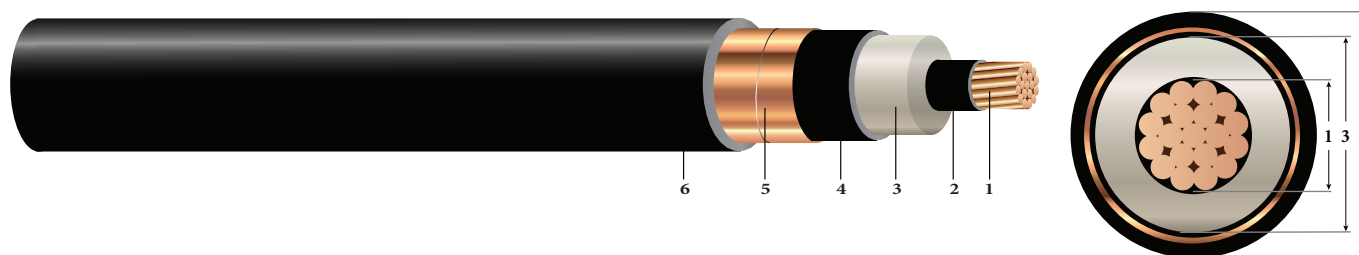


# 1/C CU 15KV 220 NL-EPR 133% TS LSZH MV-105 Thermoset Solonon®

Type MV-105 Single Conductor Copper, 220 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, Thermoset SOLONON® Low Smoke Zero Halogen (XL LSZH) Jacket, Dual Rated UL/CSA



Images not to scale. See Table 1 for Dimensions

## CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 220 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level,
4. **Insulation Shield:** Stripable semi-conducting cross-linked copolymer
5. **Copper Tape Shield:** Helically wrapped 5 mil copper tape with 25% overlap
6. **Overall Jacket:** Thermoset SOLONON® Low Smoke Zero Halogen (XL LSZH)

## APPLICATIONS AND FEATURES:

Southwire's 15KV cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial, and where superior 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 -25°C for cold bend. ST1 (low smoke) Rated for sizes 1/0 and larger. Rated for 1000 lbs./FT maximum sidewall pressure. Thermoset Solonon® jacket (XL LSZH).

## SPECIFICATIONS:

- ASTM B3 Soft or annealed copper
- ASTM B8 Concentric-lay-standard copper
- UL 1072 - Medium Voltage Power Cables
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable & ICEA S-97-682 5-46 KV Utility
- UL 1685/FT4-ST1 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 AWG and Larger)
- IEEE 1202 -Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 AWG and Larger)
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV
- CSA C68.10 - Shielded Power Cables for Commercial and Industrial Applications - 5 to 46 KV
- 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

## SAMPLE PRINT LEGEND:

SOUTHWIRE [SYMBOL - LIGHTING BOLT] #P# (UL/CSA) 1/C [#AWG or #kcmil] CU 220 MILS NL-EPR 15KV 133% INS LEVEL 25% TS MV-105 FOR CT USE SUN. RES. TC-ER(CSA 1/0 LARGER) FOR DIRECT BURIAL FT4 -ST1 [-25°C] YEAR (NESC) [SE-QUENTIAL FEET MARKS]



**Southwire®**

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**Table 1 – Weights & Measurements**

Stock Code	Cond. Size AWG	Diameter over			Jacket Thickness <sup>1</sup> mils	Approx. OD (6) inches	Approx. Weight lbs./MFT	Max Pull Tension lbs.	Min Bending Radius inches	Conduit Size* inches
		Cond. (1)	Insul. (3)	Insul. Shield						
		inches	inches	inches						
TBA	2	0.283	0.760	0.820	80	1.000	653	531	12.0	3
TBA	1	0.322	0.799	0.859	80	1.039	729	670	12.5	3
TBA	1/0	0.362	0.839	0.899	80	1.079	824	845	12.9	3
TBA	2/0	0.405	0.882	0.942	80	1.122	937	1065	13.5	3.5
TBA	3/0	0.456	0.933	0.993	80	1.173	1079	1342	14.1	3.5
641318	4/0	0.512	0.989	1.049	80	1.229	1253	1693	14.7	3.5
641323	250	0.558	1.044	1.104	80	1.284	1408	2000	15.4	4
641314	350	0.661	1.147	1.207	80	1.387	1787	2800	16.6	4
641311	500	0.789	1.275	1.335	80	1.515	2336	4000	18.2	5
TBA	750	0.968	1.463	1.523	80	1.703	3235	6000	20.4	5
TBA	1000	1.117	1.612	1.672	110	1.912	4220	8000	22.9	6

All dimensions are nominal and subject to normal manufacturing tolerances

\* Conduit size based on 3 phase 40% fill-factor without ground

<sup>1</sup> Comply with ICEA S-93-639 Appendix C for jacket thickness determination

**Table 2 – Electrical and Engineering Data**

Stock Code	Cond. Size AWG	Resistance		Reactance		Positive Sequence Impedance*	Zero Sequence Impedance*	Shield Short Circuit Current 6 Cycles Amps	Allowable Ampacities 90°C/105°C	
		DC @ 25°C	AC @ 90°C	X <sub>C</sub> @ 60Hz	X <sub>L</sub> @ 60Hz				In Duct †	In Air ‡
		Ω/MFT	Ω/MFT	MΩ*MFT	Ω/MFT				Amps	Amps
TBA	2	0.162	0.203	0.053	0.051	0.203 + j0.051	0.573 + j0.418	2700	155 / 165	195 / 215
TBA	1	0.129	0.161	0.049	0.049	0.162 + j0.049	0.531 + j0.400	2827	175 / 185	225 / 250
TBA	1/0	0.102	0.128	0.045	0.047	0.128 + j0.047	0.496 + j0.383	2957	200 / 215	260 / 290
TBA	2/0	0.081	0.101	0.042	0.045	0.102 + j0.045	0.467 + j0.366	3097	230 / 245	300 / 335
TBA	3/0	0.064	0.080	0.039	0.043	0.081 + j0.043	0.443 + j0.346	3263	260 / 275	345 / 385
641318	4/0	0.051	0.064	0.036	0.042	0.065 + j0.042	0.423 + j0.327	3445	295 / 315	400 / 445
641323	250	0.043	0.054	0.034	0.041	0.055 + j0.041	0.409 + j0.309	3624	325 / 345	445 / 495
641314	350	0.031	0.039	0.030	0.039	0.040 + j0.039	0.384 + j0.279	3959	390 / 415	550 / 610
641311	500	0.022	0.028	0.026	0.037	0.029 + j0.037	0.361 + j0.248	4376	465 / 500	685 / 765
TBA	750	0.014	0.019	0.022	0.035	0.020 + j0.035	0.334 + j0.210	4987	565 / 610	885 / 990
TBA	1000	0.011	0.015	0.020	0.034	0.016 + j0.034	0.315 + j0.185	5472	640 / 690	1060 / 1185

\* Calculations are based on three cables triplexed / 5 mil 25 % over lapping copper tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter

† Ampacities are based on TABLE 310.60(C)(77) Detail 1. of the 2014 National Electrical Code (20°C Ambient Earth Temperature, Thermal Resistance ROH of 90)

‡ Ampacities are based on TABLE 310.60(C)(69) of the 2014 National Electrical Code (40°C Ambient Air Temperature)

