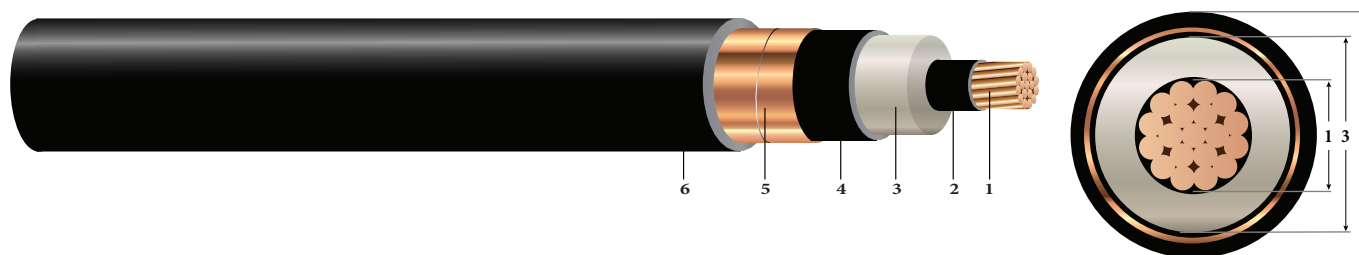


1/C CU 5KV 115 NL-EPR 133% TS LSZH MV-105. Thermoset Solonon®

Type MV-105 Single Conductor Copper, 115 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:** 115 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 5KV 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 115 MILS NL-EPR 5KV 133%/ 8KV 100% 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) [SEQUENTIAL FEET MARKS]



Southwire®

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Table 1 – Weights & Measurements

Stock Code	Cond. Size AWG	Diameter over			Jacket Thickness ¹ 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	0.550	0.610	65	0.760	462	531	9.1	2.5
TBA	1	0.322	0.589	0.649	65	0.799	531	670	9.6	2.5
TBA	1/0	0.362	0.629	0.689	65	0.839	618	845	10.1	2.5
644045	2/0	0.405	0.672	0.732	65	0.882	723	1065	10.6	2.5
TBA	3/0	0.456	0.723	0.783	80	0.963	884	1342	11.6	3
TBA	4/0	0.512	0.779	0.839	80	1.019	1048	1693	12.2	3
TBA	250	0.558	0.834	0.894	80	1.074	1194	2000	12.9	3
TBA	350	0.661	0.937	0.997	80	1.177	1556	2800	14.1	3.5
TBA	500	0.789	1.065	1.125	80	1.305	2085	4000	15.7	4
TBA	750	0.968	1.253	1.313	80	1.493	2953	6000	17.9	5
TBA	1000	1.117	1.402	1.462	80	1.642	3800	8000	19.7	5

All dimensions are nominal and subject to normal manufacturing tolerances

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

¹ 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 _C @ 60Hz	X _L @ 60Hz				In Duct †	In Air ‡
		Ω/MFT	Ω/MFT	MΩ*MFT	Ω/MFT				Amps	Amps
TBA	2	0.162	0.203	0.036	0.044	0.203 + j0.044	0.568 + j0.512	2017	145 / 155	190 / 215
TBA	1	0.129	0.161	0.033	0.043	0.162 + j0.043	0.530 + j0.490	2144	170 / 180	225 / 250
TBA	1/0	0.102	0.128	0.030	0.041	0.128 + j0.041	0.498 + j0.468	2274	195 / 210	260 / 290
644045	2/0	0.081	0.101	0.027	0.040	0.102 + j0.040	0.473 + j0.446	2414	220 / 235	300 / 330
TBA	3/0	0.064	0.081	0.025	0.039	0.081 + j0.039	0.452 + j0.422	2580	250 / 270	345 / 385
TBA	4/0	0.051	0.064	0.023	0.038	0.065 + j0.037	0.434 + j0.397	2762	290 / 310	400 / 445
TBA	250	0.043	0.054	0.022	0.037	0.055 + j0.037	0.423 + j0.375	2941	320 / 345	445 / 495
TBA	350	0.031	0.039	0.019	0.035	0.040 + j0.035	0.402 + j0.336	3276	385 / 415	550 / 615
TBA	500	0.022	0.028	0.016	0.033	0.029 + j0.033	0.381 + j0.296	3693	470 / 505	695 / 775
TBA	750	0.014	0.020	0.014	0.032	0.020 + j0.032	0.355 + j0.247	4304	585 / 630	900 / 1000
TBA	1000	0.011	0.016	0.012	0.031	0.016 + j0.030	0.336 + j0.216	4789	670 / 720	1075 / 1200

* 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)

