

TECHNICAL BULLETIN

TYPE MV-105 MEDIUM VOLTAGE CABLE, 15KV, 500 KCMIL



Consolidated
ELECTRONIC WIRE & CABLE

PRODUCT SCOPE:

- 15kV 500 kcmil Type MV-105 Single-Conductor Medium Voltage Cable
- 133% Insulation Level
- Copper tape shield

DESIGN REFERENCES:

UL Std. 1072	Standard for Safety, Medium -Voltage Power Cables
ICEA S-93-639	5-46kV Shielded Power Cable for Use in the Transmission and Distribution of Electric Energy
AEIC CS-8	Specification for Extruded Dielectric, Shielded Power Cables Rated 5 – 46 kV



DESIGN DETAILS:	
CONDUCTOR	
Material	Class B stranded compact copper conductor.
Size	500 kcmil
Conductor O.D.	0.736-inch (18.7 mm) nominal
CONDUCTOR SHIELD	
Material	Extruded semi-conducting thermoset compound.
Thickness	0.020-inch (0.51 mm) minimum
INSULATION	
Material	Ethylene Propylene Rubber (EPR), Lead Free
Thickness	220 mils (5.59 mm) nominal, 133% IL
INSULATION SHIELD	
Material	Extruded semi-conducting thermoset compound.
Thickness	0.025-inch (0.61 mm) minimum
METALLIC SHIELD	
Material	Copper tape, 25% overlap
Wire	5 mils (0.127 mm)
JACKET	
Material	PVC
Thickness	80 mils (2.03 mm) nominal
Color	Black

DESIGN/PERFORMANCE RATINGS:	
Voltage	15 kilovolts
Insulation Level	133%
Temperature	105° C (Dry) continuous maximum allowable conductor temperature. 130° C emergency conductor temperature. 250° C short-circuit conductor temperature. -40° C cold temperature rating
Sunlight Resistant	Yes
Oil Resistant	Oil Res I
Direct Burial	Yes
Ampacity	765 Amps – based on an ambient temperature of 40°C, conductor temperature of 105°C, insulated single conductor isolated in air, per NEC 315.60(C)(3).



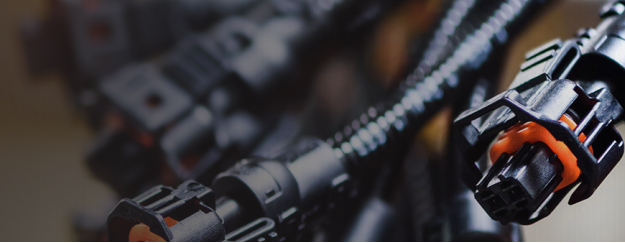
DESIGN/PERFORMANCE RATINGS:

Shield Short Ckt.	1,743 amps @ 200°C, 8-cycles
Conductor DCR	0.0216 Ohm/1000-feet (0.0708 Ohm/km) @ 20°C
Conductor ACR	0.0289 Ohm/1000-feet @ 90°C, 1-O.D. spacing and multi-point bonding
Capacitance	103 pF/foot
Inductive Reactance	36400 Ohms/1000-feet
Tan-delta testing	< 0.02

DIMENSIONAL DATA:

Cable O.D.	1.47 inches (37.4 mm) nominal
Cable Weight	2462 lbs. per 1000 feet (3664 kg/km) approximate





MARKING:

Print Legend

(UL) E#-BP - TYPE MV-105 15KV 133% IL 500 KCMIL / 1C CU 105C (P/N: SC281505) - <DATE CODE>

APPROVAL:

Manufacturing lead time starts after receipt or purchase order and the returned customer approval noted below.

APPROVED BY:

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CUSTOMER NAME (PRINT)

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CUSTOMER SIGNATURE

