

## HMWPE Single Core Cathodic Protection Cable - PVDF, Non Armoured - 6mm to 95mm



The single core armoured cable is designed for use in cathodic protection groundbeds where the evolution of chlorine gas is expected. PVDF has excellent resistance to chemical attack. HMWPE Cable is available from 6mm<sup>2</sup> - 95mm<sup>2</sup>.

### Key Features



#### Installation Guidelines

Recommended for installation at temperatures between 0°C and +60°C



#### Voltage Rating

600/1000 Volts



#### Minimum Bending Radius

As Per Manufacturers Datasheet



#### Temperature Limits

Temperature Range: -55°C to +105°C

### Construction

- **Conductor:** Plain annealed stranded circular copper conductor
- **Insulation:** Polyvinylidene fluoride (PVDF)
- **Sheath:** High-Molecular Weight Polyethylene (HMWPE)

### Standards

- IEC 60502

## HMWPE Single Core Cathodic Protection Cable - PVDF, Non Armoured - 6mm to 95mm - Dimensions

Reference	Conductor Size (mm <sup>2</sup> )	No Of Cores	Stranding(mm)	Overall Diameter(mm)	Weight(Kg/Km)
HMWPE1X6	6	1	7/1.03	7.2	92
HMWPE1X10	10	1	7/1.34	8.1	138
HMWPE1X16	16	1	7/1.69	9.3	200
HMWPE1X25	25	1	7/2.10	10.4	288
HMWPE1X35	35	1	19/1.51	11.6	385
HMWPE1X50	50	1	19/1.75	13	500
HMWPE1X70	70	1	19/2.12	14.7	715
HMWPE1X95	95	1	19/2.50	16.5	958

CURRENT-CARRYING CAPACITY (amperes)

Ambient temperature: 30°C  
Conductor operating temperature:90°C

Conductor cross sectional area	Reference Method A (enclosed in conduit in thermally insulating wall etc.)		Reference Method B (enclosed in conduit on a wall or in trunking etc.)		Reference Method C (clipped direct)		Reference Method F (in free air or on a perforated cable tray etc horizontal or vertical etc) Touching			Reference Method G (in free air) Spaced by one cable diameter	
	2 cables single phase AC or DC	3 or 4 cables, three-phase AC	2 cables single phase AC or DC	3 or 4 cables, three phase AC	2 cables single phase AC or DC flat and touching	3 or 4 cables, three phase AC flat and touching or trefoil	2 cables single phase AC or DC flat	3 cables, three phase AC flat	3 cables, three phase AC trefoil	2 cables, single-phase AC or DC or 3 cables three-phase AC flat	
										Horizontal	Vertical
mm <sup>2</sup>	A	A	A	A	A	A	A	A	A	A	A
1	14	13	17	15	19	17.5	-	-	-	-	-
1.5	19	17	23	20	25	23	-	-	-	-	-
4	35	31	42	37	46	41	-	-	-	-	-
6	45	40	54	48	59	54	-	-	-	-	-
10	61	54	75	66	81	74	-	-	-	-	-
16	81	73	100	88	109	99	-	-	-	-	-
25	106	95	133	117	143	130	161	141	135	182	161
35	131	117	164	144	176	161	200	176	169	226	201
50	158	141	198	175	228	209	242	216	207	275	246
70	200	179	253	222	293	268	310	279	268	353	318
95	241	216	306	269	355	326	377	342	328	430	389
120	278	249	354	312	413	379	437	400	383	500	454
150	318	285	393	342	476	436	504	464	444	577	527
185	362	324	449	384	545	500	575	533	510	661	605
240	424	380	528	450	644	590	679	634	607	781	719
300	486	435	603	514	743	681	783	736	703	902	833
400	-	-	683	584	868	793	940	868	823	1085	1008
500	-	-	783	666	990	904	1083	998	946	1253	1169
630	-	-	900	764	1130	1033	1254	1151	1088	1454	1362
800	-	-	-	-	1288	1179	1358	1275	1214	1581	1485
1000	-	-	-	-	1443	1323	1520	1436	1349	1775	1671

Where it is intended to connect the cables in this table to equipment or accessories designed to operate at a temperature lower than the maximum operating temperature of the cable, the cables should be rated at the maximum operating temperature of the equipment or accessory (see Regulation 512.1.5). Where it is intended to group a cable in this table with other cables, the cable should be rated at the lowest of the maximum operating temperatures of any of the cables in the group (see Regulation 12.1.5). For cables having flexible conductors see section 2.4 of this appendix for adjustment factors for current-carrying capacity and voltage drop.

Single-core 90 °C thermosetting insulated cables, non-armoured, with or without sheath (COPPER CONDUCTORS) Reproduced from BS7671:2018 Wiring Regulations

TABLE 4E1B

VOLTAGE DROP (per ampere per metre)

Conductor operating temperature:90°C

Conductor cross sectional area	2 cables, DC	2 cables, single-phase AC								3 or 4 cables, three-phase AC												
		Reference Methods A & B (enclosed in conduit or trunking)		References Methods C, F & G (clipped direct, on tray or in free air)				Reference Methods A & B (enclosed in conduit or trunking)			Reference Methods C, F & G (clipped direct, on tray or in free air)											
				Cables touching		Cables spaced*					Cables touching, Trefoil			Cables touching, Flat			Cables spaced* Flat					
(mm2)	(mV/ A/m)	(mV/A/m)		(mV/A/m)		(mV/A/m)		(mV/A/m)			(mV/A/m)			(mV/A/m)			(mV/A/m)					
1	46	46		46		46		40			40			40			40					
1.5	31	31		31		31		27			27			27			27					
2.5	19	19		19		19		16			16			16			16					
4	12	12		12		12		10			10			10			10					
6	7.9	7.9		7.9		7.9		6.8			6.8			6.8			6.8					
10	4.7	4.7		4.7		4.7		4.0			4.0			4.0			4.0					
16	2.9	2.9		2.9		2.9		2.5			2.5			2.5			2.5					
		R	X	Z	R	X	Z	R	X	Z	R	X	Z	R	X	Z	R	X	Z			
25	1.850	1.850	0.310	1.900	1.850	0.190	1.850	1.850	0.280	1.850	1.600	0.270	1.650	1.600	0.165	1.600	1.600	0.190	1.600	1.600	0.270	1.650
35	1.350	1.350	0.290	1.350	1.350	0.180	1.350	1.350	0.270	1.350	1.150	0.250	1.150	1.150	0.155	1.150	1.150	0.180	1.150	1.150	0.260	1.200
50	0.990	1.000	0.290	1.050	0.990	0.180	1.000	0.990	0.270	1.000	0.870	0.250	0.900	0.860	0.155	0.870	0.860	0.180	0.870	0.860	0.260	0.890
70	0.680	0.700	0.280	0.750	0.680	0.175	0.710	0.680	0.260	0.730	0.600	0.240	0.650	0.590	0.150	0.610	0.590	0.175	0.620	0.590	0.250	0.650
95	0.490	0.510	0.270	0.580	0.490	0.170	0.520	0.490	0.260	0.560	0.440	0.230	0.500	0.430	0.145	0.450	0.430	0.170	0.460	0.430	0.250	0.490
120	0.390	0.410	0.260	0.480	0.390	0.165	0.430	0.390	0.250	0.470	0.350	0.230	0.420	0.340	0.140	0.370	0.340	0.165	0.380	0.340	0.240	0.420
150	0.320	0.330	0.260	0.430	0.320	0.165	0.360	0.320	0.250	0.410	0.290	0.230	0.370	0.280	0.140	0.310	0.280	0.165	0.320	0.280	0.240	0.370
185	0.250	0.270	0.260	0.370	0.260	0.165	0.300	0.250	0.250	0.360	0.230	0.230	0.320	0.220	0.140	0.260	0.220	0.165	0.280	0.220	0.240	0.330
240	0.190	0.210	0.260	0.330	0.200	0.160	0.250	0.195	0.250	0.310	0.185	0.220	0.290	0.170	0.140	0.220	0.170	0.165	0.240	0.170	0.240	0.290
300	0.155	0.175	0.250	0.310	0.160	0.160	0.220	0.155	0.250	0.290	0.150	0.220	0.270	0.140	0.140	0.195	0.135	0.160	0.210	0.135	0.240	0.270
400	0.120	0.140	0.250	0.290	0.130	0.155	0.200	0.125	0.240	0.270	0.125	0.220	0.250	0.110	0.135	0.175	0.110	0.160	0.195	0.110	0.240	0.260
500	0.093	0.120	0.250	0.280	0.105	0.155	0.185	0.098	0.240	0.260	0.100	0.220	0.240	0.090	0.135	0.160	0.088	0.160	0.180	0.085	0.240	0.250
630	0.072	0.100	0.250	0.270	0.086	0.155	0.175	0.078	0.240	0.250	0.088	0.210	0.230	0.074	0.135	0.150	0.071	0.160	0.170	0.068	0.230	0.240
800	0.056	-	-	-	0.072	0.150	0.170	0.064	0.240	0.250	-	-	-	0.062	0.130	0.145	0.059	0.155	0.165	0.055	0.230	0.240
1000	0.045	-	-	-	0.063	0.150	0.165	0.054	0.240	0.240	-	-	-	0.055	0.130	0.140	0.050	0.155	0.165	0.047	0.230	0.240

NOTE: \* Spacings larger than one cable diameter will result in a larger voltage drop.

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