



# PRODUCT DATA SHEET

Controlled Document - Engineering Drive

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 Waukegan, IL 60085  
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## Royal<sup>®</sup> 600V TFFN/THHN/THWN/PVC TYPE TC-ER

### Construction Parameters:

**CONDUCTOR:** 18 AWG - 10 AWG Class B stranded bare copper per ASTM B-3 and B-8  
**INSULATION:** Premium Grade Polyvinyl Chloride (PVC) plus nylon  
**COLOR CODE:** ICEA Method 1, Table E-2  
**JACKET:** Black sunlight and moisture resistant Polyvinyl Chloride (PVC)  
**PRINT LEGEND:** CCI ROYAL XX AWG X/C PVCN/PVC TYPE TC-ER TFFN E79496 (UL) 600V 90C DRY OIL RES I SUNLIGHT RESISTANT DIRECT BURIAL -- SEQUENTIAL MARKING

CCI ROYAL XX AWG X/C PVCN/PVC TYPE TC-ER THHN/THWN E79496 (UL) 600V 90C DRY/75C WET OIL RES I SUNLIGHT RESISTANT DIRECT BURIAL -- SEQUENTIAL MARKING

### PHYSICAL PROPERTIES:

**TEMPERATURE RANGE:** -25°C to 90°C; (90°C Dry/75°C Wet) - Note TFFN is 90°C Dry only  
**OIL RESISTANCE:** OIL RES I  
**SUNLIGHT RESISTANT:** Yes  
**DIRECT BURIAL:** Yes

### ELECTRICAL PROPERTIES:

**VOLTAGE RATING:** 600V rms, Max

### Industry Approvals:

- o UL Standard 1277 Type TC-ER
- o UL Standard 66 Type TFFN (16 AWG & 18 AWG)
- o UL Standard 83 Type THHN/THWN (14 AWG thru 10 AWG)
- o NEC Article 336
- o EPA 40 CFR, Part 26, Subpart C, heavy metals per Table 1, TCLP method

Part Number	Gauge	No. Cond.	Stranding	Insulation Wall, Nom.		Jacket Wall, Nom.		O.D., Nom.		Net Weight	
				Inches	mm	Inches	mm	Inches	mm	Lb./kft.	kg/km
770501 *	18	2 Flat	7/0.0152	0.015/0.004	0.38/0.10	0.045	1.14	0.181 x 0.268	4.60 x 6.81	33	49
770504 *	18	2	7/0.0152	0.015/0.004	0.38/0.10	0.045	1.14	0.268	6.81	36	54
770503	18	3	7/0.0152	0.015/0.004	0.38/0.10	0.045	1.14	0.281	7.14	45	67
771302	18	4	7/0.0152	0.015/0.004	0.38/0.10	0.045	1.14	0.304	7.72	55	82
770505	18	5	7/0.0152	0.015/0.004	0.38/0.10	0.045	1.14	0.328	8.33	65	97
770507	18	7	7/0.0152	0.015/0.004	0.38/0.10	0.045	1.14	0.354	8.99	84	125
770509	18	9	7/0.0152	0.015/0.004	0.38/0.10	0.045	1.14	0.408	10.36	105	156
770512	18	12	7/0.0152	0.015/0.004	0.38/0.10	0.045	1.14	0.454	11.53	133	198
770515	18	15	7/0.0152	0.015/0.004	0.38/0.10	0.045	1.14	0.532	13.51	176	262
770519	18	19	7/0.0152	0.015/0.004	0.38/0.10	0.060	1.52	0.558	14.17	211	314
770441 *	16	2 Flat	7/0.0192	0.015/0.004	0.38/0.10	0.060	1.52	0.193 x 0.292	4.90 x 7.42	42	63
770402 *	16	2	7/0.0192	0.015/0.004	0.38/0.10	0.045	1.14	0.292	7.42	45	67
771603	16	3	7/0.0192	0.015/0.004	0.38/0.10	0.045	1.14	0.308	7.82	55	82
771503	16	4	7/0.0192	0.015/0.004	0.38/0.10	0.045	1.14	0.334	8.48	71	106
770454	16	5	7/0.0192	0.015/0.004	0.38/0.10	0.045	1.14	0.361	9.17	85	126
770407	16	7	7/0.0192	0.015/0.004	0.38/0.10	0.045	1.14	0.391	9.93	112	167
770452	16	9	7/0.0192	0.015/0.004	0.38/0.10	0.045	1.14	0.452	11.48	140	208
770412	16	12	7/0.0192	0.015/0.004	0.38/0.10	0.060	1.52	0.535	13.59	188	280
771615	16	15	7/0.0192	0.015/0.004	0.38/0.10	0.060	1.52	0.589	14.96	235	350
771619	16	19	7/0.0192	0.015/0.004	0.38/0.10	0.060	1.52	0.619	15.72	284	423
770425	16	25	7/0.0192	0.015/0.004	0.38/0.10	0.060	1.52	0.718	18.24	365	543
770430	16	30	7/0.0192	0.015/0.004	0.38/0.10	0.080	2.03	0.759	19.28	425	632
770437	16	37	7/0.0192	0.015/0.004	0.38/0.10	0.080	2.03	0.857	21.77	545	811

\* Not -ER

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Part		No.	Insulation Wall, Nom.		Jacket Wall, Nom.		O.D., Nom.		Net Weight		
Number	Gauge	Cond.	Stranding	Inches	mm	Inches	mm	Inches	mm	Lb./kft.	kg/km
770348 *	14	2 Flat	7/0.0242	0.015/0.004	0.38/0.10	0.045	1.14	0.206 x 0.318	5.54 x 8.08	55	82
770302 *	14	2	7/0.0242	0.015/0.004	0.38/0.10	0.045	1.14	0.319	8.10	59	88
771482	14	2 W/GND	7/0.0242	0.015/0.004	0.38/0.10	0.045	1.14	0.319	8.10	72	107
771483	14	3 W/GND	7/0.0242	0.015/0.004	0.38/0.10	0.045	1.14	0.353	8.97	90	134
771403	14	3	7/0.0242	0.015/0.004	0.38/0.10	0.045	1.14	0.337	8.56	77	115
771404	14	4	7/0.0242	0.015/0.004	0.38/0.10	0.045	1.14	0.366	9.30	97	144
771105	14	5	7/0.0242	0.015/0.004	0.38/0.10	0.045	1.14	0.397	10.08	116	173
771107	14	7	7/0.0242	0.015/0.004	0.38/0.10	0.045	1.14	0.431	10.95	155	231
770309	14	9	7/0.0242	0.015/0.004	0.38/0.10	0.060	1.52	0.531	13.49	211	314
770312	14	12	7/0.0242	0.015/0.004	0.38/0.10	0.080	2.03	0.590	14.99	270	402
770315	14	15	7/0.0242	0.015/0.004	0.38/0.10	0.080	2.03	0.652	16.56	328	488
770319	14	19	7/0.0242	0.015/0.004	0.38/0.10	0.080	2.03	0.686	17.42	401	597
770325	14	25	7/0.0242	0.015/0.004	0.38/0.10	0.080	2.03	0.838	21.29	549	817
770330	14	30	7/0.0242	0.015/0.004	0.38/0.10	0.080	2.03	0.884	22.45	642	955
770337	14	37	7/0.0242	0.015/0.004	0.38/0.10	0.080	2.03	0.951	24.16	773	1150
770201 *	12	2 Flat	7/0.0305	0.015/0.004	0.38/0.10	0.045	1.14	0.228 x 0.363	5.79 x 9.22	76	113
770207 *	12	2	7/0.0305	0.015/0.004	0.38/0.10	0.045	1.14	0.362	9.19	80	119
771203	12	3	7/0.0305	0.015/0.004	0.38/0.10	0.045	1.14	0.383	9.73	108	161
771213	12	3 W/GND	7/0.0305	0.015/0.004	0.38/0.10	0.045	1.14	0.414	10.52	128	190
771204	12	4	7/0.0305	0.015/0.004	0.38/0.10	0.045	1.14	0.418	10.62	137	204
771205	12	5	7/0.0305	0.015/0.004	0.38/0.10	0.045	1.14	0.456	11.58	166	247
770287	12	7	7/0.0305	0.015/0.004	0.38/0.10	0.045	1.14	0.496	12.60	224	333
770209	12	9	7/0.0305	0.015/0.004	0.38/0.10	0.060	1.52	0.609	15.47	301	448
770212	12	12	7/0.0305	0.015/0.004	0.38/0.10	0.060	1.52	0.680	17.27	388	577
770215	12	15	7/0.0305	0.015/0.004	0.38/0.10	0.060	1.52	0.754	19.15	475	707
770219	12	19	7/0.0305	0.015/0.004	0.38/0.10	0.080	2.03	0.834	21.18	619	921
770230	12	30	7/0.0305	0.015/0.004	0.38/0.10	0.080	2.03	1.023	25.98	937	1394
771237	12	37	7/0.0305	0.015/0.004	0.38/0.10	0.080	2.03	1.102	27.99	1133	1686
770101 *	10	2 Flat	7/0.0385	0.015/0.004	0.38/0.10	0.045	1.14	0.262 x 0.430	6.65 x 10.92	109	162
771002 *	10	2	7/0.0385	0.020/0.004	0.51/0.10	0.045	1.14	0.430	10.92	115	171
771003	10	3	7/0.0385	0.020/0.004	0.51/0.10	0.045	1.14	0.457	11.61	157	234
771004	10	4	7/0.0385	0.020/0.004	0.51/0.10	0.045	1.14	0.501	12.73	202	301
770105	10	5	7/0.0385	0.020/0.004	0.51/0.10	0.060	1.52	0.578	14.68	261	388
770107	10	7	7/0.0385	0.020/0.004	0.51/0.10	0.060	1.52	0.628	15.95	352	524
770109	10	9	7/0.0385	0.020/0.004	0.51/0.10	0.060	1.52	0.732	18.59	445	662
770112	10	12	7/0.0385	0.020/0.004	0.51/0.10	0.080	2.03	0.861	21.87	610	908

Note: All dimensions & weights are nominal subject to industry standards and tolerances unless otherwise noted.

\* Not-ER

This product complies with European Directive 2002/95/EC (RoHS)

The customer will accept all factory lengths and +/- 10 percent of total order requested.

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Customer Company Name: \_\_\_\_\_ Date: \_\_\_\_\_

Customer Approval: \_\_\_\_\_ Customer Title: \_\_\_\_\_

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