Product Data Sheet | *TECHNO 500TC 427-V2*

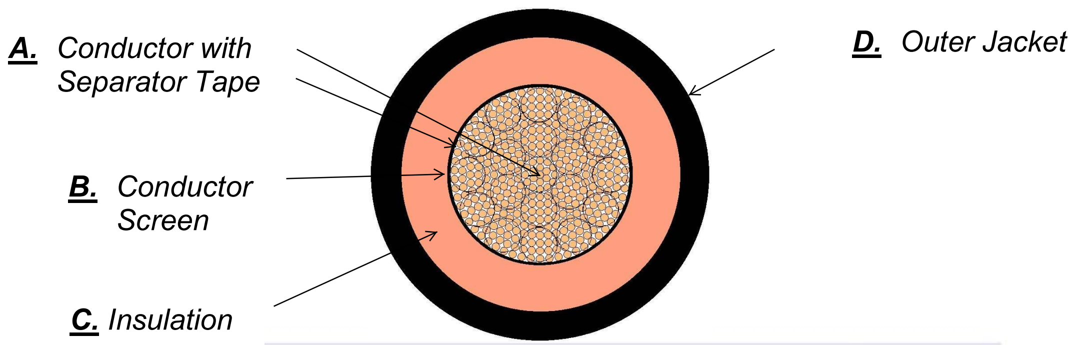
UL Type MV-90, 2.4 kV Rated	Non-shielded Power Cable	CSA Type RW90, 5kV RW90 FT4

A. CONDUCTOR: 500 kcmil 427X Concentric Flex Strand Tinned Copper with Semiconducting Separator Tape

B. CONDUCTOR SCREEN: Extruded Semiconducting (SC-EPR)

C. INSULATION: 140 Extruded Ethylene Propylene Rubber

D. JACKET: 110 Extruded TS-CPE® (Thermoset Chlorinated Polyethylene)



Dimensions	Thickness (in.)		Diameter (in.)		Cable Description
	Nominal	Minimum Point	Nominal		
Conductor	N/A		0.923		
pcCond. Screen	0.030	0.024	1.022		
Insulation	0.140	0.135	1.314		
Outer Jacket	0.110		1.550		
	Cable Weight (lbs./M'):		2295		

Cable Description

1/C 500MCM, 427X TINNED COPPER
INSULATION THICKNESS (MILS): 140
JACKET THICKNESS – EPR (MILS): 110
OKOLON TS CPE - SEQ PRINT
2.4KV UL MV-90 **OR** CSA 5kV RW90 FT4

AMPACITIES:
Conduit in Air: 475
Underground Duct: 470
Cable Tray: 695
Remark: For the ampacity conditions, see page # 2

TEMPERATURE RATINGS
90°C - Continuous, 130°C – Emergency
250°C - Short Circuit

Industry Standards:
ICEA S-96-659/NEMA WC71 and ICEA S-75-381, ASTM B-173
UL 1581 & 1685 (IEEE 383 & 1202 VTFT) and UL 1072 Type MV-90, SR, For CT Use, 2.4kV UL
CSA 5kV RW90 FT4 LTGG -40C

Drawing No: S-36636 (Feb. 26th, 2025); **Scale**: None

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Insulation: Made of exclusive ethylene-propylene rubber (EPR) based, thermosetting compound, whose optimum balance of electrical and physical properties is unequalled in other solid dielectrics.

The insulation properties in this cable, with the distinctive red color and a totally integrated EPR system, provides the optimum balance for long, problem-free service.

Jacket: The TS-CPE jacket on this cable is a vulcanized chlorinated polyethylene based compound which is mechanically rugged, flame, radiation and oil resistant.

It meets or exceeds electrical and physical requirements of ICEA S-96-659/NEMA WC71 for chlorinated polyethylene jackets.

UL listed as Type MV-90, sunlight resistant, -40°C and for use in cable tray in accordance with UL 1072.

CSA listed as RW90 as 5kV non-shielded (FT4 1/0 and larger) -40°C.

1/C non-shielded cables can surface discharge in service when in a random phase spacing or when in contact with grounded surfaces.

Applications: This non-shielded cable may be recommended for power distribution and motor circuits in generating plants and substations.

Product Features: The ***TECHNO 500BC 427*** cable meets or exceeds all recognized industry standards (UL, CSA, NEMA/ICEA, IEEE):

- 90°C continuous operating temperature.
- 130°C emergency rating.
- 250°C short circuit rating.
- UL and IEEE 383 and 1202/FT4 Vertical Tray Flame Test.
- ICEA T-29-520 (210,000 BTU/hr) Vertical Tray Flame Test.
- CSA FT4 Vertical Tray Flame Test.
- Excellent corona resistance.
- Radiation resistant.
- Exceptional resistance to "treeing".
- Stress cones not required.
- Moisture resistant.
- Resistant to most oils, acids, and alkalies.
- Sunlight Resistant.

Ampacities (remarks):

- Ampacities are in accordance with Table 311.60(C)(73) of the NEC for three single Type MV-90 conductors, or single conductors twisted together (triplexed) and installed in an isolated conduit in air at an ambient temperature of 40°C and a conductor temperature of 90°C.
- Ampacities are in accordance with Table 311.60(C)(77) of the NEC for three single conductors or triplexed cable in one underground raceway, three feet deep with a conductor temperature of 90°C, 100% Load Factor, an ambient earth temperature of 20°C, and thermal resistance (RHO) of 90.
- Ampacities for cable in cable tray are in accordance with the NEC, Section 392.80(B)(2)(2), Table 311.60(C)(69) (copper), for single conductor cables installed in a single layer, in uncovered tray, with a maintained spacing of 1 cable OD or more at 90°C conductor temperature and 40°C ambient temperature and multi-point grounding.
- For other ambient temperatures, circuit configurations or installation requirements , please refer to the NEC, IEEE/ICEA-S-135 Power Cable Ampacities, or send an e-mail to sales@tcecable.com .
- Recommended size of rigid or non-metallic conduit for three conductors based on 40% maximum fill.
- The jam ratio, conduit I.D. to cable O.D. should be checked to avoid possible jamming.

Cable Installation Data			Electrical Data		
Maximum Pulling Tension with Pulling Eye or Bolt per cable:	**4000 lbs.**	**17.793 kN**	Conductor DC Resistance in Ohms/1000 feet @ 25C (1/c):	**0.02160**	**0.07087 /km**
Maximum Pulling Tension with grip on outer jacket:	**1000 lbs.**	**4.448 kN**	Capacitance in microfarads/1000 feet	**0.23583**	**0.77376 /km**
Maximum Sidewall Bearing Pressure (SWBP):	**500 lbs/ft of bend radius**	**7.30 kN/m of bend radius**	Capacitive Reactance Ohms/1000 feet (60Hz)	**0.0112**	**0.0034 /km**
Minimum Bending Radius for permanent training purposes:	**12.4 inches** (Mult: 8x)	**315 mm**	Charging Current in Amperes/1000 feet	**0.12319**	**0.4042 /km**
Minimum bending radius while pulling cable:	**12.4 inches, provided the maximum SWBP is not exceeded.**		Voltage (line to ground) 3 Phase	**N/A**	
			BIL (Basic Impulse Level)	**N/A**	
			SIC (Dielectric Constant)	**3.5**	
For two or more cables the maximum total pulling tension is two times the maximum tension per cable (4000 lbs.) not to exceed a maximum of 10,000 lbs., whichever is lower.			Conductor Circular Mil Area	**500000**	**253.4 mm2**