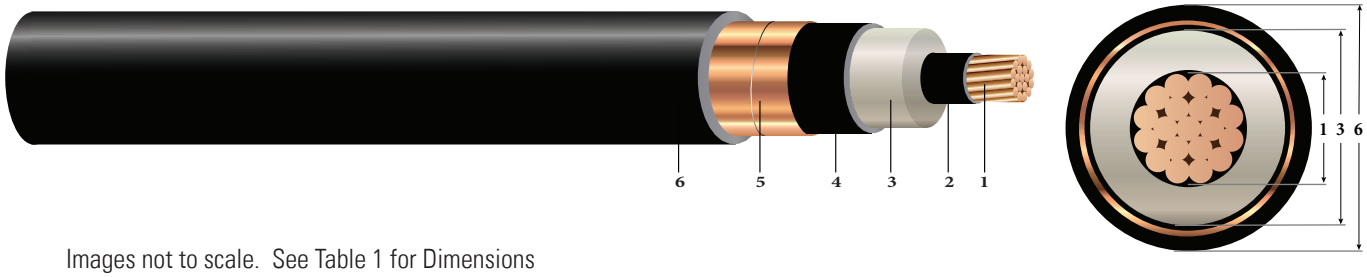
1/C CU 5KV 90 TRXLPE 100% TS PVC MV-105

Type MV-105 Single Conductor Copper, 90 Mils Tree Retardent Cross Linked Polyethylene (TRXLPE) 100% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Jacket, Rated UL



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**: 90 Mils Tree Retardent Cross Linked Polyethylene (TRXLPE) 100% 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**: Polyvinyl Chloride (PVC)

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 -35°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-97-682 5-46 KV Utility & ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- 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

SAMPLE PRINT LEGEND:

SOUTHWIRE (UL) 1/C [#AWG or #kcmil] CU 90 TR-XLPE 5KV 100% INS LEVEL 25%TS MV-105 SUN RES -40{D}C [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 Bend-ing Radius	Conduit Size*
		Cond. (1)	Insul. (3)	Insul. Shield						
	AWG	inches	inches	inches	mils	inches	lbs./MFT	lbs.	inches	inches
TBA	2	0.283	0.500	0.560	65	0.710	410	531	8.5	2
TBA	1	0.322	0.539	0.599	65	0.749	476	670	9.0	2.5
TBA	1/0	0.362	0.579	0.639	65	0.789	560	845	9.5	2.5
TBA	2/0	0.405	0.622	0.682	65	0.832	662	1065	10.0	2.5
TBA	3/0	0.456	0.673	0.733	65	0.883	790	1342	10.6	2.5
TBA	4/0	0.512	0.729	0.789	80	0.969	974	1693	11.6	3
TBA	250	0.558	0.784	0.844	80	1.024	1116	2000	12.3	3
TBA	350	0.661	0.887	0.947	80	1.127	1470	2800	13.5	3.5
TBA	500	0.789	1.015	1.075	80	1.255	1988	4000	15.1	3.5
958926	750	0.968	1.203	1.263	80	1.443	2841	6000	17.3	4
890128	1000	1.117	1.352	1.412	80	1.592	3676	8000	19.1	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	0.039	0.043	0.203 + j0.043	0.562 + j0.537	1854	145 / 155	190 / 215
TBA	1	0.129	0.161	0.035	0.041	0.162 + j0.041	0.526 + j0.514	1981	170 / 180	225 / 250
TBA	1/0	0.102	0.128	0.032	0.040	0.128 + j0.040	0.495 + j0.492	2111	195 / 210	260 / 290
TBA	2/0	0.081	0.101	0.029	0.038	0.102 + j0.038	0.472 + j0.469	2251	220 / 235	300 / 330
TBA	3/0	0.064	0.081	0.026	0.037	0.081 + j0.037	0.452 + j0.443	2417	250 / 270	345 / 385
TBA	4/0	0.051	0.064	0.024	0.036	0.065 + j0.036	0.435 + j0.417	2599	290 / 310	400 / 445
TBA	250	0.043	0.054	0.023	0.036	0.055 + j0.036	0.425 + j0.393	2778	320 / 345	445 / 495
TBA	350	0.031	0.039	0.020	0.034	0.040 + j0.034	0.405 + j0.353	3113	385 / 415	550 / 615
TBA	500	0.022	0.028	0.017	0.032	0.029 + j0.032	0.385 + j0.309	3530	470 / 505	695 / 775
958926	750	0.014	0.020	0.015	0.031	0.020 + j0.031	0.360 + j0.258	4141	585 / 630	900 / 1000
890128	1000	0.011	0.016	0.013	0.030	0.016 + j0.030	0.341 + j0.225	4626	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)