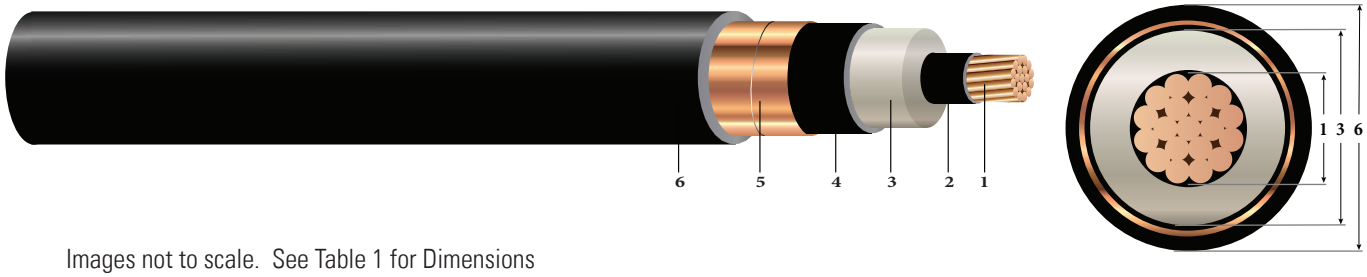
1/C CU 8KV 140 NL-EPR 133% TS LSZH MV-105

Type MV-105 Single Conductor Copper, 140 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% Insulation Level, Tape Shield, SOLONON® Low Smoke Zero Halogen (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**: 140 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**: SOLONON® Low Smoke Zero Halogen (LSZH)

APPLICATIONS AND FEATURES:

Southwire's 8KV 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.

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 140 MILS NL-EPR 8KV 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) [SEQUENTIAL FEET MARKS]

Table 1 – Weights & Measurements

Stock Code	Cond. Size	Diameter over			Jacket Thickness[1]	Approx. OD (6)	Approx. Weight	Max Pull Tension	Min Bending Radius	Conduit Size*
		Cond. (1)	Insul. (3)	Insul. Shield						
	AWG	inches	inches	inches	mils	inches	lbs./MFT	lbs.	inches	inches
TBA	2	0.283	0.600	0.660	65	0.810	498	531	9.7	2.5
TBA	1	0.322	0.639	0.699	65	0.849	568	670	10.2	2.5
TBA	1/0	0.362	0.679	0.739	80	0.919	684	845	11.0	3
550792	2/0	0.405	0.722	0.782	80	0.962	792	1065	11.5	3
TBA	3/0	0.456	0.773	0.833	80	1.013	928	1342	12.2	3
TBA	4/0	0.512	0.829	0.889	80	1.069	1094	1693	12.8	3
TBA	250	0.558	0.884	0.944	80	1.124	1242	2000	13.5	3.5
TBA	350	0.661	0.987	1.047	80	1.227	1608	2800	14.7	3.5
TBA	500	0.789	1.115	1.175	80	1.355	2141	4000	16.3	4
TBA	750	0.968	1.303	1.363	80	1.543	3017	6000	18.5	5
TBA	1000	1.117	1.452	1.512	80	1.692	3870	8000	20.3	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	Resistance		Reactance		Positive Sequence Impedance*	Zero Sequence Impedance*	Shield Short Circuit Current 6 Cycles	Allowable Ampacities 90°C/105°C	
		DC @ 25°C	AC @ 90°C	X_C @ 60Hz	X_L @ 60Hz				In Duct †	In Air ‡
	AWG	Ω/MFT	Ω/MFT	MΩ*MFT	Ω/MFT	Ω/MFT	Ω/MFT	Amps	Amps	Amps
TBA	2	0.162	0.203	0.041	0.046	0.203 + j0.046	0.572 + j0.487	2180	155 / 165	195 / 215
TBA	1	0.129	0.161	0.037	0.044	0.162 + j0.044	0.532 + j0.466	2307	175 / 185	225 / 250
TBA	1/0	0.102	0.128	0.034	0.043	0.128 + j0.043	0.499 + j0.446	2437	200 / 215	260 / 290
550792	2/0	0.081	0.101	0.031	0.042	0.102 + j0.042	0.473 + j0.425	2577	230 / 245	300 / 335
TBA	3/0	0.064	0.081	0.028	0.040	0.081 + j0.040	0.451 + j0.402	2743	260 / 275	345 / 385
TBA	4/0	0.051	0.064	0.026	0.039	0.065 + j0.039	0.433 + j0.379	2925	295 / 315	400 / 445
TBA	250	0.043	0.054	0.025	0.038	0.055 + j0.038	0.420 + j0.357	3104	325 / 345	445 / 495
TBA	350	0.031	0.039	0.022	0.036	0.040 + j0.036	0.398 + j0.321	3439	390 / 415	550 / 610
TBA	500	0.022	0.028	0.019	0.034	0.029 + j0.034	0.376 + j0.283	3855	465 / 500	685 / 765
TBA	750	0.014	0.020	0.016	0.032	0.020 + j0.032	0.350 + j0.237	4467	565 / 610	885 / 990
TBA	1000	0.011	0.016	0.014	0.031	0.016 + j0.031	0.331 + j0.208	4952	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)