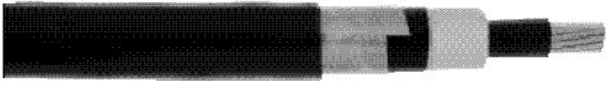


260513S01 MEDIUM VOLTAGE CABLE

1. SCOPE

This specification covers single conductor copper 15kV medium voltage shielded power cable insulated with Ethylene Propylene Rubber (EPR), shielded and jacketed. This cable shall be used for the University of Kentucky medium-voltage distribution.

15 kV Shielded, 1 C, Power Cable Lead-Free EPR/FR-CPE (XLF), UL Type MV-105 (133 percent Insulation Level)	
	

Cable Design Specification	
Conductor	Class B, compact, bare copper strand per ASTM B496
Conductor Shield	Extruded thermoset semiconducting polymeric stress control layer over conductor. Material shall be compounded in the cable manufacturer's facility using clean room technology. Thicknesses shall be in accordance with ICEA S-93-639/NEMA WC74 and ICEA S-97-682.
Insulation	Lead-Free Ethylene Propylene Rubber 105°C, contrasting in color with the shield layers. Material shall be compounded in the cable manufacturer's facility using clean room technology. Nominal thickness shall be 220 mils.
Insulation Shield	Extruded thermoset semi-conducting polymeric layer, free stripping from the insulation. Material shall be compounded in the cable manufacturer's facility using clean room technology. Thicknesses shall be in accordance with ICEA S-93-639 / NEMA WC74 and ICEA S-97-682.
Metallic Shield	5 mil annealed copper tape shield with a minimum 25% overlap
Overall Jacket	Extra low friction black flame-retardant chlorinated polyethylene (FR-CPE) jacket
Typical Print Legend	"MANUFACTURER® (PLANT OF MFG) (MO/YR OF MANUFACTURE) <LIGHTNING BOLT SYMBOL> 1/C SIZE (AWG or KCMIL) COMPACT CU 220 MILS EPR TYPE MV-105 15kV 133% INSUL LEVEL SUN RES FOR CT USE (UL) <SEQUENTIAL FOOTAGE MARK>
Listings	UL 1072 Type MV-105 (Sun Res for CT Use for sizes 1/0 and larger) ICEA S-93-639 / NEMA WC74. ICEA S-97-682. AEIC CS8 Suitable for applications in Cable Tray, Direct Burial, or in Duct.
Flame Tests	Vertical Cable Tray Flame Test Conformance (Sizes 1/0 and larger): UL 1685 Vertical Flame Test IEEE 1202 / CSA FT-4 (70,000 BTU/Hr. Flame Test)
Approved Manufacturers	General Cable (Spec 6375), WTEC, or Okonite

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2. STANDARD CABLE SELECTIONS AND CABLE DETAILS

Conductor		Jacket Thickness	Nominal Cable Overall Diameter
Size	Nominal Diameter		
(AWG/kcmil)	(inches)	(mils)	(inches)
2	0.27	80	0.99
2/0	0.38	80	1.10
4/0	0.48	80	1.21
500	0.74	80	1.47

3 TESTING OF COMPLETED CABLES

Testing shall be done in accordance with the latest editions of ICEA S-93-639, ICEA S-97-682 and UL 1072. In addition, each reel of cable shall pass the Partial Discharge Extinction Level (Corona) Test per AEIC CS8.

4 ENVIRONMENTAL REQUIREMENTS

Jacket shall comply with EPA 40CFR, Part 261 for a leachable lead content of less than 5mg/L using the Toxicity Characteristic Leaching Procedure (TCLP).

5 QUALITY ASSURANCE

5.1 The Manufacturer shall provide, upon request, adequate documentation of the ISO 9001:2000 Quality Assurance (QA) programs that will provide assurance that cables shall be manufactured in accordance with this specification and other applicable industry standards and specifications as indicated or implied in such standards and specifications.

5.2 The manufacturer shall have a minimum of ten years' experience manufacturing Medium-Voltage Power Cable and shall submit a user reference list on request.

5.3 The manufacturer shall ensure the cable core is virtually corona-free by applying the strand shield, insulation and insulation shield concurrently through a True Triple Extrusion Single-Pass process which does not expose the EPR insulation to the atmosphere.

5.4 The manufacturer of the insulating and shielding material used shall minimize material contamination by filtering plant intake air and by processing and storing all materials in sealed containers not susceptible to rust and corrosion. Further, the manufacturing process shall be entirely computer controlled and employ state-of-the-art mixing and addition technology to maximize material uniformity.

5.5 Each length of cable shall be tested in accordance with ICEA and a notarized certified test report from the manufacturer shall be provided for each shipping reel. One Certified test Report listing all shipping reels cut from the same Master Manufacturing Reel length is acceptable.

5.6 Manufacturer shall certify that cable has been manufactured within last 12 months.

5.7 All cable ends shall be sealed with heat-shrinkable end caps at all times to prevent the entrance of moisture into insulation during shipment, storage and installation.

6 RECEIVING REELS, HANDLING AND STORAGE

6.1 All reels shall be shipped in an up-right position on the flanges. The cable ends shall be sealed to prevent the entrance of moisture into the cable.

6.2 Upon delivery, the receiving party shall be responsible for inspecting each reel for visible and potential hidden damage. Any visible damage should be noted on the bill of lading, photographed and the distributor and manufacturer notified immediately. The damage should be documented on

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the bill of lading and signed by the driver. Any cable received being “suspect” of concealed damage should be noted on the bill of lading. Reels received in a “flopped” position are accepted at the risk of the owner with No liability to be assumed by the manufacturer. Reels received in this position should be considered as suspect for visible or concealed damage and noted on the bill of lading.

6.3 Reels should not be dropped from a truck or ramp. Lifting should be by means of a bar inserted through the arbor hole with chain and spreader bar, if necessary, to prevent damage to the flange. Under no circumstances should the cable be lifted by the drum using any kind of lift equipment on the cable.

6.4 Reels should be stored in an upright position, never “flopped” on the flange side, and in a dry area, out of mud and covered from weather if possible. Reels should be stored out of high-traffic areas, away from equipment and other objects and such that the flange of one reel cannot roll into the drum of an adjacent reel.

6.5 Upon cutting of any cable from a reel, it is the installer’s responsibility to seal the cable end thoroughly to prevent the absorption of moisture into the strand. Cut ends shall be secured to the reel and not be allowed to drag on the ground. Any damage shall be reported immediately to and documented by the project supervisor.

REVISION DATE	PAGES	REMARKS
September 13, 2024	1	Revised acceptable manufacturers list.