

Non-UL Low Smoke Zero Halogen (6750 Series)

Scope

This specification covers AFC Cable Systems, Inc. LIQUID-TUFF™ Non-UL LOW SMOKE ZERO HALOGEN (LSZH) Liquidtight Flexible Metal Conduit designed for use where limiting smoke and toxic materials of combustion are important considerations. The product is intended for use at 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 acceptable for outdoor use at -40°C (-40°F) low temperatures and is sunlight resistant. This Liquidtight Flexible Metal Conduit is manufactured and tested in accordance with generally accepted industry practices. The product is designed to be used for specific applications where Underwriters Laboratories Inc. (UL) or other agency approvals are not required.

Construction

The LIQUID-TUFF™ LSZH Liquidtight Flexible Metal Conduit shall be formed from zinc coated galvanized low carbon steel strip having a uniform width and thickness. The finished LIQUID-TUFF™ LSZH Liquidtight Flexible Metal Conduit dimensions shall be in accordance with Table 1.

Jacket – TPU

A rugged low-smoke, moisture, oil, sunlight resistant and flame retardant thermoplastic polyurethane jacket shall be applied directly over the flexible metal conduit. The Low Smoke Zero Halogen jacket shall be tested to and comply with ASTM® E162 – Flame Spread Index, ASTM® E662 – Smoke Density Generation and Bombardier SMP-800C – Toxic Gas Generation. The test results are summarized in Table 2. Standard Jacket Color: Black.

*Additional colors available upon request.

Grounding

A separate grounding conductor is required for all trade sizes.

Markings

The surface of the outer jacket shall be clearly marked with the applicable print legend.

Performance Tests

The completed LIQUID-TUFF™ LSZH Non-UL Liquidtight Flexible Metal Conduit shall meet all of the performance requirements outlined in Appendix A.



Description

- Low smoke, zero halogen raceway
- Low toxicity generation characteristics
- Hot dipped zinc galvanized low carbon steel core
- Excellent temperature ratings
- Black thermoplastic polyurethane jacket
- Sunlight resistant
- Flame retardant TPU jacket

Temperature Rating

- 80°C (176°F) DRY
- 60°C (140°F) WET
- 70°C (158°F) OIL RESISTANT
- -40 C (40°F) LOW TEMPERATURES

Applications

- Wherever limiting toxic material of combustion is needed

References & Ratings

- Non-UL core
- ASTM® E 162 Flame Spread Index
- ASTM® E 662 Smoke Density Generation
- Bombardier SMP-800C Toxic Gas Generation
- UL 94 Tests for Flammability of Plastic Materials for Parts
- Made in USA of US and/or imported materials

Reference Standards	
ASTM® E 162	Flame Spread Index
ASTM® E 662	Smoke Density Generation
Bombardier SMP-800C	Toxic Gas Generation
UL 94	Tests for Flammability of Plastic Materials for Parts

TABLE 1.						PRODUCT DIMENSIONS/BEND RADIUS			
ORDERING INFORMATION									
Product Code	Trade Size	Metric Designator	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	Min. Average Thickness of Jacket (inches)	Internal Diameter (min/max) (inches)	Over Jacket (min/max) (inches)	Bend Radius (inches)
6751-30-00	3/8	12	100	—	21	0.03	0.484/0.504	0.690/0.710	2
6752-30-00	1/2	16	100	—	25	0.03	0.622/0.642	0.820/0.840	3.25
6752-45-00	1/2	16	—	500	25	0.03	0.622/0.642	0.820/0.840	3.25
6752-60-00	1/2	16	—	1000	25	0.03	0.622/0.642	0.820/0.840	3.25
6753-30-00	3/4	21	100	—	32	0.035	0.820/0.840	1.030/1.050	4.25
6753-45-00	3/4	21	—	500	32	0.035	0.820/0.840	1.030/1.050	4.25
6753-60-00	3/4	21	—	1000	32	0.035	0.820/0.840	1.030/1.050	4.25
6754-30-00	1	27	100	—	43	0.035	1.041/1.066	1.290/1.315	6.5
6754-41-00	1	27	—	400	43	0.035	1.041/1.066	1.290/1.315	6.5
6755-24-00	1-1/4	35	50	—	57	0.035	1.380/1.410	1.630/1.660	8
6755-40-00	1-1/4	35	—	200	57	0.35	1.380/1.410	1.630/1.660	8
6756-24-00	1-1/2	41	50	—	85	0.04	1.575/1.600	1.865/1.900	9
6757-24-00	2	53	50	—	112	0.04	2.020/2.045	2.340/2.375	11.12

NOTE: All dimensions and weights are subject to normal manufacturing tolerances. **Not listed for grounding.**

Table 2. LIQUID-TUFF™ LSZH-VF Combustion and Flammability Properties

Property	Test	Results
Vertical Burn (Material)	UL 94	UL Listed: V-0 Rating No Flaming Drips
Vertical Burn (Conduit)	UL 360	Passed
Oxygen Index % (Material)	ASTM® D 2863	25%
Flame Spread Index	ASTM® E-162	Passed No Flaming Drips
Smoke Generation (Flaming)	ASTM® E662 (NFPA-258)	Ds=13 @ 1.5 min Ds=57 @ 4.0 min No Flaming Drips
Smoke Generation (Non-flaming)	ASTM® E662 (NFPA-258)	Ds=1 @ 1.5 min Ds=8 @ 4.0 min No Flaming Drips
Toxic Gas Generation	Bombardier SMP-800C	Pass

Testing performed by independent test laboratory. Test results available upon request.

Appendix A

Performance Tests

Flexibility	Moisture Penetration
Low Temperature Flexibility	Mechanical Water Absorption
Vertical Flame	Sunlight Resistance
Physical Properties	Test for Durability of Ink Printing
Deformation	