

## 6941X PVC SINGLE CORE, SWA CATHODE PROTECTION CABLE



### APPLICATION

6941X is a single core armoured cathodic protection PVC cable. It is used in Cathodic Systems (for the protection from corrosion). The Cathodic range of cables are used for protecting against electrolytic and galvanic corrosion of objects like underground tanks and pipelines and other submerged or buried metal structures.

### CABLE STANDARDS

Generally BS 5467

IEC 60502

### CONSTRUCTION

**Conductor:** Plain annealed stranded circular copper conductor, single core

**Insulation:** Cross linked Polyethylene (XPLE)

**Armour:** Steel Wire Armour (SWA)

**Sheath:** Polyvinyl Chloride (PVC)

### CHARACTERISTICS

**Voltage Rating:** 600/1000 Volts

**Temperature Limits:** -15°C to +90°C

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

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

## 6941X PVC SWA CATHODE PROTECTION - DIMENSIONS

CCC CODE	CONDUCTOR SIZE (MM <sup>2</sup> )	STRANDING (MM)	NO OF CORES	WEIGHT (KG/KM)	OVERALL DIAMETER (MM)	GLAND SIZE
6941X6	6	7/1.04	285	11.5	20/16	25
6941X10	10	7/1.35	355	12.5	20/16	25
6941X16	16	7/1.70	435	13.5	20S	25
6941X25	25	7/2.14	585	15	20S	32
6941X35	35	7/2.52	685	16	20	32
6941X50	50	19/1.78	835	17.5	20	32
6941X70	70	19/2.14	1080	19.5	20	40
6941X95	95	19/2.52	1375	21.6	25	40
6941X120	120	37/2.03	1685	23.4	25	50S
6941X150	150	37/2.25	2120	26.4	25	50S
6941X185	185	37/2.52	2505	28.9	32	50

## 6941X PVC SWA CATHODE PROTECTION – 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)				
	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	TOUCHING			SPACED BY ONE DIAMETER	
							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	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
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

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

## 6941X PVC SWA CATHODE PROTECTION - VOLTAGE DROP

CROSS SECTIONAL AREA MM <sup>2</sup>	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					
(mm <sup>2</sup> )	(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	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			
120	0.39	0.41	0.26	0.48	0.39	0.165	0.43	0.39	0.25	0.47	0.35	0.23	0.42	0.34	0.14	0.37	0.34	0.165	0.38	0.34	0.24	0.42			
150	0.32	0.33	0.26	0.43	0.32	0.165	0.36	0.32	0.25	0.41	0.29	0.23	0.37	0.28	0.14	0.31	0.28	0.165	0.32	0.28	0.24	0.37			
185	0.25	0.27	0.26	0.37	0.26	0.165	0.30	0.25	0.25	0.36	0.23	0.23	0.32	0.22	0.14	0.26	0.22	0.165	0.28	0.22	0.24	0.33			

THE ABOVE TABLE 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.

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.