

# Technical Specifications

## LIQUID-TUFF™

# UL Liquidtight Flexible Non-Metallic Conduit (Type LFNC-B)

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### Scope

This specification covers AFC Cable Systems, Inc. UL LIQUID-TUFF™ Integral Liquidtight Flexible Non-Metallic Conduit, Type LFNC-B designed for use in wet, dry or oily locations as a flame resistant, non-metallic raceway for power, control and communications cables in compliance with Article 356 of the National Electrical Code. The product is UL Listed for 80°C (176°F) in a dry location, 60°C (140°F) in a wet location and 70°C (158°F) in an oily location. It is also UL Listed through 2-inch trade sizes for direct burial, outdoor use and sunlight resistance. In addition the product is CSA certified for use at 75°C (167°F) in dry and oily locations and for minus 18°C (0°F) low temperature applications. This Liquidtight Flexible Non-Metallic Conduit is manufactured and tested in accordance with Underwriters Laboratories Inc. Standard UL 1660 and CSA International Standard CSA C22.2 Number 227.2. The product carries the UL Listing Mark and the CSA Certification Mark.

### Construction

Liquidtight Flexible Non-Metallic Conduit, Type LFNC-B is a raceway of circular cross section with a smooth polyvinyl chloride (PVC) inner surface and an integral reinforcing member within the conduit wall. The wall thicknesses and dimensions of the integral conduit shall comply with Table 6.4 of UL 1660 and Table 1B of CSA C22.2 No. 227.2 which are summarized in Table 1.

### Grounding

A separate Grounding conductor is required by both the National Electrical Code and the Canadian Electrical Code for all trade sizes.

### Markings

The outer surface of the conduit shall be clearly marked with a legible print legend in accordance with UL 1660 and CSA C22.2 No. 227.2.

### Performance Tests

The completed UL LIQUID-TUFF™ Liquidtight Flexible Non-Metallic Conduit, Type LFNC-B shall meet all of the performance requirements contained in UL 1660 and CSA C22.2 No. 227.2 and outlined in Appendix A.

- Package lengths in excess of 100' contain splices; these splices must be cut out before use.

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### Reference Standards

UL 1660	Standard for Liquidtight Flexible Non-Metallic Conduit
CSA C22.2 No. 227.2	Standard for Flexible Liquidtight Non-Metallic Conduit
UL File References	UL E123464; CSA 69271
NEC® Articles:	356, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 620.21, 645.5(D)(2), 680.21, 680.23, 680.25, 680.27, 680.42, 695.6(E) and 695.14(E)





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**Table 1**

Conduit Size		Inside Diameter, In.		Outside Diameter, In.		Min. Bend Radii, In.	Weight lbs/100ft
Trade Size, In.	Metric	Min.	Max.	Min.	Max.		
3/8	(12)	0.484	0.504	0.690	0.710	1.5	12
1/2	(16)	0.622	0.642	0.820	0.840	1.8	13
3/4	(21)	0.820	0.840	1.030	1.050	3.0	18
1	(27)	1.041	1.066	1.290	1.315	4.0	27
1¼	(35)	1.380	1.410	1.630	1.660	6.0	35
1½	(41)	1.575	1.600	1.865	1.900	6.5	48
2	(53)	2.020	2.045	2.340	2.375	11.5	70

- Package lengths in excess of 100' contain splices; these splices must be cut out before use.

### Appendix A

UL Performance Tests	CSA Performance Tests
Physical Properties	Physical Properties
Original Tensile and Elongation	Original Tensile and Elongation
Air Oven Aging Test	Air Oven Aging Test
Oil Immersion Test	Oil Immersion Test
Deformation	Tension
Tension	Low Temperature Flexibility
Flexibility (Room and Low Temperature)	Vertical Flame
Vertical Flame	Cold Impact
Room Temperature Impact	Fitting Pull-Out
Secureness of Fittings	Fitting Liquid-Tightness
Mechanical Water Absorption	Moisture Penetration Test
Moisture Penetration Test	Durability of Ink
Durability of Ink	Weather Resistance
Sunlight Resistance	
Crush Test	
Pipe Stiffness for Direct Burial	