CU Compressed 5/8kV TRXLPE Insulation 133/100% IL SIM-PVC Jacket. MV 105 - Sunlight Resistant - For Direct Burial

Type MV-105 Single Conductor Copper, 115 Mils Tree Retardant Cross Linked Polyethylene (TRXLPE) 133% Insulation Level, Tape Shield, SIM*pull* Polyvinyl Chloride (PVC) Jacket, Rated UL

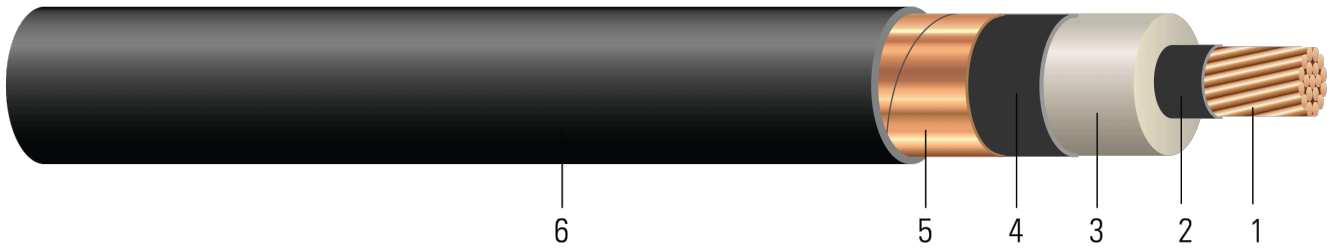

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8 (Tinned Copper per ASTM B33 optional)
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 115 Mils Tree Retardant Cross Linked Polyethylene (TRXLPE) 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:

Southwire's 5KV cables are suited for use in wet and dry areas, conduits, ducts, troughs, 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 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. 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 B8 Concentric-Lay-Stranded Copper Conductors
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- UL 1072 Medium-Voltage Power Cables
- 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
- 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

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SAMPLE PRINT LEGEND:

{SQFTG_DUAL} SOUTHWIRE SIMpull{R} POWER CABLE {UL} XXX AWG CU 115 TR-XLPE 5KV 133%/8KV 100% INS LEVEL 25%TS MV-105 SUN RES -25{D}C {NESC} PAT www.patentSW.com

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
673734	2	7	0.283	0.551	0.611	55	0.761	263	448	530	9.1	2
673359	1	19	0.322	0.59	0.65	55	0.8	319	518	669	9.6	2
673356	1/0	19	0.362	0.63	0.69	80	0.87	390	626	844	10.4	2
673353	2/0	19	0.405	0.674	0.734	80	0.914	478	731	1064	11	2.5
673346	4/0	19	0.512	0.78	0.84	80	1.02	728	1022	1692	12.2	2.5
673342	250	37	0.558	0.834	0.894	80	1.074	850	1167	2000	12.9	2.5
674703	350	37	0.661	0.917	0.977	80	1.157	1165	1514	2800	13.9	3
673339	500	37	0.789	1.042	1.102	80	1.282	1638	2035	4000	15.4	3.5
TBA	750	61	0.968	1.254	1.314	80	1.494	2424	2974	6000	17.9	4
TBA	1000	61	1.117	1.403	1.463	80	1.643	3208	3825	8000	19.7	4

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* Conduit size based on 3 phase 40% fill-factor without ground
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	0.221	0.037	0.044	0.566+j0.549	0.222+j0.051	1924	135/145	140/154
1	0.128	0.175	0.034	0.043	0.524+j0.528	0.176+j0.048	2045	155/165	160/180
1/0	0.102	0.139	0.031	0.042	0.492+j0.508	0.140+j0.047	2169	175/190	185/205
2/0	0.082	0.112	0.029	0.04	0.468+j0.487	0.113+j0.046	2305	200/220	215/240
4/0	0.051	0.07	0.024	0.038	0.431+j0.440	0.071+j0.043	2634	265/280	285/320
250	0.043	0.059	0.022	0.037	0.420+j0.419	0.060+j0.042	2801	290/315	320/355
350	0.031	0.043	0.018	0.035	0.403+j0.387	0.044+j0.040	3058	355/380	395/440
500	0.021	0.03	0.015	0.033	0.386+j0.346	0.031+j0.038	3445	430/460	485/545
750	0.014	0.021	0.014	0.032	0.364+j0.289	0.022+j0.037	4102	530/570	615/685
1000	0.011	0.018	0.012	0.031	0.350+j0.255	0.019+j0.036	4564	600/645	705/790

* 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.

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