CU Compact 5/8kV NLEPR Insulation 133/100% IL SIM-PVC Jacket. MV 105 - Tray Rated - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Compact Copper, 5kV/8kV 115 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133%/100% Insulation Level, Tape Shield, SIM Polyvinyl Chloride (PVC) Jacket, Dual Rated UL/CSA

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compact stranded per ASTM B496
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 115 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Copper Tape Shield:** Helically wrapped 5 mil copper tape with 25% overlap
6. **Overall Jacket:** Polyvinyl Chloride (PVC)

APPLICATIONS AND FEATURES:

Tanner's 5KV cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial when installed with a grounding conductor in close proximity that conforms to NEC section 311.36 and 250.4(A)(5), and where supe- rior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 105°C for normal operation, 140°C for emergency overload, and 250°C for short circuit conditions. Rated at -35°C for cold bend when UL listed. Rated at -25°C for cold bend and cold impact and marked with "LTDD" when CSA listed or dual UL/CSA listed. PVC jacket is made with SIM technology and has a coefficient of friction COF of 0.2. Cable can be installed in conduit without the aid of lubrication. Rated for 1000 lbs./FT maximum sidewall pressure.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B496 Compact Round Concentric-lay-standard copper
- UL 1072 Medium-Voltage Power Cables
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- CSA C22.2 No.230 Tray Cables - Rated TC-ER (1/0 AWG and Larger)
- CSA C22.2 No. 2556 / UL 2556 Cable Test Methods
- CSA C68.10 Shielded Power Cables for Commercial and Industrial Applications - 5 to 46 KV
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- ICEA S-97-682 Standard for Shielded Utility Cable Rated for 5 - 46kV
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 and Larger)
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)

- Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661

SAMPLE PRINT LEGEND:

{SQFTG_DUAL} TANNER SIM POWER CABLE {UL} XXX KCMIL CPT CU 115 MILS NL-EPR 5KV 133%/8KV 100% INS LEVEL 25%TS MV-105 FOR CT USE SUN RES (NESC) -- {CSA} XXX KCMIL CPT CU 2.92mm (115 mils) NL-EPR 5KV 133%/8KV 100% INS LEVEL 25%TS SR TC-ER 105°C FT4 -25°C LTDD -- PAT -- RoHS

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Strand Count	Diameter Over Conductor	Diameter Over Insulation	Diameter Over Insulation Shield	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	Max Pull Tension	Min Bending Radius	Conduit Size
	AWG/ Kcmil	No. of Strands	inch	inch	inch	mil	inch	lb/1000ft	lb/1000ft	lb	inch	inch
05C-CPNDS-0002	2	7	0.268	0.536	0.596	55	0.726	216	403	530	8.7	2.0
05C-CPNDS-0001	1	19	0.298	0.566	0.626	55	0.756	271	468	669	9.0	2.5
05C-CPNDS-0100	1/0	19	0.336	0.604	0.664	55	0.794	339	551	844	9.5	2.5
05C-CPNDS-0200	2/0	19	0.376	0.644	0.704	80	0.884	425	694	1064	10.6	2.5
05C-CPNDS-0300	3/0	19	0.422	0.690	0.750	80	0.930	533	821	1342	11.1	3.0
05C-CPNDS-0400	4/0	19	0.474	0.742	0.802	80	0.982	669	980	1692	11.7	3.0
05C-CPNDS-250M	250	37	0.520	0.796	0.856	80	1.036	789	1126	2000	12.4	3.0
05C-CPNDS-350M	350	37	0.615	0.891	0.951	80	1.131	1099	1477	2800	13.5	3.5
05C-CPNDS-500M	500	37	0.735	1.042	1.102	80	1.282	1563	2075	4000	15.4	3.5
05C-CPNDS-750M	750	61	0.908	1.194	1.254	80	1.434	2415	2922	6000	17.2	4.0
05C-CPNDS-1000M	1000	61	1.060	1.346	1.406	80	1.586	3114	3696	8000	19.0	4.5

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* Strand count meets minimum number per ASTM
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

Table 2 – Electrical and Engineering Data

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Zero Sequence Impedance	Positive Sequence Impedance	Shield Short Circuit Current 6 Cycles	Allowable Ampacity In Duct 90/105°C	Allowable Ampacity In Air 90/105°C
AWG/ Kcmil	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
2	0.162	0.204	0.036	0.045	0.443 + j0.367	0.082 + j0.046	1877	145/155	190/215
1	0.128	0.162	0.033	0.043	0.441 + j0.314	0.091 + j0.046	1970	170/180	225/250
1/0	0.102	0.128	0.030	0.041	0.441 + j0.314	0.091 + j0.046	2088	195/210	260/290
2/0	0.081	0.102	0.028	0.041	0.439 + j0.334	0.081 + j0.045	2212	220/235	300/330
3/0	0.064	0.081	0.025	0.040	0.439 + j0.334	0.081 + j0.045	2354	250/270	345/385
4/0	0.051	0.065	0.023	0.038	0.439 + j0.334	0.081 + j0.045	2515	290/310	400/445
250	0.043	0.056	0.022	0.038	0.439 + j0.302	0.090 + j0.044	2683	320/345	445/495
350	0.031	0.041	0.019	0.036	0.437 + j0.334	0.082 + j0.048	2977	385/415	550/615
500	0.022	0.030	0.016	0.034	0.437 + j0.334	0.082 + j0.048	3349	470/505	695/775
750	0.014	0.023	0.014	0.032	0.437 + j0.302	0.091 + j0.047	3916	585/630	900/1000
1000	0.011	0.019	0.012	0.031	0.436 + j0.443	0.065 + j0.034	4387	670/720	1075/1200

* NEC ampacities are based on:
* For Duct: Table 310.60(C)(11) Detail 1.
* For Free Air: Table 310.60(C)(3).
* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
* Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft, Spacing: one diameter spacing center-to-center..
* Capacitive Reactance is between Phase-to-Shield.