

Company Directive

STANDARD TECHNIQUE: SD8B/4 (Part 1)

Relating to LV Underground Cable Ratings

Policy Summary

This Part 1 document contains the LV cable ratings for the various types of LV cables used within Western Power Distribution at voltages from 400V to 230 Volts. It assumes that the cable will be subjected to the cyclic load as given by the curve in figure one. If other load curves are required contact the Company Cable Engineer.

This Part 1 Standard Technique should be used when designing any LV electricity distribution network that has underground cables in it.

Author

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Implementation Date

July 2016

Approved by



Policy Manager

Date

12 July 2016

All references to Western Power Distribution or WPD must be read as National Grid Electricity Distribution or NGED

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IMPLEMENTATION PLAN

Introduction

This document replaces the existing version, ST:SD8B/3. The aim of these updates is to align the cable ratings with the installation methods used in other documents.

Main Changes

The main changes to this document are shown below. For a full list of changes please see the Document Revision Table.

- Air ratings for LV single core Solid Al cables updated to show seasonal temperatures
- The installation parameters for LV single core Solid Al cables have been updated to align with current installation practices.

Impact of Changes

No major impact, document aligns with current engineering practice

Implementation Actions

Team Managers will be responsible for making Planners aware of these changes

Implementation Timetable

The document can be implemented with immediate effect.

Document Revision & Review Table		
Date	Comments	Author
July 2016	• In air ratings for LV single core Solid Al updated to take into account seasonal temperatures • Parameters for the installation of LV single core Solid Al cables updated to align with current installation practices.	Richard Summers

1.0 INTRODUCTION

This Standard Technique replaces Standard Technique ST: SD 8B/2.

This Part 1 document of ST: SD 8B sets out the all the WPD, LV underground cable Sustained ratings, Cyclic ratings and Distribution ratings for winter, spring, summer and autumn which are to be applied to all LV cables used on the WPD network. These ratings are based on Crater for LV Cables.

2.0 UNDERGROUND CABLES

The main factors governing the rating of underground cables are: -

Maximum depth of lay;

Soil thermal resistivity T_r (g);

Ground ambient temperature ($^{\circ}\text{C}$);

Air ambient temperature ($^{\circ}\text{C}$);

Cyclic loading conditions;

Maximum permissible conductor temperature;

Proximity to other cables;

Whether the cable is laid direct in the ground, in ducts or in air.

Duct dimensions

3.0 CRITERIA

3.1 General criteria for LV cables (applies to Paper, EPR and XLPE cables)

A winter soil resistivity of 0.9°Cm/W and a summer soil resistivity of 1.2°Cm/W are considered realistic for the WPD area, although the possibility of localised higher values may need to be taken into account. To control the thermal resistivity of the surrounding medium then the best example would be to use cement bound sand (CBS) backfill for a cable route, but this is expensive. Generally crushed Limestone dust or crushed Granite dust 3mm to dust is suitable as this gives a T_r of 1.2°Cm/W .

Ground ambient temperatures across the WPD area vary between 7°C in the winter and 15°C in the summer. These values apply in most locations, but winter ground temperatures in the city centres will be about 2°C higher.

3.2 The current ratings quoted in this document are maximum values, based on balanced loads.

- 3.3 The current ratings quoted apply to cables supplying loads, during the requisite season.
- 3.4 The current ratings specified are to be adjusted where the conditions are known to vary from those quoted in this instruction i.e. high summer loads or grouping.
- 3.5 The maximum conductor temperature for paper cable is 65°C. Although the maximum conductor temperature for PE, EPR and XLPE insulated cables is 90°C, the maximum temperature that any LV PVC circuit is to be run at is 70°C.
- 3.6 When two or more cables or trefoil groups are laid in the same trench then a derating factor needs to be applied to both circuits. The amount of derating is dependant upon the spacing of the circuits. All spacing distances quoted in this document are **centre-to-centre** spacing's of the cables or trefoil groups.
- 3.7 Only the LV Ratings are now included in this document.
- 3.8 The ratings are detailed as **Sustained** - Winter, Spring, Summer and Autumn; **Cyclic** - Winter, Spring, Summer and Autumn; **Distribution** - Winter, Spring, Summer and Autumn; for each of the cable types included in this document.
- 3.9 Each cable type for which ratings have been generated the typical assumed installation conditions are given in the formation shown below: -

Depth of lay 0.6m;

Soil resistivity of 0.9°Cm/W;

Ground ambient temperature of 10°C;

Maximum conductor temperature of 80°C for LV.

No allowance made for grouping of cable circuits.

4.0 DEFINITIONS

All LV single core circuits, for the purpose of this document, have been assumed to be three single-core cables laid touching, throughout their length, in trefoil formation. That the aluminium wire armours or the lead sheaths of the cables have been solidly bonded together and earthed at both ends of the circuit.

It should be noted that when single core cable, which has been laid in trefoil, a maximum of 12% of the TOTAL ROUTE LENGTH, can be laid in flat space configuration without affecting the trefoil rating. If more than 12% of the Total Route Length is laid in flat space configuration then high circulating currents will flow in the aluminium wire armours or the lead sheath of the single core cables. This must be

avoided. If the 12% cannot be achieved then contact the Company Cable Engineer at Avonbank.

4.1 Sustained, Continuous or Steady-State rating

The sustained rating is the maximum continuous current that can be carried, in defined conditions, without the assumed maximum conductor temperature being exceeded.

4.2 Cyclic rating

A cyclic rating is the maximum current that maybe carried during the prolonged application of a succession of identical 24-hour load cycles, without the assumed maximum conductor temperature being exceeded.

4.3 Distribution rating

Distribution ratings are ratings calculated for stated conditions commonly occurring on distribution systems. The tabulated ratings given are 3 to 5 day limited time cyclic ratings.

The basis of the Distribution ratings is given below: -

Quantity and value assumed in calculating Distribution Ratings	Conditions for which valid.
Assumed maximum conductor temperature	80°C
Depth of Laying 0.8m	Nominal laying depth, direct or in ducts.
Soil Ambient Temp. 10°C	Winter peak loads in UK.
Soil Thermal resistivity for cables laid direct or in ducts $g = 0.9^{\circ}\text{C.m/W}$	(a) Summer load not greater than 75% of winter load. (b) Either special measures taken for difficult soils OR increased risk accepted.
Soil Thermal Diffusivity needed for transient conditions $0.5 \times 10^{-6} \text{ m}^2/\text{s}$	$G = 0.9^{\circ}\text{C.m/W}$
Ambient conditions Cables in Air 10°C Solar gain neglected	(a) Maximum load in winter. (b) Heating from adjacent equipment not excessive. (c) Shielded from the sun.
Other Heat Sources None	No allowance made for grouping.
Cyclic Loading For cables laid direct or in ducts 24 hr load cycle.	Daily cyclic load typical domestic/commercial type.
Limited-time Rating Normal conditions restored after 3 – 5 days.	Two-feeder open-ring operation.

4.4 Utilisation factor

The percentage of a cable's distribution rating which is not exceeded during its normal operational condition. Distribution ratings are based on an initial cable utilisation of 50%; if a circuit has a higher utilisation factor such as 75% then the Distribution rating must be reduced by 2.5%.

4.5 Load Factor

The ratio of the number of units supplied during a given period, to the number of units that would be supplied, had the maximum demand been maintained throughout that period. This is usually expressed as a percentage.

4.6 Soil thermal conductivity

The soil thermal conductivity is the thermal transmission in unit time through unit area of homogeneous soil of unit thickness, when unit difference of temperature is established between its surfaces.

4.7 Soil thermal resistivity

The ratings given are calculated for a damp thermal resistivity, which is suitable for rating cables for winter-peak loads.

4.8 Ground ambient temperature

Where a cable circuit carries a sustained load and does not have a seasonal variation it should be rated for the maximum summer value of ground temperature.

4.9 Ducts

A duct up to 15m in length can be used without derating the cable. Two or more duct lengths can be used on a section, provided that there is no more than 30m of duct in a particular 250m cable section and that there is a minimum of 10m separation between each duct length. See the example given below.

Example of two 15m-duct lengths in a 250m-cable section.

The correct duct rating shall be used if 15m or more of continuous duct is installed on a particular 250m-cable section. This rating is dependant upon the type of ducting used, for this reason the ratings given in the tables contain values for both smooth walled "PVC" and "Rigiduct" (Rigiduct is a twin walled duct) type ducting.

The rating of the cable section can be restored if the ducts are bentonited after the cables have been installed. To ensure the thermal equivalence to the direct buried parts of the route, the ducts shall be completely filled with a bentonite-sand-cement mixture.

The filling medium shall be prepared by adding 20 parts of sand and 8 parts of cements, by weight, to 100 parts of a 10:1 water/bentonite mixture.

Note: - Provided the bentonite is sealed into the duct with duct seals, and then the bentonite forms a gel, which is stabilized by the cement, and the addition of sand increases the load-bearing properties of the mixture. Should it be necessary to remove this mixture, it may be flushed out of the ducts by using high-pressure water jets.

Ducts, which are filled with a bentonite mixture, shall be installed wherever possible in a concrete surround but if not, any joints in the duct run must be effectively sealed. At the duct ends, the gap around the cable must be effectively sealed to prevent migration of the bentonite mixture and preserve its moisture content under service conditions.

In general duct lengths of up to 100m can be filled where a standard 150mm nominal bore duct is installed.

Note: - When installing a three phase circuit of single core cables in a duct all three cables need to be pulled together during the installation. Otherwise if the cables are installed singularly only two cables will fit in the duct.

4.10 Cables exposed to the sun

To reduce the effect of solar radiation it is recommended that cables should be shielded from direct rays of the sun without the restriction of the ventilation.

4.11 Effects of grouping of cables

No allowance has been made for grouping in the ratings listed in the tables. Use the correction factors given in Table 1 for various grouping arrangements.

When two or more circuits of the same voltage are laid in close proximity the ratings of the cables must be reduced by multiply the group-rating factor given in Table 1 with the relevant cable rating selected from this document. It should be noted that if thermally independence of both the circuits is required, then the circuits need a centre-to-centre spacing of 2.5m.

All spacing quoted in Table 1, are a centre-to-centre spacing for the relevant circuits.

4.12 Loading Conditions

All the ratings listed in this document are calculated for a particular typical domestic/commercial daily load curve, having a **loss load factor of 0.5**. See Figure 1 for the load curve.

Ratings given for cables installed in air and clipped direct to a wall are the steady-state ratings. Cables installed in this manner **DO NOT HAVE** a Cyclic or Distribution rating just their sustained or steady state rating.

4.13 Loading Conditions - Abnormally high neutral currents

Abnormally high neutral currents which can occur due to the addition of triplen harmonic currents (3rd & 9th) generated by customers with very high proportions of single phase non-linear loads such as data centres/call centres with predominantly PC loads or special applications such as flower farms with artificial lighting controlled by single phase Thyristor dimmers. If this is the case then please refer to ST: SD6F section 6.6, where there is a cable rating assessor spreadsheet.

A simple solution where this is a problem is to use 4 core wavecon in a CNE or PME system, by combining the neutral and the earth the neutral conductor will then be at 1.5 times for a 300mm² wavecon cable.

5.0 FURTHER GUIDANCE

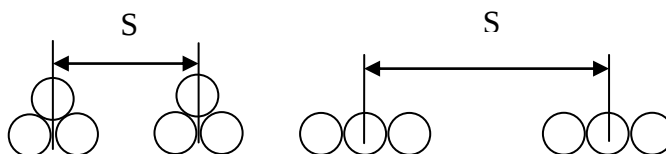
If required, further guidance should be sought from the Company Cable Engineer, Policy Section, Avonbank, Feeder Road, Bristol where necessary.

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TABLE 1

GROUP DERATING FACTORS FOR CIRCUITS OF THREE SINGLE-CORE CABLES, IN TREFOIL or LAID FLAT, HORIZONTAL FORMATION, LAID DIRECT.



Type of Cable	No. of Circuits	Spacing of Circuits – Metre (S).					
		Touching		0.15	0.20	0.3	0.45
		Trefoil	Laid Flat				
LV Cables	2	0.77	0.80	0.82	0.84	0.88	0.90
	3	0.65	0.68	0.72	0.75	0.79	0.83
	4	0.59	0.63	0.62	0.67	0.75	0.81
	5	0.55	0.58	0.63	0.67	0.72	0.78

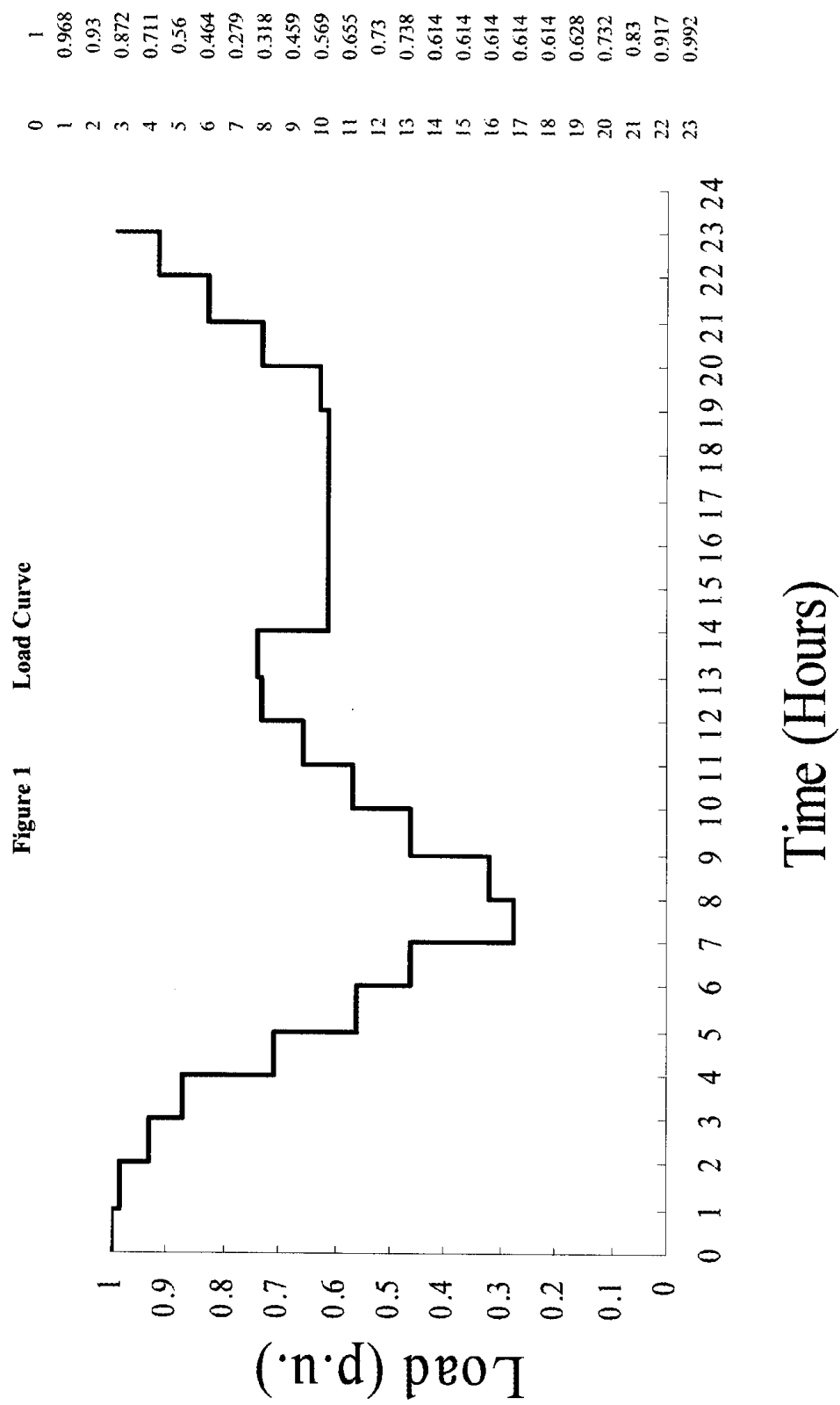
**Figure 1**

TABLE A1 win

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMoured**

Winter SUSTAINED Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	334	262	250	329
185mm ² Cu.	489	387	366	509
300mm ² Cu.	637	506	476	688
<u>Stranded & Shaped Aluminium conductors</u>				
95mm ² Al.	259	203	194	256
185mm ² Al.	383	303	287	399
300mm ² Al.	505	402	378	546
<u>Solid & Shaped Aluminium conductors</u>				
95mm ² Al.	255	200	191	248
185mm ² Al.	376	297	282	386
300mm ² Al.	496	394	371	527

Parameters

Maximum depth of lay	0.6m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Temperature	10°C
Ambient Temperature	10°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE A1 win

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMoured**

Winter CYCLIC Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	369	277	262	329
185mm ² Cu.	550	413	387	509
300mm ² Cu.	724	544	507	688
<u>Stranded & Shaped Aluminium conductors</u>				
95mm ² Al.	287	215	204	256
185mm ² Al.	431	323	304	399
300mm ² Al.	574	432	402	546
<u>Solid & Shaped Aluminium conductors</u>				
95mm ² Al.	281	210	200	248
185mm ² Al.	421	316	298	386
300mm ² Al.	560	422	394	527

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Temperature	10°C
Ambient Temperature	10°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE A1 win

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMoured**

Winter DISTRIBUTION Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	386	283	267	329
185mm ² Cu.	577	424	396	509
300mm ² Cu.	762	561	519	688
<u>Stranded & Shaped Aluminium conductors</u>				
95mm ² Al.	300	220	207	256
185mm ² Al.	452	332	310	399
300mm ² Al.	604	445	412	546
<u>Solid & Shaped Aluminium conductors</u>				
95mm ² Al.	293	215	203	248
185mm ² Al.	441	324	304	386
300mm ² Al.	589	432	403	527

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Temperature	10°C
Ambient Temperature	10°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE A2 spr

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMoured**

Spring SUSTAINED Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	313	254	242	329
185mm ² Cu.	456	373	354	509
300mm ² Cu.	593	488	460	688
<u>Stranded & Shaped Aluminium conductors</u>				
95mm ² Al.	243	197	188	256
185mm ² Al.	358	293	278	399
300mm ² Al.	471	387	365	546
<u>Solid & Shaped Aluminium conductors</u>				
95mm ² Al.	239	193	185	248
185mm ² Al.	352	287	273	386
300mm ² Al.	462	380	359	527

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE A2 spr

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMoured**

Spring CYCLIC Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	349	270	256	329
185mm ² Cu.	518	402	378	509
300mm ² Cu.	681	530	494	688
<u>Stranded & Shaped Aluminium conductors</u>				
95mm ² Al.	271	210	199	256
185mm ² Al.	406	315	296	399
300mm ² Al.	540	420	392	546
<u>Solid & Shaped Aluminium conductors</u>				
95mm ² Al.	265	206	196	248
185mm ² Al.	397	309	291	386
300mm ² Al.	527	411	385	527

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE A2 spr

LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD SHEATH AND ARMoured

Spring DISTRIBUTION Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	367	284	268	329
185mm ² Cu.	547	425	397	509
300mm ² Cu.				688
<u>Stranded & Shaped Aluminium conductors</u>				
95mm ² Al.	285	220	208	256
185mm ² Al.	428	333	311	399
300mm ² Al.	571	447	414	546
<u>Solid & Shaped Aluminium conductors</u>				
95mm ² Al.	279	215	204	248
185mm ² Al.	418	325	305	386
300mm ² Al.	558	436	405	527

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE A3 sum

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMoured**

Summer SUSTAINED Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm² Cu.	292	244	233	329
185mm² Cu.	425	358	340	509
300mm² Cu.	551	467	441	688
<u>Stranded & Shaped Aluminium conductors</u>				
95mm² Al.	223	186	178	256
185mm² Al.	327	276	263	399
300mm² Al.	430	364	345	546
<u>Solid & Shaped Aluminium conductors</u>				
95mm² Al.	223	186	178	248
185mm² Al.	327	276	263	386
300mm² Al.	430	364	345	527

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Temperature	15°C
Ambient Temperature	15°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE A3 sum

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMoured**

Summer CYCLIC Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	328	262	249	329
185mm ² Cu.	486	389	366	509
300mm ² Cu.	638	512	478	688
<u>Stranded & Shaped Aluminium conductors</u>				
95mm ² Al.	250	200	190	256
185mm ² Al.	372	299	282	399
300mm ² Al.	495	397	372	546
<u>Solid & Shaped Aluminium conductors</u>				
95mm ² Al.	250	200	190	248
185mm ² Al.	372	299	282	386
300mm ² Al.	495	397	372	527

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Temperature	15°C
Ambient Temperature	15°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE A3 sum

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMoured**

Summer DISTRIBUTION Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	347	278	263	329
185mm ² Cu.	516	416	389	509
300mm ² Cu.	679	550	510	688
<u>Stranded & Shaped Aluminium conductors</u>				
95mm ² Al.	264	211	200	256
185mm ² Al.	395	319	299	399
300mm ² Al.	526	426	396	546
<u>Solid & Shaped Aluminium conductors</u>				
95mm ² Al.	264	211	200	248
185mm ² Al.	395	319	299	386
300mm ² Al.	526	426	396	527

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Temperature	15°C
Ambient Temperature	15°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE A4 aut

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMoured**

Autumn SUSTAINED Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	308	252	241	329
185mm ² Cu.	449	371	352	509
300mm ² Cu.	583	484	457	688
<u>Stranded & Shaped Aluminium conductors</u>				
95mm ² Al.	239	196	187	256
185mm ² Al.	352	291	276	399
300mm ² Al.	463	384	363	546
<u>Solid & Shaped Aluminium conductors</u>				
95mm ² Al.	235	192	184	248
185mm ² Al.	346	285	271	386
300mm ² Al.	454	377	357	527

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE A4 aut

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMoured**

Autumn CYCLIC Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	344	270	256	329
185mm ² Cu.	510	401	377	509
300mm ² Cu.	671	527	492	688
<u>Stranded & Shaped Aluminium conductors</u>				
95mm ² Al.	267	209	199	256
185mm ² Al.	400	314	295	399
300mm ² Al.	532	419	391	546
<u>Solid & Shaped Aluminium conductors</u>				
95mm ² Al.	262	205	195	248
185mm ² Al.	391	307	290	386
300mm ² Al.	520	409	383	527

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE A4 aut

LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD SHEATH AND ARMoured

Autumn DISTRIBUTION Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	363	284	268	329
185mm ² Cu.	540	425	397	509
300mm ² Cu.	711	563	521	688
<u>Stranded & Shaped Aluminium conductors</u>				
95mm ² Al.	282	220	208	256
185mm ² Al.	423	333	311	399
300mm ² Al.	564	447	414	546
<u>Solid & Shaped Aluminium conductors</u>				
95mm ² Al.	276	216	204	248
185mm ² Al.	413	325	305	386
300mm ² Al.	551	435	405	527

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE B1 win

LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD SHEATH AND ARMoured

Winter SUSTAINED Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
0.0225in ² Cu.	117	93	90	108
0.04in ² Cu.	154	121	117	142
0.06in ² Cu.	223	175	168	212
0.10in ² Cu.	276	216	207	267
0.15in ² Cu.	334	262	250	329
0.20in ² Cu.	383	300	286	383
0.25in ² Cu.	430	339	322	439
0.30in ² Cu.	489	387	366	509
0.40in ² Cu.	566	449	424	600
0.50in ² Cu.	637	506	476	688
<u>Stranded & Shaped Aluminium conductors</u>				
0.10in ² Al	214	168	161	208
0.20in ² Al.	298	234	223	299
0.30in ² Al	383	303	287	399
<u>Solid & Shaped Aluminium conductors</u>				
0.10in ² Al	211	165	158	202
0.20in ² Al.	293	229	219	289
0.30in ² Al.	376	297	282	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Temperature	10°C
Ambient Temperature	10°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE B1 win

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMoured**

Winter CYCLIC Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
0.0225in ² Cu.	125	97	93	108
0.04in ² Cu.	166	126	121	142
0.06in ² Cu.	244	184	175	212
0.10in ² Cu.	303	228	217	267
0.15in ² Cu.	369	277	262	329
0.20in ² Cu.	425	318	301	383
0.25in ² Cu.	480	360	340	439
0.30in ² Cu.	550	413	387	509
0.40in ² Cu.	639	481	450	600
0.50in ² Cu.	724	544	507	688
<u>Stranded & Shaped Aluminium conductors</u>				
0.10in ² Al	236	177	168	208
0.20in ² Al.	331	248	234	299
0.30in ² Al	431	323	304	399
<u>Solid & Shaped Aluminium conductors</u>				
0.10in ² Al	231	174	165	202
0.20in ² Al.	324	242	230	289
0.30in ² Al.	421	316	298	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Temperature	10°C m/w
Ambient Temperature	10°C m/w
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE B1 win

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMoured**

Winter DISTRIBUTION Current Ratings

<u>SIZE AND TYPE OF CABLE CONDUCTOR</u>	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
0.0225in ² Cu.	130	98	94	108
0.04in ² Cu.	173	128	123	142
0.06in ² Cu.	254	187	178	212
0.10in ² Cu.	317	232	220	267
0.15in ² Cu.	386	283	267	329
0.20in ² Cu.	445	326	306	383
0.25in ² Cu.	504	370	347	439
0.30in ² Cu.	577	424	396	509
0.40in ² Cu.	672	495	460	600
0.50in ² Cu.	762	561	519	688
<u>Stranded & Shaped Aluminium conductors</u>				
0.10in ² Al	246	181	171	208
0.20in ² Al.	327	254	239	299
0.30in ² Al	452	332	310	399
<u>Solid & Shaped Aluminium conductors</u>				
0.10in ² Al	241	177	168	202
0.20in ² Al.	339	248	234	289
0.30in ² Al.	441	324	304	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Temperature	10°C m/w
Ambient Temperature	10°C m/w
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE B2 spr

LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD SHEATH AND ARMoured

Spring SUSTAINED Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
0.0225in ² Cu.	111	91	88	108
0.04in ² Cu.	145	118	113	142
0.06in ² Cu.	209	170	163	212
0.10in ² Cu.	259	210	201	267
0.15in ² Cu.	313	254	242	329
0.20in ² Cu.	358	291	277	383
0.25in ² Cu.	402	328	312	439
0.30in ² Cu.	456	373	354	509
0.40in ² Cu.	527	433	410	600
0.50in ² Cu.	593	488	460	688
<u>Stranded & Shaped Aluminium conductors</u>				
0.10in ² Al	201	163	156	208
0.20in ² Al.	279	226	216	299
0.30in ² Al	358	293	278	399
<u>Solid & Shaped Aluminium conductors</u>				
0.10in ² Al	198	160	154	202
0.20in ² Al.	274	222	212	289
0.30in ² Al.	352	287	273	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE B2 spr

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMOURED**

Spring CYCLIC Current Ratings

<u>SIZE AND TYPE OF CABLE CONDUCTOR</u>	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
0.0225in ² Cu.	120	95	92	108
0.04in ² Cu.	158	124	119	142
0.06in ² Cu.	231	180	171	212
0.10in ² Cu.	287	223	212	267
0.15in ² Cu.	349	270	256	329
0.20in ² Cu.	401	311	294	383
0.25in ² Cu.	453	352	332	439
0.30in ² Cu.	518	402	378	509
0.40in ² Cu.	602	469	439	600
0.50in ² Cu.	681	530	494	688
<u>Stranded & Shaped Aluminium conductors</u>				
0.10in ² Al	223	173	165	208
0.20in ² Al.	313	242	229	299
0.30in ² Al	406	315	296	399
<u>Solid & Shaped Aluminium conductors</u>				
0.10in ² Al	218	170	162	202
0.20in ² Al.	306	237	225	289
0.30in ² Al.	397	309	291	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Temperature	12°C m/w
Ambient Temperature	12°C m/w
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE B2 spr

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMOURED**

Spring DISTRIBUTION Current Ratings

<u>SIZE AND TYPE OF CABLE CONDUCTOR</u>	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
0.0225in ² Cu.	125	99	95	108
0.04in ² Cu.	165	129	123	142
0.06in ² Cu.	242	187	178	212
0.10in ² Cu.	301	233	221	267
0.15in ² Cu.	367	284	268	329
0.20in ² Cu.	423	327	307	383
0.25in ² Cu.	478	371	347	439
0.30in ² Cu.	547	425	397	509
0.40in ² Cu.	636	497	461	600
0.50in ² Cu.	721	563	521	688
<u>Stranded & Shaped Aluminium conductors</u>				
0.10in ² Al	234	181	171	208
0.20in ² Al.	329	255	239	299
0.30in ² Al	428	333	311	399
<u>Solid & Shaped Aluminium conductors</u>				
0.10in ² Al	229	177	168	202
0.20in ² Al.	322	249	234	289
0.30in ² Al.	418	325	305	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Temperature	12°C m/w
Ambient Temperature	12°C m/w
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE B3 sum

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMoured**

Summer SUSTAINED Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
0.0225in ² Cu.	104	88	85	108
0.04in ² Cu.	136	114	110	142
0.06in ² Cu.	196	164	157	212
0.10in ² Cu.	242	202	194	267
0.15in ² Cu.	292	244	233	329
0.20in ² Cu.	333	279	267	383
0.25in ² Cu.	375	315	300	439
0.30in ² Cu.	425	358	340	509
0.40in ² Cu.	490	415	393	600
0.50in ² Cu.	551	467	441	688
<u>Stranded & Shaped Aluminium conductors</u>				
0.10in ² Al	188	157	150	208
0.20in ² Al.	260	218	208	299
0.30in ² Al	333	281	267	399
<u>Solid & Shaped Aluminium conductors</u>				
0.10in ² Al	185	154	148	202
0.20in ² Al.	255	214	204	289
0.30in ² Al.	327	276	263	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Temperature	15°C
Ambient Temperature	15°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE B3 sum

LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD SHEATH AND ARMOURED

Summer CYCLIC Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
0.0225in ² Cu.	113	93	89	108
0.04in ² Cu.	149	120	116	142
0.06in ² Cu.	217	175	167	212
0.10in ² Cu.	270	216	206	267
0.15in ² Cu.	328	262	249	329
0.20in ² Cu.	377	301	285	383
0.25in ² Cu.	425	341	322	439
0.30in ² Cu.	486	389	366	509
0.40in ² Cu.	564	453	425	600
0.50in ² Cu.	638	512	478	688
<u>Stranded & Shaped Aluminium conductors</u>				
0.10in ² Al	210	168	160	208
0.20in ² Al.	294	235	222	299
0.30in ² Al	381	305	287	399
<u>Solid & Shaped Aluminium conductors</u>				
0.10in ² Al	206	165	157	202
0.20in ² Al.	287	230	218	289
0.30in ² Al.	372	299	282	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Temperature	15°C m/w
Ambient Temperature	15°C m/w
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE B3 sum

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMoured**

Summer DISTRIBUTION Current Ratings

<u>SIZE AND TYPE OF CABLE CONDUCTOR</u>	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
0.0225in ² Cu.	119	97	93	108
0.04in ² Cu.	157	126	121	142
0.06in ² Cu.	229	184	175	212
0.10in ² Cu.	285	229	217	267
0.15in ² Cu.	347	278	263	329
0.20in ² Cu.	399	320	301	383
0.25in ² Cu.	451	363	341	439
0.30in ² Cu.	516	416	389	509
0.40in ² Cu.	600	486	452	600
0.50in ² Cu.	679	550	510	688
<u>Stranded & Shaped Aluminium conductors</u>				
0.10in ² Al	222	178	168	208
0.20in ² Al.	311	250	235	299
0.30in ² Al	404	326	305	399
<u>Solid & Shaped Aluminium conductors</u>				
0.10in ² Al	217	174	165	202
0.20in ² Al.	304	244	230	289
0.30in ² Al.	395	319	299	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Temperature	15°C m/w
Ambient Temperature	15°C m/w
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE B4 aut

LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD SHEATH AND ARMoured

Autumn SUSTAINED Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
0.0225in ² Cu.	109	90	87	108
0.04in ² Cu.	143	117	113	142
0.06in ² Cu.	206	169	162	212
0.10in ² Cu.	255	208	200	267
0.15in ² Cu.	308	252	241	329
0.20in ² Cu.	352	289	275	383
0.25in ² Cu.	395	326	310	439
0.30in ² Cu.	449	371	352	509
0.40in ² Cu.	518	430	407	600
0.50in ² Cu.	583	484	457	688
<u>Stranded & Shaped Aluminium conductors</u>				
0.10in ² Al	198	162	155	208
0.20in ² Al.	274	225	215	299
0.30in ² Al	352	291	276	399
<u>Solid & Shaped Aluminium conductors</u>				
0.10in ² Al	195	159	153	202
0.20in ² Al.	269	221	211	289
0.30in ² Al.	346	285	271	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE B4 aut

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMOURED**

Autumn CYCLIC Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
0.0225in ² Cu.	118	95	91	108
0.04in ² Cu.	156	124	119	142
0.06in ² Cu.	228	179	171	212
0.10in ² Cu.	283	222	211	267
0.15in ² Cu.	344	270	256	329
0.20in ² Cu.	396	310	293	383
0.25in ² Cu.	447	351	331	439
0.30in ² Cu.	510	401	377	509
0.40in ² Cu.	593	467	437	600
0.50in ² Cu.	671	527	492	688
<u>Stranded & Shaped Aluminium conductors</u>				
0.10in ² Al	220	173	164	208
0.20in ² Al.	308	241	228	299
0.30in ² Al	400	314	295	399
<u>Solid & Shaped Aluminium conductors</u>				
0.10in ² Al	216	169	161	202
0.20in ² Al.	302	236	224	289
0.30in ² Al.	391	307	290	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Temperature	12°C m/w
Ambient Temperature	12°C m/w
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE B4 aut

**LV CABLES (PILC) 4 CORE OIL IMPREGNATED PAPER INSULATED LEAD
SHEATH AND ARMOURED**

Autumn DISTRIBUTION Current Ratings

<u>SIZE AND TYPE OF CABLE CONDUCTOR</u>	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
0.0225in ² Cu.	124	99	95	108
0.04in ² Cu.	164	129	123	142
0.06in ² Cu.	240	188	178	212
0.10in ² Cu.	298	233	221	267
0.15in ² Cu.	363	284	268	329
0.20in ² Cu.	418	327	307	383
0.25in ² Cu.	472	371	348	439
0.30in ² Cu.	540	425	397	509
0.40in ² Cu.	628	496	461	600
0.50in ² Cu.	711	563	521	688
<u>Stranded & Shaped Aluminium conductors</u>				
0.10in ² Al	232	181	172	208
0.20in ² Al.	325	255	239	299
0.30in ² Al	423	333	311	399
<u>Solid & Shaped Aluminium conductors</u>				
0.10in ² Al	227	177	168	202
0.20in ² Al.	318	249	235	289
0.30in ² Al.	413	325	305	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Temperature	12°C m/w
Ambient Temperature	12°C m/w
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE C1 win

LV CABLES (Solidal) SINGLE CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED AND ARMoured IN TREFOIL FORMATION.

Winter SUSTAINED Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
480mm ² Al.	713	569	526	844
600mm ² Al.	785	628	579	947
740mm ² Al.	856	688	633	1060
960mm ² Al.	944	762	697	1199

Parameters

Depth of cover	0.45m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	90°C
Armour bonded and earthed at both ends	
Single 150mm Duct	
Ratings based on Crater for LV cables.	

TABLE C1 win

LV CABLES (Solidal) SINGLE CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED AND ARMOURED IN TREFOIL FORMATION.

Winter CYCLIC Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
480mm ² Al.	815	624	569	844
600mm ² Al.	900	692	628	947
740mm ² Al.	988	763	689	1060
960mm ² Al.	1096	849	761	1199

Parameters

Depth of cover	0.45m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	90°C
Armour bonded and earthed at both ends	
Single 150mm Duct	
Ratings based on Crater for LV cables	

TABLE C1 win

LV CABLES (Solidal) SINGLE CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED AND ARMOURED IN TREFOIL FORMATION.

Winter DISTRIBUTION Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
480mm ² Al.	870	652	589	844
600mm ² Al.	963	724	652	947
740mm ² Al.	1059	800	715	1060
960mm ² Al.	1178	892	792	1199

Parameters

Depth of cover	0.45m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	90°C
Armour bonded and earthed at both ends	
Single 150mm Duct	
Ratings based on Crater for LV cables	

TABLE C2 spr

LV CABLES (Solidal) SINGLE CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED AND ARMoured IN TREFOIL FORMATION.

Spring SUSTAINED Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
480mm ² Al.	660	545	506	813
600mm ² Al.	726	601	557	912
740mm ² Al.	792	657	607	1021
960mm ² Al.	873	726	668	1155

Parameters

Depth of cover	0.45m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Armour bonded and earthed at both ends	
Single 150mm Duct	
Ratings based on Crater for LV cables.	

TABLE C2 spr

LV CABLES (Solidal) SINGLE CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED AND ARMOURED IN TREFOIL FORMATION.

Spring CYCLIC Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
480mm ² Al.	760	606	554	813
600mm ² Al.	840	671	611	912
740mm ² Al.	922	738	669	1021
960mm ² Al.	1023	820	739	1155

Parameters

Depth of cover	0.45m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Armour bonded and earthed at both ends	
Single 150mm Duct	
Ratings based on Crater for LV cables.	

TABLE C2 spr

LV CABLES (Solidal) SINGLE CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED AND ARMOURED IN TREFOIL FORMATION.

Spring DISTRIBUTION Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
480mm ² Al.	817	639	579	813
600mm ² Al.	904	709	640	912
740mm ² Al.	994	782	702	1021
960mm ² Al.	1105	870	776	1155

Parameters

Depth of cover	0.45m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Armour bonded and earthed at both ends	
Single 150mm Duct	
Ratings based on Crater for LV cables.	

TABLE C3 sum

LV CABLES (Solidal) SINGLE CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED AND ARMOURED IN TREFOIL FORMATION.

Summer SUSTAINED Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
480mm ² Al.	612	519	485	747
600mm ² Al.	673	572	533	838
740mm ² Al.	733	625	580	938
960mm ² Al.	808	689	638	1061

Parameters

Depth of cover	0.45m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	25°C
Maximum Conductor Temperature	90°C
Armour bonded and earthed at both ends	
Single 150mm Duct	
Ratings based on Crater for LV cables.	

TABLE C3 sum

LV CABLES (Solidal) SINGLE CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED AND ARMOURED IN TREFOIL FORMATION.

Summer CYCLIC Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
480mm ² Al.	709	584	535	747
600mm ² Al.	784	646	590	838
740mm ² Al.	860	710	646	938
960mm ² Al.	953	787	712	1061

Parameters

Depth of cover	0.45m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	25°C
Maximum Conductor Temperature	90°C
Armour bonded and earthed at both ends	
Single 150mm Duct	
Ratings based on Crater for LV cables.	

TABLE C3 sum

LV CABLES (Solidal) SINGLE CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED AND ARMOURED IN TREFOIL FORMATION.

Summer DISTRIBUTION Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
480mm ² Al.	766	621	565	747
600mm ² Al.	848	689	624	838
740mm ² Al.	932	758	684	938
960mm ² Al.	1036	842	755	1061

Parameters

Depth of cover	0.45m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	25°C
Maximum Conductor Temperature	90°C
Armour bonded and earthed at both ends	
Single 150mm Duct	
Ratings based on Crater for LV cables.	

TABLE C4 aut

LV CABLES (Solidal) SINGLE CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED AND ARMOURED IN TREFOIL FORMATION.

Autumn SUSTAINED Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
480mm ² Al.	647	539	502	812
600mm ² Al.	712	595	552	912
740mm ² Al.	777	650	602	1021
960mm ² Al.	856	718	662	1154

Parameters

Depth of cover	0.45m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Armour bonded and earthed at both ends	
Single 150mm Duct	
Ratings based on Crater for LV cables.	

TABLE C4 aut

LV CABLES (Solidal) SINGLE CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED AND ARMOURED IN TREFOIL FORMATION.

Autumn CYCLIC Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
480mm ² Al.	747	602	551	812
600mm ² Al.	826	667	608	912
740mm ² Al.	906	733	665	1021
960mm ² Al.	1005	814	734	1154

Parameters

Depth of cover	0.45m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Armour bonded and earthed at both ends	
Single 150mm Duct	
Ratings based on Crater for LV cables.	

TABLE C4 aut

LV CABLES (Solidal) SINGLE CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED AND ARMOURED IN TREFOIL FORMATION.

Autumn DISTRIBUTION Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
480mm ² Al.	804	637	578	812
600mm ² Al.	890	706	639	912
740mm ² Al.	979	778	700	1021
960mm ² Al.	1088	866	774	1154

Parameters

Depth of cover	0.45m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Armour bonded and earthed at both ends	
Single 150mm Duct	
Ratings based on Crater for LV cables.	

TABLE D1 win

LV MAINS CABLES - Wavecon**Winter SUSTAINED Current Ratings**

CABLE TYPE AND SIZE		SUSTAINED CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
WAVECON MAINS 3 Core Aluminium Neutral			PVC	Rigiduct	
3 phase	70mm ²	207	165	158	201
3 phase	95mm ²	248	199	190	245
3 phase	120mm ²	282	227	217	284
3 phase	185mm ²	360	293	278	373
3 phase	300mm ²	478	389	367	510
WAVECON MAINS 3 & 4 Core Copper Neutral					
3 phase	95mm ²	270	206	197	263
3 phase	185mm ²	390	304	288	404
3 phase	300mm ²	511	402	378	549

Note: - For Welsh users 'Trydan' is the same as Wavecon.

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	0.9°C m/w
Ground Temperature	10°C
Ambient Temperature	10°C
Maximum Conductor Temperature	90°C XLPE or 70°C PVC
Ratings based on Crater for LV cables.	

TABLE D1 win

LV MAINS CABLES - Wavecon**Winter CYCLIC Current Ratings**

CABLE TYPE AND SIZE		CYCLIC CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
WAVECON MAINS 3 Core (Trydan) Aluminium Neutral			PVC	Rigiduct	
3 phase	70mm ²	226	173	165	201
3 phase	95mm ²	271	209	199	245
3 phase	120mm ²	309	240	228	284
3 phase	185mm ²	398	311	293	373
3 phase	300mm ²	534	415	389	510
WAVECON MAINS 3 & 4 Core Copper Neutral					
3 phase	95mm ²	301	218	207	263
3 phase	185mm ²	441	325	304	404
3 phase	300mm ²	582	432	402	549

Note: - For Welsh users 'Trydan' is the same as Wavecon.

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Temperature	10°C
Ambient Temperature	10°C
Maximum Conductor Temperature	90°C XLPE or 70°C PVC
Ratings based on Crater for LV cables.	

LV MAINS CABLES - Wavecon**Winter *DISTRIBUTION* Current Ratings**

CABLE TYPE AND SIZE		DISTRIBUTION CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
WAVECON MAINS 3 Core Aluminium Neutral			PVC	Rigiduct	
3 phase	70mm ²	236	177	168	201
3 phase	95mm ²	283	214	202	245
3 phase	120mm ²	323	245	232	284
3 phase	185mm ²	416	318	299	373
3 phase	300mm ²	560	427	398	510
WAVECON MAINS 3 & 4 Core Copper Neutral					
3 phase	95mm ²	316	224	211	263
3 phase	185mm ²	463	334	311	404
3 phase	300mm ²	612	446	412	549

Note: - For Welsh users 'Trydan' is the same as Wavecon.

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Temperature	10°C
Ambient Temperature	10°C
Maximum Conductor Temperature	90°C XLPE or 70°C PVC
Ratings based on Crater for LV cables.	

LV MAINS CABLES - Wavecon**Spring *SUSTAINED* Current Ratings**

CABLE TYPE AND SIZE		SUSTAINED CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
WAVECON MAINS 3 Core Aluminium Neutral			PVC	Rigiduct	
3 phase	70mm ²	195	160	153	201
3 phase	95mm ²	233	193	184	245
3 phase	120mm ²	265	220	210	284
3 phase	185mm ²	338	283	269	373
3 phase	300mm ²	448	375	355	510
WAVECON MAINS 3 & 4 Core Copper Neutral					
3 phase	95mm ²	251	200	191	263
3 phase	185mm ²	363	294	278	404
3 phase	300mm ²	475	387	365	549

Note: - For Welsh users 'Trydan' is the same as Wavecon.

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/w
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	90°C XLPE or 70°C PVC
Ratings based on Crater for LV cables.	

LV MAINS CABLES - Wavecon**Spring CYCLIC Current Ratings**

CABLE TYPE AND SIZE		CYCLIC CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
WAVECON MAINS 3 Core Aluminium Neutral			PVC	Rigiduct	
3 phase	70mm ²	215	170	162	201
3 phase	95mm ²	257	205	195	245
3 phase	120mm ²	294	235	223	284
3 phase	185mm ²	378	303	286	373
3 phase	300mm ²	506	405	380	510
WAVECON MAINS 3 & 4 Core Copper Neutral					
3 phase	95mm ²	283	213	202	263
3 phase	185mm ²	414	317	297	404
3 phase	300mm ²	546	421	392	549

Note: - For Welsh users 'Trydan' is the same as Wavecon.

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	90°C XLPE or 70°C PVC
Ratings based on Crater for LV cables.	

LV MAINS CABLES - Wavecon**Spring DISTRIBUTION Current Ratings**

CABLE TYPE AND SIZE		DISTRIBUTION CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
WAVECON MAINS 3 Core Aluminium Neutral			PVC	Rigiduct	
3 phase	70mm ²	225	175	166	201
3 phase	95mm ²	270	211	200	245
3 phase	120mm ²	309	242	229	284
3 phase	185mm ²	397	314	295	373
3 phase	300mm ²	533	421	392	510
WAVECON MAINS 3 & 4 Core Copper Neutral					
3 phase	95mm ²	298	221	208	263
3 phase	185mm ²	437	329	307	404
3 phase	300mm ²	578	438	406	549

Note: - For Welsh users 'Trydan' is the same as Wavecon.

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	90°C XLPE or 70°C PVC
Ratings based on Crater for LV cables.	

LV MAINS CABLES - Wavecon**Summer SUSTAINED Current Ratings**

CABLE TYPE AND SIZE		SUSTAINED CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
WAVECON MAINS 3 Core Aluminium Neutral			PVC	Rigiduct	
3 phase	70mm ²	183	154	148	201
3 phase	95mm ²	218	185	178	245
3 phase	120mm ²	248	212	203	284
3 phase	185mm ²	317	272	259	373
3 phase	300mm ²	419	359	341	510
WAVECON MAINS 3 & 4 Core Copper Neutral					
3 phase	95mm ²	233	192	184	263
3 phase	185mm ²	337	281	267	404
3 phase	300mm ²	440	370	350	549

Note: - For Welsh users 'Trydan' is the same as Wavecon.

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/w
Ground Temperature	15°C
Ambient Temperature	15°C
Maximum Conductor Temperature	90°C XLPE or 70°C PVC
Ratings based on Crater for LV cables.	

TABLE D3 sum

LV MAINS CABLES - Wavecon**Summer CYCLIC Current Ratings**

CABLE TYPE AND SIZE		CYCLIC CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
WAVECON MAINS 3 Core Aluminium Neutral			PVC	Rigiduct	
3 phase	70mm ²	203	165	157	201
3 phase	95mm ²	243	199	189	245
3 phase	120mm ²	278	228	216	284
3 phase	185mm ²	357	294	278	373
3 phase	300mm ²	477	391	368	510
WAVECON MAINS 3 & 4 Core Copper Neutral					
3 phase	95mm ²	265	207	196	263
3 phase	185mm ²	387	306	288	404
3 phase	300mm ²	511	406	380	549

Note: - For Welsh users 'Trydan' is the same as Wavecon.

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Temperature	15°C
Ambient Temperature	15°C
Maximum Conductor Temperature	90°C XLPE or 70°C PVC
Ratings based on Crater for LV cables.	

LV MAINS CABLES - Wavecon**Summer DISTRIBUTION Current Ratings**

CABLE TYPE AND SIZE		DISTRIBUTION CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
WAVECON MAINS 3 Core Aluminium Neutral			PVC	Rigiduct	
3 phase	70mm ²	214	171	163	201
3 phase	95mm ²	257	207	196	245
3 phase	120mm ²	293	237	224	284
3 phase	185mm ²	377	307	289	373
3 phase	300mm ²	505	410	384	510
WAVECON MAINS 3 & 4 Core Copper Neutral					
3 phase	95mm ²	281	216	204	263
3 phase	185mm ²	411	321	301	404
3 phase	300mm ²	544	427	397	549

Note: - For Welsh users 'Trydan' is the same as Wavecon.

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Temperature	15°C
Ambient Temperature	15°C
Maximum Conductor Temperature	90°C XLPE or 70°C PVC
Ratings based on Crater for LV cables.	

LV MAINS CABLES - Wavecon**Autumn SUSTAINED Current Ratings**

CABLE TYPE AND SIZE		SUSTAINED CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
WAVECON MAINS 3 Core Aluminium Neutral			PVC	Rigiduct	
3 phase	70mm ²	192	159	153	201
3 phase	95mm ²	230	191	183	245
3 phase	120mm ²	261	219	209	284
3 phase	185mm ²	333	281	268	373
3 phase	300mm ²	441	372	353	510
WAVECON MAINS 3 & 4 Core Copper Neutral					
3 phase	95mm ²	247	199	190	263
3 phase	185mm ²	357	291	277	404
3 phase	300mm ²	466	384	363	549

Note: - For Welsh users 'Trydan' is the same as Wavecon.

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/w
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	90°C XLPE or 70°C PVC
Ratings based on Crater for LV cables.	

LV MAINS CABLES - Wavecon**Autumn CYCLIC Current Ratings**

CABLE TYPE AND SIZE		CYCLIC CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
WAVECON MAINS 3 Core Aluminium Neutral			PVC	Rigiduct	
3 phase	70mm ²	212	169	161	201
3 phase	95mm ²	254	204	194	245
3 phase	120mm ²	290	234	222	284
3 phase	185mm ²	373	302	285	373
3 phase	300mm ²	500	403	378	510
WAVECON MAINS 3 & 4 Core Copper Neutral					
3 phase	95mm ²	279	213	202	263
3 phase	185mm ²	407	315	296	404
3 phase	300mm ²	538	419	391	549

Note: - For Welsh users 'Trydan' is the same as Wavecon.

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	90°C XLPE or 70°C PVC
Ratings based on Crater for LV cables.	

LV MAINS CABLES - Wavecon**Autumn DISTRIBUTION Current Ratings**

CABLE TYPE AND SIZE		DISTRIBUTION CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
WAVECON MAINS 3 Core Aluminium Neutral			PVC	Rigiduct	
3 phase	70mm ²	223	175	166	201
3 phase	95mm ²	268	211	200	245
3 phase	120mm ²	306	242	229	284
3 phase	185mm ²	393	314	295	373
3 phase	300mm ²	528	420	392	510
WAVECON MAINS 3 & 4 Core Copper Neutral					
3 phase	95mm ²	295	221	208	263
3 phase	185mm ²	431	329	307	404
3 phase	300mm ²	570	438	406	549

Note: - For Welsh users 'Trydan' is the same as Wavecon.

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	90°C XLPE or 70°C PVC
Ratings based on Crater for LV cables.	

TABLE E1 win

LV MAINS CABLES – Consac & SAC**Winter *SUSTAINED* Current Ratings**

CABLE TYPE AND SIZE		SUSTAINED CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
CONSAC			PVC	Rigiduct	
3 phase	95mm ²	253	196	187	240
3 phase	185mm ²	366	288	274	368
SAC					
3 phase	95mm ²	223	186	178	248
3phase	185mm ²	327	276	263	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	0.9°C m/w
Ground Temperature	10°C
Ambient Temperature	10°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

LV MAINS CABLES – Consac & SAC**Winter CYCLIC Current Ratings**

CABLE TYPE AND SIZE		CYCLIC CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
CONSAC			PVC	Rigiduct	
3 phase	95mm ²	278	206	196	240
3 phase	185mm ²	407	305	289	368
SAC					
3 phase	95mm ²	250	200	190	248
3phase	185mm ²	372	299	282	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Temperature	10°C
Ambient Temperature	10°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

LV MAINS CABLES – Consac & SAC**Winter *DISTRIBUTION* Current Ratings**

CABLE TYPE AND SIZE		DISTRIBUTION CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
CONSAC			PVC	Rigiduct	
3 phase	95mm ²	290	210	199	240
3 phase	185mm ²	426	313	294	368
SAC					
3 phase	95mm ²	264	211	200	248
3phase	185mm ²	395	319	299	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Temperature	10°C
Ambient Temperature	10°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE E2 spr

LV MAINS CABLES – Consac & SAC**Spring *SUSTAINED* Current Ratings**

CABLE TYPE AND SIZE		SUSTAINED CURRENT RATING - AMPS		
		In Ground	In Single Way Ducts	In Air
CONSAC			PVC	Rigiduct
3 phase	95mm ²	236	190	182
3 phase	185mm ²	342	279	266
SAC				
3 phase	95mm ²	239	193	185
3phase	185mm ²	352	287	273

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/w
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE E2 spr

LV MAINS CABLES – Consac & SAC**Spring CYCLIC Current Ratings**

CABLE TYPE AND SIZE		CYCLIC CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
CONSAC			PVC	Rigiduct	
3 phase	95mm ²	262	201	192	240
3 phase	185mm ²	384	298	282	368
SAC					
3 phase	95mm ²	265	206	196	248
3phase	185mm ²	397	309	291	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE E2 spr

LV MAINS CABLES – Consac & SAC**Spring *DISTRIBUTION* Current Ratings**

CABLE TYPE AND SIZE		DISTRIBUTION CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
CONSAC			PVC	Rigiduct	
3 phase	95mm ²	276	210	199	240
3 phase	185mm ²	404	313	295	368
SAC					
3 phase	95mm ²	279	215	204	248
3phase	185mm ²	418	325	305	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

LV MAINS CABLES – Consac & SAC**Summer SUSTAINED Current Ratings**

CABLE TYPE AND SIZE		SUSTAINED CURRENT RATING - AMPS		
		In Ground	In Single Way Ducts	In Air
CONSAC			PVC	Rigiduct
3 phase	95mm ²	221	183	175
3 phase	185mm ²	319	268	256
SAC				
3 phase	95mm ²	223	186	178
3phase	185mm ²	327	276	263

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/w
Ground Temperature	15°C
Ambient Temperature	15°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

LV MAINS CABLES – Consac & SAC**Summer CYCLIC Current Ratings**

CABLE TYPE AND SIZE		CYCLIC CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
CONSAC			PVC	Rigiduct	
3 phase	95mm ²	246	195	186	240
3 phase	185mm ²	361	289	274	368
SAC					
3 phase	95mm ²	250	200	190	248
3phase	185mm ²	372	299	282	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Temperature	15°C
Ambient Temperature	15°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

LV MAINS CABLES – Consac & SAC**Summer *DISTRIBUTION* Current Ratings**

CABLE TYPE AND SIZE		DISTRIBUTION CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
CONSAC			PVC	Rigiduct	
3 phase	95mm ²	261	207	196	240
3 phase	185mm ²	382	307	289	368
SAC					
3 phase	95mm ²	264	211	200	248
3phase	185mm ²	395	319	299	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Temperature	15°C
Ambient Temperature	15°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

LV MAINS CABLES – Consac & SAC**Autumn *SUSTAINED* Current Ratings**

CABLE TYPE AND SIZE		SUSTAINED CURRENT RATING - AMPS		
		In Ground	In Single Way Ducts	In Air
CONSAC			PVC	Rigiduct
3 phase	95mm ²	233	189	181
3 phase	185mm ²	337	277	264
SAC				
3 phase	95mm ²	235	192	184
3phase	185mm ²	346	285	271

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/w
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

LV MAINS CABLES – Consac & SAC**Autumn CYCLIC Current Ratings**

CABLE TYPE AND SIZE		CYCLIC CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
CONSAC			PVC	Rigiduct	
3 phase	95mm ²	259	201	191	240
3 phase	185mm ²	379	297	281	368
SAC					
3 phase	95mm ²	262	205	195	248
3phase	185mm ²	391	307	290	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

LV MAINS CABLES – Consac & SAC**Autumn DISTRIBUTION Current Ratings**

CABLE TYPE AND SIZE		DISTRIBUTION CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
CONSAC			PVC	Rigiduct	
3 phase	95mm ²	272	210	200	240
3 phase	185mm ²	400	314	295	368
SAC					
3 phase	95mm ²	276	216	204	248
3phase	185mm ²	413	325	305	386

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE F1 win

LV SERVICE CABLES**Winter SUSTAINED Current Ratings**

CABLE TYPE AND SIZE		SUSTAINED CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
HYBRID SERVICE			PVC	Rigiduct	
3 phase	25mm ²	115	87	84	104
3 phase	35mm ²	139	105	101	127
Single phase	25mm ²	130	94	90	98
Single phase	35mm ²	157	114	109	121
SPLIT COPPER CONCENTRIC					
3 phase	25mm ²	177	133	128	165
Single phase	16mm ²	137	99	95	105
Single phase	25mm ²	176	130	123	139
COPPER CONCENTRIC					
3 phase	16mm ²	117	88	85	103
3 phase	25mm ²	151	115	110	138
Single phase	16mm ²	133	96	92	99
Single phase	25mm ²	171	124	119	132

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	0.9°C m/w
Ground Temperature	10°C
Ambient Temperature	10°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

LV SERVICE CABLES**Winter CYCLIC Current Ratings**

CABLE TYPE AND SIZE		CYCLIC CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
HYBRID SERVICE			PVC	Rigiduct	
3 phase	25mm ²	125	91	88	104
3 phase	35mm ²	152	110	106	127
Single phase	25mm ²	144	99	95	98
Single phase	35mm ²	173	120	114	121
SPLIT COPPER CONCENTRIC					
3 phase	25mm ²	195	140	134	165
Single phase	16mm ²	151	105	100	105
Single phase	25mm ²	196	138	130	139
COPPER CONCENTRIC					
3 phase	16mm ²	127	92	89	103
3 phase	25mm ²	165	120	115	138
Single phase	16mm ²	147	101	97	99
Single phase	25mm ²	190	131	125	132

Parameters

Maximum depth of lay 0.5m

Soil Thermal Resistivity (g) 0.9°C m/W

Ground Temperature 10°C

Ambient Temperature 10°C

Maximum Conductor Temperature 70°C

Ratings based on Crater for LV cables.

LV SERVICE CABLES**Winter *DISTRIBUTION* Current Ratings**

CABLE TYPE AND SIZE		DISTRIBUTION CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
HYBRID SERVICE			PVC	Rigiduct	
3 phase	25mm ²	131	93	89	104
3 phase	35mm ²	158	112	107	127
Single phase	25mm ²	152	101	96	98
Single phase	35mm ²	184	123	116	121
SPLIT COPPER CONCENTRIC					
3 phase	25mm ²	204	143	136	165
Single phase	16mm ²	161	107	102	105
Single phase	25mm ²	208	141	133	139
COPPER CONCENTRIC					
3 phase	16mm ²	132	93	90	103
3 phase	25mm ²	172	122	117	138
Single phase	16mm ²	156	103	98	99
Single phase	25mm ²	201	134	127	132

Parameters

Maximum depth of lay 0.5m

Soil Thermal Resistivity (g) 0.9°C m/W

Ground Temperature 10°C

Ambient Temperature 10°C

Maximum Conductor Temperature 70°C

Ratings based on Crater for LV cables.

LV SERVICE CABLES**Spring *SUSTAINED* Current Ratings**

CABLE TYPE AND SIZE		SUSTAINED CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
HYBRID SERVICE			PVC	Rigiduct	
3 phase	25mm ²	108	85	82	104
3 phase	35mm ²	130	102	98	127
Single phase	25mm ²	120	91	87	98
Single phase	35mm ²	144	109	105	121
SPLIT COPPER CONCENTRIC					
3 phase	25mm ²	166	129	124	165
Single phase	16mm ²	126	96	92	105
Single phase	25mm ²	162	125	119	139
COPPER CONCENTRIC					
3 phase	16mm ²	110	85	83	103
3 phase	25mm ²	142	111	107	138
Single phase	16mm ²	123	93	89	99
Single phase	25mm ²	158	120	115	132

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/w
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for LV cables.	

TABLE F2 spr

LV SERVICE CABLES**Spring CYCLIC Current Ratings**

CABLE TYPE AND SIZE		CYCLIC CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
HYBRID SERVICE			PVC	Rigiduct	
3 phase	25mm ²	118	89	86	104
3 phase	35mm ²	143	107	103	127
Single phase	25mm ²	134	97	92	98
Single phase	35mm ²	161	117	111	121
SPLIT COPPER CONCENTRIC					
3 phase	25mm ²	184	137	131	165
Single phase	16mm ²	140	102	97	105
Single phase	25mm ²	182	134	127	139
COPPER CONCENTRIC					
3 phase	16mm ²	120	90	86	103
3 phase	25mm ²	156	117	112	138
Single phase	16mm ²	137	99	94	99
Single phase	25mm ²	176	128	121	132

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C

TABLE F2 spr

LV SERVICE CABLES**Spring DISTRIBUTION Current Ratings**

CABLE TYPE AND SIZE		DISTRIBUTION CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
HYBRID SERVICE			PVC	Rigiduct	
3 phase	25mm ²	124	92	88	104
3 phase	35mm ²	150	110	105	127
Single phase	25mm ²	143	100	95	98
Single phase	35mm ²	172	120	114	121
SPLIT COPPER CONCENTRIC					
3 phase	25mm ²	193	141	135	165
Single phase	16mm ²	150	106	100	105
Single phase	25mm ²	195	138	131	139
COPPER CONCENTRIC					
3 phase	16mm ²	125	92	88	103
3 phase	25mm ²	163	120	115	138
Single phase	16mm ²	146	102	97	99
Single phase	25mm ²	188	132	125	132

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C

LV SERVICE CABLES**Summer SUSTAINED Current Ratings**

CABLE TYPE AND SIZE		SUSTAINED CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
HYBRID SERVICE			PVC	Rigiduct	
3 phase	25mm ²	101	81	78	104
3 phase	35mm ²	121	97	94	127
Single phase	25mm ²	111	87	84	98
Single phase	35mm ²	133	105	100	121
SPLIT COPPER CONCENTRIC					
3 phase	25mm ²	155	125	120	165
Single phase	16mm ²	116	92	88	105
Single phase	25mm ²	149	119	114	139
COPPER CONCENTRIC					
3 phase	16mm ²	102	82	79	103
3 phase	25mm ²	132	106	103	138
Single phase	16mm ²	113	89	85	99
Single phase	25mm ²	145	114	110	132

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/w
Ground Temperature	15°C
Ambient Temperature	15°C
Maximum Conductor Temperature	70°C

LV SERVICE CABLES**Summer *CYCLIC* Current Ratings**

CABLE TYPE AND SIZE		CYCLIC CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
HYBRID SERVICE			PVC	Rigiduct	
3 phase	25mm ²	111	86	83	104
3 phase	35mm ²	134	104	99	127
Single phase	25mm ²	124	93	89	98
Single phase	35mm ²	149	112	107	121
SPLIT COPPER CONCENTRIC					
3 phase	25mm ²	173	133	127	165
Single phase	16mm ²	130	98	94	105
Single phase	25mm ²	168	129	122	139
COPPER CONCENTRIC					
3 phase	16mm ²	112	87	84	103
3 phase	25mm ²	146	113	108	138
Single phase	16mm ²	126	95	91	99
Single phase	25mm ²	163	123	117	132

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Temperature	15°C
Ambient Temperature	15°C
Maximum Conductor Temperature	70°C

LV SERVICE CABLES**Summer *DISTRIBUTION* Current Ratings**

CABLE TYPE AND SIZE		DISTRIBUTION CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
HYBRID SERVICE			PVC	Rigiduct	
3 phase	25mm ²	117	89	86	104
3 phase	35mm ²	141	108	103	127
Single phase	25mm ²	133	97	92	98
Single phase	35mm ²	160	117	111	121
SPLIT COPPER CONCENTRIC					
3 phase	25mm ²	183	138	132	165
Single phase	16mm ²	140	103	97	105
Single phase	25mm ²	181	134	127	139
COPPER CONCENTRIC					
3 phase	16mm ²	118	90	86	103
3 phase	25mm ²	154	117	112	138
Single phase	16mm ²	136	99	94	99
Single phase	25mm ²	175	128	122	132

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Temperature	15°C
Ambient Temperature	15°C
Maximum Conductor Temperature	70°C

LV SERVICE CABLES**Autumn *SUSTAINED* Current Ratings**

CABLE TYPE AND SIZE		SUSTAINED CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
HYBRID SERVICE			PVC	Rigiduct	
3 phase	25mm ²	107	84	81	104
3 phase	35mm ²	128	101	97	127
Single phase	25mm ²	118	90	87	98
Single phase	35mm ²	142	109	104	121
SPLIT COPPER CONCENTRIC					
3 phase	25mm ²	163	128	123	165
Single phase	16mm ²	124	95	91	105
Single phase	25mm ²	159	124	118	139
COPPER CONCENTRIC					
3 phase	16mm ²	108	85	82	103
3 phase	25mm ²	139	110	106	138
Single phase	16mm ²	121	92	89	99
Single phase	25mm ²	155	119	114	132

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/w
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C

TABLE F4 aut

LV SERVICE CABLES**Autumn *CYCLIC* Current Ratings**

CABLE TYPE AND SIZE		CYCLIC CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
HYBRID SERVICE			PVC	Rigiduct	
3 phase	25mm ²	117	89	85	104
3 phase	35mm ²	141	107	103	127
Single phase	25mm ²	131	96	92	98
Single phase	35mm ²	158	116	111	121
SPLIT COPPER CONCENTRIC					
3 phase	25mm ²	181	136	131	165
Single phase	16mm ²	138	102	97	105
Single phase	25mm ²	178	133	126	139
COPPER CONCENTRIC					
3 phase	16mm ²	118	90	86	103
3 phase	25mm ²	154	117	112	138
Single phase	16mm ²	134	98	94	99
Single phase	25mm ²	173	127	121	132

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C

TABLE F4 aut

LV SERVICE CABLES**Autumn *DISTRIBUTION* Current Ratings**

CABLE TYPE AND SIZE		DISTRIBUTION CURRENT RATING - AMPS			
		In Ground	In Single Way Ducts		In Air
HYBRID SERVICE			PVC	Rigiduct	
3 phase	25mm ²	123	92	88	104
3 phase	35mm ²	148	110	106	127
Single phase	25mm ²	140	100	95	98
Single phase	35mm ²	169	120	114	121
SPLIT COPPER CONCENTRIC					
3 phase	25mm ²	191	141	135	165
Single phase	16mm ²	148	105	100	105
Single phase	25mm ²	192	138	130	139
COPPER CONCENTRIC					
3 phase	16mm ²	124	92	88	103
3 phase	25mm ²	162	120	115	138
Single phase	16mm ²	144	102	97	99
Single phase	25mm ²	185	132	125	132

Parameters

Maximum depth of lay	0.5m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Temperature	12°C
Ambient Temperature	12°C
Maximum Conductor Temperature	70°C

APPENDIX A

SUPERSEDED DOCUMENTATION

This document supersedes ST:SD8B/3 dated March 2009 which should now be withdrawn.

APPENDIX B

ASSOCIATED DOCUMENTATION

ST: CA6A/2 - Relating to the Installation of Underground Cables

APPENDIX C

KEY WORDS

Low Voltage, Wavecon, Consac, Solidal, Service Cable, Group Derating, Sustained Rating, Cyclic Rating, Distribution Rating, Laid Direct Rating, Duct Rating, Air Rating.