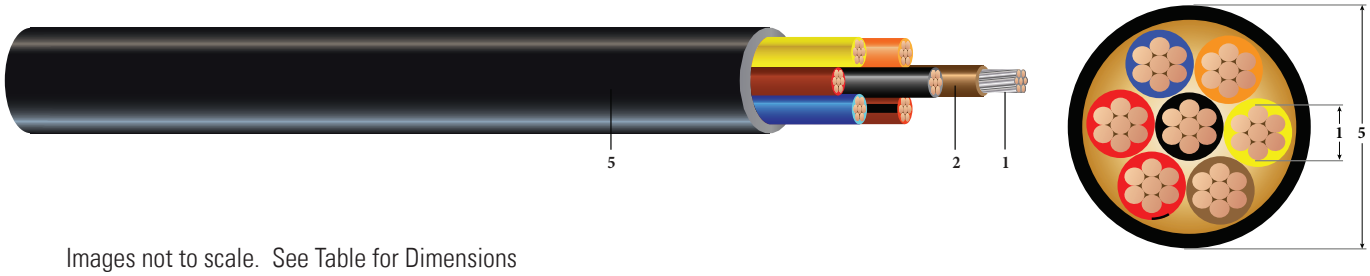
CU 600V EPR XHHW-2 CPE Control Cable Type TC-ER

Type TC-ER Control Cable 600Volt Copper Conductors, Ethylene Propylene Rubber (EPR) Insulation XHHW-2 Chlorinated Polyethylene (CPE) Jacket, Control Cable Conductor Identification Method 1 Table 2



Images not to scale. See Table for Dimensions

CONSTRUCTION:

1. **Conductor**: 7 strands class B compressed tinned copper per ASTM B33 and ASTM B8
2. **Insulation**: Ethylene Propylene Rubber (EPR) XHHW-2, 30 Mils thick for all cable sizes
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**: Chlorinated Polyethylene (CPE) Jacket

APPLICATIONS AND FEATURES:

Southwire's 600 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. 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. Sunlight resistant.

SPECIFICATIONS:

- ASTM B33 - Tinned Soft or annealed copper
- ASTM B8 - Concentric-lay-standard copper
- UL 44 - Thermoset Insulated wires and cables
- UL 1277 - Electrical Power and Control Cable
- UL 1685 - Flame Test
- UL 1581 - Electrical Wires, Cables and Flexible Cords
- IEEE 1202/FT4 - Vertical Tray Flame Test (70,000 Btu/hr)
- ICEA S-73-532 - Standard for Control, Thermocouple Extension and Instrumentation Cables
- ICEA S-58-679 - Control Cable Conductor Identification Method 1 Table 2
- ICEA S-95-658 NEMA WC70 - Power cables rated 2000 volts or less for the distribution of electrical energy

SAMPLE PRINT LEGEND:

SOUTHWIRE EXXXXX #P# (UL) [#AWG Or #kcmil] CU XHHW-2 EPR/CPE 600V Type TC-ER For CT USE SUN. RES. For DIRECT BURIAL FT4 YEAR (NESC) [SEQUENTIAL FEET MARKS]

Measurements and Electrical Data #16 AWG

Stock Code	Cond. Number	Dia. Over Cond. (1)	Jacket Thickness	Approx. OD (5)	Copper Weight	Approx. Weight	Min Bending Radius	DC Resis. @ 25°C	AC Resis @ 90°C	Allowable Ampacities* 60/75/90°C
		inches	mils	inches	lbs./MFT	lbs./MFT	inches	Ω/MFT	Ω/MFT	Amps
591931 ◊	2	0.056	45	0.323	16	55	1.3	4.180	5.226	10/10/10
591932	3	0.056	45	0.341	24	68	1.4	4.180	5.226	10/10/10
591933	4	0.056	45	0.371	32	84	1.5	4.180	5.226	10/10/10
591934	5	0.056	45	0.404	40	100	1.6	4.180	5.226	10/10/10
TBA	6	0.056	45	0.439	48	118	1.8	4.180	5.226	10/10/10
591935	7	0.056	45	0.439	56	128	1.8	4.180	5.226	9/10/10
TBA	8	0.056	45	0.475	64	146	1.9	4.180	5.226	9/10/10
591936	9	0.056	45	0.510	72	164	2.0	4.180	5.226	9/10/10
TBA	10	0.056	60	0.585	81	202	2.3	4.180	5.226	6/7/9
591937	12	0.056	60	0.604	97	228	2.4	4.180	5.226	6/7/9
591938	15	0.056	60	0.668	121	278	2.7	4.180	5.226	6/7/9
591939	19	0.056	60	0.702	153	329	2.8	4.180	5.226	6/7/9
TBA	20	0.056	60	0.738	161	351	3.0	4.180	5.226	6/7/9
TBA	25	0.056	60	0.818	201	430	3.3	4.180	5.226	6/7/8
TBA	30	0.056	80	0.905	242	534	3.6	4.180	5.226	6/7/8
TBA	37	0.056	80	0.974	298	635	3.9	4.180	5.226	5/6/7

Measurements and Electrical Data #14 AWG

Stock Code	Cond. Number	Dia. Over Cond. (1)	Jacket Thickness	Approx. OD (5)	Copper Weight	Approx. Weight	Min Bending Radius	DC Resis. @ 25°C	AC Resis @ 90°C	Allowable Ampacities* 60/75/90°C
		inches	mils	inches	lbs./MFT	lbs./MFT	inches	Ω/MFT	Ω/MFT	Amps
591944 ◊	2	0.070	45	0.349	26	69	1.4	2.630	3.288	15/15/15
591947 ◊	3	0.070	45	0.370	38	88	1.5	2.630	3.288	15/15/15
591948 ◊	4	0.070	45	0.403	51	109	1.6	2.630	3.288	14/15/15
591949 ◊	5	0.070	45	0.440	64	132	1.8	2.630	3.288	14/15/15
TBA	6	0.070	45	0.479	77	156	1.9	2.630	3.288	14/15/15
591950 ◊	7	0.070	45	0.479	90	171	1.9	2.630	3.288	12/15/15
TBA	8	0.070	45	0.519	102	195	2.1	2.630	3.288	12/15/15
591951 ◊	9	0.070	60	0.588	115	237	2.4	2.630	3.288	12/15/15
TBA	10	0.070	60	0.638	128	266	2.6	2.630	3.288	9/11/12
591952 ◊	12	0.070	60	0.659	154	303	2.6	2.630	3.288	9/11/12
591953 ◊	15	0.070	60	0.730	192	371	2.9	2.630	3.288	9/11/12
591954 ◊	19	0.070	60	0.768	243	444	3.1	2.630	3.288	9/11/12
TBA	20	0.070	60	0.808	256	473	3.2	2.630	3.288	9/11/12
591955	25	0.070	80	0.937	320	619	3.7	2.630	3.288	8/9/11
591956	30	0.070	80	0.991	384	718	4.0	2.630	3.288	8/9/11
591957	37	0.070	80	1.067	474	859	5.3	2.630	3.288	7/8/10

All dimensions are nominal and subject to normal manufacturing tolerance.
* Ampacities are based on Table 310.15 (B)(16) of the NEC, 2014 Edition. Ampacities of insulated conductors rated up to and including 2000 Volts, based on ambient temperature of 30°C (86°F)
◊ Standard stock item

Measurements and Electrical Data #12 AWG

Stock Code	Cond. Number	Dia. Over Cond. (1)	Jacket Thickness	Approx. OD (5)	Copper Weight	Approx. Weight	Min Bending Radius	DC Resis. @ 25°C	AC Resis @ 90°C	Allowable Ampacities* 60/75/90°C
		inches	mils	inches	lbs./MFT	lbs./MFT	inches	Ω/MFT	Ω/MFT	Amps
591959 ◊	2	0.087	45	0.384	41	91	1.5	1.660	2.075	20/20/20
591960 ◊	3	0.087	45	0.408	61	118	1.6	1.660	2.075	20/20/20
591962 ◊	4	0.087	45	0.445	81	149	1.8	1.660	2.075	16/20/20
591963	5	0.087	45	0.487	102	181	1.9	1.660	2.075	16/20/20
TBA	6	0.087	45	0.532	122	214	2.1	1.660	2.075	16/20/20
591964 ◊	7	0.087	45	0.532	143	237	2.1	1.660	2.075	14/17/20
TBA	8	0.087	60	0.607	163	289	2.4	1.660	2.075	14/17/20
591965 ◊	9	0.087	60	0.651	183	325	2.6	1.660	2.075	14/17/20
TBA	10	0.087	60	0.709	204	366	2.8	1.660	2.075	10/12/15
591966 ◊	12	0.087	60	0.732	244	419	2.9	1.660	2.075	10/12/15
591967	15	0.087	60	0.813	305	516	3.3	1.660	2.075	10/12/15
591968	19	0.087	80	0.896	387	657	3.6	1.660	2.075	10/12/15
TBA	20	0.087	80	0.942	407	699	3.8	1.660	2.075	10/12/15
591969	25	0.087	80	1.043	509	859	5.2	1.660	2.075	9/11/13
591970	30	0.087	80	1.104	611	1002	5.5	1.660	2.075	9/11/13
591971	37	0.087	80	1.191	753	1205	6.0	1.660	2.075	8/10/12

Measurements and Electrical Data #10 AWG

Stock Code	Cond. Number	Dia. Over Cond. (1)	Jacket Thickness	Approx. OD (5)	Copper Weight	Approx. Weight	Min Bending Radius	DC Resis. @ 25°C	AC Resis @ 90°C	Allowable Ampacities* 60/75/90°C
		inches	mils	inches	lbs./MFT	lbs./MFT	inches	Ω/MFT	Ω/MFT	Amps
591973 ◊	2	0.111	45	0.431	65	125	1.7	1.040	1.300	30/30/30
591974 ◊	3	0.111	45	0.459	97	166	1.8	1.040	1.300	30/30/30
591976 ◊	4	0.111	45	0.502	130	210	2.0	1.040	1.300	24/28/30
591977 ◊	5	0.111	60	0.581	162	274	2.3	1.040	1.300	24/28/30
TBA	6	0.111	60	0.632	194	324	2.5	1.040	1.300	24/28/30
591978	7	0.111	60	0.632	227	359	2.5	1.040	1.300	21/24/28
TBA	8	0.111	60	0.685	259	410	2.7	1.040	1.300	21/24/28
591979	9	0.111	60	0.736	291	462	2.9	1.040	1.300	21/24/28
TBA	10	0.111	60	0.803	324	520	3.2	1.040	1.300	15/17/20
591980	12	0.111	60	0.830	389	600	3.3	1.040	1.300	15/17/20
TBA	15	0.111	80	0.964	486	778	3.9	1.040	1.300	15/17/20
TBA	19	0.111	80	1.014	615	940	5.1	1.040	1.300	15/17/20
TBA	20	0.111	80	1.067	648	1000	5.3	1.040	1.300	15/17/20
TBA	25	0.111	80	1.184	810	1233	5.9	1.040	1.300	13/15/18
TBA	30	0.111	80	1.254	971	1446	6.3	1.040	1.300	13/15/18
TBA	37	0.111	80	1.355	1198	1747	6.8	1.040	1.300	12/14/16

All dimensions are nominal and subject to normal manufacturing tolerance.
* Ampacities are based on Table 310.15 (B)(16) of the NEC, 2014 Edition. Ampacities of insulated conductors rated up to and including 2000 Volts, based on ambient temperature of 30°C (86°F)
◊ Standard stock item