

Caledonian Medium Voltage Cables

IV

I	II	III	IV	V
Medium Voltage Cables to VDE 0276				
Single Core Cables to VDE 0276				
Three Core Cables to VDE 0276				

Single Core Cables to VDE 0276

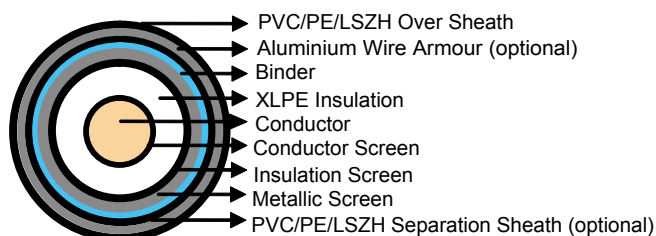
APPLICATIONS:

The single core cables are designed for distribution of electrical power with nominal voltage U_0/U ranging from 3.8/6.6KV to 19/33KV and frequency 50Hz. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.



STANDARD:

DIN VDE 0276 Part 620-622
HD 620 S1



CONSTRUCTION:

Conductor: Stranded compacted circular copper or aluminium conductors according to IEC 60228 class 2 / VDE 0276 class 2 / VDE 0295 HD 383. All internal interstices of the conductor are filled with water blocking compound to prevent ingress of water through conductor during storage, handling, installation and operation of the cable.

Conductor Screen: The conductor screen consists of an extruded layer of non metallic, semi-conducting compound firmly bonded to the insulation to exclude all air voids. The screen has a minimum thickness of 0.3mm and the maximum volume resistivity of 500 Ohm-m at 90°C.

Insulation: Insulation is of extruded XLPE compound type 2X11 according to DIN VDE 0207 part 22 and HD 620.1 with high degree of cross-linking, free from contaminants, air voids and heat resistant by dry cured process.

The nominal insulation wall thickness is shown in table 1.

Table 1. Insulation Thickness

Nom. Cross Section Area	Insulation Thickness at Nom. Voltage				
	3.6/6KV(Um=7.2KV)	6/10KV(Um=12KV)	8.7/15KV(Um=17.5KV)	12/20KV(Um=24KV)	18/30KV(Um=36KV)
mm ²	mm	mm	mm	mm	mm
35	2.5	3.4	4.5	5.5	-
50	2.5	3.4	4.5	5.5	8.0
70	2.5	3.4	4.5	5.5	8.0



Caledonian Medium Voltage Cables

Nom. Cross Section Area	Insulation Thickness at Nom. Voltage				
	3.6/6KV(Um=7.2KV)	6/10KV(Um=12KV)	8.7/15KV(Um=17.5KV)	12/20KV(Um=24KV)	18/30KV(Um=36KV)
mm ²	mm	mm	mm	mm	mm
95	2.5	3.4	4.5	5.5	8.0
120	2.5	3.4	4.5	5.5	8.0
150	2.5	3.4	4.5	5.5	8.0
185	2.5	3.4	4.5	5.5	8.0
240	2.6	3.4	4.5	5.5	8.0
300	2.8	3.4	4.5	5.5	8.0
400	3.0	3.4	4.5	5.5	8.0

Insulation Screen: The insulation screen consists of extruded non metallic, semi-conducting compound extruded over the insulation. The extruded semi-conducting layer shall consist of bonded or cold strippable semi-conducting compound capable of removal for jointing or terminating. The minimum thickness is 0.3mm and the maximum volume resistivity of 500 Ohm-m at 90°C. The screen is tightly fitted to the insulation to exclude all air voids and can be easily hand stripped on site.

Conducting Water Blocking Layer: The insulation screen may be covered by semi-conductive water blocking tape which will swell up under the influence of moisture of water to ensure longitudinal watertightness.

Metallic Screen: Copper wires are applied over the conducting water blocking layer with a minimum diameter of 0.5mm. And over the copper wires, copper tape with minimum thickness of 0.1mm is applied helically with overlap. Total cross section of metallic screen layer is shown in table 2. The screen can withstand fault current to earth of 1000 A for one second at maximum temperature of 160°C. Minimum cross section of concentric conductor is according to DIN VDE 0273 & 0276 as shown.

Table 2. Minimum Total Cross Section of Metallic Screen

Nominal Cross-Section Area of Cable	Minimum Cross-Section of Metallic Screen	DC Resistance of the Copper Wire Screen
mm ²	mm ²	mm
Up to 120	16	1.06
150-300	25	0.72
400-630	35	0.51
800-1000	50	0.35

Separator / Water Blocking Layer: The metallic screen may be covered by non-conducting water blocking tape which will swell up under the influence of moisture of water to ensure longitudinal watertightness.

Separation Sheath (for armoured cable): The separation sheath comprises a layer of extruded PVC, PE or LSZH, applied under the armour. Thickness of separation sheath as shown in table 3.

Table 3. Separation Sheath Thickness

Medium Voltage Cables to VDE 0276

Core Diameter		Approx.Thickness of Inner Sheath
mm		mm
>	<	
35	45	1.4
45	60	1.6
60	80	1.8
80	-	2.0

Armour (for armoured cable): The armour consists of round aluminium wire armour applied helically over an extruded separation sheath.

Table 4. Round Armour Wire Diameter

Fictitious Diameter under the Armour		Armour Wire Diameter
mm		mm
>	<	
-	10	0.8
10	15	1.25
15	25	1.6
25	35	2.0
35	60	2.5
60	-	3.15

Over Sheath: Overall sheath comprises a layer of extruded PE compound DMP2 according to HD620.1 and 2YM3 type to DIN VDE 0276 Part 3, or PVC compound DMV6 according to HD620.1 and YM5 to DIN VDE 0276 Part 6. LSZH can be offered as an option. Normal wall thickness is 2.5mm (for 1/500mmsq 18/30KV, wall thickness is 2.6mm), suitable for exposure to sun-light or other local atmospheric environments and for the operating temperature of the cable.

PHYSICAL PROPERTIES:

Operating Temperature: up to 90°C

Temperature Range: -5°C (PVC or LSZH sheath); -20°C (PE sheath)

Short Circuit Temperature: 250°C (short circuit duration up to 5 seconds)

Bending Radius: 15 x OD (Cable without metal sheath)
30 x OD (Cable with aluminium sheath)

Table 5. Nominal /Operating /Testing Voltages

Nominal Voltage U ₀ /U	Operating Voltage (max)	Testing Voltage
3.6/6KV	8KV	10KV
6/10KV	12KV	15KV
8.7/15KV	18KV	22.5KV
12/20KV	24KV	30KV
18/30KV	36KV	45KV



TYPE CODES:

Cores

- N According to VDE Standard (No abbreviation for copper conductor)
- A Aluminium Conductor
- 2X XLPE Insulation
- Y PVC Insulation

Screen

- S Screen of copper wires and copper tape, helically wound.
- SE Screen of copper wire plus copper tape over each individual cores, helically wound
- (F) Longitudinally waterproof screen.

Concentric Conductor Screen

- C Concentric conductor screen of copper wires and copper tape, helically wound.
- CE Concentric conductor screen of copper wire plus copper tape over each individual cores, helically wound.

Jacket

- 2Y PE Jacket
- Y PVC Jacket
- H LSZH Jacket

Medium Voltage Cables to VDE 0276

Single Core 1.8/3KV (Um=3.6KV)

Dimensional Data

Nom. Cross-Section Area	Nom. Insulation Thickness	Metallic Screen Area	Nom. Sheath Thickness	Approx. Overall Diameter	Approx. Weight					
					N2XS(Y)/N2XSH CU	NA2XS(Y)/NA2XSH AL	N2XS2Y CU	NA2XS2Y AL	N2XS(F)2Y CU	NA2XS(F)2Y AL
mm ²	mm	mm ²	mm	mm	kg/km	kg/km	kg/km	kg/km	kg/km	kg/km
25	2.0	16	1.4	15.8	500	180	480	140	500	230
35	2.0	16	1.4	17.0	620	280	600	240	620	330
50	2.0	16	1.4	18.3	700	380	750	290	750	430
70	2.0	16	1.5	20.3	900	480	800	380	1000	560
95	2.0	16	1.5	22.2	1200	590	1050	460	1300	670
120	2.0	16	1.6	24.0	1450	700	1300	550	1500	800
150	2.0	25	1.6	25.6	1700	800	1550	650	1800	900
185	2.0	25	1.7	27.9	2050	850	1900	750	2150	950
240	2.0	25	1.8	31.0	2550	1050	2350	900	2650	1150
300	2.0	25	1.8	33.5	3150	1250	2950	1050	3250	1350
400	2.0	35	1.9	36.5	3950	1550	3800	1450	4100	1650
500	2.2	35	2.0	39.9	5000	2000	4800	1800	5200	2150
630	2.4	35	2.2	44.6	6200	2200	6300	2100	6400	2350
800	2.6	35	2.3	49.4	8000	2900	7900	2800	8200	3050

Electrical Data

Nom. Cross-Section Area	D C Resistance CU / AL	A C Resistance CU / AL	Short Circuit Rating of Conductor CU / AL 1 sec	Capacitance	Charging Current	Short Circuit Rating of Metallic Screen 1 sec	Reactance		Inductance		Impedance			
							Trefoil	Flat Spaced	Trefoil	Flat Spaced	Trefoil		Flat Spaced	
											CU	AL	CU	AL
mm ²	μΩ/m	μΩm	kA	pF/m	mA/m	kA	μΩ/m		nH/m		μΩ/ m		μΩ/ m	
25	727/1200	929/1538	3.6/2.3	222	0.32	2.6	131	185	345	535	936	1544	952	1554
35	524/868	668/1113	5.0/3.2	251	0.35	2.6	122	178	327	524	679	1121	695	1131
50	387/641	494/822	6.8/4.4	281	0.39	2.6	116	172	313	514	511	834	527	844
70	268/443	343/568	9.8/6.3	341	0.45	2.6	110	165	300	495	364	583	386	597
95	193/320	248/410	13.3/8.5	397	0.50	2.6	104	160	287	485	272	427	300	446
120	153/253	196/325	17.2/11.0	430	0.55	2.6	104	159	280	475	225	345	257	367
150	124/206	159/265	21.2/13.5	464	0.59	4.3	100	156	274	465	193	287	229	313
185	99/164	128/211	26.6/17.0	513	0.65	4.3	98	154	267	459	165	237	206	267
240	75/125	98/161	34.9/22.3	573	0.70	4.3	94	150	260	455	140	191	185	226
300	60/100	80/130	43.8/28.0	652	0.72	4.3	91	147	253	445	128	163	174	203
400	47/78	64/102	57.3/36.6	727	0.75	5.8	90	147	248	435	113	141	164	184
500	37/60	51/81	72.3/46.2	754	0.79	5.8	89	145	245	425	105	124	158	171
630	28/47	42/64	91.2/58.3	786	0.87	5.8	86	143	243	415	97	110	151	160



Caledonian Medium Voltage Cables

Single Core 3.6/6KV (Um=7.2 KV) Dimensional Data

Nom. Cross-Section Area	Nom. Insulation Thickness	Metallic Screen Area*	Nom. Sheath Thickness	Approx. Overall Diameter	Approx. Weight					
					N2XS _Y /N2XSH CU	NA2XS _Y /NA2XSH AL	N2XS _{2Y} CU	NA2XS _{2Y} AL	N2XS(F) _{2Y} CU	NA2XS(F) _{2Y} AL
mm ²	mm	mm ²	mm	mm	kg/km	kg/km	kg/km	kg/km	kg/km	kg/km
25	2.5	16	1.5	17.0	700	480	600	550	700	560
35	2.5	16	1.6	18.4	820	580	800	560	900	660
50	2.5	16	1.6	19.7	1000	680	900	570	1050	750
70	2.5	16	1.7	21.7	1200	770	1100	650	1300	850
95	2.5	16	1.7	23.6	1500	890	1350	760	1550	990
120	2.5	16	1.8	25.4	1850	1000	1700	850	1900	1150
150	2.5	25	1.8	27.0	2100	1100	1950	1050	2200	1250
185	2.5	25	1.9	29.0	2450	1250	2300	1200	2550	1300
240	2.6	25	1.9	32.1	3050	1550	2850	1400	3150	1650
300	2.8	25	2.0	34.9	3650	1850	3450	1650	3750	1950
400	3.0	35	2.1	38.6	4550	2250	4400	2050	4700	2350
500	3.2	35	2.3	42.6	5700	2700	5500	2500	5900	2850
630	3.2	35	2.4	47.0	7090	3020	6890	2820	7290	3200
800	3.2	35	2.5	51.1	8900	3700	8700	3500	9100	3850

Electrical Data

Nom. Cross-Section Area	D C Resistance CU / AL	A C Resistance CU / AL	Short Circuit Rating of Conductor CU / AL 1 sec	Capacitance	Charging Current	Short Circuit Rating of Metallic Screen 1 sec	Reactance		Inductance		Impedance			
							Trefoil	Flat Spaced	Trefoil	Flat Spaced	Trefoil		Flat Spaced	
											CU	AL	CU	AL
mm ²	μΩ/m	μΩm	kA	pF/m	mA/m	kA	μΩ/m		nH/m		μΩ/ m		μΩ/m	
25	727/1200	927/1538	3.6/2.3	262	0.32	2.6	142	196	400	590	936	1544	952	1554
35	524/868	668/1113	5.0/3.2	291	0.35	2.6	133	187	390	580	679	1121	695	1131
50	387/641	494/822	6.8/4.4	321	0.39	2.6	121	179	380	570	511	834	527	844
70	268/443	343/568	9.8/6.3	371	0.45	2.6	115	173	370	550	364	583	386	597
95	193/320	248/410	13.3/8.5	417	0.50	2.6	110	168	350	540	272	427	300	446
120	153/253	196/325	17.2/11.0	459	0.55	2.6	107	165	340	520	225	345	257	367
150	124/206	159/265	21.2/13.5	494	0.59	4.3	103	161	330	510	193	287	229	313
185	99.1/164	128/211	26.6/17.0	543	0.65	4.3	100	158	320	500	165	237	206	267
240	75.4/125	98/161	34.9/22.3	583	0.70	4.3	97	155	310	490	140	191	185	226
300	60.1/100	80/130	43.8/28.0	602	0.72	4.3	95	153	300	490	126	163	174	203
400	47.0/77.8	64/102	57.3/36.6	627	0.75	5.8	92	150	290	480	113	141	164	184
500	36.6/60.5	51/81	72.3/46.2	654	0.79	5.8	90	147	290	470	105	124	158	171
630	28.3/46.9	42/64	91.2/58.3	726	0.87	5.8	87	145	280	460	97	110	151	160
800	22.1/36.7	35/55	114.4/75.0	786	0.91	5.8	85	143	270	460	92	101	147	153

* For capacitance & charging current values, multiply values shown by 1.2 for EPR insulated cables.

Medium Voltage Cables to VDE 0276

Single Core 6/10KV (Um=12 KV)

Dimensional Data

Nom. Cross-Section Area	Nom. Insulation Thickness	Metallic Screen Area	Nom. Sheath Thickness	Approx. Overall Diameter	Approx. Weight					
					N2XSY/ N2XSH CU	NA2XSY/ NA2XSH AL	N2XS2Y CU	NA2XS2Y AL	N2X(F)2Y CU	NA2XS(F)2Y AL
mm ²	mm	mm	mm	mm	kg/km	kg/km	kg/km	kg/km	kg/km	kg/km
25	3.4	16	1.6	19.0	820	580	720	550	900	650
35	3.4	16	1.6	20.6	920	680	900	570	980	750
50	3.4	16	1.7	21.7	1100	780	950	670	1150	850
70	3.4	16	1.7	23.5	1300	870	1200	750	1400	950
95	3.4	16	1.8	25.6	1600	990	1450	860	1650	1100
120	3.4	16	1.8	27.2	1950	1100	1800	950	2050	1250
150	3.4	25	1.9	29.0	2200	1200	2050	1150	2300	1350
185	3.4	25	1.9	30.8	2550	1350	2400	1300	2650	1500
240	3.4	25	2.0	32.9	3150	1650	2950	1500	3250	1750
300	3.4	25	2.1	36.3	3750	1950	3550	1750	3850	2050
400	3.4	35	2.2	39.5	4650	2350	4500	2150	4800	2450
500	3.4	35	2.3	43.0	5800	2800	5700	2600	6000	2950
630	3.4	35	2.4	47.4	7300	3100	7010	2950	7500	3300
800	3.4	35	2.5	51.5	9100	3900	8900	3700	9300	4000

Electrical Data

Nom. Cross-Section Area	D C Resistance CU / AL	A C Resistance CU / AL	Short Circuit Rating of Conductor CU / AL 1 sec	Capacitance	Charging Current	Short Circuit Rating of Metallic Screen 1 sec	Reactance		Inductance		Impedance			
							Trefoil	Flat Spaced	Trefoil	Flat Spaced	Trefoil		Flat Spaced	
											CU	AL	CU	AL
mm ²	μΩ/m	μΩm	kA	pF/m	mA/m	kA	μΩ/m		nH/m		μΩ/ m		μΩ/m	
25	727/1200	927/1538	3.6/2.3	208	0.42	2.6	144	210	460	660	936	1544	952	1544
35	524/868	668/1113	5.0/3.2	229	0.46	2.6	136	200	440	640	679	1121	695	1131
50	387/641	494/822	6.8/4.4	252	0.50	2.6	131	195	420	620	511	834	527	844
70	268/443	343/568	9.8/6.3	288	0.58	2.6	122	188	390	600	364	583	386	597
95	193/320	248/410	13.3/8.5	323	0.65	2.6	122	182	390	580	272	427	300	446
120	153/253	196/325	17.2/11.0	353	0.71	2.6	116	172	370	550	225	345	257	367
150	124/206	159/265	21.2/13.5	380	0.76	4.3	110	166	350	530	193	287	229	313
185	99/164	128/211	26.6/17.0	416	0.83	4.3	107	166	340	530	165	237	206	267
240	75/125	98/161	34.9/22.3	460	0.92	4.3	104	163	330	520	140	191	185	226
300	60/100	80/130	43.8/28.0	506	1.01	4.3	100	157	320	500	126	163	174	203
400	47/78	64/102	57.3/36.6	561	1.12	5.8	94	154	300	490	113	141	164	184
500	37/60	51/81.0	72.3/46.2	619	1.24	5.8	91	151	290	480	105	124	158	171
630	28/47	42/64.0	91.2/58.3	698	1.37	5.8	91	148	290	470	97	110	151	160
800	22/37	35/55	114.4/75.0	780	1.39	5.8	88	144	280	470	92	101	147	153



Caledonian Medium Voltage Cables

Single Core 8.7/15KV (Um=17.5KV)

Dimensional Data

Nom. Cross-Section Area	Nom. Insulation Thickness	Metallic Screen Area	Nom. Sheath Thickness	Approx. Overall Diameter	Approx. Weight					
					N2XSY/ N2XSH CU	NA2XSY/ NA2XSH AL	N2XS2Y CU	NA2XS2Y AL	N2XS(F)2Y CU	NA2XS(F)2Y AL
mm ²	mm	mm	mm	mm	kg/km	kg/km	kg/km	kg/km	kg/km	kg/km
25	4.5	16	1.7	21.4	900	600	880	500	900	700
35	4.5	16	1.7	22.2	1020	700	1000	600	1060	800
50	4.5	16	1.7	23.9	1200	880	1050	770	1250	950
70	4.5	16	1.8	25.9	1400	970	1300	850	1500	1050
95	4.5	16	1.8	27.8	1700	1090	1550	960	1750	1200
120	4.5	16	1.9	29.8	2050	1200	1900	1150	2100	1300
150	4.5	25	1.9	31.4	2300	1400	2150	1250	2400	1500
185	4.5	25	2.0	33.2	2650	1650	2500	1400	2750	1750
240	4.5	25	2.1	36.3	3250	1750	3050	1600	3350	1850
300	4.5	25	2.1	38.9	3850	2050	3650	1850	3950	2150
400	4.5	35	2.3	42.1	4850	2550	4700	2250	5000	2550
500	4.5	35	2.3	45.0	5900	2900	5700	2600	6100	3050
630	4.5	35	2.5	49.4	7500	3200	7200	3100	8000	3400
800	4.5	35	2.6	53.7	9300	4200	9100	4000	9500	4300

Electrical Data

Nom. Cross-Section Area	D C Resistance CU / AL	A C Resistance CU / AL	Short Circuit Rating of Conductor CU / AL 1 sec	Capacitance	Charging Current	Short Circuit Rating of Metallic Screen 1 sec	Reactance		Inductance		Impedance			
							Trefoil	Flat Spaced	Trefoil Spaced	Flat	Trefoil		Flat Spaced	
											CU	AL	CU	AL
mm ²	μΩ/m	μΩm	kA	pF/m	mA/m	kA	μΩ/m		nH/m		μΩ/ m		μΩ/m	
25	727/1200	927/1538	3.6/2.3	171	0.47	2.6	150	210	480	680	936	1544	952	1554
35	524/868	668/1113	5.0/3.2	187	0.51	2.6	141	207	460	660	679	1121	695	1131
50	387/641	494/822	6.8/4.4	204	0.57	2.6	138	195	440	640	511	834	527	844
70	268/443	343/568	9.8/6.3	232	0.63	2.6	132	188	420	600	364	583	386	597
95	193/320	248/410	13.3/8.5	258	0.71	2.6	126	182	400	580	272	427	300	446
120	153/253	196/325	17.2/11.0	281	0.74	2.6	119	179	380	570	225	345	257	367
150	124/206	159/265	21.2/13.5	301	0.79	4.3	113	176	360	560	193	287	229	313
185	99/164	128/211	26.6/17.0	329	0.87	4.3	110	170	350	540	165	237	206	267
240	75/125	98/161	34.9/22.3	363	0.96	4.3	107	166	340	530	140	191	185	226
300	60/100	80/130	43.8/28.0	398	1.03	4.3	104	160	330	510	126	163	174	203
400	47/78	64/102	57.3/36.6	439	1.17	5.8	97	157	310	500	113	141	164	184
500	37/60	51/81	72.3/46.2	483	1.28	5.8	94	154	300	490	105	124	158	171
630	28/47	42/64	91.2/58.3	534	1.42	5.8	91	151	290	480	97	110	151	160
800	22/37	35/55	114.4/75.0	590	1.61	5.8	91	147	290	470	92	101	147	153

Medium Voltage Cables to VDE 0276

Single Core 12/20KV (Um=24KV)

Dimensional Data

Nom. Cross-Section Area	Nom. Insulation Thickness	Metallic Screen Area	Nom. Sheath Thickness	Approx. Overall Diameter	Approx. Weight					
					N2XS _Y /N2XSH CU	NA2XS _Y /NA2XSH AL	N2XS _{2Y} CU	NA2XS _{2Y} AL	N2XS(F) _{2Y} CU	NA2XS(F) _{2Y} AL
mm ²	mm	mm	mm	mm	kg/km	kg/km	kg/km	kg/km	kg/km	kg/km
25	5.5	16	1.8	20.0	1000	750	900	630	1100	850
35	5.5	16	1.8	21.2	1100	850	1050	730	1200	950
50	5.5	16	1.8	22.5	1250	970	1150	830	1350	1050
70	5.5	16	1.9	24.3	1500	1100	1350	920	1600	1200
95	5.5	16	1.9	26.2	1800	1200	1650	1050	1900	1300
120	5.5	16	2.0	28.2	2150	1350	1900	1150	2250	1450
150	5.5	25	2.0	29.8	2400	1500	2250	1350	2500	1650
185	5.5	25	2.1	31.6	2800	1700	2600	1550	2900	1800
240	5.5	25	2.1	34.9	3400	1900	3200	1750	3500	2050
300	5.5	25	2.2	37.3	4000	2200	3800	2000	4150	2300
400	5.5	35	2.3	40.4	4950	2600	4750	2400	5100	2800
500	5.5	35	2.4	48.8	6050	3000	5800	2800	6200	3200
630	5.5	35	2.5	52.8	8150	3600	8050	3400	8300	3750
800	5.5	35	2.6	53.7	9600	4400	9450	4200	9800	4300

Electrical Data

Nom. Cross-Section Area	D C Resistance CU / AL	A C Resistance CU / AL	Short Circuit Rating of Conductor CU / AL 1 sec	Capacitance	Charging Current	Short Circuit Rating of Metallic Screen 1 sec	Reactance		Inductance		Impedance			
							Trefoil	Flat Spaced	Trefoil	Flat Spaced	Trefoil		Flat Spaced	
											CU	AL	CU	AL
mm ²	μΩ/m	μΩ/m	kA	pF/m	mA/m	kA	μΩ/m		nH/m		μΩ/m		μΩ/m	
25	727/1200	927/1538	3.6/2.3	142	0.62	2.6	162	214	490	680	936	1544	952	1554
35	524/868	668/1113	5.0/3.2	162	0.65	2.6	150	207	470	660	679	1121	695	1131
50	387/641	494/822	6.8/4.4	177	0.71	2.6	141	201	450	640	511	834	527	844
70	268/443	343/568	9.8/6.3	200	0.80	2.6	135	195	430	620	364	583	386	597
95	193/320	248/410	13.3/8.5	222	0.89	2.6	129	188	410	600	272	427	300	446
120	153/253	196/325	17.2/11.0	241	0.96	2.6	122	182	390	580	225	345	257	367
150	124/206	159/265	21.2/13.5	257	1.03	4.3	116	176	370	560	193	287	229	313
185	99/164	128/211	26.6/17.0	280	1.12	4.3	116	173	370	550	165	237	206	267
240	75/125	98/161	34.9/22.3	307	1.23	4.3	110	170	350	540	140	191	185	226
300	60/100	80/130	43.8/28.0	336	1.34	4.3	107	166	340	530	126	163	174	203
400	47/78	64/102	57.3/36.6	370	1.48	5.8	100	160	320	510	113	141	164	184
500	37/60	51/81	72.3/46.2	406	1.62	5.8	97	154	310	490	105	124	158	171
630	28/47	42/64	91.2/58.3	449	1.80	5.8	94	151	300	480	97	110	151	160
800	22/37	35/55	114.4/75.0	490	1.85	5.8	91	151	290	480	92	101	147	153



Caledonian Medium Voltage Cables

Single Core 18/30KV (Um=36KV)

Dimensional Data

Nom. Cross-Section Area	Nom. Insulation Thickness	Metallic Screen Area	Nom. Sheath Thickness	Approx.. Overall Diameter	Approx. Weight					
					N2XSY/ N2XSH CU	NA2XSY/ NA2XSH AL	N2XS2Y CU	NA2XS2Y AL	N2XS(F)2Y CU	NA2XS(F)2Y AL
mm ²	mm	mm	mm	mm	kg/km	kg/km	kg/km	kg/km	kg/km	kg/km
25	8.0	16	1.9	25.0	1300	1050	1100	900	1400	1150
35	8.0	16	1.9	26.2	1400	1150	1200	1000	1500	1250
50	8.0	16	2.0	27.5	1550	1250	1350	1100	1650	1350
70	8.0	16	2.0	29.3	1750	1350	1600	1200	1900	1450
95	8.0	16	2.1	31.2	2050	1500	1900	1300	2150	1600
120	8.0	16	2.1	33.4	2350	1600	2150	1450	2450	1750
150	8.0	25	2.2	35.0	2700	1850	2550	1650	2750	1950
185	8.0	25	2.2	36.8	3100	2000	2900	1800	3150	2150
240	8.0	25	2.3	40.1	3700	2250	3500	2050	3800	2400
300	8.0	25	2.4	42.5	4350	2550	4150	2300	4400	2700
400	8.0	35	2.5	45.7	5350	3000	5100	2750	5450	3200
500	8.0	35	2.6	49.0	6450	3450	6200	3150	6550	3650
630	8.0	35	2.7	53.2	8300	3780	8100	3600	8600	4100
800	8.0	35	2.8	57.9	9900	4500	9700	4320	10300	4800

Electrical Data

Nom. Cross-Section Area	D C Resistance CU / AL	A C Resistance CU / AL	Short Circuit Rating of Conductor CU / AL 1 sec	Capacitance	Charging Current	Short Circuit Rating of Metallic Screen 1 sec	Reactance		Inductance		Impedance			
							Trefoil	Flat	Trefoil	Flat	Trefoil		Flat spaced	
											CU	AL	CU	AL
mm ²	μΩ/m	μΩ/m	kA	pF/m	mA/m	kA	μΩ/m		nH/m		μΩ/m		μΩ/m	
25	727/1200	927/1538	3.6/2.3	121	0.71	2.6	159	229	530	720	686	1247	759	1146
50	387/641	494/822	6.8/4.4	138	0.83	2.6	151	214	480	680	511	834	527	844
70	268/443	343/568	9.8/6.3	154	0.92	2.6	144	201	460	640	364	583	386	597
95	193/320	248/410	13.3/8.5	169	1.01	2.6	138	195	440	620	272	427	300	446
120	153/253	196/325	17.2/11.0	183	1.10	2.6	132	188	420	600	225	345	257	367
150	124/206	159/265	21.2/13.5	194	1.16	4.3	126	182	400	580	193	287	229	313
185	99/164	128/211	26.6/17.0	210	1.26	4.3	122	182	390	580	165	237	206	267
240	75/125	98/161	34.9/22.3	229	1.37	4.3	119	176	380	560	140	191	185	226
300	60/100	80/130	43.8/28.0	249	1.49	4.3	113	173	360	550	126	163	174	203
400	47/78	64/102	57.3/36.6	273	1.64	5.8	107	163	340	520	113	141	164	184
500	37/61	51/81	72.3/46.2	298	1.79	5.8	104	163	330	520	105	124	158	171
630	28/47	42/64	91.2/58.3	327	1.96	5.8	99	160	320	510	97	110	151	160
800	22/37	35/55	114.4/75.0	350	1.98	5.8	98	154	310	490	92	101	147	153

Medium Voltage Cables to VDE 0276

Current Rating for Single Core 1.8/3KV(Um=3.6KV) to 18/30KV(Um=36KV) XLPE Insulation

Nom. Cross-Section Area	Buried direct in Ground				Laid in Single Way Duct				Laid in Air					
	Trefoil		Flat spaced		Trefoil		Flat touching		Trefoil		Flat Touching		Flat spaced	
	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL
mm ²	A		A		A		A		A		A		A	
10	84	59	87	62	78	55	98	56	103	75	106	77	122	88
16	109	84	113	88	103	80	104	81	125	97	128	99	150	116
25	140	108	144	112	132	102	133	103	163	127	167	130	196	153
35	166	129	172	134	157	122	159	123	198	154	203	157	238	185
50	196	152	203	157	186	144	188	146	238	184	243	189	286	222
70	239	186	246	192	227	176	229	178	296	230	303	236	356	278
95	285	221	293	229	271	210	274	213	361	280	369	287	434	338
120	323	252	332	260	308	240	311	242	417	324	426	332	500	391
150	361	281	366	288	343	267	347	271	473	368	481	376	559	440
185	406	317	410	324	387	303	391	307	543	424	550	432	637	504
240	469	367	470	373	447	351	453	356	641	502	647	511	745	593
300	526	414	524	419	504	397	510	402	735	577	739	586	846	677
400	590	470	572	466	564	451	571	457	845	673	837	676	938	769
500	650	530	672	546	604	504	661	537	935	773	938	776	1118	919
630	700	600	882	646	654	554	771	617	1045	883	1048	886	1318	1089
800	750	660	1002	756	694	594	871	717	1145	983	1148	986	1528	1279
1000	800	720	1112	856	724	644	971	807	1235	1083	1238	1086	1738	1469