CLEVELAND CABLE COMPANY
A WORLD POWER IN CABLE SUPPLY

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6491X / H07V-R - BS EN 50525-2-3 PVC CABLE

APPLICATION

This is a general PVC earth cable. For use in fixed installations, used in trunking or conduit, may be surface mounted. Stranded, plain, annealed, compacted, circular copper, conductor. PVC outer sheath. Harmonised code HO7V-R. 450/750 volts grade to BS EN 50525-2-3.

This cable is BASEC approved.

CABLE STANDARDS

BS EN 50525-2-3
Flame propagation to: BS EN 60332-2-1:2004+A1:2015.

BASEC Approved

CONSTRUCTION

Conductor:
Stranded Annealed Copper Conductor
As per relevant class 2 standard per formation

Sheath: Poly Vinyl Chloride (PVC)

Sheath Colour: Various

CHARACTERISTICS

Voltage Rating: 450/750 Volts

Temperature Limits: -15°C to +70°C

Minimum Bending Radius: As per cable manufacturer datasheet

CORE IDENTIFICATION

1.5mm² & 2.5mm²

- Brown
- Black
- Green/Yellow
- Grey
- Blue
- Violet
- White
- Orange

4mm² upto 300mm²

- Brown
- Black
- Green/Yellow
- Grey
- Blue

400mm², 500mm² & 630mm²

- Green/Yellow

Should not be installed at temperatures below 0°C or above +40°C

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6491X / H07V-R PVC CABLE - DIMENSIONS

CCC CODE	CONDUCTOR SIZE (MM^2)	WEIGHT (KG/KM)	OVERALL DIAMETER (MM)	BRASS A2	NYLON A2
6491X1/5	1.5	21	3	20/16	16
6491X2/5	2.5	35	3.65	20/16	16
6491X4	4	50	4.2	20/16	16
6491X6	6	71 4.	4.75	20/16	16
6491X10	10	120	6.15	20/16	16
6491X16	16	180	7.1	20/16	16
6491X25	25	280	8.9	20S	20
6491X35	35	380	9.95	20S	20
6491X50	50	510	11.7	20	20
6491X70	70	720	13.35	20	25
6491X95	95	990	15.6	25	25
6491X120	120	1200	17.2	25	25
6491X150	150	1500	19.1	25	32
6491X185	185	1900	21.3	32	32
6491X240	240	2500	24.3	32	32
6491X300	300	3000	27.05	40	40
6491X400	400	3950	30.35	40	40
6491X500	500	4950	32.8	50S	50
6491X630	630	6250	36.5	50S	50

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6491X / H07V-R PCV CABLE - CURRENT 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
(MM²)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
1.5	14. 5	13.5	17. 5	15. 5	20	18	-	-	-	-	-
2.5	20	18	24	21	27	25	-	-	-	-	-
4	26	24	32	28	37	33	-	-	-	-	-
6	34	31	41	36	47	43	-	-	-	-	-
10	46	42	57	50	65	59	-	-	-	-	-
16	61	56	76	68	87	79	-	-	-	-	-
25	80	73	101	89	114	104	131	114	110	146	130
35	99	89	125	110	141	129	162	143	137	181	162
50	119	108	151	134	182	167	196	174	167	219	197
70	151	136	192	171	234	214	251	225	216	281	254
95	182	164	232	207	284	261	304	275	264	341	311
120	210	188	269	239	330	303	352	321	308	396	362
150	240	216	300	262	381	349	406	372	356	456	419
185	273	245	341	296	436	400	463	427	409	521	480
240	321	286	400	346	515	472	546	507	485	615	569
300	367	328	458	394	594	545	629	587	561	709	659
400	-	-	546	467	694	634	754	689	656	852	795
500	-	-	626	533	792	723	868	789	749	982	920
630	-	-	720	611	904	826	1005	905	855	1138	1070

THE ABOVE IS IN ACCORDANCE WITH 18TH EDITION OF IET WIRING REGULATIONS

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6491X / H07V-R PCV CABLE - VOLTAGE DROP

CROSS SECTIONAL AREA MM²	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)		
1.50	28.00	29.00			29.00			29.00			25.00			25.00			25.00			25.00		
2.50	18.00	18.00			18.00			18.00			15.00			15.00			15.00			15.00		
4.00	11.00	11.00			11.00			11.00			9.50			9.50			9.50			9.50		
6.00	7. 3	7.30			7.30			7. 3			6.40			6.40			6.40			6.40		
10.00	4.40	4.40			4.40			4.40			3.80			3.80			3.80			3.80		
16.00	2.80	2.80			2.80			2.80			2.40			2.40			2.40			2.40		
		R	X	Z	R	X	Z	R	X	Z	R	X	Z	R	X	Z	R	X	Z	R	X	Z
25	1.750	1.800	0.330	1.800	1.750	0.200	1.750	1.750	0.290	1.800	1.500	0.290	1.550	1.500	0.180	1.500	0.150	0.250	1.550	1.500	0.320	1.550
35	1.250	1.300	0.310	1.300	1.250	0.200	1.250	1.250	0.280	1.300	1.100	0.270	1.100	1.100	0.170	1.100	1.100	0. 24	1.100	1.100	0.320	1.150
50	0.930	0.950	0.300	1.000	0.930	0.190	0.950	0.930	0.280	0.970	0. 81	0.260	0.850	0.800	0.170	0.820	0.800	0. 24	0.840	0.800	0.320	0.860
70	0.630	0.650	0.290	0.720	0.630	0.190	0.660	0.630	0.270	0.690	0.560	0.250	0. 61	0.550	0.160	0. 57	0.550	0. 24	0.600	0.550	0. 31	0.630
95	0.460	0.490	0.280	0.560	0. 47	0.180	0.500	0. 47	0.270	0.540	0.420	0. 24	0.480	0. 41	0.160	0.430	0. 41	0.230	0. 47	0.400	0. 31	0. 51
120	0.360	0.390	0.270	0. 47	0.370	0.180	0.410	0.370	0.260	0.450	0.330	0.230	0. 41	0.320	0.150	0.360	0.320	0.230	0.400	0.320	0.300	0.440
150	0.290	0. 31	0.270	0. 41	0.300	0.180	0.340	0.290	0.260	0.390	0.270	0.230	0.360	0.260	0.150	0.300	0.260	0.230	0.340	0.260	0.300	0.400
185	0.230	0.250	0.270	0.370	0. 24	0.170	0.290	0. 24	0.260	0.350	0.220	0.230	0.320	0. 21	0.150	0.260	0. 21	0.220	0. 31	0. 21	0.300	0.360
240	0.180	0.200	0.260	0.330	0.190	0.170	0.250	0.190	0.250	0. 31	0.170	0.230	0.290	0.160	0.150	0.220	0.160	0.220	0.270	0.160	0.290	0.340
300	0.150	0.160	0.260	0. 31	0.150	0.170	0.220	0.150	0.250	0.290	0.140	0.230	0.270	0.130	0.140	0.190	0.130	0.220	0.250	0.130	0.290	0.320
400	0. 11	0.130	0.260	0.290	0.120	0.160	0.200	0.120	0.250	0.270	0.120	0.220	0.250	0. 11	0.140	0.180	0. 11	0. 21	0. 24	0.100	0.290	0. 31
500	0.086	0. 11	0.260	0.280	0.980	0.155	0.185	0.093	0. 24	0.260	0.100	0.220	0.250	0.086	0.135	0.160	0.086	0. 21	0.230	0.081	0.290	0.300
630	0.068	0.094	0.250	0.270	0.081	0.155	0.175	0. 076	0. 24	0.250	0.080	0.220	0. 24	0.072	0.135	0.150	0.072	0. 21	0.220	0.066	0.280	0.290

THE ABOVE IS IN ACCORDANCE WITH 18TH EDITION OF IET WIRING REGULATIONS

CONDUCTOR OPERATING TEMPERATURE: 90°C

R = RESISTIVE COMPONENT
X = REACTIVE COMPONENT
Z = IMPEDANCE VALUE

*** SPACINGS LARGER THAN THOSE SPECIFIED IN METHOD 12 WILL RESULT IN LARGER VOLT DROP.**

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CORE STRANDING ACCORDING TO IEC EN 60228

For Single & Multicore Cables with Copper or Aluminium Cores

Nominal Cross Section Area mm²	Minimum Number Of Wires In Class 2 Conductor						Max Diameter of Wires In Class 5 Conductor	Max Resistance of Class 1 Conductor at 20°C	Max Resistance of Class 2 Plain Copper Conductor at 20°C	Max Resistance of Class 2 Metal Coated Copper Conductor at 20°C	Max Resistance of Class 2 Aluminium Conductor at 20°C	Max Resistance of Class 5 Plain Copper Conductor at 20°C	Max Resistance of Class 5 Metal Coated Copper Conductor at 20°C
	Circular		Compacted Circular		Sector Shaped		mm	Ω/Km	Ω/Km	Ω/Km	Ω/Km	Ω/Km	Ω/Km
	Cu	Al	Cu	Al	Cu	Al							
0.5	7	-	-	-	-	-	0.21	36	36.00	36.70	-	39.00	40.10
0.75	7	-	-	-	-	-	0.21	24.5	24.50	24.80	-	26.00	26.70
1	7	-	-	-	-	-	0.21	18.1	18.10	18.20	-	19.50	20.00
1.5	7	-	6	-	-	-	0.26	12.1	12.10	12.20	-	13.30	13.70
2.5	7	-	6	-	-	-	0.26	7.41	7.41	7.56	-	7.98	8.21
4	7	-	6	-	-	-	0.31	4.61	4.61	4.70	-	4.95	5.09
6	7	-	6	-	-	-	0.31	3.08	3.08	3.11	-	3.30	3.39
10	7	7	6	6	-	-	0.41	1.83	1.83	1.84	3.08	1.91	1.95
16	7	7	6	6	-	-	0.41	1.15	1.15	1.16	1.91	1.20	1.24
25	7	7	6	6	6	6	0.41	0.727	0.727	0.754	1.200	0.780	0.795
35	7	7	6	6	6	6	0.41	0.524	0.524	0.529	0.868	0.554	0.565
50	19	19	6	6	6	6	0.51	0.387	0.387	0.391	0.641	0.386	0.393
70	19	19	12	12	12	12	0.51	0.268	0.268	0.270	0.443	0.272	0.277
95	19	19	15	15	15	15	0.51	0.193	0.193	0.195	0.320	0.206	0.210
120	37	37	18	15	18	15	0.51	0.153	0.153	0.154	0.253	0.161	0.164
150	37	37	18	15	18	15	0.51	0.124	0.124	0.126	0.206	0.129	0.132
185	37	37	30	30	30	30	0.51	0.101	0.099	0.100	0.164	0.106	0.108
240	37	37	34	30	34	30	0.51	0.0775	0.075	0.076	0.125	0.0801	0.0817
300	61	61	34	30	34	30	0.51	0.062	0.060	0.061	0.100	0.0641	0.0654
400	61	61	53	53	53	53	0.51	-	0.047	0.048	0.078	0.0486	0.0495
500	61	61	53	53	53	53	0.61	-	0.037	0.037	0.061	0.0384	0.0391
630	91	91	53	53	53	53	0.61	-	0.028	0.029	0.047	0.0287	0.0292
800	91	91	53	53	-	-	-	-	0.022	0.022	0.037	-	-
1000	91	91	53	53	-	-	-	-	0.018	0.018	0.291	-	-