



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. This Liquidtight Flexible Nonmetallic Conduit is manufactured and tested in accordance with the harmonized Underwriters Laboratories Inc. Standard UL 1660. The product carries both the UL and cUL Listing Marks.

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 UL 1660 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.

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 outlined in Appendix A.

Description

- UL Listed
- 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

Applications & References

Suitable for use in:

- NEC® 356.2(2) Liquidtight Flexible Nonmetallic Conduit Type LFNC-B
- Wet Locations
- Direct Burial in earth
- Concrete Embedment
- Exposure to Sunlight and Weather
- 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).
- Raised Computer Room Floors per NEC® 645.5(E)(1)(b)(12)
- Service Entrance Wiring per NEC® 230.43(16)
- Marinas and Boatyards per NEC® 555.34(A)(1)
- Electric signs and Outdoor Lighting per NEC® 600.31(A) and 600.32(A)(1)
- Flexible Connections for hoists and cranes per NEC® 610.11(C)
- Wiring Elevators, Dumbwaiters, Escalators, Moving Walks, Platforms and Stairway Chairlifts per NEC® 620.21
- Motors for Permanently Installed Pools where Flexible Connections are required per NEC® 680.21(A)(2)
- Spas and Hot Tubs where Flexible Connections are required per NEC® 680.42(A)(1)
- Feeders for Natural and Artificially Made Bodies of Water where Flexible Connections are required per NEC® 682.13
- Solar Photovoltaic (PV) Systems per NEC® 690.31(A)
- Fire Pump Wiring per NEC® 695.6(D)
- Electric Fire Pump Control Wiring per NEC® 695.14(E)

Ratings

- Underwriters Laboratories Inc.:
 - Standard: UL 1660
 - File: E123464
- 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		Coil Length (ft)	Reel Length (ft)*	Approx. Weight per 100 ft (lbs)	Internal Diameter (min / max) (in)	External Diameter (min / max) (in)	Bend Radius (in)
	in	mm						
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
6003-60-00	3/4	21	–	1000	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

Appendix A

UL Performance Tests

Physical Properties:

- Original Tensile and Elongation
- Air Oven Aging Test
- Oil Immersion Test
- Deformation Test

Tension

Cold Flexibility

Vertical Flame

Cold Impact

Secureness (of Fittings)

Mechanical Water Absorption

Moisture Penetration Test

Durability of Ink

Weather Resistance

Resistance to Deflections (Crush)

Pipe Stiffness for Direct Burial

Reference Standards

UL 1660

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



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