

## HMWPE SINGLE CORE, NON ARMoured CATHODE PROTECTION CABLE



### APPLICATION

The single core armoured cable is for use in Cathodic Systems (for the protection from corrosion). The Cathodic range of cables are 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>.

### CABLE STANDARDS

IEC 60502

### CONSTRUCTION

**Conductor:** Plain annealed stranded circular copper conductor

**Insulation:** Polyvinylidene fluoride (PVDF)

**Sheath:** High-Molecular Weight Polyethylene (HMWPE)

### CHARACTERISTICS

**Voltage Rating:** 600/1000 Volts

**Temperature Limits:** -55°C to +105°C

**Minimum Bending Radius:** As per cable manufacturer datasheet

**Inner and Outer Available in:**

■ Red ■ Black

Should not be installed at temperatures below 0°C or above +60°C

## HMWPE SINGLE CORE, NON ARMoured CABLE - DIMENSIONS

CCC CODE	CONDUCTOR SIZE (MM <sup>2</sup> )	STRANDING (MM)	NUMBER OF CORES	WEIGHT (Kg/Km)	OVERALL DIAMETER
HMWPE1X6	6	7/1.03	1	92	7.2
HMWPE1X10	10	7/1.34	1	138	8.1
HMWPE1X16	16	7/1.69	1	200	9.3
HMWPE1X25	25	7/2.10	1	288	10.4
HMWPE1X35	35	19/1.51	1	385	11.6
HMWPE1X50	50	19/1.75	1	500	13
HMWPE1X70	70	19/2.12	1	715	14.7
HMWPE1X95	95	19/2.50	1	958	16.5

## HMWPE SINGLE CORE, NON ARMoured - CARRYING CAPACITY (AMPERES)

CONDUCTOR CROSS-SECTIONAL AREA	REFERENCE METHOD A (ENCLOSED IN CONDUIT 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 ON A PERFORATED CABLE TRAY HORIZONTAL OR VERTICAL)				
							TOUCHING			SPACED BY ONE DIAMETER	
	2 CABLES, SINGLE - PHASE AC OR DC	3 OR 4 CABLES, SINGLE - 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
1	2	3	4	5	6	7	8	9	10	11	12
(MM <sup>2</sup> )	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
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

### HMWPE SINGLE CORE, NON ARMoured CABLE - VOLTAGE DROP

CONDUCTOR CROSS-SECTIONAL AREA	2 CABLES DC MV/A/M	2 CABLES SINGLE-PHASE AC MV/A/M									3 OR 4 CABLES THREE-PHASE AC MV/A/M											
		REFERENCE METHODS A AND B (ENCLOSED IN CONDUIT OR TRUNKING)			REFERENCE METHODS C, F AND G (CLIPPED DIRECT, ON TRAY OR IN FREE AIR)						REFERENCE METHODS A AND B (ENCLOSED IN CONDUIT OR TRUNKING)			REFERENCE METHODS C, F AND G (CLIPPED DIRECT, ON TRAY OR IN FREE AIR)								
					CABLES TOUCHING			CABLES SPACED*						CABLES TOUCHING, TREFOIL			CABLES TOUCHING, FLAT			CABLES SPACED*, FLAT		
1	2	3			4			5			6			7			8			9		
(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)		
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			4			4			4		
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	r	x	z
25	1.85	1.85	0.31	1.90	1.85	0.19	1.85	1.85	0.28	1.85	1.60	0.27	1.65	1.60	0.165	1.60	1.60	0.19	1.60	1.60	0.27	1.65
35	1.35	1.35	0.29	1.35	1.35	0.18	1.35	1.35	0.27	1.35	1.15	0.25	1.15	1.15	0.155	1.15	1.15	0.18	1.15	1.15	0.26	1.20
50	0.99	1.00	0.29	1.05	0.99	0.18	1.00	0.99	0.27	1.00	0.87	0.25	0.90	0.86	0.155	0.87	0.86	0.18	0.87	0.86	0.26	0.89
70	0.68	0.70	0.28	0.75	0.68	0.175	0.71	0.68	0.26	0.73	0.60	0.24	0.65	0.59	0.15	0.61	0.59	0.175	0.62	0.59	0.25	0.65
95	0.49	0.51	0.27	0.58	0.49	0.17	0.52	0.49	0.26	0.56	0.44	0.23	0.50	0.43	0.145	0.45	0.43	0.17	0.46	0.43	0.25	0.49

THE ABOVE IS IN ACCORDANCE WITH 188TH EDITION OF IET WIRING REGULATIONS.

CONDUCTOR OPERATING TEMPERATURE: 90°C  
R = RESISTIVE COMPONENT  
X = REACTIVE COMPONENT  
Z = IMPEDANCE VALUE

\* SPACINGS LARGER THAN THOSE SPECIFIED WILL RESULT IN LARGER VOLT DROP.

THE INFORMATION CONTAINED WITHIN THIS DATASHEET IS FOR GUIDANCE ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE OR LIABILITY. WE BELIEVE THE INFORMATION IS CORRECT AT THE TIME OF PUBLICATION. PLEASE NOTE WHEN SELECTING CABLE ACCESSORIES THAT ACTUAL CABLE DIMENSIONS MAY VARY DUE TO MANUFACTURING TOLERANCES.