CU 600V XLPE Insulation PVC Jacket. XHHW-2

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. Silicone free. VW-1 Rated

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.

SPECIFICATIONS:

- ASTM B3 Standard Specification for 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

SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE{R} (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

Table 1 – Physical and Electrical Data

Stock Number	Cond. Size	Cond. Number	Cond. Strands	Diameter Over Cond.	Insul. Thickness	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	DC Resistance @ 25°C	AC Resistance @ 90°C	Min Bending Radius	Allowable Ampacity At 60°C *	Allowable Ampacity 75°C *	Allowable Ampacity 90°C *
	AWG	No.	strands	inch	mil	mil	inch	lb /1000ft	lb /1000ft	Ω /1000ft	Ω /1000ft	inch	Amp	Amp	Amp
14 AWG															
952459◊	14	2	7	0.070	30	45	0.355	25	66	2.631	3.170	1.4	15	20	25
952465◊	14	3	7	0.070	30	45	0.376	38	90	2.631	3.170	1.5	15	20	25
952473◊	14	4	7	0.070	30	45	0.409	51	109	2.631	3.170	1.6	12	16	20
952481◊	14	5	7	0.070	30	45	0.447	64	129	2.631	3.170	1.7	12	16	20
952440◊	14	7	7	0.070	30	45	0.482	89	168	2.631	3.170	1.9	10	14	17
952499	14	6	7	0.070	30	45	0.486	76	151	2.631	3.170	1.9	12	16	20
952507	14	8	7	0.070	30	60	0.559	102	208	2.631	3.170	2.2	10	14	17
952572◊	14	9	7	0.070	30	60	0.598	114	231	2.631	3.170	2.3	10	14	17
952598◊	14	12	7	0.070	30	60	0.670	153	295	2.631	3.170	2.6	7	10	12
952606◊	14	15	7	0.070	30	60	0.742	191	358	2.631	3.170	2.9	7	10	12
952614◊	14	19	7	0.070	30	60	0.780	242	439	2.631	3.170	3.1	7	10	12
952622	14	20	7	0.070	30	60	0.820	255	462	2.631	3.170	3.2	7	10	12
952630◊	14	25	7	0.070	30	80	0.952	319	602	2.631	3.170	3.8	6	9	11
952648	14	30	7	0.070	30	80	1.006	386	707	2.631	3.170	5.0	6	9	11
952655◊	14	37	7	0.070	30	80	1.083	474	849	2.631	3.170	5.4	6	8	10
12 AWG															
953042◊	12	2	7	0.088	30	45	0.388	40	88	1.662	2.002	1.5	20	25	30
953059◊	12	3	7	0.088	30	45	0.408	61	117	1.662	2.002	1.6	20	25	30
953067◊	12	4	7	0.088	30	45	0.449	81	152	1.662	2.002	1.7	16	20	24
953075◊	12	5	7	0.088	30	45	0.487	101	174	1.662	2.002	1.9	16	20	24
953091◊	12	7	7	0.088	30	60	0.561	142	248	1.662	2.002	2.2	14	17	21
953109	12	8	7	0.088	30	60	0.607	162	279	1.662	2.002	2.4	14	17	21
953117◊	12	9	7	0.088	30	60	0.657	182	315	1.662	2.002	2.6	14	17	21
953125	12	10	7	0.088	30	60	0.714	202	349	1.662	2.002	2.8	10	12	15
953133◊	12	12	7	0.088	30	60	0.738	243	404	1.662	2.002	2.9	10	12	15
953141	12	15	7	0.088	30	60	0.819	303	496	1.662	2.002	3.2	10	12	15
953158◊	12	19	7	0.088	30	80	0.904	385	647	1.662	2.002	3.6	10	12	15
953174◊	12	25	7	0.088	30	80	1.051	511	835	1.662	2.002	5.2	9	11	13
TBA	12	37	7	0.088	30	80	1.198	753	1181	1.662	2.002	5.9	8	10	12
10 AWG															
952861◊	10	2	7	0.113	30	45	0.436	64	119	1.040	1.253	1.7	30	35	40
952879◊	10	3	7	0.113	30	45	0.459	97	163	1.040	1.253	1.8	30	35	40
952895◊	10	4	7	0.113	30	45	0.502	129	210	1.040	1.253	2.0	24	28	32
952887◊	10	5	7	0.113	30	60	0.587	161	267	1.040	1.253	2.3	24	28	32
952911◊	10	7	7	0.113	30	60	0.639	226	354	1.040	1.253	2.5	21	24	28
TBA	10	7	7	0.113	30	60	0.651	258	377	1.040	1.253	2.6	21	24	28
952929	10	8	7	0.113	30	60	0.692	257	399	1.040	1.253	2.7	21	24	28
952937◊	10	9	7	0.113	30	60	0.743	289	446	1.040	1.253	2.9	21	24	28
952952◊	10	12	7	0.113	30	80	0.879	386	613	1.040	1.253	3.5	15	17	20

Stock Number	Cond. Size	Cond. Number	Cond. Strands	Diameter Over Cond.	Insul. Thickness	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	DC Resistance @ 25°C	AC Resistance @ 90°C	Min Bending Radius	Allowable Ampacity At 60°C *	Allowable Ampacity 75°C *	Allowable Ampacity 90°C *
	AWG	No.	strands	inch	mil	mil	inch	lb /1000ft	lb /1000ft	Ω /1000ft	Ω /1000ft	inch	Amp	Amp	Amp
952960	10	15	7	0.113	30	80	0.973	483	748	1.040	1.253	3.8	15	17	20
952978	10	19	7	0.113	30	80	1.015	612	909	1.040	1.253	5.0	15	17	20

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

† Ampacities are based on Table 310.16 of the NEC, 2020 Edition. Ampacities of insulated conductors rated up to and including 2000 Volts, based on ambient temperature of 30°C (86°F). Ampacities have been adjusted to article 240.4 (D) and Table 310.15 (B)(3) for more than 3 current carrying conductors