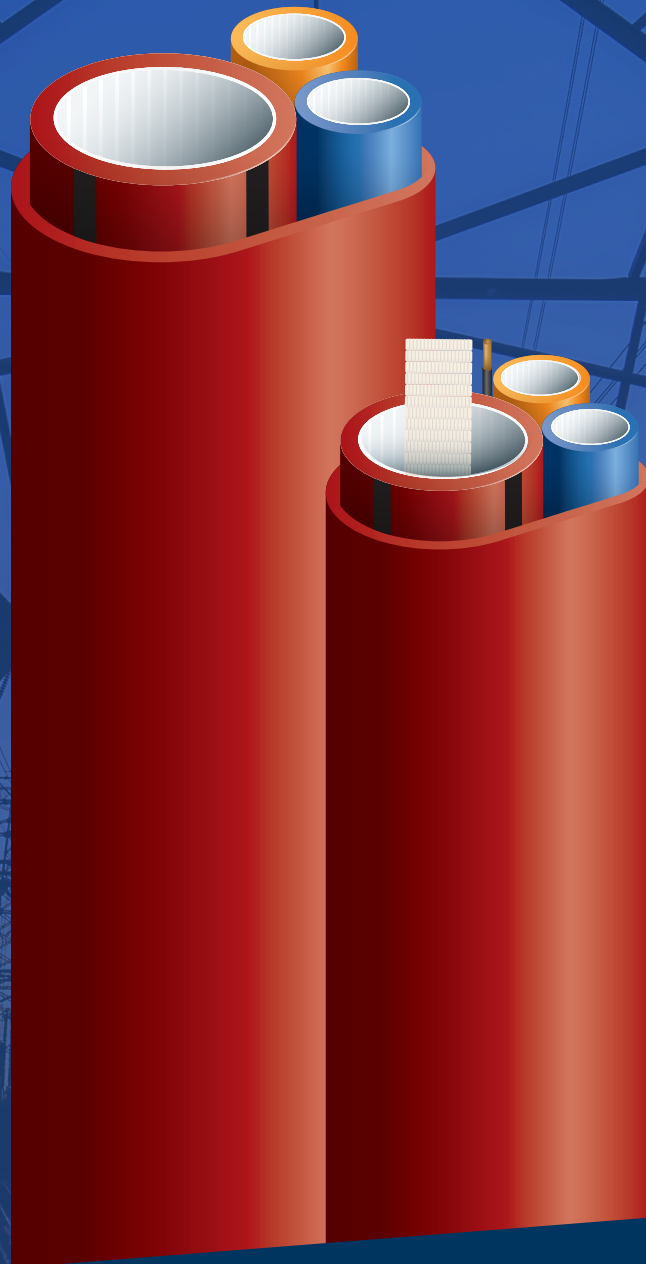


# POWERGUARD<sup>®</sup> HYBRID

HDPE smoothwall conduit approved for electrical installations



# WHY CHOOSE POWERGUARD?

**PowerGuard® Hybrid uses a CSA C22.2 listed PowerGuard® conduit with two MicroDucts for flexibility in immediate needs and future growth with optional pathways for communication and power cabling.** It's now possible to have power cables and/or communication, fibre optic, and signaling cables bundled and pulled together in a one-time conduit installation. Use both MicroDucts or leave one empty for future planning.

- » Cost, space and time savings with joint power and communication applications in one drop.
- » Can be installed underground everywhere CSA certified PVC conduit can be installed
- » Comes standard with our patented SILICORE® ULF permanently lubricated interior lining and longitudinal inner ribs eliminating the need for additional lubricants
- » Available with pre-installed cable, Cable-In-Conduit (CIC), eliminating the need to pull in cables after installation.
- » Please ask us about this time-saving technology

## POWERGUARD HYBRID FEATURES

**DUCTILITY:** HDPE will better resist brittleness with age or cold temperatures

**FLEXIBILITY:** HDPE bends and flexes without breakage, even when the ground shifts or heaves

**TEMPERATURE VERSATILITY:** HDPE can be installed over an ambient temperature range of -34°C to 82°C. Most power conductors rated at 90°C and medium voltage cable rated at 105°C are permitted for use with HDPE conduit

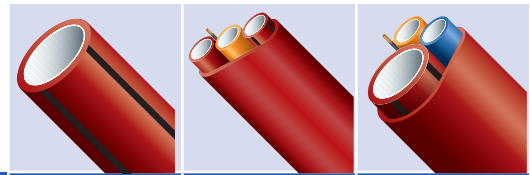
**CONTINUOUS LENGTH:** can be wound onto reels several thousand meters long

**VERSATILITY:** Can be installed using multiple methods

## POWERGUARD HYBRID BENEFITS

- » Joint power and communications applications in one drop
- » Will not exhibit the cracking or breakage associated with PVC conduits
- » Can be installed at a lower temperature than PVC conduit
- » Does not require manufactured bends - allows the pipe to be navigated around unexpected obstructions in the ground and withstand ground shifts.
- » Ideal for long runs for projects requiring both power and communication such as fibre sensing applications or roadway/transit-related power and signaling
- » Long continuous runs virtually eliminate the need for couplers and cement
- » Ideal for installation into existing main pathways (conduit pulling, overrides, slip lining)

## POWERGUARD FAMILY OF PRODUCTS



FEATURES	POWERGUARD	POWERGUARD PLUS	POWERGUARD HYBRID
Made in Canada	●	●	●
SILICORE® ULF Lining	●	●	●
Flexible CSA-Listed HDPE Resin Reduces Sweeps and Bends	●	●	●
Open Trench, Plowing and Horizontal Directional Drilling	●	●	●
Installation in Cold Climates	●	●	●
Long-Term Protection from Shifting Ground, Rock, and Root Impingement	●	●	●
Available with Pre-Installed Tape from 500 lb. – 6000 lb. Tensile Strength	●	●	●
Suitable for Use with Low, Medium, and High-Voltage Cables	●	●	●
Can be Installed Everywhere CSA-Certified PVC Conduit or Duct can be Installed Underground	●	●	●
Easily Adapts to Other Conduit Materials	●	●	●
Glue-less Coupling	●	●	●
Direct Bury or Concrete Encasement up to 69kv	●	●	●
Produced to the CSA Standards of C22.2 NO.327 for Electrical Applications	●	●	●
Open Trench	●	●	●
Plowing	●	●	●
Horizontal Directional Drilling	●	●	●
Smooth Outer Wall	●	●	●
Longitudinal Inner Ribs	●	●	●
Available with Pre-Installed 20 awg. Insulated Tracer Wire	●	●	●
Multiple Pathways for Electric and Fibre		●	●
Available in 16mm (1/2") to 129mm (5"). Comes standard in long continuous lengths on reels or coils, 155mm (6") is available in trade lengths 3.048m (10'), 6.096m (20'), 12.192m (40'), & 15.24m (50')	●		
Available in 3-Way Configuration of 27mm (1") SCH 40 HDPE Conduit Bundled with a Polyethylene Over Sheath		●	
Available in 3-Way Configuration of one 53mm (2") SCH 40 HDPE Conduit with two 18/14mm MicroDucts.			●

# POWERGUARD HYBRID FEATURES

## Standard Hybrid Configuration:

(2) 18/14mm MicroDucts:  
Blue and Orange

(1) 53mm/2" SCH 40 HDPE Conduit:  
Red with 4 Black Stripes

Both sizes come standard with  
Silicore ULF + internal ribs

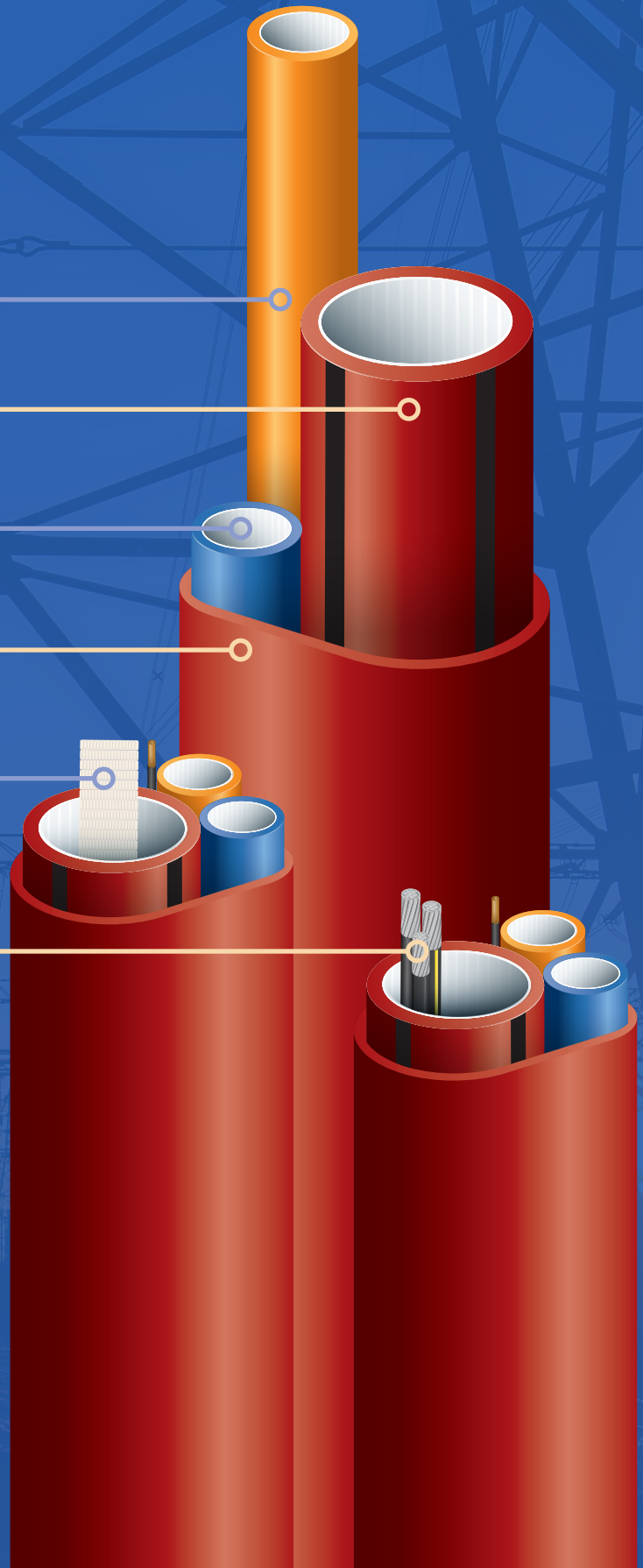
Red Oversheath

Pull Tape Option

Pre-installed Cable Option

Packaging:

1,000' (304.8m)  
on a 96' Steel Reel



## WHAT IS SILICORE® ULF

Where does friction occur? Cable installation difficulty is directly proportional to the route of the conduit.

Straight paths are easiest; however, real-life installations rarely have straight paths. Bends and turns in the pathways cause friction spots along the route. Lubricants were developed to help overcome the friction challenges. Over time, lubricants dissipate, causing direct contact between the cable and the conduit. That contact not only makes the install difficult, but can damage the cable. In ducts with SILICORE ULF, the cable remains in contact with the slippery lining, reducing the friction. No burn through. Easier and longer cable pulls!

SILICORE ULF is co-extruded inside the HDPE wall creating a slick, permanent, interior lining. With a coefficient of friction 60% lower than standard HDPE conduit without the aid of wet lubricants, SILICORE ULF exhibits no loss in performance over time or in extreme temperature conditions.

### FEATURES

- » No lubricant required
- » Permanent: remains unchanged for life of conduit
- » Lowest co-efficient of friction
- » No lubricant clean-up
- » No performance loss in all temperature conditions
- » No special lubes required for cold weather
- » Identifiable by its contrasting white colour

## CABLE-IN-CONDUIT (CIC)

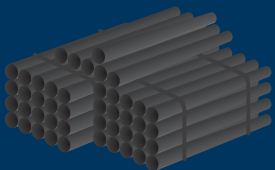
Dura-Line has the technology to manufacture the conduit with the cable pre-installed. We take the cable and extrude the conduit directly over the communication or electrical cable. Tight control of the conduit temperature during the manufacturing process is essential to ensure that the conduit does not stick to the cable as it cools.

### BENEFITS OF CIC

- » Continuous length with preinstalled cables on reels for easy deployment
- » Protects buried cables from harsh environments, digging mishaps and rodent and animal intrusion and damage
- » Saves the time, labour and costs associated with pulling and jetting cables
- » Pathways for future cable installations, replacements and repairs
- » Configurations to meet any needs for today and futureproofing for tomorrow



## 1,000M: PVC STICKS VS POWERGUARD



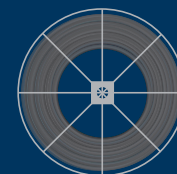
**2 1/3 CRATES**  
OF 2" PVC STICK PIPE

+



**140**  
COUPLERS

VS



**ONE REEL**  
OF 2" POWERGUARD HYBRID

**= 1,000M**

**= 1,000M**

# ORDER REFERENCE

## POWERGUARD/REELS

DUCT SIZE	DIMENSION RATIO	LENGTH/REEL (M)	REEL SIZE	DURA-LINE PART #
53mm (2") + 18/14mm MicroDucts	SCH-40	305	96" X 45"	10015119

## POWERGUARD® NOTES

Approved to the CSA C22.2#327:2018 "HDPE Conduit, Conductors in Conduit, and Fittings."

This standard applies to High Density Polyethylene (HDPE) conduit with conductors (C.I.C.) and fittings, intended for use at a continuous operating temperature of 75c or 90c, for installation according to the rules of the Canadian Electrical Code, Part 1, for direct burial or encasement in concrete or masonry in ordinary (non hazardous) locations.

For each size and type of conduit, the average coefficient of static friction shall not exceed 0.20 when determined by using the test method specified in clause 6.2 of CSA C22.2 No. 211.1.

Field bends can be made without the use of external heaters, blankets or tools. Table 8 of CSA C22.2#327:2018 specifies the following bending radius by conduit diameter:

### 12-1258 Field bends

Where HDPE conduit or HDPE conductors-in-conduit are bent during installation, the radius of the curve shall be

- a) not less than that specified by the HDPE conduit manufacturer; or
- b) if not specified, at least 12 times the external diameter of the HDPE conduit or HDPE conductors in conduit.

**1 meter = 3.28084 feet**

## ACCESSORIES

Dura-Line offers a complete line of couplers, tools, hardware, Bull-Line Pull Tapes, lubricants, chemicals, and accessories designed to make your cable installation highly successful.

Highlighted below are a few of our most popular products. Please visit our website or contact your sales representative for more details.



### SHUR-LOCK™ II COUPLER

- » Plastic coupler specialized for use by electrical installers requiring CSA/ETL/UL listing, designed for coupling HDPE & PVC conduit.
- » Features stainless steel band clamps (hand tightened using a 5/16" nut driver) and locking ring
- » Pre-lubricated O-ring forms an air-tight seal to withstand 125 psi



### MICROACCESSORIES

- » Easy assembly/disassembly, no tools required
- » Provide an air and water tight connection
- » Color coded by size
- » Low profile design



### BULL-LINE™ PULL TAPE

- » Economical, pre-lubricated tape reduces friction induced heat associated with pulling heavy cables into conduit
- » Lowest burn-through resistance, easily jetted into conduit
- » Accurate sequential foot or meter markings
- » Locatable tracer wire option
- » Available on reels in a wide variety of lengths
- » Available in a plastic dispenser pail containing 6,500' (1,981m) of line, rated at 210 lbs. breaking strength



### HYDRA-SEAL SEALANTS

- » Designed and developed with high-performance properties, yet safe and user-friendly.
- » Available with a variety of complimentary accessories.



### LUBRICANTS

- » Formulated to meet specific requirements, our lubricants are available in a wide range of polymer and silicone-modified formulations in gel, creamy gel, or pourable forms. We offer a lubricant to match the type and weight of cable to be placed. Our lubricants are UL listed and available in summer and winter grades.



### SPLICE KITS

- » Contains all items necessary for splicing and connecting FuturePath
- » Provides superior splice point protection from impact and external conditions
- » Provides an air and water tight seal
- » Does not compromise jetting or cable installation performance



1964 Muskoka Beach Road  
Gravenhurst, ON P1P 1R1 Canada  
(705) 646-5589 • [www.duraline.com](http://www.duraline.com)



DLC\_PowerGuard Hy\_08.2022