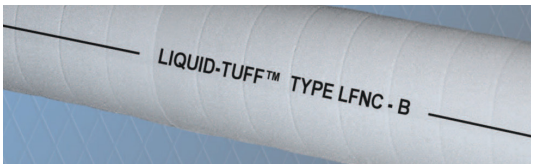
COMMERCIAL

LIQUID-TUFF™
UL Liquidtight Flexible Nonmetallic Conduit Type LFNC-B



Scope

This specification covers AFC Cable Systems, Inc. UL LIQUID-TUFF™ Integral Liquidtight Flexible Nonmetallic Conduit, Type LFNC-B designed for use in wet, dry or oily locations as a flame resistant, Nonmetallic 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 Nonmetallic Conduit is manufactured and tested in accordance with the harmonized Underwriters Laboratories Inc. Standard UL 1660 and CSA International Standard CSA C22.2 Number 227.2.1. The product carries the UL Listing Mark and the CSA Certification Mark.

Construction

Liquidtight Flexible Nonmetallic Conduit, Type LFNC-B is a raceway of circular cross section with a smooth polyvinyl chloride (PVC) inner surface and an integral rigid PVC reinforcing member within the conduit wall. The wall thicknesses and dimensions of the integral conduit shall comply with Table 3 of harmonized UL 1660/CSA No. 227.2.1 which are summarized in Table 1.

A rugged moisture, oil and sunlight resistant flexible polyvinyl chloride (PVC) jacket shall be extruded directly over the integral rigid PVC core with a wall thickness in conformance with Product Information below. Jacket: Gray

Grounding

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

Markings

The surface of the outer jacket shall be clearly marked with a legible print legend in compliance with UL 1660 and CSA C22.2 No. 227.2.1.

Performance Tests

The completed UL LIQUID-TUFF™ Liquidtight Flexible Nonmetallic Conduit, Type LFNC-B shall meet all of the performance requirements contained in UL 1660 and CSA C22.2 No. 227.2.1 and outlined in Appendix A.

Description

- UL Listed and CSA certified
- Rugged Nonmetallic PVC
- Interior integral reinforced member within conduit wall
- Integral Type B construction per NEC® 356.2(2)
- Rigid PVC spiral core for strength
- Outdoor applications including direct burial
- Rated for concrete embedment
- Sunlight and oil resistant
- Non-conductive raceway

Temperature Rating

- 80°C (176°F) DRY
- 60°C (140°F) WET
- 70°C (158°F) OIL
- -18°C (0°F) LOW TEMPERATURE

Applications & References

- NEC® 356.2(2) Liquidtight Flexible Nonmetallic Conduit Type LFNC-B
- Suitable for Wet Locations
- Suitable for Direct Burial in earth
- Suitable for Concrete Embedment
- Suitable for exposure to Sunlight and Weather
- Suitable for Flexible Connections in Hazardous Locations: Class I Div 2 NEC® 501.10(B)(2)(5), Class II Div 1 NEC® 502.10(A)(2)(3), Class II Div 2 NEC® 502.10(B)(2), Class III Div 1 NEC® 503.10(A)(3)(3) and Class III Div 2 NEC® 503.10(B).
- Suitable for Raised Computer Room Floors per NEC® 645.5(E)(2)
- Suitable for Service Entrance Wiring per NEC® 230.43(16)
- Suitable for Marinas and Boatyards per NEC® 555.13(A)(1)
- Suitable for Electric signs and Outdoor Lighting per NEC® 600.31(A)(1) and 600.32(A)(1)
- Suitable for Flexible Connections for hoists and cranes per NEC® 610.11(C)
- Suitable for wiring Elevators, Dumbwaiters, Escalators, Moving Walks, Platforms and Stairway Chairlifts per NEC® 620.21
- Suitable for Motors for Permanently Installed Pools where Flexible Connections are required per NEC® 680.21(A)(3)
- Suitable for Spas and Hot Tubs where Flexible Connections are required per NEC® 680.42(A)(1)
- Suitable for feeders for Natural and Artificially Made Bodies of Water where Flexible Connections are required per NEC® 682.13
- Suitable for Solar Photovoltaic (PV) Systems per NEC® 690.31(A)
- Suitable for Fire Pump Wiring per NEC® 695.6(D)
- Suitable for Electric Fire Pump Control Wiring per NEC® 695.14(E)

Ratings

• Underwriters Laboratories Inc.	Standard: UL 1660	File: E123464
• CSA Group:	Standard: C22.2 No. 227.2.1	File: 69271
• NFPA 70	NEC® Article 356	

- Canadian Electric Code (CEC) Part I Clause 12-1300
- UL Listed in all Trade Sizes for Direct Burial which includes Concrete Encasement
- All Trade Sizes require an equipment grounding conductor per NEC® 356.60
- All Trade Sizes require a bonding conductor per CEC Rule 12-1306

ORDERING INFORMATION						PRODUCT DIMENSIONS/BEND RADIUS		
Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)*	Approx. Weight 100 feet (pounds)	Internal Diameter (min/max) inches	External Diameter (min/max) inches	Bend Radius (inches)
6001-30-00	3/8	12	100'	—	12	0.484/0.504	0.690/0.710	2
6002-30-00	1/2	16	100'	—	13	0.622/0.642	0.820/0.840	3.25
6002-60-00	1/2	16	—	1000'	13	0.622/0.642	0.820/0.840	3.25
6003-30-00	3/4	21	100'	—	18	0.820/0.840	1.030/1.050	4.25
6003-46-00	3/4	21	—	700'	18	0.820/0.840	1.030/1.050	4.25
6004-30-00	1	27	100'	—	27	1.041/1.066	1.290/1.315	6.5
6004-45-00	1	27	—	500'	27	1.041/1.066	1.290/1.315	6.5
6005-24-00	1-1⁄4	35	50'	—	35	1.380/1.410	1.630/1.660	8
6006-24-00	1-1⁄2	41	50'	—	48	1.575/1.600	1.865/1.900	9
6007-24-00	2	53	50'	—	70	2.020/2.045	2.340/2.375	11.1

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.
* Continuous lengths available in 1/2" – 1-1/4"

Reference Standards

UL 1660/ CSA C22.2 No. 227.2.1	Harmonized Standard for Liquidtight Flexible Nonmetallic Conduit
UL514B	Standard for Conduit, Tubing and Cable Fittings
NFPA 70	National Electric Code (NEC®) Articles 250, 356, 390, 501, 502, 503, 504, 511, 620, 645, 680 and 690

Appendix A

UL Performance Tests	CSA Performance Tests
Physical Properties: • Original Tensile and Elongation • Air Oven Aging Test • Oil Immersion Test • Deformation Test	Physical Properties: • Original Tensile and Elongation • Air Oven Aging Test • Oil Immersion Test • Deformation
Tension	Tension
Cold Flexibility	Cold Flexibility
Vertical Flame	Vertical Flame
Cold Impact	Cold Impact
Secureness of Fittings	Fitting Pull-Out
Mechanical Water Absorption	Fitting Liquid-Tightness
Moisture Penetration Test	Moisture Penetration Test
Durability of Ink	Durability of Ink
Weather Resistance	Weather Resistance
Resistance to Deflections Resist	
Pipe Stiffness for Direct Burial	