SIDR 11.5

SIDR 15

Nominal Duct Size	Nominal ID	Nominal OD	Min Wall	Weight lbs/ft	Nominal OD	Min Wall	Weight lbs/ft	Nominal OD	Min Wall	Weight lbs/ft
1"	1.049	1.302	0.117	0.194	1.251	0.091	0.151	1.209	0.070	0.117
1 1/4"	1.380	1.707	0.153	0.327	1.640	0.120	0.255	1.584	0.092	0.197*
1 1/2"	1.610	1.989	0.179	0.444	1.910	0.140	0.343	1.845	0.107	0.264
2"	2.067	2.554	0.230	0.732	2.448	0.180	0.559	2.363	0.138	0.426
2 1/2"	2.469	3.051	0.274	1.044	2.924	0.215	0.798	2.818	0.165	0.600
3"	3.068	3.791	0.341	1.612	3.634	0.267	1.232	3.502	0.205	0.926
4"	4.026	-	-	-	4.768	0.350	2.122	4.595	0.268	1.595
5"	5.046	-	-	-	5.976	0.439	3.256	5.759	0.336	2.506

Please note that some sizes and dimensions may require extended lead times. Please inquire for details.

*Note: Some dimensions only available in stick form.

UL Listed HDPE

UL Listed HDPE is a coilable nonmetallic underground conduit manufactured from High Density Polyethylene used for underground or innerduct applications to protect cables and wires. UL Listed HDPE is compliant with NEC 2017 Article 353 and is manufactured to UL 651A specifications. UL 1990 is the standard for UL certified conduit with conductors installed at the manufacturing facility, known as CIC (Cable in Conduit), Unit Duct, and Duct Cable. Its high tensile strength-to-weight ratio, superior crush resistance and low coefficient of friction for cable installation makes it ideal for directional boring.

Options:

Sizes 3/4" - 6"

Schedule 40

Schedule 80

Sizes 1 1/2 - 6" SDR 13.5

Multiple color and striping options

Sequentially marked footage

Also meets: NEMA TC-7 Smoothwall

Coilable PE Electrical Plastic Conduit

**Note: Some dimensions only available in stick form.*

UL 651 Listed		SCH 40			SCH 80			SDR 13.5		
Nominal Duct Size	Nominal OD	Nominal ID	Min Wall	Weight lbs/ft	Nominal ID	Min Wall	Weight lbs/ft	Nominal ID	Min Wall	Weight lbs/ft
3/4"	1.050	0.804	0.113	0.148	0.722	0.154	0.189	-	-	-
1"	1.315	1.029	0.133	0.218	0.936	0.179	0.278	-	-	-
1 1/4"	1.660	1.360	0.140	0.295	1.255	0.191	0.384	-	-	-
1 1/2"	1.900	1.590	0.145	0.352	1.476	0.200	0.465	1.599	0.141	0.343
2"	2.375	2.047	0.154	0.472	1.913	0.218	0.644	2.002	0.176	0.531
2 1/2"	2.875	2.445	0.203	0.744	2.290	0.276	0.983	2.429	0.213	0.768
3"	3.500	3.042	0.216	0.974	2.864	0.300	1.316	2.950	0.259	1.153
4"	4.500	3.998	0.237	1.387*	3.786	0.337	1.924	3.794	0.333	1.906
5"	5.562	5.009	0.258	1.880*	4.768	0.375	2.671	4.689	0.412	2.912
6"	6.625	6.031	0.280	2.444*	5.711	0.432	3.674*	5.585	0.491	4.130

CIC (Cable In Conduit) HDPE

BDI has the capability of installing power and telecom cables inside the conduit at the manufacturing facility. Applications include DOT, street or airport lighting projects, coax and fiber optic cable for the telecom, CCTV security, FTTH and CATV industries, power utility, command/control wiring for pipelines and irrigation systems, and most recently wind and solar farms.



CIC's long lengths are especially suitable for directional drilling and plowing applications. There is no need to pull cables after the conduit is installed, you are ready to connect. CIC is available with several cable types and combinations and BDI will also install customer supplied cable. Specifications we can manufacture to include UL 1990 (in accordance with NEC 2017 Article 353), ASTM F2160 and ASTM D3485. Available diameters range from 3/4" through 4".

3N1™ Boreable HDPE Multi-Cell Conduit *Patent No. 9,819,160

Blue Diamond has developed a new Boreable HDPE continuous conduit with 3 innerducts pre-installed inside. The innerducts are installed at our manufacturing facility during the extrusion process. Blue Diamond 3N1 saves time and money by allowing contractors to bore a complete package. Innerducts do not have to be pulled through after the bore, allowing you to blow fiber or pull power lines as soon as the bore is complete. With Blue Diamond's 3N1 there are no issues with getting innerducts stuck during installation in the field. Additionally, 3N1 can be trenched or plowed along highway right-of-ways. Currently our 3N1 is available in a 4" casing with 3-1.25" or 4-1" innerducts installed. Lengths of 500' to 1000' are standard, customer options are available. To connect longer runs of 3N1, Blue Diamond and ETCO Specialty products have developed a coupling system that pressure-seals the innerducts and provides a positive water-tight connection for the outer casing pipe.



Blue Diamond manufactures a wide range of microduct sizes and configurations. Microducts are becoming increasingly popular with engineers and owners due to the thirst for 1G+ broadband speed, and with the advent of microfiber cables. They allow home-runs from node to customer, without splicing and empty ducts for future connections, all within the same trench footprint. Whether microtrenching, installing Fiber to the Home, 5G wireless, or highspeed business campuses, microducts from Blue Diamond can be the right solution.



Blue Diamond offers both single tube and multi-tube combinations. Our multi-tube duct is offered in both regular wall and heavy wall overshooth options. Other standard features include: ribbed inside wall, multiple color options (see Page 2 of our catalog for a full list of colors), permanent SuperGlide™ interior, overshoothed in various combinations.

Single Tube Microduct

Size	Nominal OD	Weight lbs/ft	Bend Radius* (in)
12/10mm	12	0.022	9
12.7/10mm	12.7	0.030	10
14/10mm	14	0.048	11
16/13mm	16	0.043	13
16/12mm	16	0.056	13
18/14mm	18	0.064	14



*PPI recommended 20 times OD for the bend radius

**Minimum order quantity is 15,000'

Multi-tube Microduct

*Available in various combinations not listed below

Package	Nominal OD (in)	Overshoot Wall (in)	Package Weight lbs/ft	Bend Radius Unsupported* (In.)	Safe Pull** (lbs)
12.7/10 7-way	1.68	0.07	0.357	34	1417
16/13 7-way	1.90	0.07	0.468	38	1855
12.7/10 4-way	1.14	0.07	0.266	23	978
14/10 4-way	1.25	0.07	0.322	25	1278
14/10 3-way	0.74	0.07	0.198	15	788
16/12 3-way	0.98	0.07	0.242	20	959
14/10 2-way	0.73	0.07	0.145	15	576
18/14 2 way	1.18	0.07	0.198	24	784

*PPI recommended 20 times OD for the bend radius

**Safe pull is 50% of yield strength



BLUE DIAMOND

Industries, LLC

Corporate Headquarters

Blue Diamond Industries
4040 Finn Way, Suite 240
Lexington, Kentucky 40517
(859) 224-0415 • (859) 224-0543 Fax
www.bdiky.com

Manufacturing

Blue Diamond Industries
804 S. 23rd Street
Middlesboro, Kentucky 40965
(606) 248-8078 • (606) 248-7618 Fax

Blue Diamond is proud to be a member of:



Blue Diamond Mission Statement

Blue Diamond Industries manufactures and sells HDPE (polyethylene) pipe, in the telecom market to protect fiber optic cable, in the power market to protect electric cable, and civil construction markets (such as geothermal piping) to transport fluids. Blue Diamond's aim is to be agile and competitive, responding to our customer's needs better than our competitors, without compromising the quality required by industry specifications.

Our vision is to grow Blue Diamond by leveraging our expertise in extrusion of plastics, and our knowledge of engineered construction product applications and markets, achieved by acquisition or organic means.

We will achieve our growth through teamwork, while providing a good workplace environment, a competitive wage and benefits, and empathy for our employees to achieve good standing in communities where we operate.