ATLANTA HCD

HDPE COIL DUCT

Subdivision Underground Power Cable
Roadside Lighting Underground Cable
Industrial Park Underground Power Cable
Solar System Cable Protection
In-house Electrical Wirings
Golf Course Drainage System

The Underground Direct Burial HDPE Coil Duct (HCD)
for Power and Telecom Cables

FAR EAST
ADVANCE PLASTICS CORPORATION

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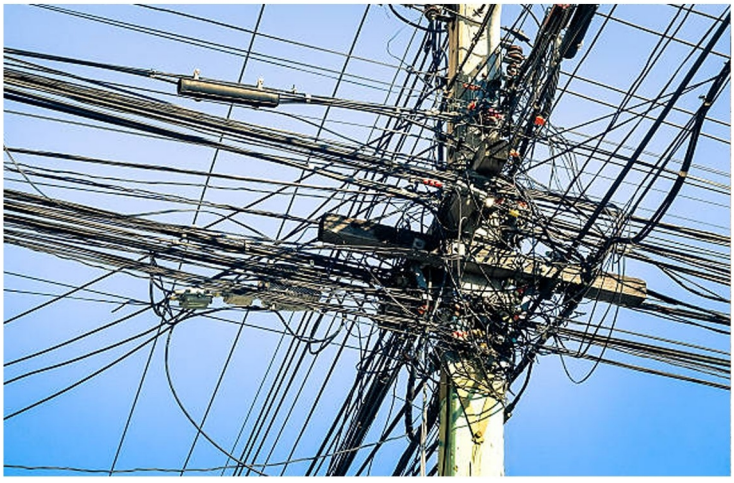
BONIFACIO GLOBAL CITY

Introduction

With the rise of modern industries leading to the growth and concentration of people and enterprises in urban centers, the need for intelligent spaces becomes evident. Consequently, there is a growing demand for more expansive areas, all while considering safety and enhancing panoramic views in urban, industrial, and roadside locations. All of these lead to the growing call to put wires and communication cables underground.



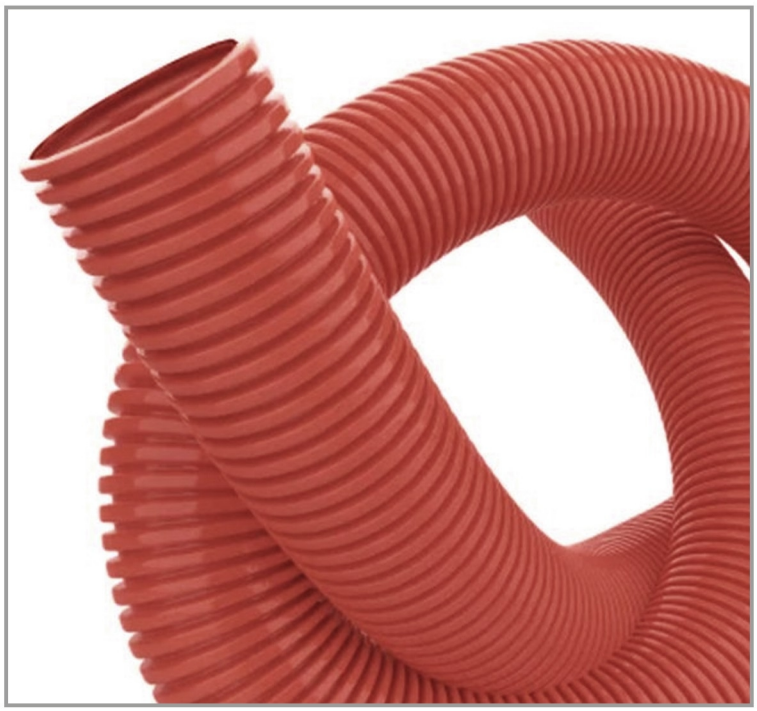
STANDARD POWER LINES IN THE PHILIPPINES

STEEL UNDERGROUND CONDUITS

In the past, underground conduits were predominantly made of hume, steel, and PVC. However, these conduit lines were all essentially direct tubes. The problem with them is that the pipes were characterized by relatively shorter lengths thus requiring multiple connections. The considerable weight has posed challenges during construction making it difficult to build and render the project costlier. The situation is made worse by labor shortages and losses because of delays in the work schedule.

All these problems are resolved by the brand new Atlanta HCD underground pipes. Atlanta HCD, treated with a distinctive spiral wave design, successfully addressed the surface strength limitations found in traditional polyethylene pipes. This innovative treatment significantly enhanced the strength of the pipes, surpassing previous standards by several times. Additionally, the Atlanta HCD pipes are highly reliable making them highly efficient in construction activities.

ADVANTAGES OF ATLANTA HCD



Being made from HDPE, a highly chemically inert plastic material, it exhibits excellent resistance to chemicals and corrosion. As a result, it significantly reduces the costs associated with pipe rehabilitation and maintenance compared to alternative pipe materials.

Excellent flexibility

It is easily bendable and suitable for use in building applications where it must avoid obstructions because of its wave treatment.

Smooth Cable Lead-in

As lead-in cable is already inserted into the pipe and has a low coefficient of friction, "lead-in" cable installation is simple. Manholes may therefore be spaced far apart.

Sturdy yet Safe

The strong surface strength of this material can bear enormous loads buried underneath it because of its wave treatment. Furthermore, it is protected against natural calamities like earthquakes and ground subsidence because of its flexibility and high internal pressure.

Lightweight

Compared to Copper or Hume tubes, it is significantly lighter due to its PE construction, making installation and shipping simple.

Longer unit length

The greater unit length results in considerable labor cost savings during installation and a decrease in operating terms since it has fewer connecting components and a shorter overall length.

Lower cost of construction

Combining the aforementioned benefits will yield a highly valuable economic outcome since the new pipes will have better operation efficiency, fewer working periods, and fewer manholes than the old ones.

Dependable performance

It is an excellent insulator, which makes it perfect for use as electrical wire conduit.

Exceptional resistance to corrosion and long-lasting durability

It is considered semi-permanent due to its robust resistance to acid, base, and oil, which prevents damage from chemicals and prevents it from corroding in environments with saltwater or marshes.

ADVANTAGES OF ATLANTA HCD INSTALLED UNDERGROUND WITH SAND BACKFILL/SAND ENCASEMENT

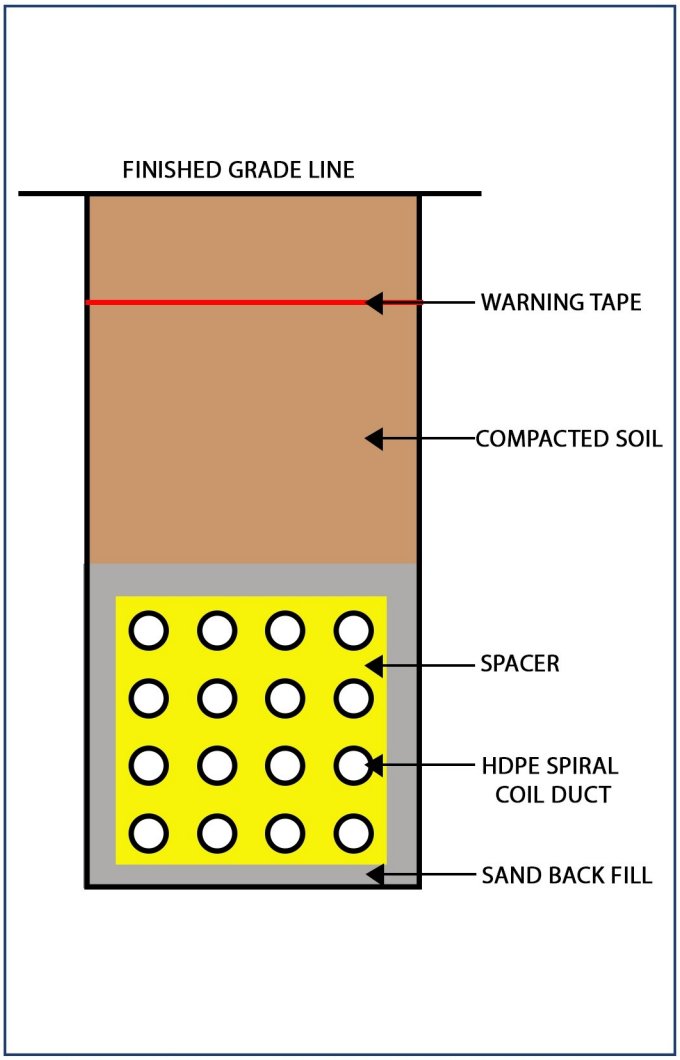


FIGURE 1. ATLANTA HCD HDPE SPIRAL CONDUIT WITH SAND BACKFILL

1. The conduit is not exposed to better stress as the applied sand backfill serves to assist in bearing the loads imposed on the duct.

2. Utilizing Atlanta HCD with sand backfill as opposed to concrete-encased PVC pipes results in a minimum savings of 20% in the total cost of civil works.

3. Atlanta HCD runs seamlessly from one manhole to another without joints or couplers, preventing water seepage and eliminating leak points along the conduit between manholes.

4. The heat generated by the conductor is transferred to the backfill sand rather than concentrated inside the duct, resulting in reduced system losses.

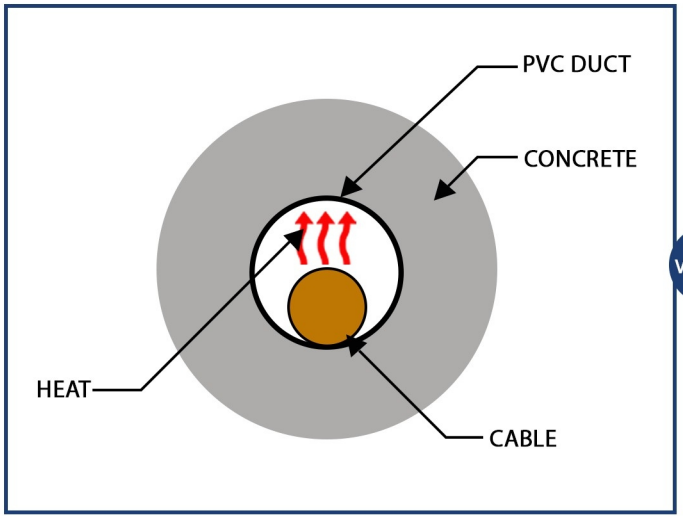


FIGURE 2. PVC WITH CONCRETE CASEMENT HEAT IS CONCENTRATED INSIDE THE PVC MINIMAL, LESS, SLOW TRANSFER OF HEAT OUTSIDE THE PVC.

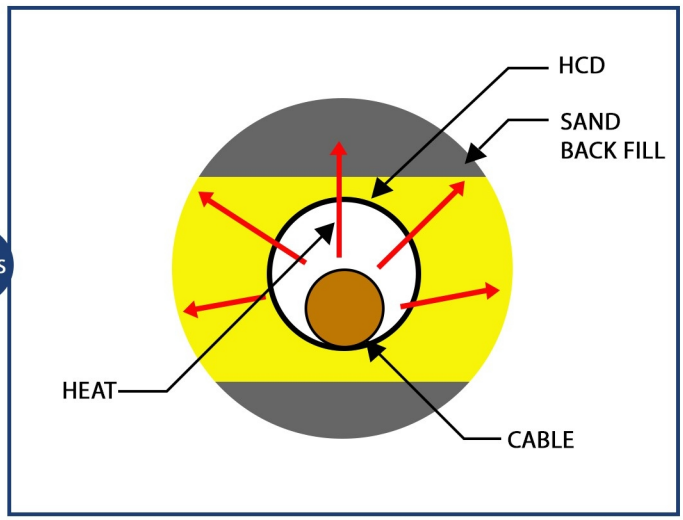
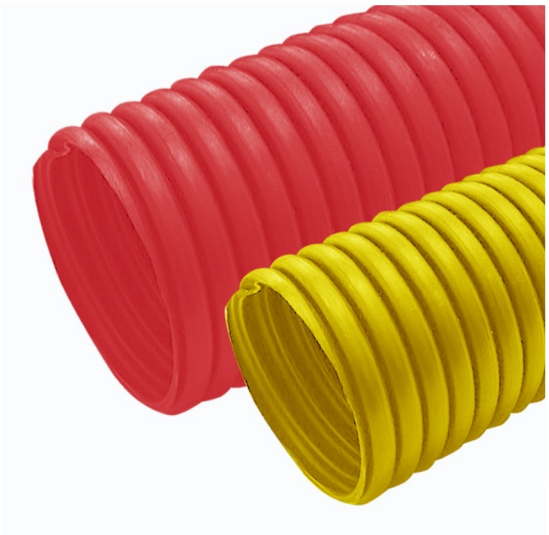


FIGURE 3. ATLANTA HCD (HDPE COIL DUCT) WITH SAND BACKFILL HEAT IS NOT CONCENTRATED INSIDE THE DUCT FAST TRANSFER OF HEAT OUTSIDE THE DUCT.

ATLANTA HCD - TYPE A
UNDERGROUND POWER &TELECOM

- Underground Power Cable Ducting
- Underground Communication Ducting

Wall Thickness Elongation Test : ASTM F405
Pipe Stiffness Test : ASTM 2412
All Weather Test : ASTM G155

HDPE COIL DUCT	NOMINAL DIAMETER			Meters/Coil	COLOR	APPLICATION
	NOMINAL SIZE (INCHES)	ID	OD			
	1/2	16	20	100	red & yellow	underground
	3/4	20	25	100		
	1	22	32	100		
	1-1/4	30	43	100		
	1-1/2	36	49	100		
	2	51	63	100		
	2-1/2	60	74	100		
	3	74	87.5	100		
	4	94	107	50		
	6	123	148	50		

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ATLANTA HCD - TYPE B
SOLAR EXTERNAL DUCTING

- Solar Farms

For solar power farm - UV Resistance Test in accordance with ASTM G-155

HDPE COIL DUCT	NOMINAL DIAMETER		Meters/Coil	COLOR	APPLICATION
	NOMINAL SIZE (INCHES)	ID	OD			
	1/2	16	20	100	UV rated black	exposed / direct sunlight application
	3/4	20	25	100		
	1	22	32	100		
	1-1/4	30	43	100		
	1-1/2	36	49	100		
	2	51	63	100		
	2-1/2	60	74	100		
	3	74	87.5	100		
	4	94	107	50		
	6	123	148	50		

ATLANTA HCD - TYPE C
RESIDENTIAL & COMMERCIAL BUILDINGS

- Electrical Conduit
- Internet and TV Conduit
- Communication Conduit

HDPE COIL DUCT	NOMINAL DIAMETER		Meters/Coil	COLOR	APPLICATION
	NOMINAL SIZE (INCHES)	ID	OD			
	1/2	16	20	100	orange	underground
	3/4	20	25	100		
	1	22	32	100		
	1-1/4	30	43	100		

ATLANTA HCD ACCESSORIES

MALE CONNECTOR with LOCK NUT

SIZE		
IN	ID	OD
1/2	16	20
3/4	20	25
1	22	32
1-1/2	36	49
2	54	63
2-1/2	60	74
3	74	87.5
4	94	107

END BELL

SIZE		
IN	ID	OD
1-1/2	36	49
2	51	63
2-1/2	60	74
3	74	87.5
4	94	107

STRAIGHT CONNECTOR (TYPE A & C)

SIZE		
IN	ID	OD
1/2	16	20
3/4	20	25
1	22	32
1-1/4	30	43
1-1/2	36	49
2	51	63
2-1/2	60	74
3	74	87.5
4	94	107
6	123	148

END PLUG

SIZE		
IN	ID	OD
1-1/2	36	49
2	51	63
2-1/2	60	74
3	74	87.5
4	94	107

STRAIGHT CONNECTOR (TYPE B)

SIZE		
IN	ID	OD
1/2	16	20
3/4	20	25
1	22	32
1-1/4	30	43
1-1/2	36	49
2	51	63
2-1/2	60	74
3	74	87.5
4	94	107
6	123	148

SPACER WITH PIN LOCK

SIZE		
IN	ID	OD
1	22	32
1-1/4	30	43
1-1/2	36	49
2	51	63
2-1/2	60	74
3	74	87.5
3-1/2		
4	94	107

INSTALLATION OF ATLANTA HCD

Manhole Trench Preparation

Prepare the trench where the conduit pipes will be installed, ensuring it is of appropriate depth and width according to specifications.

Installation of Manhole and Grounding

Install the manhole structure at the designated location, ensuring proper alignment and secure grounding.

Conduit Pipe Preparation

Prepare the trench where the conduit pipes will be installed, ensuring it is of appropriate depth and width according to specifications.

Sand Flooring and Conduit Laying

Lay a layer of sand at the bottom of the trench to create a stable flooring. Carefully place and position the conduit pipes in the trench, ensuring proper alignment and slope as required.

Assembling and Installation of Spacer

Assemble and install spacers at regular intervals along the conduit pipes to maintain proper spacing and prevent deformation.

Sand Backfilling and Water Compaction

Gradually backfill the trench with sand, ensuring proper compaction to provide stability and support to the conduit pipes. Use water compaction techniques as needed.

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