

Application

Two types of PVC-covered conductors for Overhead power lines. Type 8 is intended for use only where the operating voltage of the power lines does not exceed 650 V r.m.s. between any two conductors or 250 V r.m.s. between any conductor and earth. Type 16 is intended for use only where the operating voltage of the power line exceeds 650 V r.m.s between any two conductors or 250 V r.m.s. between any conductor and earth, but does not normally exceed 11 kV r.m.s. between conductors or 6.6 kV r.m.s. between any conductor and earth.

Construction

The conductors are stranded, circular compressed or uncompressed aluminum, copper, aluminum-alloy, ACSR etc., concentrically stranded and covered for PVC in black (type 8) and green (type 16).

Specifications

- BS 6485 PVC-Covered Conductors For Overhead Power Lines
- BS EN 50182 Conductors For overhead lines — Round Wire Concentric Lay Stranded Conductors
- BS 215-1 Aluminum Conductors and Aluminum Conductors, Steel-Reinforced — For Overhead Power Transmission Part 1: Aluminum Stranded Conductors
- BS 215-2 Aluminum Conductors and Aluminum Conductors, Steel-Reinforced — For Overhead Power Transmission Part 2: Aluminum Conductors, Steel-Reinforced
- BS 3242 Aluminum Alloy Stranded Conductors For Overhead Power Transmission
- BS 7884 Copper and Copper-Cadmium Stranded Conductors For Overhead Electric Traction and Power Transmission Systems

Parameter

BS 6485, BS 215-1 PVC-Covered Conductors For Overhead Power Lines

Code Word	Nominal cross-sectional area	Stranding and Wire Diameter	Approximate Overall Diameter of Bare Conductor	Maximum Resistance per kilometre at 20 °C	Approximate Breaking Load	Approximate Overall Diameter of Covered Conductor	Approximate Mass per kilometre of Covered Conductor
	mm ²					mm	mm
AAC/PVC							
Midge	22	7/2.06	6.18	1.227	3.99	8.2	100
Aphis	25	3/3.35	7.2	1.081	4.11	9.2	133
Gnat	25	7/2.21	6.63	1.066	4.59	8.8	118
Weevil	30	3/3.66	7.9	0.9082	4.86	10.1	158
Mosquito	35	7/2.59	7.77	0.7762	6.03	10	156
Ladybird	40	7/2.79	8.37	0.6689	6.87	10.6	177
Ant	50	7/3.10	9.3	0.5419	8.28	11.7	200
Fly	60	7/3.40	10.2	0.4505	9.9	12.4	249
Bluebottle	70	7/3.66	11	0.3881	11.34	13.2	285
Earwing	75	7/3.78	11.3	0.3644	11.94	13.6	302
Grasshopper	80	7/3.91	11.7	0.3406	12.78	13.9	319
Clegg	90	7/4.17	12.5	0.2994	14.53	14.7	359

Wasp	100	7/4.39	13.17	0.2702	16	16	360
Beetle	100	19/2.67	13.4	0.2704	17.42	15.6	387
Bee	125	7/4.90	14.7	0.2169	19.94	16.9	482
Cricket	150	7/5.36	16.1	0.1813	23.85	18.3	567
Hornet	150	19/3.25	16.3	0.1825	27.7	18.5	538
Caterpillar	175	19/3.53	17.7	0.1547	28.63	19.9	646
Chafer	200	19/3.78	18.9	0.1349	32.4	21.7	690
Spider	225	19/3.99	20	0.1211	36.01	22.2	809
Cockroach	250	19/4.22	21.1	0.1083	40.4	23.3	900
Butterfly	300	19/4.65	23.3	0.08916	48.7	25.5	1082
Moth	350	19/5.00	25	0.07711	56.37	27.2	1241
Drone	350	37/3.58	25.1	0.07741	57.45	27.3	1222
Locust	400	19/5.36	26.8	0.0671	64.73	29	1416
Centipede	400	37/3.78	26.5	0.06944	63.1	28.7	1353
Maybug	450	37/4.09	28.6	0.05931	74.01	30.8	1573
Scorpion	500	37/4.27	29.9	0.05441	79.98	32.1	1706
Cicada	600	37/4.65	32.6	0.04588	94.95	34.8	2010
Tarantula	750	37/5.23	36.6	0.03627	120.1	38.8	2519

BS 6485,BS 7884

Nominal cross-sectional area	Stranding and Wire Diameter	Approximate Overall Diameter of Bare Conductor	Maximum Resistance per kilometre at 20 °C	Approximate Breaking Load	Approximate Overall Diameter of Covered Conductor		Approximate Mass per kilometre of Covered Conductor	
					Type 8	Type 16	Type 8	Type 16
mm ²	mm	mm	Ω	kN	mm	mm	kg	kg
CU/PVC								
14	7/1.60	4.8	1.303	5.744	6.8	8.4	160	190
16	3/2.65	5.7	1.106	6.59	7.7	9.3	180	220
32	3/3.75	8.06	0.552	12.71	10.5	12.1	350	390
35	7/2.50	7.5	0.5337	14.097	9.9	11.5	360	400
70	7/3.55	10.65	0.2646	26.88	13.5	14.7	690	750
100	7/4.30	12.9	0.181	37.64	15.7	16.9	990	1060

Nominal cross-sectional area	Stranding and Wire Diameter	Approximate Overall Diameter of Bare Conductor	Maximum Resistance per kilometre at 20 °C	Approximate Breaking Load	Approximate Overall Diameter of Covered Conductor	Approximate Mass per kilometre of Covered Conductor
					Type 16	Type 16
mm ²	mm	mm	Ω	kN	mm	kg
COPPER-ALLOY / PVC						
12	3/2.30	4.95	1.78	7.2	8.2	170
22	7/2.00	6	1.011	12.94	9.6	270

38	7/2.60	7.8	0.5983	21.69	11.8	430
75	7/3.70	11.1	0.2954	40.23	15.1	810
125	19/2.90	14.5	0.1784	68.75	18.5	1310
150	19/3.20	16	0.1465	82.16	20	1570

BS 6485,BS 215-2

Nominal cross-sectional area	Stranding and Wire Diameter		Approximate Overall Diameter of Bare Conductor	Maximum Resistance per kilometre at 20 °C	Approximate Breaking Load	Approximate Overall Diameter of Covered Conductor		Approximate Mass per kilometre of Covered Conductor	
	Aluminum	Steel				Type 8	Type 16		
mm ²	No./mm	No./mm	mm	Ω	kN	mm	mm	kg	kg
ACSR / PVC									
25	6/2.36	1/2.36	7.08	1.093	9.61	10.7		190	
50	6/3.35	1/3.35	10.05	0.5426	18.35	14.1		330	
100	6/4.72	7/1.57	14.15	0.2733	32.7	18.2		550	
150	30/2.59	7/2.59	18.13	0.1828	69.2	22.2		920	
150	18/3.35	1/3.35	16.75	0.1815	35.7	20.8		680	
175	30/2.79	7/2.79	19.53	0.1576	79.8	23.6		1050	
175	18/3.61	1/3.61	18.05	0.1563	41.1	22.1		780	
200	30/3.00	7/3.00	21	0.1363	92.25	25		1190	
200	18/3.86	1/3.86	19.3	0.1367	46.55	23.3		870	

BS 6485,BS 3242

Nominal cross-sectional area	Stranding and Wire Diameter	Approximate Overall Diameter of Bare Conductor	Maximum Resistance per kilometre at 20 °C	Approximate Breaking Load	Approximate Overall Diameter of Covered Conductor		Approximate Mass per kilometre of Covered Conductor	
					Type 16	Type 16	Type 16	Type 16
mm ²	mm	mm	Ω	kN	mm	mm	kg	kg
AAAC / PVC								
25	7/2.34	7.02	1.094	8.44	10.6		170	
50	7/3.30	9.9	0.5498	16.8	13.9		280	
100	7/4.65	13.95	0.2769	33.3	18		470	
150	19/3.48	17.4	0.183	50.65	21.4		680	
200	19/3.76	18.8	0.1568	59.1	22.8		780	