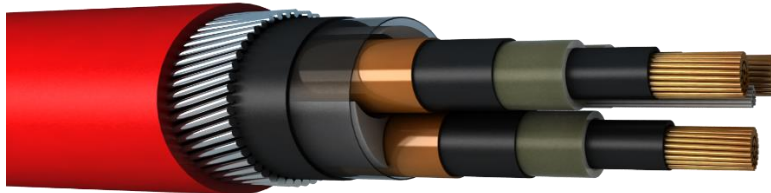


TECHNICAL DATA SHEET

MEDIUM VOLTAGE CABLES

Manufacturing Standard: BS 7835

Flame/Fire Performance: BS EN / IEC 60332-3 CAT C Flame Propagation



Construction

- Class 2 Copper or Aluminium Conductors to BS EN60228
- XLPE Insulation
- Metallic Screen
- LSZH Bedding (multicore cables only)
- Galvanised Steel Wire Armour (multicore), Aluminium Wire Armour (single Core)
- LSZH Outer Sheath

Voltage Rating 6350/11000 Volt

Operating Temp +90°C

Short Circuit Temp +250°C

Core Colours

1 Core Black

3 Core Brown, Black & Grey

Sheath Colour

Black or Red

BASEC APPROVED



MEDIUM VOLTAGE CABLE – BS7835 (6.35/11KV)

CABLE CONSTRUCTION

Single Core – Class 2 Copper Conductor, XLPE Insulated, Copper Taped Screen, LSZH Sheathed.

Nominal Area of Conductor	mm ²	1 x 50	1 x 70	1 x 95	1 x 120	1 x 150	1 x 185	1 x 240	1 x 300	1 x 400	1 x 500	1 x 630	1 x 800	1 x 1000
Insulation Thickness (Min)	mm	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40
Outer Sheath Thickness	mm	1.70	1.70	1.80	1.80	1.90	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60
Overall Diameter (Nom)	mm	23.00	25.00	27.00	29.00	30.00	32.00	34.00	36.00	40.00	43.00	47.00	51.00	56.00
Cable Weight (Nom)	Kg/Km	860	1100	1390	1650	1940	2310	2900	3520	4370	5450	6850	8950	10590
Internal Bending Radius (Min)	mm	460	500	540	580	600	640	680	720	800	860	940	1020	1120
d.c. Conductor Resistance @ 20°C (Max)	Ω/Km	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.047	0.0366	0.0283	0.0221	0.0176
a.c. Conductor Resistance @ 90°C (Max)	Ω/Km	0.494	0.342	0.247	0.196	0.159	0.128	0.0981	0.0792	0.0634	0.0511	0.0418	0.0351	0.0304
Inductance	mH/Km	0.405	0.379	0.360	0.345	0.337	0.328	0.312	0.301	0.292	0.282	0.275	0.269	0.265
Reactance @ 50Hz*	Ω/Km	0.127	0.119	0.113	0.108	0.106	0.103	0.098	0.0946	0.0917	0.0886	0.0864	0.0845	0.0833
Impedance @ 90°C & 50Hz	Ω/Km	0.51	0.36	0.27	0.22	0.19	0.16	0.14	0.12	0.11	0.10	0.10	0.09	0.09
Capacitance (Max)	μ/Km	0.26	0.29	0.33	0.37	0.39	0.42	0.47	0.52	0.59	0.65	0.72	0.8	0.89
Charging Current	A/Km	0.52	0.58	0.66	0.74	0.78	0.84	0.94	1.04	1.18	1.30	1.44	1.60	1.78
Continuous Current Carrying Capacity (Laid Direct)*	A	220	270	321	364	410	460	530	600	680	750	838	928	1003
Continuous Current Carrying Capacity (Ducts)*	A	225	270	320	360	400	440	505	560	610	680	753	840	913
Continuous Current Carrying Capacity (Air)*	A	250	310	375	430	490	565	660	760	880	1000	1140	1313	1423
Symmetrical Short Circuit Rating (Max)														
90°C - 250°C for 1.0 sec	kA	7.2	10.0	13.6	17.2	21.5	26.5	34.3	42.9	57.2	71.5	90.1	>100	>100
Earth Fault Short Circuit Rating (Max)														
80°C - 200°C for 1.0 sec	kA	1.3	1.5	1.6	1.7	1.8	1.9	2.1	2.3	2.5	2.8	3.0	3.3	3.6

- Cables in Trefoil arrangement



MEDIUM VOLTAGE CABLE – BS7835 (6.35/11KV)

CABLE CONSTRUCTION

Single Core – Class 2 Copper Conductor, XLPE Insulated, Copper Wire Screen, LSZH Sheathed.

Nominal Area of Conductor	mm ²	1 x 50	1 x 70	1 x 95	1 x 120	1 x 150	1 x 185	1 x 240	1 x 300	1 x 400	1 x 500	1 x 630	1 x 800	1 x 1000
Insulation Thickness (Min)	mm	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40
Outer Sheath Thickness	mm	1.70	1.70	1.80	1.80	1.90	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60
Overall Diameter (Nom)	mm	25.00	27.00	29.00	30.00	32.00	33.00	36.00	38.00	42.00	45.00	49.00	53.00	58.00
Cable Weight (Nom)	Kg/Km	1160	1390	1680	1940	2220	2580	3170	3780	4620	5690	7080	8810	10800
Internal Bending Radius (Min)	mm	500	540	580	600	640	660	720	760	840	900	980	1060	1160
d.c. Conductor Resistance @ 20°C (Max)	Ω/Km	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.047	0.0366	0.0283	0.0221	0.0176
a.c. Conductor Resistance @ 90°C (Max)	Ω/Km	0.494	0.342	0.247	0.196	0.159	0.128	0.0981	0.0792	0.0634	0.0511	0.0415	0.0348	0.0301
Inductance	mH/Km	0.416	0.388	0.368	0.352	0.345	0.333	0.321	0.311	0.299	0.290	0.281	0.276	0.269
Reactance @ 50Hz*	Ω/Km	0.131	0.122	0.116	0.111	0.108	0.105	0.101	0.0977	0.0939	0.0911	0.0883	0.0867	0.0845
Impedance @ 90°C & 50Hz	Ω/Km	0.51	0.36	0.27	0.23	0.19	0.17	0.14	0.13	0.11	0.10	0.10	0.09	0.09
Capacitance (Max)	μ/Km	0.26	0.29	0.33	0.37	0.39	0.42	0.47	0.52	0.59	0.65	0.72	0.8	0.89
Charging Current	A/Km	0.51	0.58	0.66	0.74	0.78	0.84	0.94	1.04	1.18	1.30	1.44	1.60	1.78
Continuous Current Carrying Capacity (Laid Direct)*	A	220	270	321	364	410	460	530	600	680	750	838	928	1003
Continuous Current Carrying Capacity (Ducts)*	A	225	270	320	360	400	440	505	560	610	680	753	840	913
Continuous Current Carrying Capacity (Air)*	A	250	310	375	430	490	565	660	760	880	1000	1140	1313	1423
Symmetrical Short Circuit Rating (Max)														
90°C - 250°C for 1.0 sec	kA	7.2	10.0	13.6	17.2	21.5	26.5	34.3	42.9	57.2	71.5	90.1	>100	>100
Earth Fault Short Circuit Rating (Max)														
80°C - 200°C for 1.0 sec	kA	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5

- Cables in Trefoil arrangement



MEDIUM VOLTAGE CABLE – BS7835 (6.35/11KV)

CABLE CONSTRUCTION

Single Core – Class 2 Copper Conductor, XLPE Insulated, Copper Taped Screen, LSZH Bedding, Galvanised Steel Wire Armour, LSZH Sheathed.

Nominal Area of Conductor	mm ²	1 x 50	1 x 70	1 x 95	1 x 120	1 x 150	1 x 185	1 x 240	1 x 300	1 x 400	1 x 500	1 x 630	1 x 800	1 x 1000
Insulation Thickness (Min)	mm	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40
Inner Sheath Thickness	mm	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.30	1.40	1.40	1.50
Aluminium Wire Armour Diameter	mm	1.60	1.60	1.60	1.60	2.00	2.00	2.00	2.00	2.00	2.50	2.50	2.50	2.50
Outer Sheath Thickness	mm	1.80	1.90	1.90	2.00	2.10	2.10	2.20	2.20	2.40	2.50	2.60	2.70	2.90
Overall Diameter (Nom)	mm	29.00	31.00	33.00	35.00	37.00	38.00	41.00	43.00	47.00	51.00	55.00	60.00	64.00
Cable Weight (Nom)	Kg/Km	1220	1500	1800	2110	2490	2900	3530	4160	5090	6400	7900	9720	11870
Internal Bending Radius (Min)	mm	435	465	495	525	555	570	615	645	705	765	825	900	960
d.c. Conductor Resistance @ 20°C (Max)	Ω/Km	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.047	0.0366	0.0283	0.0221	0.0176
a.c. Conductor Resistance @ 90°C (Max)	Ω/Km	0.494	0.342	0.247	0.196	0.159	0.128	0.0978	0.0788	0.0628	0.0503	0.0408	0.034	0.0292
Inductance	mH/Km	0.452	0.422	0.403	0.386	0.381	0.365	0.352	0.340	0.328	0.320	0.310	0.305	0.296
Reactance @ 50Hz*	Ω/Km	0.142	0.133	0.127	0.121	0.12	0.115	0.111	0.107	0.103	0.101	0.0974	0.0958	0.093
Impedance @ 90°C & 50Hz	Ω/Km	0.51	0.37	0.28	0.23	0.20	0.17	0.15	0.13	0.12	0.11	0.11	0.10	0.10
Capacitance (Max)	μ/Km	0.26	0.29	0.33	0.37	0.39	0.42	0.47	0.52	0.59	0.65	0.72	0.8	0.89
Charging Current	A/Km	0.51	0.58	0.66	0.74	0.78	0.84	0.94	1.04	1.18	1.30	1.44	1.60	1.78
Continuous Current Carrying Capacity (Laid Direct)*	A	221	270	321	363	410	455	520	580	650	710	761	812	868
Continuous Current Carrying Capacity (Ducts)*	A	220	261	306	341	375	410	460	500	531	570	620	670	700
Continuous Current Carrying Capacity (Air)*	A	251	310	376	431	490	562	650	740	840	931	1040	1163	1251
Symmetrical Short Circuit Rating (Max)														
90°C - 250°C for 1.0 sec	kA	7.2	10.0	13.6	17.2	21.5	26.5	34.3	42.9	57.2	71.5	90.1	>100	>100
Earth Fault Short Circuit Rating of Copper Tape (Max)														
80°C - 200°C for 1.0 sec	kA	0.7	0.7	0.8	0.9	0.9	1.0	1.1	1.1	1.3	1.4	1.5	1.7	1.8
Earth Fault Short Circuit Rating of Armour (Max)														
80°C - 200°C for 1.0 sec	kA	6.5	7.0	7.5	8.0	10.4	11.2	12.0	12.8	13.9	19.2	20.9	22.5	24.6

- Cables in Trefoil arrangement

Ref: DS/SD/BS7835-11KV.V1 (Jan 2021)

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MEDIUM VOLTAGE CABLE – BS7835 (6.35/11KV)

CABLE CONSTRUCTION

Three Core – Class 2 Copper Conductor, XLPE Insulated, Copper Taped Screen, LSZH Bedding, Galvanised Steel Wire Armour, LSZH Sheathed.

Nominal Area of Conductor	mm ²	3 x 16	3 x 25	3 x 35	3 x 50	3 x 70	3 x 95	3 x 120	3 x 150	3 x 185	3 x 240	3 x 300	3 x 400
Insulation Thickness (Min)	mm	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40
Inner Sheath Thickness	mm	1.20	1.30	1.30	1.40	1.40	1.50	1.60	1.60	1.70	1.80	1.90	2.00
Galvanised Steel Wire Armour Diameter	mm	2.00	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	3.15	3.15	3.15
Outer Sheath Thickness	mm	2.30	2.40	2.50	2.60	2.70	2.80	3.00	3.10	3.20	3.40	3.60	3.80
Overall Diameter (Nom)	mm	44.00	49.00	52.00	54.00	58.00	63.00	67.00	70.00	74.00	81.00	86.00	94.00
Cable Weight (Nom)	Kg/Km	3130	4070	4590	5180	6120	7310	8410	9420	10860	13990	16290	19500
Internal Bending Radius (Min)	mm	528	588	624	648	696	756	804	840	888	972	1032	1128
d.c. Conductor Resistance @ 20°C (Max)	Ω/Km	1.15	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.047
a.c. Conductor Resistance @ 90°C (Max)	Ω/Km	1.47	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.1	0.0819	0.0667
Inductance	mH/Km	0.443	0.410	0.376	0.364	0.341	0.323	0.309	0.303	0.294	0.283	0.275	0.265
Reactance @ 50Hz*	Ω/Km	0.139	0.129	0.118	0.114	0.107	0.101	0.0971	0.0952	0.0924	0.0889	0.0864	0.0833
Impedance @ 90°C & 50Hz	Ω/Km	1.48	0.94	0.68	0.51	0.36	0.27	0.22	0.19	0.16	0.13	0.12	0.11
Capacitance (Max)	μ/Km	0.18	0.21	0.24	0.26	0.29	0.33	0.37	0.39	0.42	0.47	0.52	0.59
Charging Current	A/Km	0.36	0.41	0.48	0.52	0.58	0.66	0.74	0.78	0.84	0.94	1.04	1.18
Continuous Current Carrying Capacity (Laid Direct)	A	119	152	181	213	260	309	349	390	436	499	553	619
Continuous Current Carrying Capacity (Ducts)	A	102	131	156	182	224	263	306	342	379	438	481	552
Continuous Current Carrying Capacity (Air)	A	126	163	197	236	291	353	402	454	515	600	676	768
Symmetrical Short Circuit Rating (Max)													
90°C - 250°C for 1.0 sec	kA	2.3	3.6	5.0	7.2	10.0	13.6	17.2	21.5	26.5	34.3	42.9	57.2
Earth Fault Short Circuit Rating of Copper Tape (Max)													
80°C - 200°C for 1.0 sec	kA	1.1	1.2	1.3	1.3	1.5	1.6	1.7	1.8	1.9	2.1	2.3	2.5
Earth Fault Short Circuit Rating of Armour (Max)													
80°C - 200°C for 1.0 sec	kA	2.3	3.6	5.0	7.2	10.0	12.9	13.8	14.5	15.4	21.2	22.6	24.7

Ref: DS/SD/BS7835-11KV.V1 (Jan 2021)

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MEDIUM VOLTAGE CABLE – BS7835 (6.35/11KV)

CABLE CONSTRUCTION

Single Core – Class 2 Aluminium Conductor, XLPE Insulated, Copper Taped Screen, LSZH Sheathed.

Nominal Area of Conductor	mm ²	1 x 50	1 x 70	1 x 95	1 x 120	1 x 150	1 x 185	1 x 240	1 x 300	1 x 400	1 x 500	1 x 630	1 x 800	1 x 1000
Insulation Thickness (Min)	mm	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40
Outer Sheath Thickness	mm	1.70	1.70	1.80	1.80	1.90	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60
Overall Diameter (Nom)	mm	23.00	25.00	27.00	29.00	30.00	32.00	34.00	36.00	40.00	43.00	47.00	54.00	59.00
Cable Weight (Nom)	Kg/Km	590	690	820	930	1050	1210	1440	1690	2020	2420	2940	3670	4410
Internal Bending Radius (Min)	mm	460	500	540	580	600	640	680	720	800	860	940	1080	1180
d.c. Conductor Resistance @ 20°C (Max)	Ω/Km	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469	0.0367	0.0291
a.c. Conductor Resistance @ 90°C (Max)	Ω/Km	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.13	0.102	0.0804	0.0639	0.052	0.0435
Inductance	mH/Km	0.395	0.374	0.355	0.345	0.337	0.322	0.309	0.300	0.291	0.282	0.275	0.265	0.260
Reactance @ 50Hz*	Ω/Km	0.1241	0.1175	0.1115	0.1084	0.1059	0.1012	0.0971	0.0943	0.0914	0.0886	0.0864	0.0833	0.0817
Impedance @ 90°C & 50Hz	Ω/Km	0.83	0.58	0.43	0.34	0.29	0.23	0.19	0.16	0.14	0.12	0.11	0.10	0.09
Capacitance (Max)	μ/Km	0.26	0.3	0.34	0.37	0.39	0.43	0.48	0.53	0.59	0.65	0.72	0.86	0.95
Charging Current	A/Km	0.52	0.60	0.68	0.74	0.78	0.86	0.96	1.06	1.18	1.30	1.44	1.72	1.90
Continuous Current Carrying Capacity (Laid Direct)*	A	172	210	250	284	320	360	415	475	540	610	686	776	855
Continuous Current Carrying Capacity (Ducts)*	A	175	215	255	285	315	350	405	455	510	570	640	713	792
Continuous Current Carrying Capacity (Air)*	A	195	240	300	335	380	443	512	600	700	810	930	1096	1211
Symmetrical Short Circuit Rating (Max)														
90°C - 250°C for 1.0 sec	kA	4.7	6.6	8.9	11.3	14.1	17.4	22.6	28.2	37.6	47.0	59.2	75.2	94
Earth Fault Short Circuit Rating (Max)														
80°C - 200°C for 1.0 sec	kA	1.4	1.5	1.6	1.7	1.8	2.0	2.1	2.3	2.5	2.8	3.0	3.5	3.8

- Cables in Trefoil arrangement



MEDIUM VOLTAGE CABLE – BS7835 (6.35/11KV)

CABLE CONSTRUCTION

Single Core – Class 2 Aluminium Conductor, XLPE Insulated, Copper Wire Screen, LSZH Sheathed.

Nominal Area of Conductor	mm ²	1 x 50	1 x 70	1 x 95	1 x 120	1 x 150	1 x 185	1 x 240	1 x 300	1 x 400	1 x 500	1 x 630	1 x 800	1 x 1000
Insulation Thickness (Min)	mm	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40
Outer Sheath Thickness	mm	1.70	1.70	1.80	1.80	1.90	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60
Overall Diameter (Nom)	mm	25.00	27.00	29.00	30.00	32.00	33.00	36.00	38.00	42.00	45.00	49.00	56.00	61.00
Cable Weight (Nom)	Kg/Km	890	980	1110	1210	1330	1480	1700	1950	2270	2660	3170	3880	4600
Internal Bending Radius (Min)	mm	500	540	580	600	640	680	720	780	840	900	980	1120	1220
d.c. Conductor Resistance @ 20°C (Max)	Ω/Km	0.641	0.443	0.32	0.253	0.206	0.164	0.125	0.1	0.0778	0.0605	0.0469	0.0367	0.0291
a.c. Conductor Resistance @ 90°C (Max)	Ω/Km	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.13	0.102	0.0803	0.0637	0.0518	0.0432
Inductance	mH/Km	0.409	0.385	0.365	0.352	0.345	0.330	0.320	0.308	0.298	0.290	0.281	0.271	0.264
Reactance @ 50Hz*	Ω/Km	0.1285	0.121	0.1147	0.1106	0.1084	0.1037	0.1005	0.0968	0.0936	0.0911	0.0883	0.0851	0.0829
Impedance @ 90°C & 50Hz	Ω/Km	0.83	0.58	0.43	0.34	0.29	0.24	0.19	0.16	0.14	0.12	0.11	0.10	0.09
Capacitance (Max)	μ/Km	0.26	0.3	0.34	0.37	0.39	0.43	0.48	0.53	0.59	0.65	0.72	0.86	0.95
Charging Current	A/Km	0.51	0.60	0.68	0.74	0.78	0.86	0.96	1.06	1.18	1.30	1.44	1.72	1.90
Continuous Current Carrying Capacity (Laid Direct)*	A	172	210	250	284	320	360	415	475	540	610	686	776	855
Continuous Current Carrying Capacity (Ducts)*	A	175	215	255	285	315	350	405	455	510	570	640	713	792
Continuous Current Carrying Capacity (Air)*	A	195	240	300	335	380	443	512	600	700	810	930	1096	1211
Symmetrical Short Circuit Rating (Max)														
90°C - 250°C for 1.0 sec	kA	4.7	6.6	8.9	11.3	14.1	17.4	22.6	28.2	37.6	47.0	59.2	75.2	94
Earth Fault Short Circuit Rating (Max)														
80°C - 200°C for 1.0 sec	kA	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5

- Cables in Trefoil arrangement



MEDIUM VOLTAGE CABLE – BS6 (6.35/11KV)

CABLE CONSTRUCTION

Single Core – Class 2 Aluminium Conductor, XLPE Insulated, Copper Taped Screen, LSZH Bedding, Galvanised Steel Wire Armour, LSZH Sheathed.

Nominal Area of Conductor	mm ²	1 x 50	1 x 70	1 x 95	1 x 120	1 x 150	1 x 185	1 x 240	1 x 300	1 x 400	1 x 500	1 x 630	1 x 800	1 x 1000
Insulation Thickness (Min)	mm	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40
Inner Sheath Thickness	mm	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.30	1.40	1.40	1.50
Aluminium Wire Armour Diameter	mm	1.60	1.60	1.60	1.60	2.00	2.00	2.00	2.00	2.00	2.50	2.50	2.50	2.50
Outer Sheath Thickness	mm	1.80	1.90	1.90	2.00	2.10	2.10	2.20	2.20	2.40	2.50	2.60	2.70	2.90
Overall Diameter (Nom)	mm	29.00	31.00	33.00	35.00	37.00	38.00	41.00	43.00	47.00	51.00	55.00	62.00	67.00
Cable Weight (Nom)	Kg/Km	950	1090	1230	1380	1600	1790	2060	2350	2740	3370	3990	4850	5750
Internal Bending Radius (Min)	mm	435	465	495	525	555	585	615	660	705	765	825	930	1005
d.c. Conductor Resistance @ 20°C (Max)	Ω/Km	0.641	0.443	0.32	0.253	0.206	0.164	0.125	0.1	0.0778	0.0605	0.0469	0.0367	0.0291
a.c. Conductor Resistance @ 90°C (Max)	Ω/Km	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.13	0.102	0.0799	0.0632	0.0512	0.0425
Inductance	mH/Km	0.441	0.417	0.397	0.386	0.381	0.364	0.349	0.338	0.327	0.320	0.310	0.297	0.289
Reactance @ 50Hz*	Ω/Km	0.1385	0.131	0.1247	0.1213	0.1197	0.1144	0.1096	0.1062	0.1027	0.1005	0.0974	0.0933	0.0908
Impedance @ 90°C & 50Hz	Ω/Km	0.83	0.58	0.43	0.35	0.29	0.24	0.19	0.17	0.14	0.13	0.12	0.11	0.10
Capacitance (Max)	μ/Km	0.26	0.3	0.34	0.37	0.39	0.43	0.48	0.53	0.59	0.65	0.72	0.86	0.95
Charging Current	A/Km	0.52	0.60	0.68	0.74	0.78	0.86	0.96	1.06	1.18	1.30	1.44	1.72	1.90
Continuous Current Carrying Capacity (Laid Direct)*	A	172	210	250	284	316	358	412	461	519	577	642	704	767
Continuous Current Carrying Capacity (Ducts)*	A	170	210	245	275	300	335	380	420	455	500	550	600	640
Continuous Current Carrying Capacity (Air)*	A	196	240	295	337	380	442	514	586	679	770	880	1002	1100
Symmetrical Short Circuit Rating (Max)														
90°C - 250°C for 1.0 sec	kA	4.7	6.6	8.9	11.3	14.1	17.4	22.6	28.2	37.6	47.0	59.2	75.2	94
Earth Fault Short Circuit Rating of Copper Tape (Max)														
80°C - 200°C for 1.0 sec	kA	0.7	0.7	0.8	0.9	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.8	1.9
Earth Fault Short Circuit Rating of Armour (Max)														
80°C - 200°C for 1.0 sec	kA	4.7	6.6	7.5	8.0	10.4	11.2	12.0	13.1	13.9	19.2	20.9	23.8	25.9

- Cables in Trefoil arrangement



MEDIUM VOLTAGE CABLE – BS7835 (6.35/11KV)

CABLE CONSTRUCTION

Three Core – Class 2 Aluminium Conductor, XLPE Insulated, Copper Taped Screen, LSZH Bedding, Galvanised Steel Wire Armour, LSZH Sheathed.

Nominal Area of Conductor	mm ²	3 x 16	3 x 25	3 x 35	3 x 50	3 x 70	3 x 95	3 x 120	3 x 150	3 x 185	3 x 240	3 x 300	3 x 400
Insulation Thickness (Min)	mm	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40
Inner Sheath Thickness	mm	1.20	1.30	1.30	1.40	1.40	1.50	1.60	1.60	1.70	1.80	1.90	2.00
Galvanised Steel Wire Armour Diameter	mm	2.00	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	3.15	3.15	3.15
Outer Sheath Thickness	mm	2.30	2.40	2.50	2.60	2.70	2.80	3.00	3.10	3.20	3.40	3.60	3.80
Overall Diameter (Nom)	mm	44.00	50.00	52.00	55.00	59.00	63.00	67.00	70.00	75.00	81.00	87.00	94.00
Cable Weight (Nom)	Kg/Km	2890	3620	3950	4400	4930	5600	6220	6710	7570	9560	10850	12450
Internal Bending Radius (Min)	mm	528	600	624	660	708	756	804	840	900	972	1044	1128
d.c. Conductor Resistance @ 20°C (Max)	Ω/Km	1.91	1.20	0.868	0.641	0.443	0.32	0.253	0.206	0.164	0.125	0.10	0.0778
a.c. Conductor Resistance @ 90°C (Max)	Ω/Km	2.45	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.163	0.131	0.104
Inductance	mH/Km	0.435	0.404	0.376	0.358	0.338	0.320	0.309	0.303	0.292	0.283	0.272	0.265
Reactance @ 50Hz*	Ω/Km	0.1367	0.1269	0.1181	0.1125	0.1062	0.1005	0.0971	0.0952	0.0917	0.0889	0.0855	0.0833
Impedance @ 90°C & 50Hz	Ω/Km	2.45	1.55	1.12	0.83	0.58	0.42	0.34	0.28	0.23	0.19	0.16	0.13
Capacitance (Max)	μ/Km	0.19	0.22	0.24	0.26	0.30	0.34	0.37	0.39	0.43	0.48	0.53	0.59
Charging Current	A/Km	0.38	0.44	0.48	0.52	0.60	0.68	0.74	0.78	0.86	0.96	1.06	1.18
Continuous Current Carrying Capacity (Laid Direct)	A	92	118	141	166	202	241	272	304	343	395	440	500
Continuous Current Carrying Capacity (Ducts)	A	79	101	121	141	174	205	239	267	297	347	383	446
Continuous Current Carrying Capacity (Air)	A	97	127	153	183	226	274	314	354	404	473	536	618
Symmetrical Short Circuit Rating (Max)													
90°C - 250°C for 1.0 sec	kA	1.5	2.4	3.3	4.7	6.6	8.9	11.3	14.1	17.4	22.6	28.2	37.6
Earth Fault Short Circuit Rating of Copper Tape (Max)													
80°C - 200°C for 1.0 sec	kA	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	2.0	2.1	2.3	2.5
Earth Fault Short Circuit Rating of Armour (Max)													
80°C - 200°C for 1.0 sec	kA	1.5	2.4	3.3	4.7	6.6	8.9	11.3	14.1	15.6	21.2	22.9	25.1

Ref: DS/SD/BS7835-11KV.V1 (Jan 2021)

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