

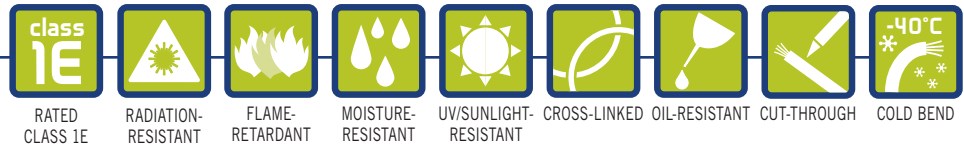
# ULTROL® 60+ Control Cable

## Multi-Conductor, Overall Shield

SPEC 300-60  
May, 2013

Class 1E Nuclear

600 V, 90°C, VW-1, UL Type TC-ER\*



## Product Construction

### 1. Conductor:

- 14 AWG thru 10 AWG, tinned annealed copper; Class B stranding; 2 thru 37 conductors

### 2. Insulation:

- Flame-retardant, heat-, moisture- and radiation-resistant, thermoset ULTROL® 60+ Cross-linked Polyethylene (FR-XLPE)
- Color code: per ICEA Method 1, Table E-1

### 3. Overall Shield:

- Copper/polyester tape in contact with a stranded tinned copper drain wire

### 4. Jacket:

- Flame-retardant, moisture-, oil-, sunlight- and radiation-resistant, thermoset ULTROL® 60+ Cross-linked Polyolefin (XLPO) – Black

### Print:

- GENERAL CABLE (WC) ULTROL® 60+ XX/C XXAWG COPPER FR-XLPE XLPO SHIELDED 600 V 90°C SUN RES OIL RES I & II DIR BUR (UL) TYPE TC-ER\* XHHW-2 VW-1 NUCLEAR DAY MONTH YEAR TRACEABILITY NUMBER SEQUENTIAL FOOTAGE MARK

\* -ER for > 2 conductors

### Options:

- Conductor stranding
- ISO Metric conductors
- E-2 color code
- Longitudinal corrugated tinned copper tape shield

### Applications:

- ULTROL® 60+ control cable is a 600 V overall shielded, multi-conductor, thermoset, Class 1E rated construction specifically designed for applications in nuclear generating stations and where flame retardancy is critical
- Where optimum performance is required for use on Class 1E circuits when shielding from external electrostatic interference is required
- Can be installed in trays, conduit, ducts, or in direct burial applications

### Features:

- Rated at 90°C wet or dry
- Fully traceable
- Qualified for 60-year service life
- Gamma and beta radiation resistant (up to 350 megarads)
- Submergence operability
- Long-term thermal endurance and superior electricals
- Excellent mechanical cut-through properties
- Long-term moisture and radiation stability
- Free stripping for ease of termination
- Meets cold bend test at -40°C

### Industry Compliances:

- Class 1E Qualified in accordance with IEEE 323-1974/2003 and IEEE 383-1974/2003
  - ICEA S-73-532
  - UL 1277 Type TC-ER\*
  - UL 44 XHHW-2
- \* -ER for > 2 conductors

### Flame Test Compliances:

- IEEE 383:1974
- IEEE 383:2003
- ICEA T-29-520
- IEEE 1202/FT4-1991, Aged & Unaged
- VW-1

### Other:

- Quality assurance program in accordance with NRC 10CFR50 Appendix B
- ANSI N45.2
- ASME NQA-1
- NIAC
- NUPIC

### Packaging:

- Material to be shipped on non-returnable wooden reels

# ULTROL<sup>®</sup> 60+ Control Cable

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CATALOG NUMBER	NO. OF COND.	COND. SIZE (AWG)	COND. STRAND	MINIMUM AVG. INSULATION THICKNESS		DRAIN WIRE SIZE (AWG)	MINIMUM AVG. JACKET THICKNESS		NOMINAL CABLE O.D.		COPPER WEIGHT		NET WEIGHT	
				INCHES	mm		INCHES	mm	INCHES	mm	LBS/1000 FT	kg/km	LBS/1000 FT	kg/km
30060.14.2	2	14	7/.0242	0.030	0.76	16	0.045	1.14	0.359	9.12	34	50	98	145
30060.14.3	3	14	7/.0242	0.030	0.76	16	0.045	1.14	0.379	9.63	47	69	108	161
30060.14.4	4	14	7/.0242	0.030	0.76	16	0.045	1.14	0.414	10.5	59	88	134	199
30060.14.5	5	14	7/.0242	0.030	0.76	16	0.045	1.14	0.512	13.0	72	108	152	227
30060.14.7	7	14	7/.0242	0.030	0.76	16	0.060	1.52	0.582	14.8	98	146	211	313
30060.14.9	9	14	7/.0242	0.030	0.76	16	0.060	1.52	0.663	16.8	124	185	289	430
30060.14.12	12	14	7/.0242	0.030	0.76	16	0.060	1.52	0.736	18.7	163	243	352	524
30060.14.19	19	14	7/.0242	0.030	0.76	16	0.080	2.03	0.888	22.6	251	374	546	812
30060.14.25	25	14	7/.0242	0.030	0.76	16	0.080	2.03	1.014	25.8	330	491	675	1005
30060.14.30	30	14	7/.0242	0.030	0.76	16	0.080	2.03	1.076	27.3	394	586	852	1268
30060.14.37	37	14	7/.0242	0.030	0.76	16	0.080	2.03	1.154	29.3	484	720	1055	1570
30060.12.2	2	12	7/.0305	0.030	0.76	14	0.045	1.14	0.397	10.0	54	80	129	192
30060.12.3	3	12	7/.0305	0.030	0.76	14	0.045	1.14	0.420	10.7	74	110	145	216
30060.12.4	4	12	7/.0305	0.030	0.76	14	0.045	1.14	0.460	11.7	94	140	198	295
30060.12.5	5	12	7/.0305	0.030	0.76	14	0.060	1.52	0.607	15.4	115	171	229	341
30060.12.7	7	12	7/.0305	0.030	0.76	14	0.060	1.52	0.653	16.6	156	232	305	453
30060.12.9	9	12	7/.0305	0.030	0.76	14	0.060	1.52	0.745	18.9	197	293	394	587
30060.12.12	12	12	7/.0305	0.030	0.76	14	0.060	1.52	0.828	21.0	258	384	495	736
30060.12.19	19	12	7/.0305	0.030	0.76	14	0.080	2.03	0.997	25.3	401	597	754	1122
30060.12.25	25	12	7/.0305	0.030	0.76	14	0.080	2.03	1.141	29.0	525	781	929	1383
30060.12.30	30	12	7/.0305	0.030	0.76	14	0.080	2.03	1.211	30.8	626	932	1074	1599
30060.12.37	37	12	7/.0305	0.030	0.76	14	0.080	2.03	1.301	33.1	769	1144	1291	1921
30060.10.2	2	10	7/.0385	0.030	0.76	12	0.045	1.14	0.443	11.3	85	127	173	258
30060.10.3	3	10	7/.0385	0.030	0.76	12	0.045	1.14	0.470	11.9	118	176	202	301
30060.10.4	4	10	7/.0385	0.030	0.76	12	0.045	1.14	0.515	13.1	150	223	291	433
30060.10.5	5	10	7/.0385	0.030	0.76	12	0.060	1.52	0.688	17.5	183	272	349	519
30060.10.7	7	10	7/.0385	0.030	0.76	12	0.060	1.52	0.740	18.8	248	369	415	618
30060.10.9	9	10	7/.0385	0.030	0.76	12	0.080	2.03	0.887	22.5	313	466	570	849
30060.10.12	12	10	7/.0385	0.030	0.76	12	0.080	2.03	0.982	24.9	411	612	709	1055
30060.10.19	19	10	7/.0385	0.030	0.76	12	0.080	2.03	1.130	28.7	638	950	1038	1545

Insulated conductor diameter (inches) 14 AWG (.14), 12 AWG (.16) and 10 AWG (.18).  
Dimensions and weights are nominal; subject to industry tolerances.