

# Type ZHLA

Part of the **Zero-Halogen Flexible Conduit Family**.

Non-halogen, low smoke and low flame spread make Type ZHLA a proven choice for applications where limiting toxic materials of combustion are an important issue. Since ZHLA is also UL listed and CSA Certified for "Heavy-Duty" applications, it is ideal for field installation in confined, public areas such as subways, tunnels, etc.

## Construction:

### Inner Core:

- Hot Dipped Galvanized Steel
- 3/8" – 1-1/4" Squarelock Profile with continuous bonding strip
- 1-1/2" – 4" Fully Interlocked Profile

### Liquidtight Jacket:

- Zero-Halogen Polyurethane
- Resistant to Ozone, Hydrocarbons, **Chemicals and Oils**
- Flame Retardant
- Low Smoke
- Low Toxicity
- Sunlight Resistant (UV)
- Marked HD for "Heavy-Duty"

## Application:

- Meets the requirements of Bombardier SMP 800-C for Toxic Gas Generation.
- Meets the requirements of ASTM E662 for Smoke Generation.

This conduit is intended for installation in accordance with Article 350 of the NEC (ANSI/NFPA-70) and in section 14.5.4 of the ANSI/NFPA-79 Standard for Industrial Machinery:


- Listed and marked for Direct Burial and in Poured Concrete
- For containment of 1000 volt and lower potential circuits
- Suitable as a grounding conductor when used for circuits rated up to 20A for the 3/8 & 1/2 inch trade sizes and 60A for the 3/4 through 1-1/4 inch trade sizes in lengths six feet or less per NEC Article 250.118(6). Larger sizes require separate grounding conductor.




All Products Proudly Made in the USA


## Product Information

### CERTIFICATIONS & COMPLIANCE

 Listed File # E29278. Conforms to Underwriters Laboratories Standard ANSI/UL-360 for Liquidtight Flexible Steel conduit.

 Certified File #LL18858. Conforms to CSA Standard C22.2 No 56-17. Conforms to Annex A "Heavy-Duty" in sizes 1/2" or larger. FT1

 **WEEE and RoHS Compliant**

 BS EN IEC 61386 Classification Code 445240650414 **CE**

#### Declaration

**ARRA:** For ARRA Certification Letter, please [click here](#).

**Buy America:** For Buy America Certification Letter, please [click here](#).

### STANDARD COLORS

Black. **Other colors available upon request.**

- Installations in hazardous (classified) locations:
  - Class I Div. 2: Article 501.10 (B)(2) & 501.30 (B)
  - Class II Div. 1: Article 502.10 (A)(2) & 502.30 (B) Div. 2: 502.10 (B)(2)
  - Class III Div. 1: Article 503.10 (A)(3) & 503.30 (B) Div. 2: 503.10 (B)
- Installed under raised floors in Data Processing Areas Articles 645.5 (E)
- Electric Signs and Outline Lighting over 1000 volts Articles 600.7/600.32(A)(1)
- Permitted for Service Entrance wiring to six feet Article 230.43
- Used as Feeders and Services at Marinas and Boatyards Article 553.7(B).
- Wiring on Building Article 225.10
- Conductor Enclosures Adjacent to Motors over 1000 V Article 430.223
- Underground Service, Feeder, Branch Circuit, and Recreational Vehicle Site Feeder Circuit Conductors Article 551.80
- Elevators and Hoistways Article 620.21
- Pools and Fountains Article 680
- Bodies of water. Article 682
- Fire Pumps. Article 695

## WORKING TEMPERATURES

UL: -40°C to 80°C Air / 60°C Wet / 70°C Oil

CSA: -40°C to 60°C Dry / 60°C Oil

UL: -40°F to 176°F Air / 140°F Wet / 158°F Oil

CSA: -40°F to 140°F Dry / 140°F Oil

**This conduit is intended for use according to the Canadian Electrical Code (CEC CSA 22.1-18) as described in clause 12-1300 for dry, damp or wet locations.**

- Conforms to CSA C22.2 No. 56-17 Annex A "Heavy Duty"

Hazardous Locations areas where flexibility is necessary:

- Class I Div 2: CSA 22.1 J18-152 (1) (i)
- Class II Div 1: CSA 22.1 J18-204 (4) (b)
- Class II Div 2: CSA 22.1 J18-254 (1) (h)
- Class III Div 1: CSA 22.1 J18-304 (1) (f)
- Class III Div 2: CSA 22.1 J18-354 (h)
- Zone 2: CSA 22.1 18-152 (1) (h)
- Zone 20: CSA 22.1 18-192 (3) (a)
- Zone 21: CSA 22.1 18-202 (4) (a)
- Zone 22: CSA 22.1 18-252 (1) (h)

# Combustion & Flammability Properties

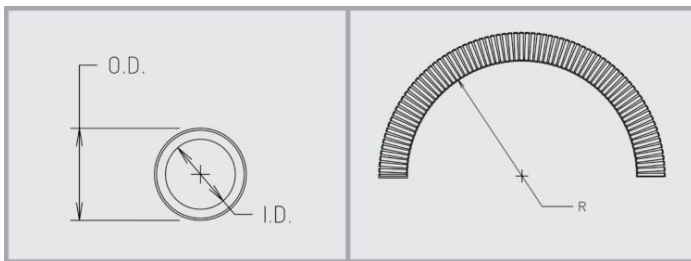
COMBUSTION & FLAMMABILITY	TEST	VALUE
Vertical Burn (Material)	UL94	V-0 Rating; No Flaming Drips
Vertical Burn (Conduit)	UL360	Pass; No Flaming Drips
Oxygen Index %	D2863	28.5
Smoke Generation (Flaming)	ASTM E662 (NFPA 258)	Ds 41@1.5 Min/Ds 113@4.0 Min

Smoke Generation (Non-Flaming)	ASTM E662 (NFPA 258)	Ds 4@1.5 Min/Ds 19@4.0 Min
Toxic Gas Generation	BOMBARDIER SMP 800-C	Pass
Toxicity Index	NES 713	3.9

*\* Test data is based on controlled laboratory conditions and does not necessarily reflect performance in actual fire conditions. Additional product information available upon request.*

## Markets:

Construction, Data Centers, DataComm, Defense, Healthcare, Mining, Oil & Gas Refineries, Power Plants, Rail/Transit, Renewable Energy, Security, Ship Building, Steel Mills, Telecommunications, Utilities



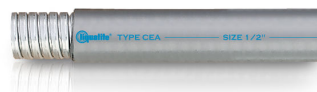
## Product Table

	US Trade Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
	ISO (MM)	16	20	25	32	40	50	63	70	80	90	100
	CSA (MM)	12	16	21	27	35	41	53	63	78	91	103
	Type	ZHLA-10	ZHLA-11	ZHLA-12	ZHLA-13	ZHLA-14	ZHLA-15	ZHLA-16	ZHLA-17	ZHLA-18	ZHLA-350	ZHLA-19
Internal Diameter	Min (MM)	12.3	15.8	20.8	26.4	35.1	40.0	51.3	63.0	78.0	88.9	101.6
	Max (MM)	12.8	16.3	21.3	27.1	35.8	40.6	51.9	63.6	78.7	89.9	102.6
Outside Diameter	Min (MM)	17.5	20.8	26.2	32.8	41.4	47.4	59.4	72.1	87.9	100.6	113.3
	Max (MM)	18.0	21.3	26.7	33.4	42.2	48.3	60.3	73.0	88.9	101.6	114.3
Inside Bend Radius	Static (MM)	50	75	105	138	175	113	152	203	254	279	305
Weight	(Kgs) per 30 meters	13	15	24	37	46	56	66	87	114	140	159
Standard Length	Carton (Mtrs)	30	30	30	30	15	15	15	8	8	8	8
	Part # (Black)	88101	88111	88121	88132	88142	88152	88162	88172	88182	88187	88192
	Reel (Mtrs)	150	150	150	120	60	45	30				
	Part # (Black)	88103	88113	88124	88134	88144	88154	88164				
	Reel (Mtrs)	300	300	300								
	Part # (Black)	88104	88114	88125								

### related products



**Type ZHSS**



**Type CEA**

This non-UL liquidtight flexible stainless steel conduit is designed for applications where safety concerns exist regarding a material's reaction in a fire situation. It offers excellent resistance to corrosion.

[see product detail »](#)



## Type ATX

A non-UL Liquidtight Flexible Steel conduit designed to withstand an extreme temperature range.

[see product detail »](#)

This non-UL liquidtight flexible steel conduit is designed for applications where safety concerns exist regarding a material's reaction in a fire situation

[see product detail »](#)



## Type HFSLA

Part of the SHIELD-FLEX® family of EMI/RFI Shielding conduits. Type HFSLA is identical to standard UL Listed liquidtight flexible steel conduit (See Type LA) but is augmented with a tinned copper shielding braid located over the inner steel core and under its protective Polyurethane jacket.

[see product detail »](#)