

## DLO TCU 2000V EPDM Insulation CPE Jacket. RHH/RHW-2/RW90 MSHA Approved

UL Listed as 2kV Heavy Duty Flexible Power Cable (HDFPC) DLO, Rated 90°C Dry or Wet. 2kV Type RHH/RHW-2 Flexible Power Cable Rated for Dry or Wet. CSA Listed as 2kV Type RW90. Composite Thermoset Wall EPDM Insulation CPE Jacket. Silicone-Free. MSHA Approved



Image not to scale. See Table 1 for dimensions.

### CONSTRUCTION:

1. **Conductor:** Flexible Stranded Rope-Lay Class I Tinned Copper per ASTM B33 and B172 (As Applicable)
2. **Binder Tape:** Mylar Tape
3. **Insulation:** Black 2 layer Thermoset Ethylene Propylene Diene Monomer / Thermoset Chlorinated Polyethylene (EPDM/CPE). Other colors available (see table below)

### APPLICATIONS AND FEATURES:

HDFPC-DLO is a 2kV flexible power cable with a variety of possible applications such as but not limited to: Drilling rigs, railroad and transit car wiring, mining and other industrial equipment, and as flexible motor leads and wind turbine applications. The cable is suited for use in wet and dry areas, conduits, ducts, troughs, trays, and where superior electrical properties are desired. HDFPC-DLO is oil, heat, flame, abrasion, and sunlight resistant. Approved for use per the NEC® as Type RHH/RHW-2 and per the CE Code as 2kV Type RW90. 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. Sizes 1/0 and Larger Rated For CT Use.

### SPECIFICATIONS:

- ASTM B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors (As Applicable)
- UL 44 Thermoset-Insulated Wires and Cables
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- UL 2806 Heavy Duty Flexible Power Cable (HDFPC-DLO)
- CSA C22.2 No. 38 Thermoset-insulated wires and cables Type RW90
- CSA C22.2 No.230 Tray Cables - Rated TC-ER (1/0 AWG and Larger)
- 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
- MSHA Approved



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**SAMPLE PRINT LEGEND:**

Sizes 12 AWG and 10 AWG

{SQFTG} SOUTHWIRE{R} ROYAL{R} XX AWG (XXmm<sup>2</sup>) E30117 (UL) TYPE RHH/RHW-2 90{D}C DRY 90{D}C WET 2KV (-40{D}C) PRI PRII SR --- EPR/CPE DLO --- P-07-KA100013-MSHA---RoHS

Sizes 8 AWG to 1 AWG

SOUTHWIRE{R} ROYAL{R} XX AWG (XX{mm<sup>2</sup>}) E30117 {UL} TYPE HDFPC EPR/CPE 2KV DLO 90{D}C DRY 90{D}C WET OR TYPE RHH/RHW-2 90{D}C DRY 90{D}C WET 2KV -40{D}C PRI PRII SR VW-1 -- {CSA} 156205 RW90 90{D}C DRY 90{D}C WET 2KV -40{D}C PRI PRII FT1 SR {SEQUENTIAL FOOTAGE MARKS} SEQ FEET

Sizes 1/0 AWG and larger

{SQFTG} SOUTHWIRE{R} ROYAL{R} XX AWG XX STRAND CLASS XX (XX{mm<sup>2</sup>}) E30117 {UL} TYPE HDFPC EPR/CPE 2KV DLO 90{D}C DRY 90{D}C WET OR TYPE RHH/RHW-2 90{D}C DRY 90{D}C WET 2KV -40{D}C PRI PRII SR FOR CT USE FT4 -- {CSA} 156205 RW90 90{D}C DRY 90{D}C WET TC-ER 2KV -40C{D} PRI PRII FT1 FT4 SR

**Table 1 – Weights and Measurements**

Cond. Size	Strand Count	Diameter Over Conductor	Insul. Thickness	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
AWG/Kcmil	No. of Strands	inch	mil	mil	inch	lb/1000ft	lb/1000ft
12	19	0.091	45	15	0.210	20	36
10	19	0.125	55	25	0.265	32	58
8	37	0.145	55	30	0.330	52	92
6	65	0.186	50	30	0.370	81	127
4	105	0.235	60	35	0.440	133	196
2	161	0.290	60	35	0.500	210	282
1	210	0.330	85	60	0.635	267	400
1/0	266	0.379	75	55	0.645	327	450
2/0	342	0.400	80	50	0.690	423	566
3/0	418	0.480	80	55	0.760	518	676
4/0	532	0.530	80	60	0.815	638	815
262.2	646	0.565	80	60	0.845	740	974
313.3	779	0.650	90	70	0.980	896	1139
373.7	931	0.701	95	70	1.040	1076	1343
444.4	1121	0.782	90	65	1.105	1378	1654
535.3	1330	0.843	105	75	1.212	1549	1889
646.4	1628	0.890	115	80	1.290	1898	2292
777.7	1924	0.966	120	90	1.405	2246	2727
1111	2745	1.168	115	95	1.640	3560	4161

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

#12 and #10 AWG are not approved for CSA RW90



**Table 2 – Electrical and Engineering Data**








Cond. Size	Min Bending Radius	Max Pull Tension	DC Resistance @ 25°C	AC Resistance @ 90°C	Inductive Reactance @ 60Hz	Allowable Ampacity At 75°C†	Allowable Ampacity At 90°C†
AWG/Kcmil	inch	lb	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp
12	0.8	52	1.774	2.301	0.054	25	30
10	1.1	83	1.081	1.302	0.050	35	40
8	1.3	132	0.679	0.818	0.052	50	55
6	1.5	209	0.435	0.524	0.051	65	75
4	1.8	333	0.274	0.330	0.048	85	95
2	2.0	530	0.172	0.207	0.045	115	130
1	2.5	670	0.143	0.186	0.037	130	145
1/0	2.6	844	0.109	0.131	0.044	150	170
2/0	2.8	1064	0.087	0.104	0.043	175	195
3/0	3.0	1342	0.069	0.083	0.042	200	225
4/0	3.3	1692	0.055	0.067	0.041	230	260
262.2	3.4	3555	0.026	0.033	0.040	264	301
313.3	3.9	2506	0.039	0.048	0.041	292	327
373.7	5.2	2989	0.033	0.042	0.040	321	365
444.4	5.5	3555	0.259	0.040	0.040	354	402
535.3	6.1	4282	0.021	0.028	0.039	394	446
646.4	6.5	5171	0.018	0.025	0.039	439	496
777.7	7.0	6221	0.016	0.024	0.038	483	543
1111	8.2	8888	0.011	0.016	0.036	570	648

† 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). Also, see NEC sections 310.15 and 110.14(C) for additional requirements.

MBR is based on an operating voltage of less than or equal to 1000 volts. MBR for operating voltages above 1000 Volt is 8 X OD per NEC 300.34.



**Other Insulation Colors**

Cond. Size	Black	Red	Brown	Orange	Yellow	Green	Gray
AWG/kcmil							
12	571253	665446	665465	665466	665467	665468	
10	560057	665469	665470	665471	665472	665473	
8	167014	167014	665474	665475	665476	665477	
6	167015	665478	665479	665480	665481	665482	
4	167017	167017	665483	665484	665485	653627	
2	167019	167019	138238	138239	138240	138241	
1	167020	138282	138283	138287	138288	138289	
1/0	167021	138242	138243	138244	138245	138246	
2/0	167022	167022	138247	138248	138249	138251	
3/0	167023	138252	138253	138254	138255	138256	
4/0	167024	167024	138257	138258	138259	138260	
262.6	167026	641176	665452	665453	665454	665455	
313.3	167027	665456	665457	665458	665459	665460	
373.7	167029	655203	678900	576729	678901	678902	
444.4	167030	678975	665461	665462	665463	665464	
535.3	167031	167031	138211	138212	138213	677552	
646.4	167032	138229	138215	138216	138217	138218	
777.7	167033	167033	640980	640981	640982	138219	640983
1111	167035	138220	138221	138222	138223	138224	

