CU 600V XLPE Insulation PVC Jacket XHHW-2. CT Rated - Sunlight Resistant - For Direct Burial - Silicone Free

Type TC-ER Control Cable 600 or 1000 Volt Copper Conductors, Cross Linked Polyethylene (XLPE) Insulation XHHW-2 Polyvinyl Chloride (PVC) Jacket, Control Cable Conductor Identification Method 1 Table 2. CT Rated - Sunlight Resistant - For Direct Burial - VW-1 Rated - Silicone Free



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** 7 strands class B compressed bare copper per ASTM B3 and ASTM B8
2. **Insulation:** Cross Linked Polyethylene (XLPE) XHHW-2, 30 Mils thick for all cable sizes. VW-1 Rated
3. **Filler:** Polypropylene filler on cables with 5 or less conductors
4. **Binder:** Polyester flat thread binder tape applied for cables with more than 5 conductors
5. **Overall Jacket:** Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 600 or 1000 Volt Type TC-ER control cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial, aerial supported by a messenger, and where superior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 90°C for normal operation in wet and dry locations, 130°C for emergency overload, and 250°C for short circuit conditions. The jacket acts as gas/vapor-tight polymeric sheath that is extruded over the core per Sections 501.15(D) and 501.15(E) of the NEC, however when these cables are used in a hazardous location, they may need to be sealed further as described in more detail in the NEC. For uses in Class I, II, and III, Division 2 hazardous locations per NEC Article 501 and 502. Constructions with 3 or more conductors are listed for exposed runs (TC-ER) per NEC 336.10. VW-1 Rated\ - Sunlight Resistant - For Direct Burial - Silicone Free.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 44 Thermoset-Insulated Wires and Cables
- UL 44 VW-1 Vertical flame test on individual conductors
- UL 1277 Electrical Power and Control Tray Cables
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-58-679 Control Cable Conductor Identification Method 1 Table 2
- ICEA S-73-532 Standard for Control, Thermocouple Extension and Instrumentation Cables
- ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test

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SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE® (UL) XX AWG (X.XXmm2) CU 3/C TYPE TC-ER XHHW-2 CDRS 90(D)C JACKET SUNLIGHT RESISTANT DIRECT BURIAL FT4/IEEE1202 600V or 1000V NOM-ANCE XHHW-2 CT SR 600V 90(D)C.

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Table 1 – Physical and Electrical Data

Stock Number	Cond. Size	Cond. Number	Cond. Strands	Insul. Thickness	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	DC Resistance @ 25°C	AC Resistance @ 75°C	Inductive Rectance	Min Bending Radius	Allowable Ampacity 75°C	Allowable Ampacity 90°C
	AWG	No.	strands	mil	mil	inch	lb / 1000ft	lb / 1000ft	Ω /1000ft	Ω /1000ft	Ω/1000ft	inch	Amp	Amp
14 AWG														
952459◊	14	2	7	30	45	0.355	25	66	2.631	3.170	0.058	1.4	20	25
952465◊	14	3	7	30	45	0.376	38	90	2.631	3.170	0.058	1.5	20	25
952473◊	14	4	7	30	45	0.409	51	109	2.631	3.170	0.058	1.6	16	20
952481◊	14	5	7	30	45	0.447	64	129	2.631	3.170	0.058	1.8	16	20
952440◊	14	7	7	30	45	0.482	89	168	2.631	3.170	0.058	1.9	14	17
952499	14	6	7	30	45	0.486	76	151	2.631	3.170	0.058	1.9	16	20
952507	14	8	7	30	60	0.559	102	208	2.631	3.170	0.058	2.2	14	17
952572◊	14	9	7	30	60	0.598	114	231	2.631	3.170	0.058	2.4	14	17
952598◊	14	12	7	30	60	0.670	153	295	2.631	3.170	0.058	2.7	10	12
952606◊	14	15	7	30	60	0.742	191	358	2.631	3.170	0.058	3.0	10	12
952614◊	14	19	7	30	60	0.780	242	439	2.631	3.170	0.058	3.1	10	12
952622	14	20	7	30	60	0.820	255	462	2.631	3.170	0.058	3.3	10	12
952630◊	14	25	7	30	80	0.952	319	602	2.631	3.170	0.058	3.8	9	11
952648	14	30	7	30	80	1.006	386	707	2.631	3.170	0.058	5.0	9	11
952655◊	14	37	7	30	80	1.083	474	849	2.631	3.170	0.058	5.4	8	10
12 AWG														
953042◊	12	2	7	30	45	0.388	40	88	1.662	2.002	0.054	1.6	25	30
953059◊	12	3	7	30	45	0.408	61	117	1.662	2.002	0.054	1.6	25	30
953067◊	12	4	7	30	45	0.449	81	152	1.662	2.002	0.054	1.8	20	24
953075◊	12	5	7	30	45	0.487	101	174	1.662	2.002	0.054	1.9	20	24
953091◊	12	7	7	30	60	0.561	142	248	1.662	2.002	0.054	2.2	17	21
953109	12	8	7	30	60	0.607	162	279	1.662	2.002	0.054	2.4	17	21
953117◊	12	9	7	30	60	0.657	182	315	1.662	2.002	0.054	2.6	17	21
953125	12	10	7	30	60	0.714	202	349	1.662	2.002	0.054	2.9	12	15
953133◊	12	12	7	30	60	0.738	243	404	1.662	2.002	0.054	3.0	12	15
953141	12	15	7	30	60	0.819	303	496	1.662	2.002	0.054	3.3	12	15
953158◊	12	19	7	30	80	0.904	385	647	1.662	2.002	0.054	3.6	12	15
953174◊	12	25	7	30	80	1.051	511	835	1.662	2.002	0.054	5.3	11	13
953190	12	37	7	30	80	1.198	753	1181	1.662	2.002	0.054	6.0	10	12
10 AWG														
952861◊	10	2	7	30	45	0.448	64	121	1.040	1.253	0.050	1.8	35	40
952879◊	10	3	7	30	45	0.472	97	166	1.040	1.253	0.050	1.9	35	40
952895◊	10	4	7	30	45	0.547	129	229	1.040	1.253	0.050	2.2	28	32
952887◊	10	5	7	30	60	0.603	161	273	1.040	1.253	0.050	2.4	28	32
TBA	10	7	7	30	60	0.641	258	376	1.040	1.253	0.050	2.6	24	28
952911◊	10	7	7	30	60	0.657	226	361	1.040	1.253	0.050	2.6	24	28
952929	10	8	7	30	60	0.711	257	408	1.040	1.253	0.050	2.8	24	28
952937◊	10	9	7	30	60	0.765	289	455	1.040	1.253	0.050	3.1	24	28
952952◊	10	12	7	30	80	0.904	386	625	1.040	1.253	0.050	3.6	17	20

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	AWG	No.	strands	mil	mil	inch	lb / 1000ft	lb / 1000ft	Ω /1000ft	Ω /1000ft	Ω/1000ft	inch	Amp	Amp
952960	10	15	7	30	80	1.001	483	764	1.040	1.253	0.050	5.0	17	20
952978	10	19	7	30	80	1.045	613	932	1.040	1.253	0.050	5.2	17	20

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

* Ampacities based upon 2023 NEC Table 310.16 and do not take into account the overcurrent protection limitations in NEC 240.4(D) of 15 Amps for 14 AWG CU, 20 Amps for 12 AWG CU, and 30 Amps for 10 AWG CU (independent of the conductor temperature rating and stranding if size is present in table). Also, see NEC sections 310.15 and 110.14(C) for additional requirements.

* Ampacities have been adjusted for more than Three Current-Carrying Conductors.